

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Thursday, April 4, 2024 3:57 PM  
**To:** Olivo Harrison, Elena; Welch, Sarah; Johnson, Thad A; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Thursday, April 4, 2024 3:41 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

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**From:** City of OKC <[info@okc.gov](mailto:info@okc.gov)>  
**Sent:** Thursday, April 4, 2024 3:29 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

Message submitted from the <City of OKC> website.

**Site Visitor Name:** Debra Adams  
**Site Visitor Email:** [chefadamsd2@gmail.com](mailto:chefadamsd2@gmail.com)

I live at 313 Novak Cr in Yukon. I am really concerned about the noise level and the traffic it will bring to the area. There are many home schooled in the area and all students that will be affected by the late noise in the area.

Thanks,  
Debra

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 5:00 pm, Feb 29, 2024

**From:** Bobby <[robaita@gmail.com](mailto:robaita@gmail.com)>  
**Sent:** Wednesday, February 28, 2024 12:44 PM  
**Subject:** Protest of PUD-1983

You don't often get email from [robaita@gmail.com](mailto:robaita@gmail.com). [Learn why this is important](#)

Good afternoon,

I hope this email finds you well. I am writing to express my strong opposition to the proposed zoning change. As a concerned resident, I believe this decision warrants careful consideration and community input.

Here are my key points of concern:

1. **Community Impact:** The proposed zoning change could significantly affect the character of our neighborhood. It is essential to consider how this development aligns with the existing infrastructure, traffic patterns, and overall quality of life for residents.
2. **Environmental Considerations:** Any development should prioritize environmental sustainability. I urge the City Council to assess the environmental impact of this project, including factors such as green spaces, water management, and wildlife preservation.
3. **Traffic and Infrastructure:** The proposed development's impact on traffic flow, road safety, and infrastructure must be thoroughly evaluated. We need assurance that adequate measures will be taken to mitigate any adverse effects.
4. **Increased Noise Levels:** The proposed amphitheater will significantly **escalate noise pollution** in our community. As residents, we value our peace and quiet, and any development that disrupts this tranquility should be carefully reconsidered.

In conclusion, I respectfully urge reconsidering the long-term implications of this zoning change. Our community's well-being and future depend on thoughtful decision-making that prioritizes transparency, environmental responsibility, and the needs of residents.

Thank you for your attention to this matter. I look forward to a thorough discussion during the public hearing.

Roberto Aita  
11012 SW 38th Cir  
Oklahoma City, OK 73064



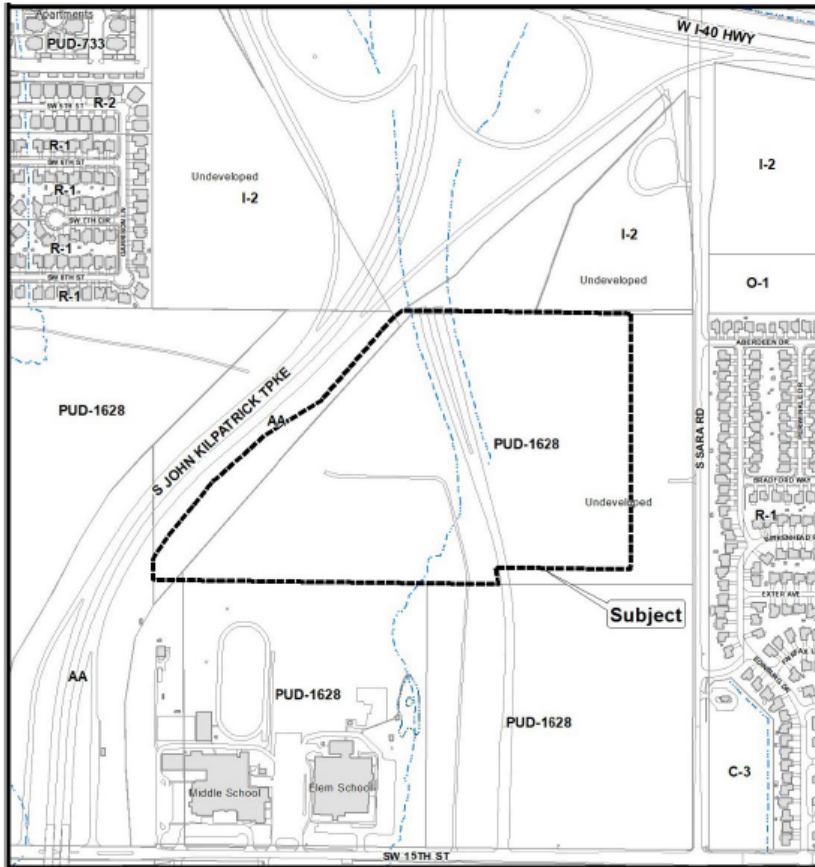
**PROPOSED ZONING CHANGE:**

**CASE NUMBER:** PUD-1983

**FROM:** AA Agricultural and PUD-1628 Planned Unit Development Districts

**TO:** PUD-1983 Planned Unit Development District

**ADDRESS OF PROPERTY:** 810 South John Kilpatrick Turnpike



## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 8:30 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protestpud-1983 ampitheater/yukon

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 8:01 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protestpud-1983 ampitheater/yukon

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**From:** Regina Allen <lilonerfa@gmail.com>  
**Sent:** Wednesday, April 3, 2024 7:56 AM  
**To:** City Clerk Email <CityClerk@okc.gov>; The Mayor <mayor@okc.gov>; Ward3 <ward3@okc.gov>  
**Subject:** Protestpud-1983 ampitheater/yukon

Some people who received this message don't often get email from [lilonerfa@gmail.com](mailto:lilonerfa@gmail.com). [Learn why this is important](#)

I, Regina Allen, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I am a homeowner at 1020 Hyacinth Hollow Drive.

This is not a welcome business in our neighborhood. Please do not vote it in.

Thank You,  
Regina Allen

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 4:48 pm, Feb 07, 2024

**From:** Jennifer Amberg <[jhaokc@gmail.com](mailto:jhaokc@gmail.com)>  
**Sent:** Wednesday, February 7, 2024 2:23 PM  
**Subject:** Sunset Amphitheater in Mustang Creek Crossing

You don't often get email from [jhaokc@gmail.com](mailto:jhaokc@gmail.com). [Learn why this is important](#)

Please attach this email to the agenda item "Sunset Amphitheater in Mustang Creek Crossing".

In 1983 I moved from Northwest Arkansas to Westbury South Subdivision in Oklahoma City and planned to make it my home forever. This is primarily a single family subdivision. I have particularly enjoyed the quiet, almost rural, ambience of this location.

There are very few vehicles with loud engines that travel through our neighborhood. Outside music that can be heard within a home is discouraged.

Neighborhood traffic and outdoor noise is reduced by 10:00 p.m. weekdays and by midnight on weekends.

The proposed Sunset Amphitheater in Mustang Creek Crossing would create havoc in this quiet community and make living here unbearable because of increased traffic to and from the venue, not to mention loud noise with low frequency vibration from the venue.

I have very sensitive ears and can physically feel the vibration from public firework displays on holidays. To imagine something similar occurring from 2 p.m. to 10:30 p.m. every day is abhorrent.

Please encourage the organizers to consider a different location. From a tax standpoint, it will be more advantageous for it to be in the entertainment area near Scissortail Park and close to downtown Oklahoma City.

The current Paycom Center is an already built venue that can be occupied when the Oklahoma City Thunder relocate to a larger arena.

Do not approve this project! I am unable to attend Oklahoma City Council meetings due to limited mobility. Please leave a message at 405-831-5330 or email [jhaokc@gmail.com](mailto:jhaokc@gmail.com) if additional input is required.

Sincerely,

Jennifer Horton Amberg  
10031 Paisley RD  
Yukon, OK 73099  
405-831-5330  
[jhaokc@gmail.com](mailto:jhaokc@gmail.com)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:11 am, Feb 14, 2024

From: Donnine Andrews <[ronnieandrews64@gmail.com](mailto:ronnieandrews64@gmail.com)>

Sent: Tuesday, February 13, 2024 4:30 PM

To: Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A  
<[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>

Subject: Sunset Amphitheater in Mustang Creek Crossing

[Some people who received this message don't often get email from [ronnieandrews64@gmail.com](mailto:ronnieandrews64@gmail.com).  
Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

To whom it may concern,

My family and I have lived in the area for over 22 years. We enjoy the country atmosphere. We are near amenities, but are not right in the middle of the city. We are not excited about having an amphitheater nearby seven months out of the year with an increased decibel level 5 db over city code. We're also not thrilled about the increased traffic this will cause. Please consider building the Sunset Amphitheater somewhere else.

Thank you,

Ronnie Andrews

1904 Edinburg Drive

Yukon, OK 73099

Sent from Donnine's iPhone

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:09 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 3:01 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

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**From:** Carina Armstrong <[trackingcarina@gmail.com](mailto:trackingcarina@gmail.com)>  
**Sent:** Friday, March 29, 2024 3:00 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [trackingcarina@gmail.com](mailto:trackingcarina@gmail.com). [Learn why this is important](#)

I Carina Armstrong herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike." You can end with something like: "I ask you to protect our neighborhoods and families from the nuisance this venue will cause so please deny this rezoning."

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:09 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: "Protest PUD-1983"

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 3:02 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: "Protest PUD-1983"

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**From:** carina armstrong <[thiswillbeanew@hotmail.com](mailto:thiswillbeanew@hotmail.com)>  
**Sent:** Friday, March 29, 2024 3:02 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** "Protest PUD-1983"

You don't often get email from [thiswillbeanew@hotmail.com](mailto:thiswillbeanew@hotmail.com). [Learn why this is important](#)

I Donna Armstrong herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike." You can end with something like: "I ask you to protect our neighborhoods and families from the nuisance this venue will cause so please deny this rezoning."

Sent via the Samsung Galaxy Note20 Ultra 5G, an AT&T 5G smartphone  
Get [Outlook for Android](#)

Paul Ascher  
1221 Bradford Ter  
Yukon , OK 73099 (Westbury North Subdivision)

The City of Oklahoma City  
City Clerk  
200 North Walker Ave  
Oklahoma City, OK 73012

I, Paul Ascher, do hereby protest PUD-1983 application by Mustang Creek Crossing, LLC to rezone 810 South John Kilpatrick Turnpike.

The proposed PUD-1983 will be incredibly impactful to the surrounding, well established neighborhoods in a very negative way. Having been an Audio Technician for many years, I can tell you the information the Developers are providing regarding noise abatement and sound levels is only the information they want you to hear. There are factors that will NEGATIVELY impact the surrounding neighborhoods and render their proposed noise abatement and sound level monitoring a moot point. Wind, temperature, humidity, time of day, etc. ALL play a major part in how far sound will, and does, carry. They are also not telling you the sound level of a cheering crowd of at least 12,500 people, the length of time it will take for concert goers to leave the venue, the yelling, the horns honking at anywhere from 11pm to 1am. All of this will be heard in the surrounding, WELL established neighborhoods. Drugs, alcohol (openly sold), vandalism and crime are also factors they are not telling you.

Jazz and Classical concerts are typically 85 to 90 decibels (dB). Rock concerts are notorious for being 115 to 120 decibels (dB) and EDM (Electronic Dance Music) is 120-130 decibels (dB). There are numerous articles and reports available to the public regarding these outdoor Concert levels. Consider Austin, TX – The self-proclaimed Live Music Capital of the World – Has seen a 500% increase in noise complaints filed with the Police Department ([loadaustin.beckslarsen.com](http://loadaustin.beckslarsen.com)) dating back as far as 2014. The Sunset Amphitheater will NOT be providing an in-house loudspeaker system that all concert Promoters must use. Professional Musicians travel from venue to venue with their own loudspeaker system specifically designed to make each artist/style of music sound it's best, and arguably the loudest.

The Developers are telling you that PUD-1983 is proposing 3,600 parking spots. What they are not telling you is that, at the average car length in the U.S.A of 14.7 feet long, that equals to 10.02 MILES long, all descending upon an area that is already heavy with traffic. They are also not telling you the TOTAL capacity of the proposed Amphitheater. They are telling you it is "12,500 SEATS", but how many more can they accommodate with the grassy area? There will be more cars arriving with nowhere to park except in residential areas, leading to people loitering in neighborhoods. Residential vandalism and crime will increase.

The proposed location will not be good for the peace, tranquility, and health of the residents of the surrounding area.

Ask yourself one question, would you want this down the street from your home or neighborhood?

**Please vote NO on PUD-1983, Sunset Amphitheater.**

Thank you.

Sincerely,

Paul Ascher

Noise Complaint news reports

\* <https://sf.curbed.com/2019/4/3/18293368/outside-lands-permits-noise-complaints-board-supervisors>

\* <https://www.nydailynews.com/2023/12/13/residents-sue-forest-hills-stadium-over-concert-series-noise-complaints/>

\* <https://ktvz.com/news/bend/2022/10/03/some-neighbors-feel-finale-concerts-noise-level-inconsiderate-at-hayden-homes-amphitheater/>

\*This is a must read for all City Council Members – How Communities Were Misled about Concert Noise

<https://evanstonroundtable.com/2023/07/20/letter-to-the-editor-concerts-not-music-to-all-ears/>

The list of concert level news reports goes on and on. These are just a few examples.



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024

**From:** Wendy Austin <wendyaustin75@gmail.com>  
**Sent:** Saturday, March 23, 2024 6:08 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Fwd: Opposed to Sunset theater

You don't often get email from [wendyaustin75@gmail.com](mailto:wendyaustin75@gmail.com). [Learn why this is important](#)

Please help us this is bad for our neighborhood as well as our kiddos... This will bring crime, unwanted noise and our kids will be the most affected

moved 10312 Birkenhead Rd to Westbury North about 4 years ago to raise my child in a quite and safe neighborhood. With plans of the Sunset amphitheater I feel I made the wrong move, I feel this is going to creat unwanted activities as well as I'm unacceptable noise.. We have lots of open land in Oklahoma that will not affect schools or neighborhoods that need to be considered. My family and I as well as many neighbors are not happy about this and feel we should have a say. Why can't the do it North of the 40 freeway where that old car lot is joe cooper I believe that would be away from our school and homes...

Hi! I just wanted to share this info I read...

"The World Health Organization defines noise pollution as noise that "seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time. It can disturb sleep, cause cardiovascular and psycho physiological effects, reduce performance and provoke annoyance responses and changes in social behavior."

Looking up facts on noise pollution to neighbors at other amphitheater locations not only helps us get a better idea of what a 12,000 seat amphitheatres would mean for us and our neighbors, but it's also good info to put into letters. This is not the first amphitheater to be planned close to neighborhoods. There is a history of this happening all over the country and a lot of strong evidence of the harm that noise pollution causes.

Let's share these facts with all our representatives, even if it's not someone who will be voting. Our other government leaders need to know what's going on with their constituents and hopefully have an influence in the matter.

----- Forwarded message -----

**From:** Wendy Austin <[wendyaustin75@gmail.com](mailto:wendyaustin75@gmail.com)>  
**Date:** Mon, Feb 5, 2024, 4:32 PM  
**Subject:** Opposed to Sunset theater  
**To:** <[ward3@okc.gov](mailto:ward3@okc.gov)>, <[mayor@okc.gov](mailto:mayor@okc.gov)>

I moved 10312 Birkenhead Rd to Westbury North about 4 years ago to raise my child in a quite and safe neighborhood. With plans of the Sunset amitheather I feel I made the wrong move, I feel this is going to creat unwanted activities as well as I'm unacceptable noise.. We have lots of open land in Oklahoma that will not affect schools or neighborhoods that need to be considered. My family and I as well as many neighbors are not happy about this and feel we should have a say. Why can't the do it North of the 40 freeway where that old car lot is joe cooper I believe that would be away from our school and homes...

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**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 4:27 pm, Mar 01, 2024

**From:** Grant Bailey <[grant@baileyrealtorokc.com](mailto:grant@baileyrealtorokc.com)>

**Sent:** Friday, March 1, 2024 1:44 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest Sunset Amphitheater PUD 1983

You don't often get email from [grant@baileyrealtorokc.com](mailto:grant@baileyrealtorokc.com). [Learn why this is important](#)

Dear City Clerk Amy K. Simpson,

I Protest PUD 1983 at 810 South John Kirpatrick Turnpike for the following reasons. (The Sunset Amphitheater)

I talked to an OKC police officer on Tuesday April 27th, and he stated when the zoo amphitheater is in use that he can hear the sound inside his Spring Lake Police Station located a mile away. He also stated that the low-level frequency vibrates the walls. We have lots of children and elderly citizens that live in the surrounding neighborhoods, some as close as 500ft that will have trouble sleeping with the noise pollution, vibrations. Our neighborhoods also have many veterans with PTSD that will be affected.

Another concern I have will be the delays for emergency vehicles with the estimated 3,500 plus cars that will block their ability to serve the surrounding neighborhoods. SAFETY WILL BE AN ISSUE.

This venue is a great idea, but should never be considered, when located within a few miles of any residential neighborhoods.

My address is 10301 Kendal Ave Yukon OK 73099. I live 2/3 of a mile from the proposed Sunset Amphitheater.

Please document my formal Opposition to the Sunset Amphitheater.

**Sincerely,**

**Grant Bailey**

Allied, Inc., Realtors

**Cell 405 659.6714**

Wk 405 879-2266

3636 NW 63rd Suite A

OKC OK 73116

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 4:27 pm, Mar 01, 2024*

**From:** Lisa Bailey <[lbailey1960@gmail.com](mailto:lbailey1960@gmail.com)>  
**Sent:** Friday, March 1, 2024 11:19 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [lbailey1960@gmail.com](mailto:lbailey1960@gmail.com). [Learn why this is important](#)

Dear City Council and Mayor,

I am protesting the proposed Sunset Ampitheatre at SW 15th and Sara Road due to citizen safety and health concerns.

We have thousands of homes in established neighborhoods surrounding this proposed location and there are many homes and 2 schools within 500 ft of the venue perimeter.

There will be hundreds of homes, north of SW 15th, that will effectively be blocked in by event traffic. These are no traffic lights on SW 15th, from Morgan to Sara Rd, to ensure access. These roads were designed for home and school use.

Will Oklahoma City be liable for deaths or permanent injury caused by delayed treatment from emergency health care providers?

The proposed 12,500 ticketholders plus hundreds of musicians, technical support and venue staff will have inadequate venue parking and will overflow into surrounding neighborhoods. This will be a huge safety concern for children who play around these homes.

There are no sidewalks in most of these established neighborhoods and it is unsafe to have hundreds of vehicles parking on these streets.

Please show your support of the concerned, hard-working taxpayer and DO NOT APPROVE the proposal for Sunset Ampitheatre. It is the wrong location for this type of project.

Sincerely,

Lisa Bailey

10301 Kendal Ave, Yukon, OK 73099

405-919-7894

## Johnson, Thad A

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**From:** Simpson, Amy K  
**Sent:** Monday, February 19, 2024 5:15 PM  
**To:** Smiley, Dena L; DS, Subdivision and Zoning  
**Subject:** FW: Protesting PUD 1983/Sunset Ampitheatre

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**From:** Lisa Bailey <lbailey1960@gmail.com>  
**Sent:** Monday, February 19, 2024 5:06 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protesting PUD 1983/Sunset Ampitheatre

You don't often get email from [lbailey1960@gmail.com](mailto:lbailey1960@gmail.com). [Learn why this is important](#)

Dear City Clerk,

My name is Lisa Bailey and I am a homeowner that lives at 10301 Kendal Ave, 3/4 of a mile from the proposed "Sunset Ampitheatre" site. I am very concerned about noise pollution and extreme proximity of the surrounding neighborhoods. Please refer to the Daily Oklahoman article from February 15th:

"A quick search on Google on amphitheater complaints garners staggering results. Noise pollution is at the top of the list — specifically, the bass frequencies. We all know that annoyance (cue the booming music of a lowrider truck). But an amphitheater with 12,000 spectators and numerous loudspeakers will be more than just a nuisance. The former U.S. Surgeon General William H. Stewart said, "Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere". The first hazard is lack of sleep. From over 3 miles away, a homeowner near Hayden Homes Amphitheater in Bend, Oregon, reported she could "...feel and hear a low-frequency vibrating bass that permeates the entire house." Another resident over a mile from Red Rocks Amphitheater in Morrison, Colorado, complained, "The windows are rattling, the walls shake, you put covers over your head, and it doesn't do anything." In Round Rock, Texas, a homeowner 4 miles away from the Round Rock Amphitheater said the vibrations were so strong, his child could not sleep.

Some of the homes across street from the actual proposed amphitheatre look to be extremely close, about 1000ft. There are also 2 schools that are directly adjacent to proposed site.

This site should not be approved due to the effects of sound pollution on school age children and grandchildren and their quality of life.

I have been a homeowner at 10301 Kendal Ave, Yukon, OK 73099 for over 30 years and adamantly protest this proposed amphitheatre site.

Sincerely,  
Lisa Bailey

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:42 am, Feb 20, 2024

**From:** Lisa Bailey <[lbailey1960@gmail.com](mailto:lbailey1960@gmail.com)>  
**Sent:** Monday, February 19, 2024 5:06 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protesting PUD 1983/Sunset Ampitheatre

You don't often get email from [lbailey1960@gmail.com](mailto:lbailey1960@gmail.com). [Learn why this is important](#)

Dear City Clerk,

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The first hazard is lack of sleep. From over 3 miles away, a homeowner near Hayden Homes Amphitheater in Bend, Oregon, reported she could "...feel and hear a low-frequency vibrating bass that permeates the entire house." Another resident over a mile from Red Rocks Amphitheater in Morrison, Colorado, complained, "The windows are rattling, the walls shake, you put covers over your head, and it doesn't do anything." In Round Rock, Texas, a homeowner 4 miles away from the Round Rock Amphitheater said the vibrations were so strong, his child could not sleep.

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There are also 2 schools that are directly adjacent to proposed site.

This site should not be approved due to the effects of sound pollution on school age children and grandchildren and their quality of life.

I have been a homeowner at 10301 Kendal Ave, Yukon, OK 73099 for over 30 years and adamantly protest this proposed amphitheatre site.

Sincerely,  
Lisa Bailey

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024

-----Original Message-----

From: spencerashleybarrett@gmail.com <spencerashleybarrett@gmail.com>

Sent: Friday, March 22, 2024 5:05 PM

To: City Clerk Email <CityClerk@okc.gov>

Subject: Sunset Amphitheater

[You don't often get email from [spencerashleybarrett@gmail.com](mailto:spencerashleybarrett@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Dear City Council,

I write this letter today to protest the construction of the Sunset Amphitheater off SW 15th and Sara Road. I live a little over a mile from the proposed location. We have lived in our home for five and a half years. We purchased in the area because it was SO quiet and peaceful. I have medical conditions that make me very sensitive to certain things and I have great concern that my quality of life will suffer due to the deep bass vibrations. I have studied (and even been to) other outdoor amphitheater venues that are very similar to this one and this is a big issue that many of the nearby residents have complained of.

I'm also extremely concerned about the traffic. Even in several years when Sara is widened, we still will suffer greatly from increase of traffic here.

Ultimately, putting this project on this property is unfair to the homeowners that live nearby, including myself. We did not choose to live near an amphitheater that was already there when we constructed our homes. I have great concerns that the noise, deep vibrations, and traffic will negatively impact my property value. I do not oppose an outdoor amphitheater altogether but I very much oppose it so near my home and so many other homes. I hope that the owners of the property consider instead purchasing land between Yukon/OKC and El Reno off of I-40 which will allow people to decide to build up homes around if they wish and it will still be a convenient location to the Metro.

Sincerely,

Ashley Barrett

11124 SW 31st Street

OKC

801-698-5811

[spencerashleybarrett@gmail.com](mailto:spencerashleybarrett@gmail.com)

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 4:40 pm, Mar 22, 2024*

-----Original Message-----

From: Hank Batty <[hankbatty@gmail.com](mailto:hankbatty@gmail.com)>

Sent: Friday, March 22, 2024 2:50 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Sunset Amphitheater in Mustang Creek Crossing

[You don't often get email from [hankbatty@gmail.com](mailto:hankbatty@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

As residents of the Westbury South neighborhood my wife and I strongly oppose this development. This development is NOT in a low-density area but is sandwiched among two large neighborhoods, an elementary school, a middle school and a Methodist Church. The noise, traffic and crowds that this development would bring will be unbearable. Why on earth would a developer plan this in a densely populated area? Why not develop this somewhere west of Yukon or El Reno where you could still have easy access but not disrupt an already busy community? Another concern we have is the plan to include luxury boxes with fire pits. Fire 🔥 pits? Really? Between the oppressive heat of our summers and the 365-day force of our wind this seems completely irresponsible. The last thing we need is the addition of more fire hazards. Please stop this catastrophe from ruining what has been a great place to live for more than 30 years.

Hank and Joanie Batty



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024*

-----Original Message-----

From: Katie Beauchamp <kebeauchamp@att.net>

Sent: Sunday, March 24, 2024 6:09 PM

To: City Clerk Email <CityClerk@okc.gov>

Subject: Oppose PUD-1983

[You don't often get email from [kebeauchamp@att.net](mailto:kebeauchamp@att.net). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

WARNING: The sender of this email could not be validated and may not match the person in the "From" field..

Dear Amy Simpson,

I am a resident in the OKC/Mustang/Yukon area. I'd like to submit this email in protest of PUD-1983's application by Mustang Creek Crossing to rezone 810 S. John Kilpatrick Turnpike.

- I drive in this area almost daily and the two lane roads can not adequately handle the traffic on it now. The Sunset Amphitheater would cause too much congestion on these two lane roads.
- The proposed location of the amphitheater is also too close to homes, schools, and a church. The noise pollution would be very disruptive to the school and to the thousands of homes, including mine, that would hear and/or feel the bass vibrations during every concert.
- Notes Live only has planned 1300 parking spots for a 12,500 person theater. Where will all the cars park? Schools? Neighborhoods?

This is not the area for an outdoor amphitheater. Please vote no on April 9 regarding this rezoning request.

Thank you, Katie Beauchamp

11701 Whispering Hollow Lane  
Mustang, OK 73064

Sent from my iPhone

**Hurst, Paula J****Subject:** FW: Protest PUD -1983

v

**From:** Tommy and Robin Beavers <[tandrbeavers@gmail.com](mailto:tandrbeavers@gmail.com)>**Sent:** Saturday, February 24, 2024 9:22 PM**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>**Subject:** Protest PUD -1983

You don't often get email from [tandrbeavers@gmail.com](mailto:tandrbeavers@gmail.com). [Learn why this is important](#)

Hello,

We are Tommy and Robin Beavers and we hereby protest the PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

From the "Staff Report" by the Planning Commission Jan 11, 2024--- *However, potential compatibility issues are identified with the proposed use of an outdoor concert venue/amphitheater near schools and neighborhoods, specifically related to noise and traffic.*

We live approximately 1.5 miles from the proposed site for the amphitheater. From what I have found online, the noise and vibrations from these amphitheaters can carry up to 3 miles or farther so we are concerned about possible noise pollution at our home that we have lived in for 34 years. I can't even imagine what it will be like for the neighborhoods that are within walking distance. These are families with children that want to enjoy their evenings in their own backyards.

We firmly believe that a more suitable commercial site could be located that would not affect neighborhoods and schools. The two school buildings are just 1250 feet away. The nearest residence is 1500 feet away. How does it even make sense to build a 12,500 seat amphitheater so close to schools and homes??

A simple google search of sound complaints with amphitheaters brings up numerous complaints about the sound from other amphitheaters across the nation in reference to nearby neighborhoods. Below is a link for reference regarding issues with other amphitheater sites around the country. I would bring to your attention the initial paragraph on how the communities were "**misled**" about the concert noise. It also states that it is **impossible** to have a concert venue without it affecting the nearby neighborhoods.

Therefore, we respectfully request that you decline the PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

Thank you for your consideration.

Tommy and Robin Beavers  
12307 SW 13<sup>th</sup> St.  
Yukon, OK 73099

<https://evanstonroundtable.com/2023/07/20/letter-to-the-editor-concerts-not-music-to-all-ears/>

“Across the nation, there is widespread growing opposition to the practice of locating outdoor concert venues in residential neighborhoods. In most cases, the main issue is NOISE. Here are a just a few of many examples where communities were misled about concert noise”

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 11:52 am, Feb 20, 2024*

----- Forwarded Message -----

**From:** JACK BELANGER <[jacksbel@att.net](mailto:jacksbel@att.net)>

**To:** "[mayor@okc.gov](mailto:mayor@okc.gov)" <[mayor@okc.gov](mailto:mayor@okc.gov)>

**Sent:** Monday, February 12, 2024 at 09:18:04 PM CST

**Subject:** PUD 1983 Sunset Amphitheater at 810 South John Kilpatrick Turnpike

I am writing in protest against PUD 1983, Sunset Amphitheater.

My name is Jack S Belanger

10129 Dover Dr

Yukon, OK 73099 Oklahoma City Resident.

I am a 100% disabled veteran with hearing loss and PTSD. I am heavily medicated to control my PTSD.

Problem 1. The lights and sounds alone will set off any veteran with PTSD to an immeasurable level. The unmeasured low frequency bass that thumps and rattles your car, ears, home, and windows would be heard over 5 miles away.

These sounds will set off car and home alarms and it will cause noise pollution.

Every pet and person would be affected.

The PUD 1983 Sunset Amphitheater is being built in a strictly residential area with close to 4000 homes in a 1 mile radius from this proposal.

Please I beg you to reconsider the location for this venue.

Problem 2. Sarah Road is only a 2 lane street, one lane going north and one lane going south with nothing in the plans to widen this road. Three of the entrances would be on Sarah Road leaving the residents of North Westbury blocked from their neighborhoods for hours. North Westbury's only entrances are on Sarah and SW 15th.

Problem 3. Only 3,500 parking spots for 12,500 people, that is only 28 percent if each person drives or only 56 percent with Two people in each car.

That leaves 5,500 people without a parking spot.

The neighborhoods will be packed with cars blocking people from going down the road and the fields will have ruts in them.

Problem 4. Some types of music has a lot of cussing such as Rap. I don't want my grandkids hearing about gang violence, shooting cops, and F this and F that.

Oklahoma City area is vast and there has got to be a better location for this to go.

Thank you for your consideration.

Jack and Barbara Belanger

Westbury North President.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 11:52 am, Feb 20, 2024*

----- Forwarded Message -----

**From:** JACK BELANGER <[jacksbel@att.net](mailto:jacksbel@att.net)>

**To:** "[mayor@okc.gov](mailto:mayor@okc.gov)" <[mayor@okc.gov](mailto:mayor@okc.gov)>

**Sent:** Monday, February 12, 2024 at 09:18:04 PM CST

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Oklahoma City area is vast and there has got to be a better location for this to go.

Thank you for your consideration.

Jack and Barbara Belanger

Westbury North President.

## Johnson, Thad A

---

**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 2:36 PM  
**To:** Johnson, Thad A  
**Subject:** FW: protest pud-1983

-----Original Message-----

From: Mark Belius <sigguy85@icloud.com>  
Sent: Wednesday, March 27, 2024 2:20 PM  
To: City Clerk Email <CityClerk@okc.gov>  
Subject: protest pud-1983

[You don't often get email from sigguy85@icloud.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

To whom it may concern,

As a longtime resident of the Westbury North neighborhood, I would like to officially voice my strong opposition to the proposed Sunset Amphitheater in Mustang Creek Crossing. Please do not ruin this peaceful residential community.

Sincerely,

Mark Belius  
10420 Birkenhead Rd.  
Yukon, OK 73099  
405-514-6772

Sent from my iPhone

Kimberly Bennett  
9933 Birkenhead Court  
Yukon, Oklahoma 73099  
(785) 312-1239  
[mkbennett52@hotmail.com](mailto:mkbennett52@hotmail.com)

2024 MAR 11 PM 3:22  
OKLAHOMA CITY CLERK

March 7, 2024

City Clerk  
200 N. Walker Avenue, Second Floor  
Oklahoma City, Oklahoma 73102

Re: Sunset Amphitheater in Mustang Creek Crossing

I currently reside in the Westbury Subdivision. I am writing to you to express my opposition to the Sunset Amphitheater being built so close to my home.

Not only would this amphitheater have an effect on the resale value of my property, but it would damage my quality of life. My neighborhood is very quiet. The damage and impact this amphitheater would have on my neighborhood would be irreversible.

Surely, there are plenty of areas where this amphitheater could be built in a location far enough away from a residential area.

Thank you for your time and consideration.

Sincerely,

A handwritten signature in cursive script that reads "Kimberly Bennett".

Kimberly Bennett

Michael Bennett  
9933 Birkenhead Court  
Yukon, Oklahoma 73099  
(785) 312-1240  
[mkbennett52@hotmail.com](mailto:mkbennett52@hotmail.com)

2024 MAR 11 PM 3:23  
OKLAHOMA CITY CLERK

March 7, 2024

City Clerk  
200 N. Walker Avenue, Second Floor  
Oklahoma City, Oklahoma 73102

Re: Sunset Amphitheater in Mustang Creek Crossing

I currently reside in the Westbury Subdivision. I am writing to you to express my opposition to the Sunset Amphitheater being built so close to my home.

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Surely, there are plenty of areas where this amphitheater could be built in a location far enough away from a residential area.

Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink that reads "Michael Bennett". The signature is written in a cursive style with a long, sweeping horizontal line extending from the end of the name.

Michael Bennett



## Johnson, Thad A

---

**From:** Fulton, Boyd on behalf of Ward3  
**Sent:** Thursday, November 9, 2023 9:45 AM  
**To:** Dennis Beringer  
**Cc:** DS, Subdivision and Zoning  
**Subject:** RE: Proposed amphitheater development for property NW of SW 15th and Sara Road

Hello again Dennis,

Our office has learned that the amphitheater ownership/developers have submitted a rezoning application to the City. We have not received the official date, but this proposed rezoning is tentatively scheduled to be heard at the December 14<sup>th</sup> Planning Commission, at the earliest. As of this writing, we do not have a Council hearing date. We have cc'd the Subdivision and Zoning office on here, so your protest can be submitted.

Thanks again –

### Boyd Fulton

Special Assistant to the Council  
City Council Office



The City of  
**OKLAHOMA CITY**

[boyd.fulton@okc.gov](mailto:boyd.fulton@okc.gov) | 405-297-2402 | City Hall – 200 N. Walker Ave, 3rd Fl | Oklahoma City, OK 73102 | <http://www.okc.gov/>

---

**From:** Dennis Beringer <dr\_who@swbell.net>  
**Sent:** Monday, November 6, 2023 7:10 PM  
**To:** Ward3 <ward3@okc.gov>  
**Subject:** Re: Proposed amphitheater development for property NW of SW 15th and Sara Road

You don't often get email from [dr\\_who@swbell.net](mailto:dr_who@swbell.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

Boyd:

To continue the discussion about the proposed development on the west side:

The data underlying these comments come from the weekly full-color full-page ads in the Oklahoman, the television exposure of the proposed project on Channel 9 this evening, and Moly Young's article in The Oklahoman today, as well as comments we have received from those who attended the "town meeting" sponsored by the developer.

Mr. Roth appears to be taking an extremely aggressive approach to this "proposed" development. This is evidenced by the fact that he has already sold interest in a fair number of the firepit suites he has advertised, his weekly full-page newspaper ads, and the comments quoted by The Oklahoman. As of our last communication, no zoning/rezoning request had been received by the city and apparently no construction permits had been issued. However, Mr. Roth has stated that he intends to begin construction in January of 2024 (two months from now).

This seems to suggest that there is a belief, on his part, that getting any necessary approvals and permits is a fete accompli as it were, and that the project going forward is a certainty. Does this mean that the Council has already entered into discussions with Mr Roth and has indicated a willingness to award any necessary permits, etc.? Does this suggest that the Council believes that the concerns of the local residents, many of which I have seen expressed (attendees at the

"town meeting" indicated that they were not impressed with the statements being made by developer representatives; told the attendees what they wanted to hear or dismissed concerns people had), are without merit and need not be discussed or considered?

I have already lived through three disputes that local residents have had with developers, and the results of allowing the developments to go forward have been mixed (not all good, but not all bad).

Who does this development benefit? Certainly not the local residents (please refer back to my initial list of topics that needed to be considered; even Roth admitted that entertainment venues had failed in the past to adequately deal with expected traffic problems). It would seem to benefit the City, in terms of generating revenue, and the "wealthy" investors who can afford to purchase one of the offered fire-pit suites and then, essentially, lease it out. How does Ward 3 specifically benefit from this development in concrete terms that can be substantiated?

To reiterate the issues requiring consideration by topical area:

Traffic control/congestion: Sara widening is NOT complete nor is there any progress on renewing the road surface (or widening) of SW 15th, largely destroyed by heavy truck traffic during the construction of the tollway extension. Will the parking area really be large enough to accept the expected attendees without spillover into the adjoining neighborhood?

Noise: The developers keep making glib assurances, unsupported by any data, that residents east of Sara will not hear much, if anything, from the facility. Anyone having experience in sound propagation or sound measurement/control would dismiss those claims immediately as unsupported.

Law Enforcement presence: This area is likely to need an increased and quicker-response law-enforcement presence with a facility of this size and the expected influx of the number of people anticipated. Can we get a substation out here?

Flood control/drainage: If all of that area is paved over, there will need to be means created to provide a path for the likely runoff from the heavy rains that we occasionally have. Sara Road has flooded in the past and this could again be a real possibility without appropriate measures being employed.

Heat retention/heat island: This area is presently not subject to the "heat-island" effect that major areas of the city are subjected to, largely because we have a lower percentage of terrain that is covered by asphalt or concrete. The developed area would pave over a significant area of terrain and greatly change (increase) the retention of heat through the night.

My choice to locate here three decades ago was influenced by the isolated nature of the residential area (it was the only one here; there were no houses other than these north of the golf course, also now gone) and the advantage of not being IN the city but having access to it.

We have seen much in the way of change in that time, some good, some not as good. I don't make an argument, necessarily, in opposition to the proposed development, but I do believe it would be refreshing to see Council actually consider the issues that are of concern to the local residents and not accept unbinding assurances from the developer that all concerns will be taken care of to the satisfaction of the residents.

Previous experience with such processes: The local residents were uniformly opposed to development in this area based upon projections of traffic issues and potential flooding issues. Our previous representative on Council met with residents and agreed to vote on the matter according to the wishes of those he represented. He did so, but was the only dissenting vote and actually apologized to The Council for voting against the development. I believe that was entirely inappropriate and unnecessary as he was representing the opinions of his constituents. Isn't that the intent of representative government?

We have always been told that Ward 3 is a fringe ward (our locale is Mustang schools, Yukon postal address, OKC services...) and not generally of any interest to anyone other than the Ward 3 council person. I suspect that will continue to be true, so the outcome of the current process is probably predetermined.

Thanks for your dialogue on this. I realize that this was a long tome, but it appeared from the race forward in the media that it was either get all the comments on the table now or get off the tracks and let the train roar by. :-)

Please let me know what you might know about where the process is headed.

THANKS.  
DBB

On Tuesday, July 18, 2023 at 02:44:33 PM CDT, Dennis Beringer <[dr\\_who@swbell.net](mailto:dr_who@swbell.net)> wrote:

Boyd:

Last shot across the stern, as it were... yeah, you always think of things AFTERWARDS. :-)

Our church is also there, just across the street to the south from the schools.

I would estimate that property values will NOT increase in the adjacent neighborhoods after such a development.

In fact, I would expect the opposite given data from similar kinds of developments (I will need to document these; one needs to invest in actual data where available and not speculation) (invest... speculation... that didn't slip by you, did it?). Now, if one could populate the entire subdivision with youngsters who wanted to be able to WALK to concerts, etc., then maybe... :-). It's a world of possibilities, eh? \*(yes, French Canadian on Mom's side)

Hope the rest of your week goes well. We survived the power outage today without incident. Hopefully this will continue to be true.

DBB

On Tuesday, July 18, 2023 at 02:19:39 PM CDT, Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)> wrote:

Hello Dennis,

It's always a pleasure. As I stated, I'll pass your email/comments onto Councilwoman Peck. As of this writing, no re-zoning applications have been submitted to the City. Also, if our office becomes aware of any public meetings hosted by the proposed developers, I'll make sure to share such information with you.

Thank you –

**Boyd Fulton**

Special Assistant to the Council

City Council Office



[boyd.fulton@okc.gov](mailto:boyd.fulton@okc.gov) | 405-297-2402 | City Hall – 200 N. Walker Ave, 3rd Fl | Oklahoma City, OK 73102 | <http://www.okc.gov/>

---

**From:** Dennis Beringer <[dr\\_who@swbell.net](mailto:dr_who@swbell.net)>

**Sent:** Tuesday, July 18, 2023 2:01 PM

**To:** Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>

**Subject:** Proposed amphitheater development for property NW of SW 15th and Sara Road

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

Boyd:

Thanks for the conversation today. I appreciate you checking on the road widening near us so that we can figure out our alternate routes when work on SW15th starts.

The information on the "proposed" development in the open area to the NW of SW 15th and Sara was also helpful (that no request for rezoning had yet been received and the specific development plan had, by inference, not yet been approved by the City Council). As I had started outlining to you during our conversation, there appear to be a number of indications that this particular use of that property would not be particularly beneficial to the residents in the immediately, and I stress immediately, surrounding residential areas. I will list those that I can assemble off-the-cuff as it were without doing a complete analysis, which I hope to do later in collaboration with the various neighborhood associations.

1) Traffic and congestion: The area across the street to the east of the proposed site is already an established residential area, and the property on the south side of SW 15th appears to be in the process of preparation for another residential development. That the roadways immediately adjacent to the proposed site are being widened to 4 lanes does not guarantee, in any way, that the likely traffic for a 12,000 seat amphitheater could be adequately handled by those widened streets.

2) Parking: If such a venue was constructed, then there would need to be parking sufficient to keep people attending events from spreading out into the residential area and parking there. There is a creek that runs through this area that is the primary watershed, and paving over all of that area either for building foundations or for parking (I would guess asphalt, being cheaper than concrete), would likely have a negative effect on runoff. It would also have a negative effect on heat concentration in the summer (paved areas absorbing the heat all day and releasing it overnight). This would substantially change the nature/ecology of the area.

3) Law enforcement availability: The increase in traffic would likely, for numerous predictable reasons that are well supported by the records of other such developments, increase the number of incidents and accidents requiring a response by law enforcement. As we discussed, our area previously was covered from the Santa Fe station but, as you have pointed out, is now covered by a "briefing station" near Will Rogers airport. What is the current response time? Our experience is that it has always been slow. We once reported a break-in and the response time was 45 minutes.

4) Noise: As it is now, we can sometimes hear the traffic on I-40 dependent upon weather conditions. I don't believe it requires a stretch of the imagination to envision the noise pollution likely from an outdoor music-performance venue.

5) Proximity of schools: There are two schools immediately adjacent to the proposed development property; a middle school and an elementary school. They are in the Mustang School System (as you know, our area is Oklahoma City services, Yukon postal address, Mustang schools). I don't believe that I need to enumerate all of the possible scenarios in which the proximity of the envisioned amphitheater might result in negative outcomes for the school properties (I could if you really need that made specific).

6) You are aware, I am sure, that the former golf course has been converted, in some part on the north side, to a retirement community, which has increased the overall housing density here. Whether they are or are not represented by any neighborhood association is something I do not know at this time. However, it is yet another constituent group which could be impacted negatively by this particular type of development.

That is the extent of what I can generate spontaneously without doing more detailed research. A development much like this one was proposed for a property in Idaho, as I recall, in 2022 and was not approved by the County. Some of the reasons they declined to approve that effort may or may not be relevant to the situation here. I would be greatly appreciative if you could pass these thoughts along to Barbara for her consideration in the event that a request does make its way to the Council. Please let me know if you become aware of any additional information regarding this proposal that exceeds that which appeared in the Journal Record article or similar news publications.

Thank you so much for returning my call and taking a few moments to convey the information that you had.

Regards,  
Dennis Beringer  
Ward 3 resident

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**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 4:27 pm, Mar 01, 2024*

**From:** tara betz <[tara\\_9339@yahoo.com](mailto:tara_9339@yahoo.com)>  
**Sent:** Friday, March 1, 2024 3:57 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [tara\\_9339@yahoo.com](mailto:tara_9339@yahoo.com). [Learn why this is important](#)

To whom it may concern,

I, Tara Betz hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I have done a fair amount of research regarding living so close to a venue like the one that is being proposed. I feel that my health, the health of my small children, and husband will be at risk, if this amphitheater is allowed to be built. This household vehemently opposes the zone change and the proposed building of said amphitheater!

Thank you,  
Tara Betz  
633 Westridge Ct  
Yukon, OK 73099  
Ward 3  
719.371.5714

[Sent from Yahoo Mail on Android](#)

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 3:40 PM  
**To:** Olivo Harrison, Elena; Welch, Sarah; Johnson, Thad A; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest to the PUD-1983 rezoning effort

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



The City of  
**OKLAHOMA CITY**

---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Monday, April 1, 2024 1:39 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest to the PUD-1983 rezoning effort

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**From:** Ana Bloom <[gsbloom@cox.net](mailto:gsbloom@cox.net)>  
**Sent:** Monday, April 1, 2024 1:38 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>  
**Subject:** Protest to the PUD-1983 rezoning effort

You don't often get email from [gsbloom@cox.net](mailto:gsbloom@cox.net). [Learn why this is important](#)

Greetings,

My name is Glenn Bloom and I live at 3216 Hampshire Lane, Oklahoma City, OK, 73179. I am sending this letter to ask for a no vote in the rezoning for PUD-1983 Sunset Amphitheater project.

There are an estimated 3,868 residential homes in a one mile radius that would be severely and adversely affected by the amphitheater. I live about 2 miles from the project and feel that the project will not only be a disaster for those immediately within the 1 mile area, but will also be extremely horrible for those of us within a 2-3 mile radius as well. We moved to this area because it was quiet and family friendly. This proposed amphitheater will destroy the harmonious environment we sought to live in.

Most of the residents of the area have to work for a living and rest is a prime concern for those who would have to deal with the noise that would extend into the night and on weekends. This includes children, families, pets and especially people already dealing daily with PTSD. It is common knowledge that 22 veterans commit suicide every day in the United States, and long term exposures to things like 120 DB loud noises contribute to the mental anguish that plagues these veterans and

often push them over the edge. An open air amphitheater with constant noise could potentially be the thing that torments a veteran and pushes them to take drastic measures to end their life. I do not want my Brothers and Sisters in military service to suffer.

Another major concern of the Sunset Amphitheater project is the proximity to two Mustang schools that back right up to the proposed property. When sound checks are done at 2 PM, both schools will still be in session. However, after school events could also be adversely effected being that the schools are so close to the venue. It is also no secret that concerts attract drugs and alcohol, and these harmful substances would be right at the fence line of the two schools. If concerts are filling up and people are using drugs in the parking lot before a concert, the smoke from marijuana could easily waft over the fence line and expose families at an after school event. It could also expose student athletes to the harmful smoke.

The proposed area is already difficult for traffic when schools let out, but one can only imagine how bad the traffic would be before and after concerts. Not only would drugs and alcohol be in close proximity to the schools, but people who would be caught in the slow traffic of a concert that just let out may feel the desire to have a drink, or smoke some marijuana in the parking lot while they wait to leave, increasing the impaired driving in the area. This is a residential area already and the last thing we need is more impaired driving.

Another extreme issue is the proximity of this venue to the turnpike and I-40 interchange where vehicles are going 70 mph. Intense stage lighting in a poorly lit area will be intensified by the lack of natural or man made ambient light and could become a major traffic safety issue. There would be nothing to block the flashing stage lights from the traffic on the highway and turnpike, making this a certain distraction for drivers which could induce accidents.

Sustainability is also a very big concern for this new concert venue proposal. Oklahoma City is already in the process of building a new NBA arena, a new multi-use outdoor soccer arena, a new OG&E Coliseum arena replacement at the fairgrounds, and that doesn't count the Zoo Amphitheater which is going to be under new management soon, the existing Paycom center, many Native American Indian Casinos and local smaller music venues, as well as Scissortail Park which is currently used for outdoor concerts. How many concert venues do we need in Oklahoma City? How many can be reasonably supported? We are in the process of getting 3 new City owned full scale arenas to add to the ones we already have and this proposal would make a total of 4 new large scale concert venues added to those already existing. This makes no sense when you consider the size and population of Oklahoma City. What happens if this 4th venue doesn't attract enough business, especially since it can only be used 5-6 months out of the year?

I have really struggled to find anything good coming from this proposal and I have drawn a complete blank. Excessive noise, uncontrollable traffic, an infusion of more drugs and impaired driving, the extreme proximity to schools, bright stage lighting, and a lack of long term sustainability all make this a severely horrible proposal in the midst of a heavily populated residential area.

I am the homeowner of the Walden Creek addition at SW 29th and Morgan Road and I ask you to please vote against rezoning for PUD-1983 to keep our area peaceful.

Sincerely,

Glenn S Bloom  
Oklahoma City





**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 5:18 pm, Mar 20, 2024

**From:** Glenn Bloom <[gsbloom@cox.net](mailto:gsbloom@cox.net)>

**Sent:** Wednesday, March 20, 2024 11:24 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Requesting a no vote in the rezoning for PUD-1983 Sunset Amphitheater project.

Some people who received this message don't often get email from [gsbloom@cox.net](mailto:gsbloom@cox.net). [Learn why this is important](#)

Greetings,

I am sending this letter to ask for a no vote in the rezoning for PUD-1983 Sunset Amphitheater project. There are an estimated 3,868 residential homes in a one mile radius that would be severely and adversely effected by the amphitheater. I live about 2 miles from the project and feel that the project will not only be a disaster for those immediately within the 1 mile area, but will also be extremely horrible for those of us within a 2-3 mile radius as well. We moved to this area because it was quiet and family friendly. This proposed amphitheater will destroy the harmonious environment we sought to live in.

Most of the residents of the area have to work for a living and rest is a prime concern for those who would have to deal with the noise that would extend into the night and on weekends. This includes children, families, pets and especially people already dealing daily with PTSD. It is common knowledge that 22 veterans commit suicide every day in the United States, and long term exposures to things like 120 DB loud noises contribute to the mental anguish that plagues these veterans and often push them over the edge. An open air amphitheater with constant noise could potentially be the thing that torments a veteran and pushes them to take drastic measures to end their life. I do not want my Brothers and Sisters in military service to suffer.

Another major concern of the Sunset Amphitheater project is the proximity to two Mustang schools that back right up to the proposed property. When sound checks are done at 2 PM, both schools will still be in session. However, after school events could also be adversely effected being that the schools are so close to the venue. It is also no secret that concerts attract drugs and alcohol, and these harmful substances would be right at the fence line of the two schools. If concerts are filling up and people are using drugs in the parking lot before a concert, the smoke from marijuana could easily waft over the fence line and expose families at an after school event.

The proposed area is already difficult for traffic when schools let out, but one can only imagine how bad the traffic would be before and after concerts. Not only would drugs and alcohol be in close proximity to the schools, but people who would be caught in the slow traffic of a concert that just let out may feel the desire to have a drink, or smoke some marijuana in the parking lot while they wait to leave, increasing the impaired driving in the area. This is a residential area already and the last thing we need is more impaired driving.

Sustainability is also a very big concern for this new concert venue proposal. Oklahoma City is already in the process of building a new NBA arena, a new outdoor soccer arena, a new arena replacement at the fairgrounds, and that doesn't count the Zoo Amphitheater which is going to be under new management soon, the existing Paycom center, and Scissortail Park which is currently used for outdoor concerts. How many concert venues do we need in Oklahoma City? We are in the process of getting 3 new City owned full scale arenas to add to the ones we already have and this proposal would make a total of 4 new

concert venues added to those already existing. This makes no sense when you consider the size and population of Oklahoma City. What happens if this 4th venue doesn't attract enough business, especially since it can only be used 5-6 months out of the year?

I have really struggled to find anything good coming from this proposal and I have drawn a complete blank. Excessive noise, uncontrollable traffic, an infusion of more drugs and impaired driving, the extreme proximity to schools, and a lack of long term sustainability all make this a severely horrible proposal in the midst of a heavily populated residential area.

I am the homeowner of the Walden Creek addition at SW 29th and Morgan Road and I ask you to please vote against rezoning for PUD-1983 to keep our area peaceful.

Sincerely,

Glenn S Bloom  
Oklahoma City

## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:53 PM  
**To:** Johnson, Thad A  
**Subject:** FW: VOTE NO to Sunset Amphitheatre in SW OKC

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**From:** Robert Bocock <[robert.bocock72@gmail.com](mailto:robert.bocock72@gmail.com)>  
**Sent:** Monday, March 25, 2024 5:22 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>  
**Subject:** VOTE NO to Sunset Amphitheatre in SW OKC

Some people who received this message don't often get email from [robert.bocock72@gmail.com](mailto:robert.bocock72@gmail.com). [Learn why this is important](#)

I just want to say that I do want to see new things for Oklahoma. But having said that, I have lived in Westbury South on Lankestar Way for 13 years. I have welcomed lots of changes in the area. But this area is very family-oriented, respecting our neighbors. I don't go to concerts because the noise levels give me headaches so I don't want to have to hear them for 6 months of the year.

HIGHWAY ACCESS: NOT ONLY will we have to deal with excessive noise levels for hours multiple times a week but will have to deal with the overflow of traffic. There are only 2 ways to get to Kilpatrick going Northbound 1) SW 15th between Sarah and Morgan. 2) Sarah Rd near 29th Street. Then only 1 way going Southbound which is on 29th St. which they would need to travel down Sarah. They do have a few more routes to get to I-40. But SW 15th is a 2-lane road and Sarah between 15th and Reno is mostly a 2-lane road.

LET'S TALK PARKING: They say it will hold a total capacity of 12,000 people. With only 3,500 parking spaces. That means if each vehicle contained at least 3 concert attendees there would be over 4,000 vehicles. The other 500 would park in neighborhoods. Most of these vehicles will probably only have 2 passengers each meaning there could be over 6,000 vehicles. These concerts are going to occur from April to October. SCHOOL YEAR DOES NOT END UNTIL MAY AND STARTS IN AUGUST. Many middle schoolers from both Westbury additions walk to and from school. A lot walk home after different programs later in the afternoon. This will increase traffic for those kids to deal with. This will also increase traffic in Westbury North as attendees cut through the neighborhood to bypass long car lines at the intersection. I already see this during the day when I am out and the elementary school pickup line is backed up onto Sarah Road. This doesn't even take into account the kids that play in the neighborhood in the summertime having to be inside every evening to be safe from those people cutting through the neighborhood or even parking in them so they don't have long waits from leaving the Amphitheater parking lot.

YOU ONLY THINK OF \$\$\$\$\$\$ and not the wellbeing of the citizens who are raising families in this area. VOTE AGAINST THE AMPHITHEATER!!!!!! Picture yourself as a middle-class family working paycheck to paycheck trying to raise your children in a safe environment. WOULD YOU WANT THIS IN YOUR BACKYARD? Think of all the school events that occur in the evenings from August to October. Are they going to plan concerts around school functions so that parents can get to the school? Or so that

parents can even park at the school, because with not enough parking that is another place that people will park. You are going to have people leaving this venue after drinking and partying for hours, possibly bringing drugs. You expect them to be respectful of families in these neighborhoods. I should not have to point this out BUT THEY ARE NOT GOING TO CARE ABOUT THIS AREA. You are only going to bring more crime, drunk driving, and litter to this area.

PUT it out on land on the outskirts of the city, if people choose to build a house near it that is their problem, but DON'T put it in OUR BACKYARDS. In our school's backyard. KEEP OUR KIDS SAFE!!!!

VOTE NO TO SUNSET AMPHITHEATER

Robert and Kristi Bocock

## Johnson, Thad A

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**From:** Rbondaruk <rbondaruk@cox.net>  
**Sent:** Wednesday, February 7, 2024 2:30 PM  
**To:** lora koeninger  
**Cc:** Jerimy Meek; Fulton, Boyd; Miller, Deborah K; DS, Subdivision and Zoning; City Clerk Email; Freeman, Craig A; The Mayor; Ward3; Lakin, Cynthia A  
**Subject:** Re: SUNSET AMPHITHEATER BEFORE OK CITY COUNCIL MARCH 12TH - Message to Mayor Holt

Some people who received this message don't often get email from rbondaruk@cox.net. [Learn why this is important](#)

Good day all

1. OK, worth mentioning is the 15th street one (1 ) lane bridge “chock point” which will reduce traffic flow pass the school to the express way.
2. 3 exit entry points without positive traffic control will not work: a. The north most exit will be forced to turn north and travel to Reno and then to get to the express way must travel through another “Chock point” , Sara road train tracks to 10th, b. All traffic departing from the south exit will be forced to go south to either 15th street or down Sara to express way, c. Now the problem - where do the middle exit traffic go, if north they hinder the north exit traffic, if south same story.
3. The bond to widen Sara is not enough, helps, but it is also necessary to eliminate the various chock points. Something that needs doing regardless and is long over due.

My apology for the long read

BTW has anyone read the Environmental Impact Statement?  
Sent from my iPad

On Feb 7, 2024, at 1:22 PM, lora koeninger <westburyinfo@yahoo.com> wrote:

This project is to Large for a Small area - needs to be researched thoroughly - see below.

Mayor Holt:

Received Message from Barbara Peck via her facebook message re: Widening of North SARA RD - put on Bond issue which should be coming out in 2-3 years. Also, same message from ACTION LINE. If this SUNSET AMPHITHEATER is approved and project will be construct by 2025 which they forecast - the NARROW 2 LANE SARA RD with three (3) INGRESS/EGRESS into the Amphitheater will have to accommodate 3500-5000 cars plus ubers/buses/etc.. all within the hours of 5:00-6:30 INGRESS and then 10:00-11:00 EGRESS. IF IN FACT the Bond issue is approved in 2-3 years - then it's another 3-4 years for the widening even begins - AT THAT TIME: Amphitheater will be constructed and operating and Widening will progress - effecting the 3500-5000 cars, buses, ubers. etc...getting into the Amphitheater. This is not ONLY a Hinderance to those living in subdivisions around the Widening but, also those who "own" suites in the Amphitheater who may or may not have expected this upon their purchase of the SUITE. IF you want to see how BAD it will be - drive out to the SW Sector of Oklahoma City and look at the Widening going on today on Sara RD south - it's a mess. We are

dealing with that but, will the Owners of the Suites at the Sunset Amphitheater APPRECIATE IT? ASK THE SUNSET AMPHITHEATER TO PAY FOR THE 1/4 MILE WIDENING OF SARA RD NORTH OF SW 15TH IN THE PUD TO BE COMPLETED ALONG WITH THEIR CONSTRUCTION AND FIGURE IT INTO THEIR COST OF DEVELOPMENT.

## Johnson, Thad A

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**From:** Terry Bowlby <talktothemouse@yahoo.com>  
**Sent:** Monday, March 25, 2024 8:54 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983

You don't often get email from talktothemouse@yahoo.com. [Learn why this is important](#)

Amy K Simpson,

I Teresa S Bowlby hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike .

I live at 2717 Renwick Ave, OKC 73128, phone [405-897-2329](tel:405-897-2329).

I live in Ward 3 and very strongly oppose this amphitheater being built so close to my home and many other homes in the surrounding area. I live in a quiet neighborhood, because I chose to. I do not want to have the frequent noise pollution caused by many open air concerts to be a reason to move to another area. I also do not want to have to deal with the enormous traffic load it will cause.

Thank you for taking our concerns into your decision making.

Teresa Bowlby



## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Tuesday, April 2, 2024 7:58 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Wrights, David R III <david.wrights@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Monday, April 1, 2024 4:54 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

David Wrights

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**From:** Terry Bradfield <[bradfield.terry@gmail.com](mailto:bradfield.terry@gmail.com)>  
**Sent:** Monday, April 1, 2024 4:50 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [bradfield.terry@gmail.com](mailto:bradfield.terry@gmail.com). [Learn why this is important](#)

I, Debra Bradfield, hereby protest the PUD-1983 application of Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

This proposed development is not good for our neighborhoods/or community because:

1. THE NOISE

Many of us moved to this area because of the peaceful serenity. Some of these neighborhoods were established decades ago. The proposed venue will be too close to the surrounding homes, two Mustang Public Schools & a local church. The sounds from this venue cannot be contained, being heard at distances up to 4 miles. Some of the local residents are elderly & some others have health issues that could be adversely affected by potential noise from a venue of this type.

2 THE TRAFFIC CONGESTION

This area is experiencing growth & the current roads are not able to adequately move the traffic now. Unless the current roads are dealt with, the problem will only escalate. There is an issue of parking for the venue. The proposal is for 3500 parking spaces, which is not adequate of a venue capacity of 12,000 +. The nearby streets & neighborhoods could become parking by proxy.

3. PLEASE CONSIDER the citizens who reside in this area. I urge you to drive through this area to see how close this is to the neighborhoods & schools.

ask yourself if this proposed venue is beneficial to the residents?

How will this affect their daily lives?

Would you personally want such a venue in YOUR peaceful tranquil neighborhood?

Please put yourself in the shoes/homes of the residents.

I am asking you to vote "NO" on PUD-1983.

Please do this for the citizens/residents who would be greatly affected by the proposed venue.

Thank you,

Debra Bradfield

I am the homeowner at:

11804 SW 2nd St.

Yukon, OK 73099

405-577-5050

[bradfield.terry@gmail.com](mailto:bradfield.terry@gmail.com)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:36 am, Feb 20, 2024

**From:** John Brewer <[john@fbcmustang.org](mailto:john@fbcmustang.org)>  
**Sent:** Friday, February 16, 2024 10:45 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Sunset Amphitheater in Mustang Creek Crossing

You don't often get email from [john@fbcmustang.org](mailto:john@fbcmustang.org). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

Mrs. Simpson,

I'm writing out of concern as a resident of Ward 3 in the Westbury South housing division. As you are well aware at this point, my house is less than one mile from the proposed Sunset Amphitheater in Mustang Creek Crossing.

I am a father of 4 boys ranging in age from 5-14. While I understand the initial economic appeal of having a facility like this come to our city, I have several major concerns as it relates to my specific neighborhood and those surrounding the area where the amphitheater will be put in:

1. There are no plans to widen Sara Rd. where 3 main entrances and exits are expected. This will create a traffic nightmare.
2. There are no plans to widen SW 15th st. where 1 entrance/exit is expected. This will create a traffic nightmare.
3. Sound decibel levels have been approved for 5db over city code with extended noise timeframes set to end 2 hours after my, and hundreds of neighbor's, children's bedtimes on school nights. Particularly concerning are reports of low-frequency vibrations that affect homes multiple miles away from similar amphitheaters around the country.
4. Sound checks have been approved to start at 2pm which is while school is still in session at a campus where my children are zoned to attend (Mustang North Middle School).

The City Council has a responsibility to represent the citizens who live in your city and fight for their well being. Please hear the requests of the residents in this area to reconsider allowing the Sunset Amphitheater to build in Mustang Creek Crossing. Please consider whether you would personally want your home to be a mile away from an open air concert venue who puts on 50-60 concerts throughout the year. Please vote to reject the approval of this project.

Thank you for your time.

John Brewer  
Associate Pastor of Worship  
First Baptist Mustang

Home Address:  
2000 Edinburg Dr.  
Yukon, OK 73099

Cell: 405-401-9780

**From:** Charles Bock <[cab1232@gmail.com](mailto:cab1232@gmail.com)>  
**Sent:** Tuesday, March 19, 2024 4:46 PM  
**To:** Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>  
**Cc:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

Some people who received this message don't often get email from [cab1232@gmail.com](mailto:cab1232@gmail.com). [Learn why this is important](#)

I Charles A. Bock herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

As a resident of Canadian County since June 2015, I have paid a considerable amount of tax dollars to the county. To not have a say in this project seems unacceptable. My home is free and clear so when I write a check for \$3500 every year I feel it. Those with a mortgage never really see it as their tax payments are included in their monthly payment.

This proposed amphitheater project is certain to increase traffic, crime, noise pollution and trash. None of which we welcome in our neighborhood. We have a right to peace and quiet, which is why we bought in this area.

Charles & Diana Bock  
2221 Timber Ridge  
Yukon, OK. 73099  
480-406-1052  
[CAB1232@Gmail.com](mailto:CAB1232@Gmail.com)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:15 pm, Mar 21, 2024

**From:** Joan Brodmerkel <[joaniebrods@gmail.com](mailto:joaniebrods@gmail.com)>  
**Sent:** Thursday, March 21, 2024 1:07 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Fwd: Protest PUD-1983 Sunset Amphitheater in Mustang Crossing

You don't often get email from [joaniebrods@gmail.com](mailto:joaniebrods@gmail.com). [Learn why this is important](#)

Sent from my iPhone

Begin forwarded message:

**From:** Joan Brodmerkel <[joaniebrods@gmail.com](mailto:joaniebrods@gmail.com)>  
**Date:** March 21, 2024 at 12:34:08 PM CST  
**To:** City Clerk: Amy K Simpson  
[cityclerk@okc.gov](mailto:cityclerk@okc.gov)

**Subject: Protest PUD-1983 Sunset Amphitheater in Mustang Crossing**

Sent from my iPhone I, Joan Brodmerkel hereby protest PUD-1983 application by Mustang Creek Crossing to redone 810 South Kilpatrick Turnpike. I live less than 1 mile away from the proposed Notes Live venue. My address is 10420 Leicester Dr in South Westbury. I have lived here for well over 30 years and it amazes me that anyone would think that a venue of this size would actually be a great idea in an area surrounded by so many neighborhoods. It will adversely impact the lives and wellbeing of thousands of people within a 1 mile radius up to 3 or more miles radius. Please don't forget about the schools less than 200 feet away from the site and the noise from the crews setting up and sound checking for every concert. Would you want your children to have to be in these schools or after school activities during that? What about the homeowners and apartment dwellers that live here ( pets and wildlife too). Would you like this in a neighborhood close to you? This to me is not justified for whatever benefit it supposedly might support. The safety and quality of life for thousands of citizens is more important. No to Sunset Amphitheater.  
Joan Brodmerkel

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:20 pm, Mar 21, 2024*

From: Joan Brodmerkel <[joaniebrods@gmail.com](mailto:joaniebrods@gmail.com)>

Sent: Thursday, March 21, 2024 2:15 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Protest PUD-1983

[You don't often get email from [joaniebrods@gmail.com](mailto:joaniebrods@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

My name is Joan Brodmerkel and I live in South Westbury at 10420 Leicester Dr. I am protesting the PUD-1983 application by Mustang Creek Crossing to rezone 810 S Kilpatrick Turnpike.

While the area on this side of Oklahoma City is rapidly expanding with new neighborhoods, apartments, and businesses, the thought of a huge amphitheater smack in the middle and less than a mile away from thousands of people is a very badly thought out idea. The original plan to build shops, restaurants, Doctor's offices, movie theater, bike and walking trails, would make sense and would probably increase values of our neighborhoods. But an outdoor amphitheater of this size would be a nightmare for all who live and have to work here. I like to sit on my patio in the evening and enjoy my gardens and the peace after a long day. For myself and thousands of others who live here or near here, that would be gone. Who wants to live in a noisy, vibrating, crazy traffic, no way to get in or out of the neighborhood, scary place like that? Would you?

Sent from my iPhone

**From:** Amy Brown <2knit2bsquare@gmail.com>  
**Sent:** Sunday, March 24, 2024 3:50 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD 1983

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024*

You don't often get email from [2knit2bsquare@gmail.com](mailto:2knit2bsquare@gmail.com). [Learn why this is important](#)

Hi Amy,

My name is Amy Brown. I wanted to write and let you know that I protest PUD 1983 and oppose the building of the Sunset Amphitheater. Though I do not currently live in a neighborhood near here, I do spend a lot of time with friends and going to piano lessons at Sara Road and 15th. When my husband retires at the end of this year, our hopes are to move closer to our church, friends, and activities and this has been one of my top locations to look for a home. But more importantly, I am concerned for the health and well being of others in our community.

I was excited to see such an awesome venue come to our great city, but please take a minute to consider the responsibility of bringing this venue into our community where it is proposed and how this will greatly impact the health and lives of those living in the neighborhoods and attending these schools where this is proposed to be built.

As a person who has worked my whole adult life fighting for other's health (RN and certified health coach, I'll share here some of the long-term effects of noise:  
Poor quality sleep over a long period of time is linked with high blood pressure, heart disease, weight gain, type 2 diabetes, and certain types of cancer.

Chronic lack of sleep can:

- Lead to weight-gain
- Adversely impact learning and memory
- Compromise your immune system
- Elevate your blood pressure
- Increase inflammation
- Shorten lifespans
- Create symptoms of ADHD
- Contribute to mental and emotional health issues

Please consider the health and wellbeing of our community,

Amy Bowen Brown



# Ronald & Debra Brown

201 Sagebrush Rd  
Yukon, OK 73099  
405-778-0800

March 21, 2024  
Barbara Peck ward 3, or whom it may concern  
200 N Walker Ave  
OKC, OK 73102

Dear Barbara,

I Ronald Brown & Debra Brown herby Protest PUD-1983 application by Mustang Creek Crossing, LLC to rezone 810 South John Kilpatrick Turnpike.

My main concern is the safety of the children attending the two schools, Mustang North Middle School and Mustang Creek Elementary. The back of the stage is less than 300 feet from school property. The applicants have not attached the actual blueprints for the Oklahoma City project and we are not able to see what kind of fencing will be used. They have stated no less than 6' and no greater than 8' but will it be secure enough? And how will it help mitigate sound?

Kids by nature are very curious and may be able to sneak into the venue grounds.

Many children also walk home from the middle school and we are concerned about the band crew from out of state that has not been vetted by the venue. They will also be walking by ticket scalpers and patrons waiting to get into the venue. These are very dangerous possibilities for the kids and I ask you to help protect them from future harm.

We are the property owners of 201 Sagebrush Rd and ask you to deny the rezoning of this application.

Sincerely yours,



Ronald & Debra Brown

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 12:04 pm, Feb 20, 2024

**From:** Kristen Bruce <[kristen.g.bruce@gmail.com](mailto:kristen.g.bruce@gmail.com)>  
**Sent:** Tuesday, February 20, 2024 8:09 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD 1983

You don't often get email from [kristen.g.bruce@gmail.com](mailto:kristen.g.bruce@gmail.com). [Learn why this is important](#)

Hello City Clerk Amy Simpson,

I got to speak at the last City Council Meeting. I am one of the homeowners at 1601 Birkenhead Road.

First, thank you for serving our City. I know you all carry the heavy weight of decision making, thank-you.

**I protest the location of PUD 1983 Sunset Amphitheater development.**

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If you want this type of development in our city, then you need to require the applicant to pick a location that will not harm Oklahoman’s health, sleep and time with family.

Thank you.

Kristen Bruce

**From:** Kristen Bruce <[kristen.g.bruce@gmail.com](mailto:kristen.g.bruce@gmail.com)>

**Sent:** Wednesday, March 6, 2024 1:36 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD 1983

You don't often get email from [kristen.g.bruce@gmail.com](mailto:kristen.g.bruce@gmail.com). [Learn why this is important](#)

Hi, my name is Kristen Bruce. 1601 Birkenhead Road. Thank you for serving on our city council.

I protest the approval of PUD-1983, the 12,000-seat Sunset Amphitheater, being built near any residential houses. A vote to rezone this location for the applicant, is a vote to approve development of this large venue.

So what are complaints neighbors have who live near other amphitheaters:

- Near Hayden Homes Amp, Bend OR- 8,000 seat capacity (August '23)

From more than 3 miles away, a resident said: "We don't hear the music or the vocals. We feel and hear a low-frequency vibrating bass that permeates the entire house. It's almost unbearable."

<https://centraloregondaily.com/hayden-homes-concert-old-mill-noise-bass-sound-limit/>

- Near Round Rock Amp, Round Rock, TX – 6,000 seat (April '22)

From 4 miles away, a resident could feel the vibrations and "said the vibrations... prevented his child from sleeping."

<https://www.kvue.com/article/news/local/round-rock-amp-noise-complaints/269-9f91ea1f-31c5-486b-a4be-cf7c6e189b6c>

- Near Midflorida Credit Union Amp, Tampa, FL- 20,000 seat (August '05)

At half a mile away residents who had to endure 10 hours of concerts from an all-day festival, were close enough to hear talking from the loudspeaker. He said "I walked out the front door and the first thing that I heard was F-this." He continued to say "...concerts routinely prevent him from getting a good night's sleep..."

<https://www.tampabay.com/archive/2005/05/26/residents-try-to-quiet-amphitheater/>

- Near Orion Amp, Huntsville, AL – 8,000 seat (August, '23)

At 1 and half miles away, a resident said "I like concerts, I just don't want to listen to them on someone else's schedule." Concerts are keeping him up at night and he

continued to say "...the day after [a concert] I can't think straight and I'm having to actually get stuff done..."

<https://www.waff.com/2023/08/18/orion-noise-complaints-continue-huntsville-leaders-look-for-solutions/>

- Near Ascend Amp, Nashville, TN- 6,800 seat (May, '18)

From a mile away, a resident wrote in a complaint that read: "On the night I wrote this... [someone] is playing, and inside the house with all the windows closed the noise from the concert interferes with watching TV."

<https://www.tennessean.com/story/news/2018/05/07/east-nashville-residents-complain-over-noisy-beck-concert-ascend-amphitheater/586252002/>

- Near Brushy Creek Amp, Brushy Creek, TX - 12,000 seat (Oct, '21)

People as far as 15 miles away were disturbed enough by the noise that they made the effort to call and complain.

<https://communityimpact.com/austin/pflugerville-hutto/city-county/2021/10/21/sound-study-recommends-relocation-of-brushy-creek-amphitheater/>

Other complaints include:

- Inability to "enjoy their backyards or escape into their houses because of window rattling noises."
- Businesses disrupted by daytime sound checks.
- Noise affecting "...their quality of life.. [because]... they can't enjoy their weekends, their home, their time with kids and friends."

This type of venue is unacceptable near people's houses. Why is it that this AMP is not being proposed near Heritage Hills, Nichols Hills or Galardia? The complaints over such a suggestion would be massive, because it is obvious that this is going to be a terrible neighbor.

Please use common sense and factual evidence, and vote "No" to Notes Live in order to say "Yes" to Oklahomans, family, sleep, health and peace.

**From:** Kristen Bruce <[kristen.g.bruce@gmail.com](mailto:kristen.g.bruce@gmail.com)>

**Sent:** Tuesday, February 20, 2024 8:13 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD- 1983

2024 FEB 20 AM 8:49  
OKLAHOMA CITY CLERK

You don't often get email from [kristen.g.bruce@gmail.com](mailto:kristen.g.bruce@gmail.com). [Learn why this is important](#)  
Hello,

First, thank you for serving residents in our city. I know that the Council Member's compensation is not a full time job worth, yet you have a heavy load. That tells me you want to serve. Thank you.

Okay, straight to my point, there is a 12,500-capacity amphitheater proposed to be built less than a mile from my house. Sam Coury and Carol Hefner plan to sell their land to this multi-million dollar company and thousands of families, children and elderly will be affected by this.

**I protest the rezoning of PUD - 1983 and approval of this development.**

A quick 10-minute search on google of the complaints of other amphitheaters reveals staggering information. Residents from varying distances (in my research I saw less than a mile to 15 miles!) have numerous complaints. Here are some complaints:

- Windows rattling
- Walls shaking
- Picture frames vibrating
- Interference with watching tv
- Feeling the low frequency bass sounds
- Inability to sleep for kids and themselves
- Inability to enjoy their own homes
- Distracted family time
- Hearing profanities blasted out the speakers

Most of these complaints are from miles away. I can supply information for all the articles I have found.

When you investigate the health effects of noise pollution, which the government recognizes as a thing and fights against in other issues, it's just disheartening. In a Gainesville Sun article concerning their own amphitheater issues, they reported that:

"Intrusive noise can lead to cardiovascular disease, sleep disruption, reduced productivity, impaired teaching and learning, absenteeism, increased drug use and accidents...It adversely affects general health and well-being, and increases anti-social behavior. Future generations are harmed by degraded home, social and learning environments, with corresponding economic loss."

As you can see, this is very concerning to me, not only for my seven children's health and well-being, but also my and my husband's own health and well-being. If the Momma of the house is up late trying to get kids to sleep and does not get some quiet time or good sleep herself, then she struggles with the patience and grace that she (I) needs to be a good mom.

However, this also concerns me for all my neighbors in this very large 10–15-mile bubble. What about their stress level? What about their kids' study and sleep needs? What about the effect it will have on their ability to parent, work, handle conflict, engage other people? This affects all of our life.

I am asking you to vote on behalf of your constituents' health, well-being and safety. As mentioned, the hazardous effects of this venue close to homes will impact thousands of lives, not once, not 10 times, but 50-60 times a year.

I am fully aware that millions of dollars in revenue will come into the city through this venue, but at the expense of Oklahomans. It's down right rude and inconsiderate to sell your own people's well-being to bring in money. Reject these plans until a plan is presented that does not jeopardize Oklahomans freedom to enjoy their families and homes in quiet.

Thank you for looking into this matter. I know your plate is full.

Kristen Bruce

1601 Birkenhead Rd.



From: Kristen Bruce <kristen.g.bruce@gmail.com>

Sent: Tuesday, February 20, 2024 8:09 AM

To: City Clerk Email <CityClerk@okc.gov>

Subject: Protest PUD 1983

2024 FEB 20 AM 9:49  
OKLAHOMA CITY CLERK

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**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 12:04 pm, Feb 20, 2024

**From:** Kristen Bruce <[kristen.g.bruce@gmail.com](mailto:kristen.g.bruce@gmail.com)>  
**Sent:** Tuesday, February 20, 2024 8:09 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD 1983

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Thank you.

Kristen Bruce

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:07 am, Mar 01, 2024

**From:** [donbryson72](#)  
**To:** [Ward3](#); [City Clerk Email](#); [The Mayor](#)  
**Subject:** Protest PUD-1983  
**Date:** Thursday, February 29, 2024 7:52:32 PM

Some people who received this message don't often get email from donbryson72@gmail.com. [Learn why this is important](#)

Hello,

First, allow me to introduce myself. Don Bryson, 10305 Aberdeen Drive, Yukon OK. Desert Storm Veteran, Voter, Ward 3 Member. Resident in Westbury North. At least for now.

I say that, because if the Sunset Amphitheater goes through, it would be about 1/4 mile from my home, to the West. The traffic sound carries from Interstate 40, which is 1/4 mile from my home, to the North. I'm not at all open to additional noise pollution from a new source...the Amphitheater. The 4th of July fireworks disturb our dogs, AKC Champion Bulldogs. These dogs are my family and I will not stand for them to be continually assaulted by sounds and vibrations generated by the Amphitheater.

Then there is the traffic and wear and tear on the roads surrounding Westbury North. It is well known that Westbury Norths streets are not in good repair. Seems it missed the last vote for upgrade, which was several years ago. The construction traffic will finish off the roads in the area.

The increase of crime from vehicular burglaries, assaults, robberies, home burglaries,,and larceny. This would require an increase in law enforcement presence. Does the City have the resources? I doubt it. They're stretched thin now.

Finally, the value of the homes in the area. Between the noise, the roads, and Amphitheater patrons using Aberdeen Drive for a thoroughfare to exit the area; patrons who will be navigating a road with residents cars parked on the street, while undoubtedly under the influence of alcohol; the desire to sell our homes is rising to the top of the list, before the Amphitheater causes our homes values to plummet.

I, and many others vehemently oppose the building of an Amphitheater.  
Please find another location immediately

Sincerely,  
Don Bryson  
Constituent

Sent from my T-Mobile 5G Device

## Johnson, Thad A

---

**From:** Johnson, Thad A  
**Sent:** Thursday, March 28, 2024 2:32 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest PUD -1983  
**Attachments:** applsci-10-05205-v2.pdf

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**From:** Chas Burgess <[chasburgess@sbcglobal.net](mailto:chasburgess@sbcglobal.net)>  
**Sent:** Thursday, March 28, 2024 1:04 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD -1983

You don't often get email from [chasburgess@sbcglobal.net](mailto:chasburgess@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

I, Charles Burgess, hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

This rezoning would result in a huge noise problem in a residential area. It is next to a school and neighborhoods filled with working people who would lose sleep and be subjected to health threatening noise levels.

I have included an article in Applied Science that address the issue of health dangers related to excessive noise.



Sincerely,

Charles Burgess  
10001 Glasgow Terr  
Yukon, OK 73099



Review

# Low-Frequency Noise and Its Main Effects on Human Health—A Review of the Literature between 2016 and 2019

Juliana Araújo Alves <sup>1,\*</sup>, Filipa Neto Paiva <sup>2</sup>, Lígia Torres Silva <sup>2</sup> and Paula Remoaldo <sup>1</sup>

<sup>1</sup> Lab2PT–Landscape, Heritage and Territory Laboratory, University of Minho, 4710-057 Braga, Portugal; premoaldo@geografia.uminho.pt

<sup>2</sup> CTAC–Centre for Territory, Environment and Construction, University of Minho, 4800-058 Guimarães, Portugal; filipa\_paiva@sapo.pt (F.N.P.); lsilva@civil.uminho.pt (L.T.S.)

\* Correspondence: jalves.geografia@gmail.com

Received: 5 July 2020; Accepted: 27 July 2020; Published: 28 July 2020



**Abstract:** This paper summarizes the presently available knowledge about the association between low-frequency noise and its effects on health. A database was constructed with a total of 142 articles published between 2016 and 2019 regarding low-frequency noise exposure and its effects on health. A total of 39 articles were analysed in depth. The articles were divided into categories according to the effects on human health addressed. Regarding the emitting source, there was a greater number of articles addressing issues related to sources of environmental noise and noise from wind turbines. As for the effects generated on human health, there was a greater number of articles referring to the effects on sleep disorders, discomfort, sensitivity to and irritability from noise, annoyance, hearing loss, and cardiovascular diseases, and these effects are analysed in more detail in the present article.

**Keywords:** low-frequency noise; human health; impacts; environment; literature review

## 1. Introduction

At the worldwide level, there is a large number of studies on health impacts due to occupational and environmental exposure to noise. However, there are still few studies focusing exclusively on health impacts and discomfort due to low-frequency noise (Figure 1). One of the main reasons for this is the low sensitivity of the human auditory system to low frequencies. On the other hand, this type of noise has very particular characteristics and causes much more discomfort and long-term, non-auditory effects [1–3].

In the 1920s, research on the subject focused on occupational exposure and generally reported physiological changes such as pain in the hands, swelling, and increased vascular tone [4–6]. Until the 1930s, it was believed that the effects of noise on health were restricted only to hearing loss. In a study published in the *Journal of the Acoustical Society of America*, Jüichi Obata et al. [7] concluded that the effects of noise on human health went beyond hearing loss.

After the low contribution to the improvement of this scientific field in the 1960s, the 1970s were marked by the emergence of a series of studies addressing annoyance caused by environmental noise [1].

Consequently, during the 1970s and 1980s, studies started focusing on the impacts due to exposure to environmental noise [8,9]. The 1990s were marked by research aimed at more specific impacts on human health and reported discomfort due to noise [9–11]. Furthermore, these studies correlated exposure to noise with the onset of cardiovascular diseases [12,13].

In the 1990s, the World Health Organization (WHO) published documents on the subject, such as the *Guidelines for Community Noise*, in 1999. Regarding the studies published during the 2000s,

the most important are those directed at specific environments, such as schools and residential areas [14,15]. These studies used a comparison of the noise level measured by using reference curves with the aim of assessing noise discomfort and reinforced the fact that the A-weighting filter is not ideal to evaluate the non-auditory effects of low-frequency noise (LFN) [1–3]. From 2005, the studies that stand out are oriented to the impacts of low-frequency noise on the quality of sleep [16–18].

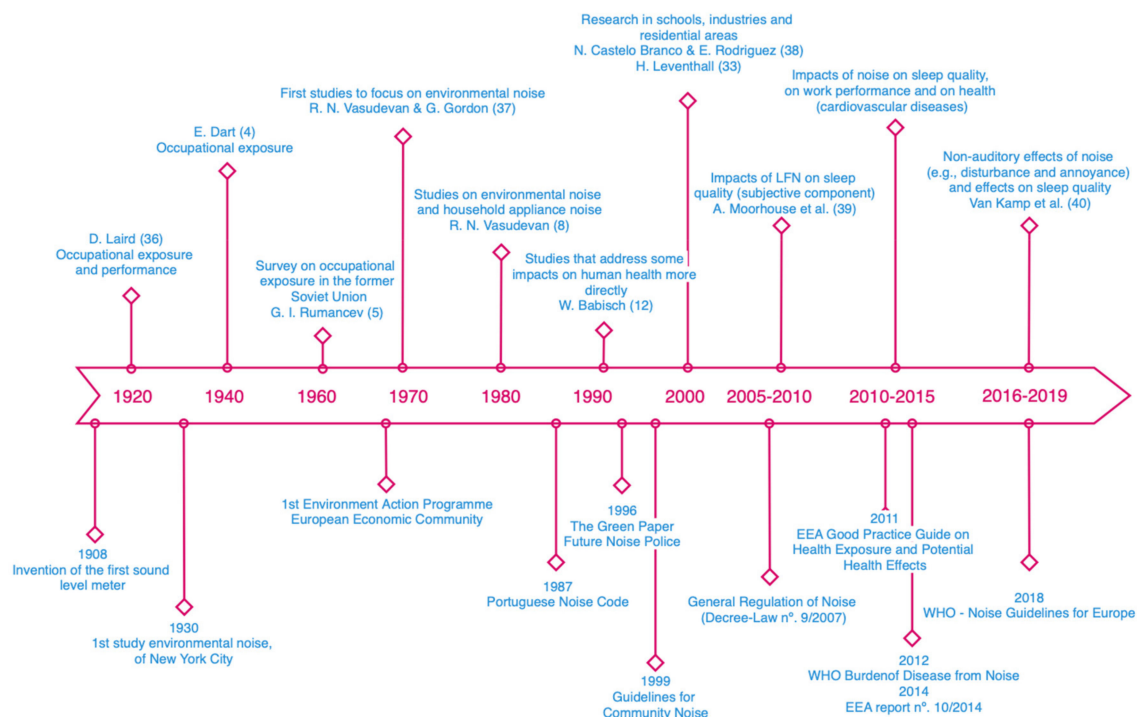
In general, these studies were carried out with voluminous samples involving patient reports, the application of questionnaires, the adoption of cross-sectional studies based on databases, and the comparison of environmental noise levels measured using criteria curves.

In fact, these studies reinforced the fact that low-frequency noise is a powerful stressor. The most cited effects on human health refer to emotional changes such as annoyance [19,20], agitation, and distraction [2,21,22], in addition to the association of low-frequency noise with cognitive alterations [23], the development of cardiovascular diseases [24,25], sleep disorders [26], and high blood pressure [27], and, more recently, the effects of industrial low-frequency noise on dental wear [28,29].

In the field of occupational medicine, there is a large number of studies that claim that low-frequency noise is an agent that interferes with the performance of work tasks [22,30]. In addition to these changes, noise can be an agent that affects mental and physical health.

In this sense, the effects of noise pollution comprise “auditory effects”, which directly affect the human auditory system, and “non-auditory effects”, i.e., the impact of noise on physiological functions. As regards “non-hearing effects”, discomfort has been reported as the most frequent effect caused by exposure to low-frequency noise in humans [1,31,32].

In addition, the discomfort may vary from individual to individual and depends not only on the recorded noise pressure levels but also on the exposure time as well as the low-frequency components present in the measured sound levels. Thus, noise that contains low-frequency components tends to be more annoying than noise without them [1,33–35].



**Figure 1.** A summary regarding health effects due to low-frequency noise exposure. Source: own elaboration based on several authors [4,5,8,12,36–40].

Since 2000, the WHO has recognized low-frequency noise as an environmental problem. In addition, the health impacts of low-frequency components on noise are estimated to be more severe [1,33–35].

The WHO published its most recent noise pollution guidelines for Europe in 2018. This publication states that further research into the health impacts from wind turbine noise is needed, namely, the low-frequency component [35].

In fact, a systematic review of the up-to-date, peer-reviewed, epidemiological literature has been performed on the association between low-frequency noise and its effects on human health. The present paper aims to fill this gap in the literature.

The paper is structured into four sections. After the introduction, the methodology is outlined. A systematic review regarding scientific articles about low-frequency noise and its impacts on human health is presented in Section 3. The article concludes by highlighting the main conclusions of an in-depth analysis of 39 articles published between 2016 and 2019, some limitations of the research, and recommendations for further studies.

## 2. Materials and Methods

### *Database Collection*

The original papers were identified by a literature search between October and December 2019 of all of the principal accessible journals and databases (PubMed, Web of Science, and Scopus) concerning the theme and using the following keywords: “low-frequency noise”; “low-frequency noise and its effects on health”; “noise pollution and health”. A database was constructed with some variables, e.g., sample results and main noise sources. A total of 142 articles published between 2016 and 2019 was found (Supplementary Materials). Only studies were included in which it was mentioned in the title or abstract that the association between the low-frequency noise and effects concerning health or well-being was studied.

The 142 papers selected for the period from January 2016 to December 2019 were grouped into 9 categories: reviews; health effects due to noise and noise pollution; low-frequency sound/infrasound; health LFN case studies (small population); health LFN case studies (large population); LFN case studies (animals); laboratories studies, simulation studies, and computational case studies; and not relevant. A total of 39 articles published between 2016 and 2019 and grouped in the categories “health LFN case studies (small population)”, “health LFN case studies (large population)”, and, finally, “LFN case studies (animals)” were selected for in-depth evaluation. The evaluation carried out focused on the impacts on health, highlighting the incidence of studies aimed at human health and others aimed at carrying out tests on animals that may lead to a future study on humans. Additionally, the 39 articles evaluated used similar techniques (e.g., questionnaires; data previously collected in other studies; cognitive, physiological, and psychological tests based on medical and auditory equipment; noise measurements and audiometric assessments; and experimental tests based on noise exposure). The 39 articles evaluated were carried out mostly in Asian and European countries and were based on small samples.

## 3. Results and Discussion

This section presents the main results obtained from the analysis of articles published on low-frequency noise and its impacts on human health between 2016 and 2019. The results and discussion are structured in five sections on the main effects of low-frequency noise exposure on human health. Each section begins with a description of the methodologies used, followed by the main results achieved in the studies analysed.

### *3.1. Low-Frequency Noise Exposure and Its Main Health Effects*

Table 1 presents a synthesis of the 39 articles based on three of the categories listed in the methodology section. These categories were as follows: cases of low-frequency noise studies in a small population, in a large population, and in a population of animals.

Of the 39 articles that were included in the evaluation of this article, it was observed that the main effects on human health are more prevalent in aspects such as sleep disorders (11.7%), discomfort, sensitivity and irritability to noise (10%), annoyance (13.3%), stress (6.7%), hearing loss (8.3%), reduced performance/fatigue (5%), heart rate/cardiovascular diseases (10%), tension and blood pressure (6.7%), anxiety (1.7%), depression (3.3%), imbalance (3.3%), and mental performance (6.7%).

There were also other effects on human health but with an incidence in very specific aspects (13.3%), such as the frequency of chromosomal aberrations in bone marrow cells, excess bilirubin, peptic ulcers (gastric and duodenal), effects on the cerebral blood barrier, haemodynamic events, irreversible imbalance with structural damage to the otoconial membrane, tinnitus and sound reconversion therapy, and vocal disorders and effort.

Only the effects on human health related to sleep disturbance, noise discomfort, annoyance, hearing loss, and cardiovascular disease were analysed, as these were the themes where a greater number of articles were observed, thus allowing a better comparison and evaluation between the various articles.

### 3.2. Sleep Disturbance

Sleep disturbance is one of the effects on human health that is due to exposure to noise, in particular, low-frequency noise. Long-term exposure to low-frequency noise from wind energy is a major factor in sleep disturbances in residents who live near wind farms. Abbasi et al. [41], Morsing et al. [42], Ishitake [43], Pohl, Gabriel, and Hübner [44], and Poulsen et al. [45] evaluated exposure to low-frequency noise due to proximity to wind turbines. The methodology adopted included the measurement of sound levels and, after the exposure of participants to wind turbine noise, an assessment of sleep disturbances.

The studies [41–43] applied questionnaires to participants to assess the disturbances they felt after exposure to noise. In the study by Abbasi et al. [41], in addition to the questionnaire, Pearson's correlation, analysis of variance, and multiple regression tests were applied for data analysis using software. Morsing et al. [42] evaluated the impact of noise on sleep as measured by polysomnography, after participants were exposed to wind turbine noise for three consecutive nights. Finally, Ishitake [43] assessed sleep disorders using the Athens Insomnia Scale method, based on the responses of participants when exposed to noise.

In the study designed by Pohl, Gabriel, and Hübner [44], the methodology of stress psychology with noise measurement was adopted, ascertaining the physical and psychological symptoms referenced by residents that participated in the study (general mental indisposition, performance and reduced work capacity, lack of concentration, fatigue, tension, nervousness, negative mood, dizziness, irritability, indisposition, reduced sleep quality, and annoyance) caused by exposure to noise from wind turbines. Moreover, Poulsen et al. [45] evaluated the evolution of medical prescriptions related to anxiolytics and antidepressants ingested by the populations living near the wind turbines, in an analysis that lasted two years (2012 to 2014).

Sleep disturbances may also be due to exposure to noise from oil and gas operations, namely in the construction and drilling of wells in residential areas [46]. Blair et al. [46] evaluated the impacts of these operations on human health, including sleep disorders. Sleep disturbances can also be linked to exposure to railway noise, as studied by Smith et al. [47]. They [47] evaluated the effects on physiological sleep resulting from the exposure of participants to railway noise for five consecutive nights, using polysomnography and questionnaires.

As for the results, Abbasi et al. [41] evaluated the effects of noise from wind turbines on the health of employees, divided into three groups (maintenance, safety, and administration). The group with the greatest exposure to noise was the maintenance team, who were considered as a reference group. Maintenance workers were subject to a higher sound level because they are in the vicinity of wind turbines, and higher GHQ (The General Health Questionnaire) scores were also recorded (the health assessment tool for individuals used in the study). Therefore, compared to those on management and safety staff, the harmful health effects of wind turbine noise are stronger on maintenance workers.

The questionnaire was divided into four sections, including somatic symptoms, anxiety and insomnia, social dysfunction, and depression. Based on the results obtained in this study, only the equivalent sound level had a significant effect on the general state of health and in some of its sections. The negative impact of noise exposure of 60 and 66 dBA on general health was approximately six and four times less than that of 83 dBA, respectively. The adverse effect of 60 dBA noise exposure in the anxiety and insomnia section was 1.6 times less than that in the 83 dBA exposure group. The effect of the experiment in the anxiety and insomnia section was 0.2 times greater than that of the 83 dBA noise exposure. This result indicates that the worst health status is due to working conditions and chronic exposure to occupational risk factors, such as noise. The results show that the effect of exposure to noise of 66 dBA in the social dysfunction section was 2.3 times less than that of 83 dBA noise. It was concluded that exposure to noise is significantly correlated with all subsections of general health, except depression. As a general evaluation of the article, the low-frequency noise from the turbines can cause harmful effects on the health of workers who are very close to the turbine, due to the reception of very intense noise [41]. By convention, a frequency A-weighting filter is used in low-frequency noise evaluation [3]. As a matter of fact, the A-weighting filter is not suitable for assessing the effects of low-frequency noise because this filter drastically reduces the low-frequency levels measured [3].

The results obtained by Morsing et al. [42] are due to the measurement of the effects of night noise from wind turbines on sleep measured physiologically in the laboratory. During nights with noise from the turbines, there was some incidence of participants with frequent awakening, less deep sleep, reduced continuous sleep, an increase in sleep disorders self-reported by the participants, and morning tiredness after the nights of noise exposure compared to nights without exposure to noise. Some evidence was observed in the study in which amplitude modulation and rotational frequency were varied; deeper sleep was negatively affected due to higher frequency and strong amplitude modulation while light sleep increased with high frequency and acoustic beat [42].

Blair et al. [46] monitored continuous levels of audible and low-frequency noise during the construction and drilling of oil and gas wells in a residential area. The equivalent monthly levels of continuous noise varied between minimum values of 51.5 and 73.1 dBC, and maximum values of 60.2 to 80.0 dBC. On the one hand, Blair et al. [46] found that continuous weighted noise levels above 50 dBA can have effects on health, such as increasing the risk of cardiovascular disease and hypertension. On the other hand, they found that low-frequency noise levels that exceeded the recommended level of 60 dBC caused nausea and headaches. In a general analysis of the article, the average noise levels in an oil and gas well during construction and drilling exceeded the levels associated with annoyance, sleep disturbances, and cardiovascular health effects; that is, they were higher than 50 dBA or 60 dBC [46].

Ishitake [43] conducted an epidemiological study that suggests that the noise generated by wind power generation facilities may be a risk factor for effects on human health, especially sleep disturbances. In this study regarding sleep disturbances caused by infrasound, it was found that the noise level of the wind turbine measured in the lower frequency range is below the human sensory threshold. As mentioned by Ishitake, 63% reported having sleep disturbance; the effect was reduced with increased distance between the source and the receiver [43].

Pohl, Gabriel, and Hübner [44] carried out a study that combined the methodology of stress psychology with noise measurement. They conducted interviews with residents who lived close to a wind farm and assessed their perception of noise from the wind farm and road traffic at two different points in time, first in 2012 and later in 2014. Residents complained of physical and psychological symptoms due to traffic noise (16%) and noise from wind turbines (10% and 7% in 2012 and 2014, respectively). In the study, 12 symptoms caused by exposure to noise were evaluated. It was found that the participants reported more symptoms in 2012 than in 2014 and the most strongly irritated participants considered their overall health in 2014 to be improved. The sleep disorders assessed decreased from 2012 to 2014. Distraction also decreased slightly from 2012 to 2014 for the most irritated residents, while remaining relatively low and/or unchanged in the other groups. However, only a few participants showed evidence of noise from low-frequency wind turbines: in 2012, 8.5% reported



feelings of pressure related to wind farms and 6.1% reported having felt vibrations in the body; in 2014, these feelings decreased to 6.8% and 3.8%, respectively. The annoyance experienced was very low, and symptoms of dizziness were not observed in this study. Regarding the effects of wind noise stress compared to road traffic noise, there were more reports of symptoms due to traffic (15.8%) than to noise from wind turbines. In 2014, it was observed that about a third (34.9%) of the participants were slightly irritated by traffic noise and 21.2%, by noise from the wind farm [44].

Poulsen et al. [45] determined the numbers of prescriptions for anxiolytics and antidepressants for residents due to prolonged exposure to noise from wind turbines. During the survey carried out between 1996 and 2013, 68,696 adults had recourse to sleeping pills and 82,373 used antidepressants, out of a population of 583,968 and 584,891, respectively. In this study, it was observed that people over the age of 65 years were more affected by the noise of wind turbines, with an HR (hazard ratio) of 1.68 for measuring sleep and 1.23 for antidepressants being found for the group with the greatest exposure. Regarding low-frequency noise due to wind turbines in indoor environments, the risk rate among people aged 65 and over when exposed to noise equal to or higher than 15 dB was 1.37 for anxiolytics and 1.34 for antidepressants. Thus, Poulsen et al. [45] concluded that the combination of high noise levels from wind turbines and the use of anxiolytics and antidepressants can induce sleep disturbance and, in turn, affect the mental health of the elderly [45].

Finally, Smith et al. [47] demonstrated that sleep was significantly affected, both in terms of physiological measures and by self-report, during nights with exposure to 45 dB noise, although the number and size of the effects were modest. Most self-reported sleep measures were adversely affected by terrestrial railway noise. In this study, no significant differences were found in the general sleep structure or disorders and in the subjective quality of sleep between the reference tests and the 35 dB night tests. The results obtained support the value of the Swedish guidelines proposed for the maximum noise level of 35 dB for indoor environments and may be suitable for protection against adverse sleep problems due to terrestrial railway noise [47].

### 3.3. Discomfort from, Sensitivity to, and Irritability from Noise

Discomfort, sensitivity to noise, and irritability are other effects on human health due to exposure to low-frequency noise.

Huang, Pan, Liu, Hou, and Yang [48] analysed acoustic comfort and developed a noise analysis model for a skyscraper by measuring exterior noise, mainly from road traffic.

Suzuki, Suzuki, Onishi, and Penido [49] performed audiometric assessments on patients with persistent tinnitus, through their perception of sounds of nature and everyday life and their comparison with a pure tone or noise (white noise, narrow-band low frequency and narrow-band high frequency). The assessments considered in the patients were otorhinolaryngological, audiological, Pitch Matching and Loudness, Visual Analogue Scale, Tinnitus Handicap Inventory, and Minimum Masking Level [49].

Lee et al. [50] determined the effects of exposure to transport noise and established a relationship with the blood pressure of residents of residential buildings. They determined noise exposure levels ( $L_{den}$ ,  $L_{day}$ , and  $L_{night}$ ) through adjusted linear regression analysis and established the relationship with blood pressure [50]. They also conducted a questionnaire related to the annoyance caused by internal noise, noise sensitivity, and sociodemographic variables [50].

Tao, Wang, Zou, Li, and Luo [51] assessed the irritation from noise in a metro depot and the influence of noise in adjacent residential buildings. They carried out a questionnaire with people working at the metro station and took field measurements, both at the metro station and in the adjacent residential buildings [51].

Moradi et al. [52] studied the effects of noise on the selective attention of university students. They conducted questionnaires to determine students' personality traits; that is, they assessed whether they were extroverted or introverted and analysed their stability or instability [52]. In addition, they also assessed the level of sensitivity to noise using the Weinstein sensitivity scale and the level of selective attention using the DUAF test from the Vienna Test System [52].

Alves, Silva, and Remoaldo [53] analysed the effects of exposure to low-frequency noise pollution emitted by poles and power lines on the well-being of the population, based on a study carried out on “exposed” and “unexposed” populations in two residential areas. Additionally, adapted audiometric tests were carried out to complement the analysis and determine the audibility thresholds of “exposed” and “unexposed” volunteers. To develop the research, Alves, Silva, and Remoaldo [53] used sound level measurements and sound recordings (recordings made at a distance of 5 m from the source), as well as the adapted audiometric performance test [53].

Regarding the results, [48] observed that, due to the effect of the ground, the effect of medium propagation, and the different frequency components, the comfort of the sound does not increase with distance from the ground, that is, on the highest floors. They concluded that low-frequency noise has great potential for the annoyance and discomfort of the residents of the building.

Suzuki et al. [49] identified 181 tinnitus complaints in which pure-tone-type tinnitus was observed in 93 (51%) of the responses (4 low pitch and 89 high pitch) and from noise in 88 (49%) responses (15 low frequency and 73 high frequency). Regarding tinnitus with a low-frequency sensation, 19 responses were determined, while for that with a high-frequency sensation, 162 responses were found. They determined a Visual Analogue Scale average of 5.47 for tinnitus similar to pure tone and 6.66 for that similar to noise, with a higher value for noise. The average loudness of tinnitus similar to pure tone was 12.31 dBNS, and that similar to noise was 10.54 dBNS. For the Tinnitus Handicap Inventory and the Minimum Masking Level, the patients considered in the study were separated into three groups with tinnitus, pure tone, noise, and multiple, with the mean of the largest Tinnitus Handicap Inventory in the group with multiple tinnitus being 61.38. For the Minimum Masking Level, masked noises of the type white noise and narrow band [49] were used.

Lee et al. [50] concluded that general noise (road and rail traffic) and road traffic showed higher associations with systolic blood pressure (SBP) than with diastolic blood pressure (DBP), while rail noise had similar associations with SBP and DBP. They also observed that the closest associations between exposure to noise and blood pressure were estimated for participants who reported higher classifications of annoyance, irritation, and sensitivity to noise. This indicates that the annoyance of internal noise and sensitivity to noise develop regardless of the level of exposure to external noise. They also found that people who were sensitive to noise and participants who were most irritated due to internal noise had significantly higher SBP and DBP than the rest. In addition, the regression coefficients between noise exposure and blood pressure increased slightly in a subgroup that excluded participants exposed to high railway noise [50]. The results established by Lee et al. [50] support the hypothesis that long-term exposure to transport noise is associated with higher blood pressure in adults living in multi-storey residential buildings.

Tao et al. [51] concluded that 96% of respondents feel disturbed by noise and 31% of them feel that the impact of noise is serious. They noted that closing doors in buildings may be a solution, but only a reduction in noise from the low-frequency structure in the range 63 to 125 Hz occurs. They found that there is a problem of annoyance from low-frequency noise. They evaluated that the noise level caused by the fans decreases with the height of the floors. Ventilation noise is one of the dominant noise sources for adjacent buildings, and, therefore, they found that the shorter the distance between the building’s fans and ventilation, the more severe the impact of the noise. They also concluded that the noise attenuation rate increases with an increase in the distance to the noise source [51].

Moradi et al. [52] concluded that there were no significant differences in the average time spent on correct answers before and after exposure to noise between extroverted and introverted participants; however, there was a significant difference among extroverts in the average time spent on correct answers before and after exposure to noise. The results showed that introverted participants are more sensitive to noise than extroverts. The most noise-sensitive participants showed greater stimulation during exposure to noise, which led to increases in incorrect responses and a decrease in mental performance. Moradi et al. [52] found that the participants’ personal traits are related to their annoyance

due to noise. Moradi et al. [52] concluded that stress due to noise improves selective attention in extroverted individuals.

Finally, Alves et al. [53] concluded that the “exposed” area has higher sound levels and, consequently, more problems with well-being and health than the “unexposed” population. Audiometric tests also revealed that the “exposed” population seems to be less sensitive to low-frequencies than the “unexposed” population; that is, the “exposed” group needs a higher sound intensity to perceive noise, especially at lower frequencies. The “exposed” group has a larger number of respondents with health problems (e.g., cardiovascular disease, insomnia, and depression), which can be caused by exposure to low-frequency noise emitted by power poles and lines. On the other hand, the “unexposed” group tends to perceive noise with a slightly lower sound intensity, due to the fact that this residential area is far from the emission source [53].

### 3.4. Annoyance

Annoyance is another effect on human health due to exposure to low-frequency noise.

Boyle et al. [54] assessed how the A-weighted exposure levels differed indoors and outdoors in homes in the vicinity of a natural gas compressor station, where low-frequency noise was found. They performed measurements of the noise levels defined in the A-weighted scale to filter most of the low-frequency noise and in the C-weighted scale to identify the impulse noise (noise measured in less than one second with peak levels 15 dB higher than the background noise) [54].

Van Kamp, Breugelmans, Van Poll, Baliatsas and Van Kempen [40], and Lee et al. [50] presented questionnaires to assess issues related to annoyance due to noise. Van Kamp et al. [40] surveyed complaints due to low-frequency noise using existing data and by means of a questionnaire determining participants’ annoyance due to noise from road, rail, and air traffic sources, low-frequency noise, construction noise, and noise sensitivity; the residential satisfaction index; and a survey of measures applied in the residence to avoid noise. As for the study by Lee et al. [50], the methodologies adopted are referenced in Section 3.3.

The methodologies adopted by Blair et al. [46] and Pohl, Gabriel, and Hübner [44] are referenced in Section 3.2. However, according to [46], noise levels above 50 or 60 dBA can cause annoyance.

Ishitake [43] assessed the level of annoyance regarding the source of low-frequency noise generated by wind energy and road traffic noise, by conducting a questionnaire to obtain these perceptions.

According to Hansen et al. [55], the presence of amplitude modulation in wind farm noise results in increased annoyance and possible sleep disruptions. The developed study investigated the prevalence of this characteristic in homes close to the wind farm [55]. In the article by Hansen et al., several important variables were considered, namely, the receiver-source distance, meteorological conditions, and proximity to reflective surfaces, among others.

Moradi et al. [52] assessed the level of selective attention through the DUAF test (test of selective attention, performance capacity, and general performance) and the level of annoyance based on the ISO15666 (International Organization for Standardization, 2003), based on the study sample referenced in Section 3.3.

As for the results, Boyle et al. [54] found that houses located close to a compressor station have higher average noise levels, both indoors and outdoors, than houses located at a distance greater than 300 m. The authors also found that noise levels during the day were higher than those recorded at night and that the residents of residences located less than 300 m from the station were exposed to low-frequency noise. In this study, they established the relationship of the results with the daytime and nighttime noise levels recommended for the prevention of hearing loss and annoyance, established by the WHO [56,57], and found that the average noise levels determined exceeded these guidelines [54].



**Table 1.** Studies selected and health effects related to low-frequency noise.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2016	Zeitoni, Mäki-Torkko and Stenfelt [66]	27	Binaural hearing capacity	Evaluation of binaural auditory capacity in adults with normal hearing when bone conduction stimulation is applied bilaterally in the bone conduction hearing aid implant position, as well as in the audiometric position in the mastoid.	Exposure to low-frequency noise (400 to 600 Hz) and high-frequency noise (3000 to 5000 Hz).	The results confirmed that the binaural auditory processing with bilateral bone conduction stimulation in the mastoid position is also present in the bone conduction hearing aid (BCHA) implant position. This indicates the capacity for binaural hearing in patients with good cochlear function when using bilateral BCHAs.
2016	Walker, Brammer, Cherniack, Laden and Cavallari [63]	10 (male)	Heart rate variability and stress	The authors conducted a sound monitoring campaign between February 2015 and February 2016 across the city of Boston, MA. Boston occupies an area of 124 square kilometres with an estimated population of close to 700,000 individuals. To identify potential monitoring sites, the authors divided the city of Boston into 500 × 500 m grid cells using ArcGIS. They constructed a list of all accessible potential sites ( $n = 525$ ), and 400 site locations were randomly selected for monitoring by time of day. Convenience sampling was also conducted in certain areas of the city to ensure adequate coverage of varied land use and urban activity. The participants underwent an outpatient electrocardiogram. Blood pressure measurements and saliva samples were collected before, during, and after exposure to noise.	Low-frequency noise (31.5 to 125 Hz at 75 dB (A)); high-frequency noise (500 to 2 kHz at 75 dB (A)); 50 dB (A) “noise-free” exposure.	During exposure to noise, reductions in heart rate variability of 19% (−35; −3.5) with low-frequency power and 9.1% (−17; −1.1) were observed according to the quadratic difference average between adjacent normal heartbeat intervals. During exposure to low-frequency noise, reductions in heart rate variability of 32% (−57; −6.2) with high-frequency power, 34% (−52; −15) with low-frequency power and 16% (−26; −6.1) according to the standard deviation of the adjacent normal heartbeat intervals. During exposure to high-frequency noise, reductions in heart rate variability of 21% (−39; −2.3) with low-frequency power compared to that with exposure to noise.
2016	Liu, Young, Yu, Bao and Chang [67]	1002	Hypertension and blood pressure	Personal noise measurements and environmental analysis of octave bands were carried out to divide workers into similar exposure groups based on the similarity and frequency of the tasks they performed in the company, thus creating a high exposure group ( $\geq 80$ dBA), another of medium exposure (75–79 dBA), and another of low exposure ( $< 75$ dBA).	Noise at frequencies of 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, and 8 kHz during the working period.	Participants exposed to $\geq 80$ dBA for 8 years had a higher relative risk of hypertension (relative risk = 1.38, 95% confidence interval: 1.02, 1.85) than those exposed to $< 75$ dBA. Significant exposure–response patterns were observed between incident hypertension and the stratum of exposure to noise at frequencies of 250 Hz, 1 kHz, 2 kHz, 4 kHz, and 8 kHz. The strongest effect was found at the frequency of 4 kHz, and a 20 dBA increase in noise exposure at 4 kHz was found to be associated with a 34% higher risk of hypertension (relative risk = 1.34, confidence interval of 95%: 1.01, 1.77).
2016	Selander et al. [58]	1,422,333	Hearing dysfunction in children due to noise during pregnancy	Occupational noise exposure during pregnancy, according to the prospective cohort study, FENIX (foetal noise exposure), based on births between 1986 and 2008.	Low-frequency noise ( $< 75$ dBA); high-frequency noise ( $\geq 85$ dBA); medium-frequency noise (75–84 dBA).	In the sample, in a mixture of part-time and full-time workers during pregnancy, HR adjusted for hearing impairment associated with exposure to maternal occupational noise $\geq 85$ vs. $< 75$ dB LAeq, 8 h was 1.27 (95% CI: 0.99 1.64; 60 exposed cases). When restricted to children whose mothers worked full time and had less than 20 days of absence during pregnancy, the HR was 1.82 (95% CI: 1.08, 3.08; 14 exposed cases).

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2016	Abbasi et al. [41]	53	General health; somatic symptoms; anxiety; insomnia; social dysfunction; depression	Study of the effect of wind turbine noise on the general health of employees at a wind farm, with workers divided into three groups: maintenance, security, and office workers. Equivalent sound levels were measured for each group. The individuals' health data were assessed using a 28-item questionnaire. Pearson's correlation, analysis of variance, and multiple regression tests were performed for data analysis using software.	In the maintenance team, an LAeq of 83 dBA was considered, an LAeq of 66 dBA was considered in the security team, and an LAeq of 60 dBA, in the administration team.	Exposure to noise is significantly correlated with all subscales of general health, except depression. The low-frequency noise from the turbines can cause harmful effects on the health of workers who are very close to the turbine and receive very intense noise.
2016	Wang et al. [59]	2700	Cardiovascular diseases; hearing loss.	The authors carried out the study in the metropolitan area of Taichung, Taiwan and set up 50 monitoring stations to collect related information on noise measurements, traffic flow rates, speed limits, and meteorological data. The 50 monitoring stations included 4 agricultural areas, 6 green-land areas (e.g., parks, forests, and mountains), 2 conservation areas, 8 culture-educational areas (i.e., schools, temples, and churches), 11 residential areas, 4 industrial areas, 1 stream-channel area (e.g., harbours), 7 commercial areas, 6 governmental areas (i.e., governmental agencies and institutes), and 1 recreational area. Determination of exposure to traffic noise by measuring the average equivalent noise levels A (LAeq, 24 h) in 50 monitoring stations (25 road traffic stations and 25 non-commercial ones) covering 10 different types of land use.	Equivalent continuous sound levels (Leq, 24 h) in the range of 30–130 dBA; noise levels with the time-weighted average (TWA) at frequencies of 31.5, 63, 125, 250, 500, 1000, 2000, 4000, and 8000 Hz.	The Leq annual average, 24 h in Taichung was $66.4 \pm 4.7$ dBA, exceeding the threshold for cardiovascular disease prevention. The mean annual Leq, 24 h in the flow and commercial channel areas was $71.2 \pm 1.0$ and $70.0 \pm 2.6$ dBA, respectively, revealing a potential risk of hearing loss among residents. The noise levels at 125 Hz had the highest correlation with total traffic and the highest forecast in multiple linear regression.
2017	Vasilyeva, Bepalov, Semenov, Baranenko and Zinkin [68]	96 rats	Frequency of chromosomal aberrations in bone marrow cells; levels of low molecular weight DNA (lmwDNA) in blood plasma.	Exposure to single or multiple LFN from male Wistar rats and their comparison with those in the control group. The control group rats were not subjected to any impact. Measurement of the frequency of chromosomal aberrations in bone marrow cells and the levels of lmwDNA in blood plasma.	Frequency below 250 Hz; simple LFN with sound pressure levels (SPL) of 120 dB; multiple LFN with 150 dB SPL.	Blood plasma lmwDNA levels measured the following day after a single exposure to LFN were significantly higher (7.7 and 7.6 times, respectively) than in the control group ( $11.0 \pm 5.4$ ng/mL), and these levels were higher (4.8 and 2.1 times, respectively) in the week after a single exposure of LFN to the SPL of 120 and 150 dB, respectively, than in the control group ( $18.8 \pm 1.6$ ng/mL). Similar results were obtained in the group with multiple exposures to LFN (36.4 and 22.4 times, respectively) compared to the control group ( $17.7 \pm 1.7$ ng/mL) and suggest an increase in cell apoptosis as a result of impact of the LFN.
2017	Boyle et al. [54]	11	Noise disturbance from natural gas compression stations.	Assessment of how A-weighted exposure levels differ indoors and outdoors in homes near the natural gas compressor station, where low-frequency noise was found. Measurement of noise levels defined in the A-weighted scale to filter out most of the low-frequency noise and in the C-weighted scale to identify the impulse noise.	-	Houses located close to a compressor station have higher average noise levels, both indoors and outdoors, than houses located more than 300 m away. Noise levels during the day were higher than at night. Residents of residences located less than 300 m from the station were exposed to low-frequency noise. The daytime and nighttime noise levels recommended for preventing hearing loss and annoyance were exceeded.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2017	Van Kamp, Breugelmans, Van Poll, Baliatsas and Van Kempen [40]	3972	Annoyance due to low-frequency noise	Survey of complaints due to low-frequency noise, based on analysis of existing data. Conducting a questionnaire with participants addressing aspects such as annoyance and sensitivity to noise, sources of emission, and residential satisfaction, among others.	-	The level of background noise, sensitivity to noise, and dissatisfaction with the residential situation were strongly associated with higher levels of annoyance. The lower the background noise levels, the greater the annoyance due to tinnitus. Low-frequency noise is particularly a problem in places with low levels of background noise.
2017	Ohgami, Oshino, Ninomiya, Li and Kato [60]	Rats	Hearing loss; imbalance	Conducting an experimental study in which wild type rats were exposed to similar low-frequency noise and the assessment of noise-induced hearing loss and determination of the rats' imbalance.	Low-frequency noise (70 dB, 100 Hz)	The authors observed that a sound stimulation at 375 Hz at a frequency lower than the audible range of the rats causes a hearing reduction in wild type rats, and in rats with an abnormal otolytic morphology, this hearing loss was not observed.
2017	Venet et al. [61]	117 rats	Effects on hearing	Evaluation of exposure to the combination of low-frequency noise and carbon disulfide.	Low-frequency noise, ranging from 0.5 to 2 kHz at an intensity of 106 dB SPL.	Exposure to CS <sub>2</sub> (250 ppm or more) and noise increased the extent of the damaged frequency window, as a significant hearing deficit was measured at 9.6 kHz in these conditions; in addition, the significance at 9.6 kHz increased with solvent concentrations. Histological data showed that neither hair cells nor ganglion cells were damaged by CS <sub>2</sub> .
2017	Alimohammadi and Ebrahimi [69]	89	Mental performance	All participants underwent the Stroop and Cognitrone tests in silent conditions, after 30 min of exposure to LFN and HFN. The Cognitrone test assesses concentration and attention, and the Stroop interference test is a sensorimotor speed test that records the performance of reading speed.	Low-frequency and high-frequency noise at 50 and 70 dBA.	Both noises emitted (LFN and HFN) not only caused precision in scaling the response but also reduced the duration of the test run. It was concluded that, disregarding the distribution of energy frequencies, noise improved the task performance of participants. The results illustrated that individuals under LFN performed the Cognitrone test more quickly than individuals under HFN.
2017	Huang, Pan, Liu, Hou and Yang [48]	-	Noise disturbance	Analysis of acoustic comfort and development of a noise analysis model for a skyscraper, through the measurement of exterior noise, mainly road traffic noise. The selection of measuring points was made on the horizontal and vertical planes and strictly follows the guidelines (Chinese standard JTG B03–206 and HJ 2.4-2009). The noise measurement instruments were an AWA6270+B noise analyser, AWA6228 frequency analyser, and TES1350A sound level meter.	-	A higher capacity to respond to high-frequency than low-frequency mining noise (LF) was observed, which probably reflects the audibility of the two frequency spectra.
2017	Mancera, Lisle, Allavena and Phillips [70]	57 rats	Effects on behaviour (stress), organ morphology, and faecal corticosterone.	Evaluation of the effects of noise from mining machines on the behaviour and physiological parameters (organ morphology and faecal corticosterone) of wild rats, when subjected to high- and low-frequency ranges, and comparison with a reference treatment without auditory stimuli.	High-frequency noise (>2 kHz); low-frequency noise (≤2 kHz).	The frequencies below and above 2 kHz had differential effects on male and female wild rats that can have important consequences for their well-being and survival.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Morsing et al. [42]	12	Sleep effects	Evaluation of sleep effects, through polysomnography measurement and questionnaires, in 2 pilot studies, due to noise exposure from wind turbines. Six participants spent five consecutive nights in an ambient sound laboratory and, for three nights, were exposed to the noise of the wind turbine with the variation of some parameters.	High-frequency (>125 Hz) and low-frequency noise (125 Hz). Similar to a ventilation noise, a low background noise (18 dB LAeq) was used.	During nights with noise from the wind turbine, there were sleep disturbances compared to during control nights. Deeper sleep was negatively affected by higher rotational frequency and amplitude modulation, but light sleep increased with high rotational frequency and acoustic beat.
2018	Blair, Brindley, Dinkeloo, McKenzie and Adgate [46]	4 (residences)	Annoyance, sleep disorders, and cardiovascular effects	Determination of noise levels in a well block of oil and gas operations of several wells during construction and drilling in a residential area in Colorado and the verification of impacts on human health. A (dBA) and C (dBC) weighted noise measurements were collected at four residences located between 320 (1049.9 ft) and 550 m (1804.5 ft) from the site during development over a three-month period (February to April 2017).	A and C weighted noise levels of 60.2 dBA and 80 dBC, respectively.	Proportionally, 41.1% of continuous daytime equivalent daytime measurements and 23.6% of 1 min dBA exceeded 50 dBA, and 97.5% of daytime and 98.3% of nighttime measurements exceeded 60 dBC. Average noise levels in an oil and gas well during construction and drilling exceed levels associated with annoyances, sleep disturbances, and cardiovascular health effects (greater than 50 dBA or 60 dBC) in studies involving noise sources such as traffic, airports, wind turbines, and rail-related noise pollution.
2018	A.M. Abbasi, Motamedzade, Aliabadi, Golmohammadi and Tapak [71]	35	Physiological effects and mental health (fatigue)	Participants were exposed to low-frequency noise and were ultimately asked to determine their level of mental fatigue. A cognitive test was performed to assess working memory (low, medium, or high workload). Software was used to assess mental fatigue, visual fatigue analogue scale, and psychophysiological indexes.	Low-frequency noise levels of 55, 65, 70, and 74 dBA.	The results showed that mental fatigue significantly affected heart rate, low- to high-frequency rates, and electroencephalogram rates. The results confirmed that the mental fatigue caused by low-frequency noise significantly impacted the participants' psychophysiological and working memory with exposure to noise levels of 65 to 75 dBA.
2018	Ninomiya et al. [72]	44 rats	Stress	A comparison of auditory levels and levels of expression of the Hsp70 protein in the cochlea was performed between rats exposed and not exposed to LFN.	Low-frequency noise (100 Hz to 95 dB).	The results showed that the inner ear may be one of the organs negatively affected by the stress caused by the inaudible exposure to LFN. Exposure to LFN increases the level of Hsp70 expression via Cebpb in the inner ear. The levels of Hsp70 and Cebpb may be candidates for biomarkers of responses to exposure to LFN.
2018	Rossi, Prato, Lesina and Schiavi [65]	25 (19 to 29 years)	Physiological effects (response time and heart rate)	The experiment involved 25 Italian volunteers (12 female and 13 male volunteers), aged 19–29 years. Before starting the test, each subject filled in a general questionnaire specifying age, occupation, musical experience, eyesight and hearing problems, and the presence of noise in their daily life. Measurement of changes in cognitive and physiological parameters in a sample of volunteers exposed to three types of noise in a hemi-anechoic room. Participants were involved in a cognitive task (Stroop effect) for 10 min in four different conditions: silence, multi-tonal broadband (BBN) stochastic noise, low and low-frequency stochastic noise (LFN1), and low-frequency stationary noise with regular amplitude modulation (LFN2).	Sounds reproduced with a sound pressure level equivalent to 93 dB; BBN noise based on frequencies between 315 and 2000 Hz; LFN1 with frequencies between 30 and 60 Hz; LFN2 with frequencies between 30 and 200 Hz.	In noise conditions, participants reduced their response times, that is, there was evidence of increasing stress. Dividing the participants into extroverts and introverts, it was demonstrated that LFN1 and LFN2 produced higher stress effects than BBN noise on cognitive performance and a physiological stress comparable to that produced by BBN noise.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Zhou and Fu [62]	1404	Sensorineural hearing loss (SNHL); excess bilirubin (causes problems in the liver, spleen, kidneys, gallbladder).	Measurements of total serum bilirubin, tympanometry, and determination of the mean threshold of pure tones at low frequencies or high frequencies for a subset of adolescents, to assess levels of total serious bilirubin associated with different subtypes of sensorineural hearing loss.	Low-frequency noise (LPTA: 500, 1000, 2000 Hz); high-frequency noise (HPTA: 3000, 4000, 6000, and 8000 Hz).	Total serum bilirubin levels were associated with any high-frequency SNHL (HPTA > 15 dB in at least one ear) in adolescents in the USA; high-frequency SNHL with HPTA > 15 dB in both ears (bilateral) or with HPTA ≥ 25 dB in at least one ear had a stronger association with total serum bilirubin levels than HPTA > 15 dB in only one ear (unilateral) or HPTA = 15–25 dB in at least one ear.
2018	Ishitake [43]	9000 (≥20 years)	Annoyance; sleep disorders	Conducting an environmental epidemiological study and assessing the effects on sleep disturbance due to low-frequency noise generated by wind power installations, based on residents living in areas close to the source. Assessment of sleep disorders using the Athens Insomnia Scale. Assessment of environmental noise in residential areas (50 community centres) close to the noise source by measuring infrared and low-frequency sound exposure levels.	Infrared, low-frequency (20 Hz) and infrasound (<20 Hz).	As for sleep disturbances caused by infrasound (20 Hz or less), the noise level of the wind turbine measured in the ultra-low-frequency range is below the human sensory threshold. Of the participants, 63% heard the noise when the distance was less than 1000 m. However, the hearing rate decreased significantly when the distance was increased to 5000 m, when only 2% of the participants heard the noise. Based on the Athens Insomnia Scale, 40% of participants had sleep disorders when the distance was less than 1000 m. However, the frequency of sleep disorders decreased to 22% with an increase in distance. Amplitude-modulated sounds and pure tones contained in the noise generated by wind power generation facilities tend to increase annoyance.
2018	Chalansonnet et al. [73]	133 rats	Balance effects	Study of how exposure to low-frequency noise combined with 250 ppm CS <sub>2</sub> affects rat balance. Vestibular function was tested based on post-rotational nystagmus recorded by a video-oculography system. These measurements were completed by behavioural tests and cerebellar analysis to measure levels of gene expression associated with neurotoxicity.	Low-frequency noise, ranging from 0.5 to 2 kHz at an intensity of 106 dB SPL.	Coexposure to CS-250 ppm and low-frequency noise reduced the number and duration of the withdrawals by 33% and 34%, respectively. It was observed that the effects of CS <sub>2</sub> were due to reversible neurochemical disorders of the efferent pathways that manage post-rotational nystagmus. Since the nervous structures that involve vestibular function seem particularly sensitive to CS <sub>2</sub> , post-rotational nystagmus can be used as an early non-invasive measure to diagnose CS <sub>2</sub> poisoning as part of an occupational conservation programme.
2018	Min and Min [74]	466,822 (217,308 with gastric ulcer + 249,514 with duodenal ulcer)	Peptic ulcer (gastric and duodenal)	Investigation of the incidence of peptic ulcers in adults due to long-term exposure to environmental noise. The diagnosis of gastric and duodenal ulcers was made during an 8-year follow-up (2006–2013). Environmental noise data were obtained from the National Noise Information System, a national noise monitoring system.	The interquartile range (IQR) for nighttime noise exposure was 2.37 dB for gastric ulcers and 2.41 dB for duodenal ulcers.	Gastric ulcers occurred in 32.1% of individuals, and duodenal ulcers, in 10.7% of individuals. The diagnostic rate for gastric and duodenal ulcers increased with increasing cumulative mean levels of nighttime ambient noise. With increases in the IQR of nighttime noise, the risk rate increased significantly by 12% for gastric ulcers and 17% for duodenal ulcers, based on the fully adjusted model.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Pohl, Gabriel and Hübner [44]	212 (1st phase) and 133 (2nd phase)	General mental indisposition; reduced performance and work capacity; lack of concentration; fatigue; voltage; nervousness; dizziness; irritability; indisposition; reduced sleep quality; annoyance	A total of 212 persons participated in the first survey; nearly two-thirds (133 persons) remained in the second. Accordingly, a third dropped out (“dropouts”; 79 participants). Indeed, dropouts differed statistically from the other participants only in terms of education level and household size. The remaining participants had higher education levels and slightly larger households compared to the dropouts (small effect size for each). These socio-demographic variables had no significant influence on the central stress and attitude indicators; significant differences in the central attitude and annoyance assessments were not apparent. Longitudinal study, based on the methodology of stress psychology with noise measurements, in which residents of a wind farm in Lower Saxony were interviewed on two occasions (2012, 2014), using audio equipment to record irritating noises. Several residents complained of physical and psychological symptoms due to traffic noise (16%) and wind turbine noise (10%; two years later, 7%), which allowed the assessment of some symptoms caused by noise exposure.	Noise from low-frequency wind turbines (<100 Hz).	Participants reported more symptoms in 2012 than in 2014. From 2012 to 2014, sleep disorders decreased and symptoms of impaired performance were not repeated. Only a few participants showed evidence of low-frequency (<100 Hz) wind turbine (WT) noise effects: in 2012, 8.5% reported feelings of pressure related to wind farms and 6.1% experienced vibrations in the body. The annoyance experienced induced by feelings of pressure or vibrations was slightly greater in 2012. Symptoms of dizziness were not observed. The participants had more symptoms and greater irritation due to traffic noise than to wind noise.
2018	X. Wang, Lai, Zhang and Zhao [75]	6 (3 exposed, 3 unexposed) Bama pigs	Effects on the blood–brain barrier (BBB)	Investigation of the effect of noise exposure on the blood–brain barrier (BBB). Healthy male Bama pigs were randomly divided into a noise exposure group and a control group (no noise) for 30 min. After exposure, brain imaging was performed using computed tomography and fluorescent images.	Low-frequency noise (50, 70, 100, and 120 Hz at 140 dB).	The BBB permeability test showed that 50, 70, and 100 Hz noise exposure at 140 dB increased the BBB permeability, and the BBB opening at 70 Hz was more severe and reversible. Tomographic images demonstrated that noise-induced opening of the BBB did not cause intracerebral haemorrhage.
2018	Suzuki, Suzuki, Onishi and Penido [49]	110	Tinnitus and LFN discomfort	Classification of persistent tinnitus and its comparison with pure tone or noise, high or low pitch, presented to the patient by the sounds of the audiometer. Participants were subject to inclusion and exclusion criteria. The following evaluations were performed on patients: otorhinolaryngological, audiological, Pitch Matching and Loudness, Visual Analogue Scale, Tinnitus Handicap Inventory, and Minimum Masking Level.	Three types of noise: white noise (WN), narrow band low frequency (LFNB) at 500 Hz, and narrow band high frequency (HFNB) at 6000 Hz.	A total of 181 tinnitus complaints were identified, in which the presence of pure tone type tinnitus was observed in 93 (51%) of the responses (4 from low pitch and 89 from high pitch) and from noise in 88 (49%) of the responses (15 low frequency and 73 high). For tinnitus with low-frequency sensation, 19 responses were determined, while for high-frequency sensation, 162 responses were determined. Visual Analogue Scale average of 5.47 for tinnitus similar to pure tone, and 6.66 for that similar to noise. Average Loudness for tinnitus similar to the pure tone of 12.31 dBNS, and for that similar to the noise of 10.54 dBNS.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Paunović, Jakovljević and Stojanov [76]	112 (82 women and 30 men, aged 19 to 32).	Blood pressure; haemodynamic events	Study divided into three 10-min phases: resting in quiet conditions before noise, exposure to traffic noise, and resting in quiet conditions after noise. Measurement of blood pressure, heart rate, and haemodynamic parameters (cardiac index and total peripheral resistance) with a chest bioimpedance device. Use of four statistical models to answer the study questions.	Exposure to noise: resting in quiet conditions before noise (Leq = 40 dBA); exposure to noise registered in traffic (Leq = 89 dBA); resting in quiet conditions after noise (Leq = 40 dBA).	Blood pressure decreased during the quiet phase before noise, increased in the first minute of exposure to noise, then gradually decreased at the end of exposure to noise, and continued to decrease to baseline values after exposure to noise. The cardiac index showed a gradual decrease throughout the experiment, while the total vascular resistance increased steadily during and after exposure to noise.
2019	Negishi-Oshino et al. [77]	Rats	Irreversible imbalance with structural damage to the otoconial membrane	Assessment of rats' imbalance due to acute exposure to LFN. The exposed rats also showed decreased cervical vestibular evoked myogenic potential (cVEMP) with impaired vestibular hair cell activity.	LFN with a frequency of 100 Hz at 85, 90, or 95 dB.	The results of this study demonstrate that acute exposure to LFN at 100 Hz at 95 dB for just 1 h caused irreversible imbalance in rats with structural damage to the otoconial membrane, as the target region for the LFN-mediated imbalance, which could be rescued by Hsp70.
2019	Lee, Park, Jeong, Choung and Kim [50]	400	Discomfort and sensitivity to noise; blood pressure; annoyance due to noise	The study recruited healthy residents aged between 20 and 60 years. Effects of exposure to transport noise on blood pressure in adult residents of multi-storey residential buildings, modification of the effects of discomfort from and sensitivity to internal noise, and self-assessed associations between transport noise and blood pressure. Measurement of noise levels at the top of buildings for 24 h, forecasting the levels of each unit in the house for different sources and periods using noise maps. Conducting adjusted linear regression analyses to estimate associations between noise exposure levels and systolic blood pressure (SBP) and diastolic blood pressure (DBP). Conducting a questionnaire with questions about annoyance from and sensitivity to noise and sociodemographic variables.	Exposure to noise (Lden, LDay, and LNight).	General noise (road traffic and rail noise) and road traffic showed stronger associations with SBP than with DBP, while rail noise had similar associations with SBP and DBP. Stronger associations were estimated for participants who reported higher ratings of annoyance by internal noise. The results support the hypothesis that long-term exposure to transport noise is associated with higher blood pressure in adults living in multi-storey residential buildings.
2019	Scherer and Formby [78]	151	Tinnitus retraining therapy (TRT); sound therapy (ST); tinnitus-specific educational counselling (TC)	Comparison of the effectiveness of TRT and its components, ST and CT, with the standards of care (SoC) in reducing the negative effect of tinnitus on quality of life. Study carried out in 6 military hospitals, in the office and in a data coordination centre, among active, retired, and dependent military personnel with functionally adequate hearing sensitivity and moderate to severe subjective tinnitus, with the objective of treating the military.	LFN (tinnitus).	There were few differences between treatment groups. About half of the participants showed clinically significant reductions in the effect of tinnitus.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Poulsen et al. [45]	Residences between 20 and 40 inhabitants	Annoyance; sleep disorders; depression	Evaluation of the evolution of medical prescriptions related to anxiolytics and antidepressants ingested by the populations that lived near the wind turbines, in an analysis that lasted two years (2012 to 2014). A total of 7256 wind turbines (WT) was considered in noise modelling. The authors collected information on model, type, height, and operational settings. Each WT was classified into one of 99 noise spectra classes, with detailed information on the noise spectrum from 10–10,000 Hz in thirds of octaves for wind speeds of 4–25 m/s.	Exposure to outdoor wind turbine noise (WTN) at night (<24, 24 to <30, 30 to <36, 36 to <42, and ≥42 dB) and nighttime low frequency indoor WTN (<5, 5 to <10.10 and <15, and ≥15 dB).	High levels of outdoors WTN associated with use of anxiolytics and antidepressants among the elderly, suggesting that WTN may be potentially associated with sleep and mental health.
2019	Tao, Wang, Zou, Li and Luo [51]	100	Irritation and sensitivity to noise	Assessment of noise irritation in the metro deposit and the influence of noise in adjacent residential buildings. Conducting a questionnaire with people who worked at the metro station and made field measurements, both at the metro station and in the adjacent residential buildings.	LFN and HFN (31.5, 63, 125, 250, 500, 1000, 2000, 4000, 8000, and 16,000 Hz)	Of respondents, 96% are disturbed by the noise and 31% of them feel that the impact of the noise is serious. They found that there is a problem of annoyance due to low-frequency noise. The authors evaluated that the noise level caused by the fans decreases with the height of the floors and that the shorter the distance between the building's fans and ventilation, the more severe the impact of the noise. They concluded that, with the increase in the distance to the noise source, the noise attenuation rate increases.
2019	Poulsen et al. [64]	717,453	Myocardial infarction (MI), stroke	The authors used the Danish Civil Registration System to identify the study cohort, defined as all adults (aged 25–84 years) who lived in one of these inclusion dwellings any time between five years before the erection of the first neighbouring WT and the end of 2013. Assessment of the impact of MI and stroke risk when there is long-term exposure to noise from wind turbines. Based on hospital and mortality records, an analysis was made of the number of cases of myocardial infarction and stroke that existed in homes located around wind turbines.	Exposure to wind turbine noise (WTN) at night outdoors (≥24 dB) and nighttime low frequency indoor WTN (≥5 dB; 10–160 Hz)	High long-term exposure to noise from wind turbines is associated with an increase in myocardial infarction and strokes.
2019	Hansen, Nguyen, Zajamšek, Catcheside and Hansen [55]	9 (residences) A total of 8716 and 8972 10 min samples of outdoor and indoor data	Annoyance	The outdoor measurements carried out at 9 different residences located between 1 and 9 km from the nearest wind turbine of a South Australian wind farm (37 operational turbines), each with a rated power of 3 MW. The wind farm is positioned along the top of a ridge, and the wind turbine hub height relative to the residences varies between 85 and 240 m. At all residences, the indoor measurements were taken in a room that faced as closely as possible towards the wind farm and the windows were closed. The presence of amplitude modulation in the noise of wind farms results in increased annoyance and possible interruptions in sleep. The study investigated the prevalence of this characteristic present in homes close to the wind farm.	-	During the night, audible amplitude modulation occurred in homes located 3.5 km from the wind farm up to 22% of the time. This had important implications for possible sleep disruptions and annoyance due to the wind farm by audible amplitude modelling, particularly as ambient noise levels in rural South Australia can be as low as 15 and 5 dBA, outdoors and in closed areas, respectively.



Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Phadke, Abo-Hasseba, Švec and Geneid [79]	140 (between 21 and 56 years)	Voice disorders: dysphonia; neck pain; vocal effort	This study aimed to identify possible correlations between the vocal symptoms of teachers and their perception of noise, the locations of schools, as well as the locations and conditions of their classrooms. They carried out a questionnaire, whose answers were analysed statistically, with questions about the severity and frequency of their voice symptoms, noise perception, and the locations and conditions of their schools and classrooms.	-	Teachers experienced severe dysphonia, neck pain, and increased vocal effort with weekly or daily recurrence. Among the teachers who participated in the study, 24.2% felt that they were always in a noisy environment, with 51.4% of the total participants reporting having to raise their voices. The most common sources of noise were student activities and conversations in the teachers' own classrooms (61.4%), noise from adjacent classrooms (52.9%), and road traffic (40.7%).
2019	Smith, Ögren, Ageborg Morsing and Persson Waye [47]	23	Disorders in physiological sleep; heart rate	The study volunteers slept for five nights in a sound environment laboratory, which was furnished like a typical apartment. The participants were instructed to start trying to fall asleep at 23:00 each evening and were woken with an alarm call at 07:00 each morning. Sleeping at times outside of this 8 h period was not permitted. Participants could follow their normal daytime routine but arrived at the laboratory by 20:00 each evening to allow time for relaxation and the setup of the sleep-measuring equipment. Caffeine was prohibited after 15:00 each day, and alcohol was prohibited at all times. Evaluation of the effects on physiological sleep resulting from the exposure of participants to railway noise for five consecutive nights, using polysomnography and questionnaires. Heart rate was measured by electrocardiography.	Frequencies of 35, 40, and 45 dB.	No significant differences were found in the overall structure of sleep disorders between the reference tests and the 35 dB night tests. Regarding cardiovascular diseases, they observed that the noise spectrum with amplitude frequencies greater than 100 Hz led to increases in heart rate for noise levels equal to or greater than 35 dB.
2019	Zare et al. [80]	75	Serum cortisol concentration	The study aimed to examine the effect of sound pressure level (SPL) on the serum concentration of cortisol at three different times during the night shift, in an industrial and mining company. Participants were divided into three groups (one control and two groups of cases, with 25 each). Dosimetry was adopted to evaluate SPL equivalents using a TES-1345 dosimeter. The serum cortisol concentration was measured using a radioimmunoassay (RIA) test in the laboratory.	Exposure levels of 67, 80, and 92 dB.	The results indicated a downward trend in the serum cortisol concentration of the three groups during the night shift. SPL and exposure time significantly affected cortisol concentration. Age and body mass index had no significant influence on the concentration of cortisol. It was concluded that an increase in SPL leads to an increase in serum cortisol concentration.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Moradi et al. [52]	28 (14 females and 14 males)	Stress; noise sensitivity; annoyance	The study was conducted on students at different levels of educational programmes in an acoustic room in the School of Public Health, Iran University of Medical Sciences, in 2016. The study subjects were comprised of 14 female and 14 male university students who met the following entrance criteria: normal sense of hearing (hearing loss less than 20 dB) and no sensitivity to noise. Study of the effects of noise on selective attention of university students. They carried out questionnaires to determine students' personality traits (extroverted or introverted) and analyse their stability or instability. Evaluation of the level of sensitivity to noise, using the Weinstein sensitivity scale, and the level of selective attention, using the DUAF test.	80 dBA noise at 4000 Hz frequency	Introverted participants are more sensitive to noise than extroverts. The most noise-sensitive participants showed greater stimulation during exposure to noise, which led to increases in incorrect responses and a decrease in mental performance. The participants' personal traits are related to their annoyance due to noise. Stress due to noise improves selective attention in outgoing individuals.
2019	Alves, Silva and Remoaldo [53]	200 questionnaires + 62 measurements of noise levels + 14 adapted audiometric tests	Annoyance from LFN; audibility threshold	Analysis of the effects of exposure to low-frequency noise pollution, emitted by poles and power lines, on the well-being of the population, based on a study of “exposed” and “unexposed” individuals in two areas. Conducting audiometric tests adapted to complement the analysis and determine the audibility threshold of the volunteers. Sound level measurement and sound recording (at a distance of 5 m from the source), as well as the adapted audiometric performance test.	Frequency range between 10 and 160 Hz	The “exposed” area has higher sound levels and, consequently, more welfare and health problems than the “unexposed” population. Audiometric tests also revealed that the “exposed” population appears to be less sensitive to low frequencies than the “unexposed” population.

Van Kamp et al. [40] explored the determinants of annoyance due to tinnitus, that is, low-frequency noise. This article explored the relationship between contextual, situational, and personal characteristics with the level of annoyance due to low-frequency noise, based on secondary analysis of existing data. The results obtained showed significant differences between cities and neighbourhoods, a significant association between background noise levels during the day, and an inverse effect at night. The level of background noise, sensitivity to noise, and dissatisfaction with the residential situation were strongly associated with higher levels of annoyance. Based on the association with nighttime background levels, it was found that the lower the levels, the greater the annoyance due to tinnitus [40].

The main results of the studies by Blair et al. [46] and Pohl, Gabriel, and Hübner [44] have already been described in Section 3.2. Blair et al. (2018) found that the average noise levels during the construction and drilling of an oil and gas well exceeded the levels associated with health annoyance; that is, they were above 50 dBA or 60 dBC [46]. Pohl, Gabriel, and Hübner [44] found that the annoyance experienced was very low and that symptoms of dizziness were not observed in this study.

Ishitake [43] carried out a study regarding annoyance due to wind energy, with a questionnaire carried out for the analysis. In this survey, it was observed that 81% answered that they did not feel annoyed due to the generation of wind energy, while 8% answered that they felt very or a little annoyed [43].

The results related to noise annoyance determined by Moradi et al. [52] and Lee et al. [50] have already been covered in Section 3.3. However, in addition to what was mentioned earlier, Lee et al. [50] concluded that the closest associations between noise exposure and blood pressure were estimated for participants who reported higher classifications of annoyance, irritation, and sensitivity to noise. This indicates that the annoyance from internal noise and sensitivity to noise develop regardless of the level of exposure to external noise. The authors also found that people who were sensitive to noise and participants most irritated due to internal noise had significantly higher SBP and DBP than others [50].

Finally, Hansen et al. [55] determined an audible internal low-frequency tone modulated in amplitude in the frequency of the passage of the blade for 20% of the time up to a distance of 2.4 km. The audible amplitude modelling took place for a similar percentage of time between the wind farm's percentage power capacities of 40% and 85%. The modelling of the audible amplitude in the interior still occurred for 16% of the time at a distance of 3.5 km. At distances of 7.6 and 8.8 km, audible amplitude modelling was only detected on one occasion. During the night, audible amplitude modulation occurred in homes located 3.5 km from the wind farm up to 22% of the time. This had important implications for possible sleep disruptions and annoyance due to the wind farm by audible amplitude modelling, particularly as ambient noise levels in rural South Australia can be as low as 15 and 5 dBA, outdoors and in closed environments, respectively [55]. Although the geometric dimension of the room was not considered in the study by Hansen et al. [55], it is an important variable for this type of study.

### 3.5. Hearing Loss

Although hearing loss is reported as an effect on human health due to exposure to noise, the studies analysed were not totally conclusive regarding hearing loss due to low-frequency noise.

Selander et al. [58] assessed the impairment of children's hearing when occupational noise exposure occurred during pregnancy. They carried out a prospective cut study and determined cases of hearing impairment in children based on medical records and interviews conducted with prenatal unit teams, in a sample of births between 1986 and 2008 [58]. With the information collected, they established risk models to estimate data related to the impairment of children's hearing when exposed to noise with a strong low-frequency component during pregnancy [58].

Wang et al. [59] evaluated the exposure to noise from traffic and established a comparison regarding the potential risk of hearing loss for residents.

Ohgami, Oshino, Ninomiya, Li, and Kato [60] and Venet et al. [61] addressed experimental studies in rats and the assessment of hearing loss when they are exposed to low-frequency noise.

Ohgami et al. [60] carried out a survey of experimental studies carried out on rats when exposed to low-frequency noise and made an assessment of associated hearing loss. In this review, the imbalance in rats when exposed to noise was also assessed [60]. However, Venet et al. [61] effectively performed experimental tests on rats, testing the hearing of the rats with equipment (cubic DPOAEs – Distortion product otoacoustic emissions) when the animals were exposed to low-frequency noise combined with carbon disulfide (CS<sub>2</sub>). The rats' hearing was tested before, during, and after exposure to noise, and blood samples were taken to assess the exposure to CS<sub>2</sub> [61].

Zhou and Fu [62] performed measurements to assess levels of total serum bilirubin, performed tympanometry, and examined pure tone thresholds at low or high frequencies associated with adolescents with different subtypes of sensorineural hearing loss (SNHL), using binary or multinomial logistic regression models.

Regarding the results, Selander et al. [58] divided the sample into three parts: (i) mothers who worked full time, (ii) mothers who worked part-time, and (iii) mothers absent from work during pregnancy. They observed an increased risk of hearing impairment in children after exposure to occupational noise during pregnancy. In the sample considered in the study, they determined adjusted risk rates for 75–84 dBA and  $\geq 85$  dBA, compared to  $<75$  dBA, of 1.05 and 1.27, respectively. They observed 60, 42, and 14 highly exposed cases for all hearing disorders, sensorineural hearing loss, and tinnitus, respectively. They also determined that the adjusted risk rate for exposure to occupational noise  $\geq 85$  dBA compared to  $<75$  dBA was 1.82, based on 14 exposed cases and 2222 cases with low exposure. However, the corresponding relative risks (HR) were 1.25 for high exposure among mothers classified as part-time and 0.74 for women who had more than 153 days of absence from work during pregnancy or who were not working at the time of the interview. Finally, [58] found that, among mothers working full-time, high exposure to occupational noise was associated with an increased risk of hearing impairment. The authors also observed an increase in the risk of hearing impairment of the foetus for the case of mothers who worked part-time. On the other hand, [58] did not find an increased risk of hearing impairment in children whose mothers reported exposure to occupational noise in early pregnancy but were absent from work during pregnancy. Thus, the fact that the mother's risk increases with presence at work proves that occupational noise during pregnancy is associated with an increased risk of hearing impairment in children [58].

Wang et al. [59] observed that the mean annual Leq over 24 h in the flow and commercial channel areas was  $71.2 \pm 1.0$  and  $70.0 \pm 2.6$  dBA, respectively, revealing a potential risk of hearing loss among residents [59].

Ohgami et al. [60] determined that a sound stimulus of 375 Hz, a frequency below the audible range of rats, causes a hearing reduction in wild type rats, while in rats with an abnormal otolytic morphology, no hearing loss was observed.

Venet et al. [61] observed that, after the period of contact with noise, exposure due to noise alone caused a hearing reduction in an area of frequency that varied between 3.6 and 6 kHz. The damaged area was approximately one octave (6 kHz) above the highest frequency of the exposure noise (2.8 kHz). Since the maximum auditory sensitivity is located at around 8 kHz in rats, exposure to low-frequency noise can affect the cochlear regions that detect mid-range frequencies. Exposure to CS<sub>2</sub> (250 ppm or more) and noise increased the extent of the damaged frequency window, as a significant reduction in hearing was measured at 9.6 kHz in these conditions, with an increase in CS<sub>2</sub> concentrations [61].

Finally, Zhou and Fu [62] determined that total serum bilirubin levels were associated with any subtype of high-frequency sensorineural hearing loss (SNHL). However, they observed that total serum bilirubin levels were not significantly associated with any low-frequency SNHL (bilateral or unilateral; LPTA greater or lesser) [62].

### 3.6. Cardiovascular Disease/Heart Rate

Cardiovascular diseases (variations in heart rate) are another effect on human health due to exposure to low-frequency noise.

Walker et al. [63] and Smith et al. [47] used electrocardiograms to measure participants' heart rates when they were exposed to low-frequency noise. In the case of [63], participants were also subjected to blood pressure measurements and saliva samples were collected before, during, and after exposure to noise. Based on linear regression models, the differences between the results obtained before, during, and after the noise were examined [63]. In the case studied by Smith et al. [47], the authors measured participants' heart rates when they were exposed to railway noise.

Poulsen et al. [64] assessed the impact of the risk of myocardial infarction and stroke when there is long-term exposure to noise from wind turbines. Based on hospital and mortality records, they analysed the number of cases of myocardial infarction and stroke in homes located around wind turbines [64].

Wang et al. [59] evaluated the exposure to noise from traffic and established a comparison in relation to the prevention threshold established for cardiovascular diseases.

The methodology adopted by Blair et al. [46] has already been referenced in Section 3.2. According to [46], noise levels above 50 or 60 dBA can cause cardiovascular effects.

Rossi et al. [65] measured the changes in cognitive and physiological parameters—in particular, the response time and heart rate—of participants when exposed to tonal noise (silence or multi-band stochastic noise), low-frequency and low-frequency stochastic noise, and low-frequency stationary noise with regular amplitude modulation.

As for the results, Walker et al. [63] concluded that during exposure to noise, the reductions in heart rate variation (HRV) were 19% with low-frequency power and 9.1% according to the mean square difference between the intervals of adjacent normal heartbeats (RMSSD). On the other hand, during exposure to low-frequency noise, the reductions in HRV were 32% with high-frequency power, 34% with low-frequency power, and 16% according to the standard deviation of the adjacent normal heartbeat intervals (SDNN). Finally, during exposure to low-frequency noise, the reductions in HRV were 21% with low-frequency power, compared to that with exposure to noise. As a general conclusion, [63] determined that exposure to noise—and, in particular, low-frequency noise—negatively affects heart rate variation, which affects health in terms of cardiovascular diseases [63].

Part of the results observed by [47] and [46] have already been described in Section 3.2. Regarding cardiovascular diseases, [47] also observed that the noise spectrum with amplitude frequencies greater than 100 Hz led to increases in heart rate for noise levels equal to or greater than 35 dB and increasing the probability of excitation at a noise level of 45 dB. Meanwhile, [46] concluded that continuous weighted noise above the 50 dBA threshold can cause health effects, such as an increased risk of cardiovascular disease and hypertension [46].

Wang et al. [59] concluded that the average annual equivalent noise levels (Leq, 24 h) were  $66.4 \pm 4.7$  dBA, which exceeded the threshold established for the prevention of cardiovascular diseases.

Rossi et al. [65] concluded that, on average, participants decreased their response times in noise conditions compared to silence conditions; that is, there was evidence of increasing stress, according to the excitation theory. In this study, they observed that participant exposure to low-frequency noise 1 and 2 (LFN1 and LFN2, respectively) produced cognitive stress comparable to stochastic multi-tonal broadband noise (BBN). Subdividing the participants into extroverts and introverts, they demonstrated that LFN1 and LFN2 produced higher stress effects in introverted participants than BBN noise on cognitive performance, but had no effect on extroverts. In addition, heart rates increased significantly in the introverts during the tests, compared to those in a condition of silence before the start of the Stroop effect, while the extroverts showed no changes [65].

Finally, [64] concluded that, for external nighttime noise from long-term-operated wind turbines greater than 42 dBA and low-frequency noise from internal wind turbines greater than 15 dBA, the risks were slightly higher for myocardial infarction than those from exposures less than 24 and 5 dBA, respectively, but the number of cases was low in the groups with the highest exposure. As for strokes, all low-frequency noise levels from internal wind turbines were associated with adjusted incidence rates close to 1.0, while for noise from external wind turbines, the adjusted incidence rates were greater

than 1.0 for the groups of intermediate exposure, and lower than the unit for the groups with greater exposure. High long-term exposure to wind turbine noise was associated with slightly elevated point estimates for myocardial infarction, for both exposure to outdoor wind turbine noise and exposure to potentially more biologically relevant indoor wind turbine noise [64].

#### 4. Conclusions

In the present research, 39 articles addressing exposure to low-frequency noise and its impacts on human health were analysed in depth. The articles were divided into categories according to the emitting source of the noise, and the effects on human health were addressed. Regarding the emitting source, there was a greater number of articles addressing issues related to environmental noise and wind turbine sources.

As for the effects generated on human health, there was a greater number of articles referring to effects on sleep disorders, discomfort, sensitivity to and irritability from noise, annoyance, hearing loss, and cardiovascular diseases, and these effects were analysed in more detail in this article.

In the case of impacts on sleep disturbance, a dependence on the distance to the source of noise was observed; that is, the greater the proximity to the source, the greater the effects on sleep, as established by [41,43]. With long-term noise exposure, noise sensitivity is lower, which reduces the effects on sleep disturbance, as determined by [44]. Exposure to noise at night disturbs sleep and causes more frequent awakenings, less deep and non-continuous sleep, and morning tiredness in the participants, as discussed by [42,47].

With increasing age, especially for people over the age of 65, exposure to noise causes sleep disturbances, which adds to the demand for sleeping pills and antidepressants, as determined by [45].

According to [46], the average noise levels exceeded the levels for sleep disturbances established for human health.

Discomfort, irritability, and sensitivity to noise were among the effects analysed. Discomfort due to noise depends on the proximity of people to the emitting source, making their sensitivity to noise different. Tao et al. [51] proved that with increased distance from the noise source, the noise attenuation rate increases, due to the fact that they feel uncomfortable and disturbed by the low-frequency noise. Alves et al. [53] observed that constant exposure to noise makes people less sensitive to the perception of noise compared to people who are more distant from the emitting source, necessitating greater sound intensity for the perception of low-frequency noise. This sensitivity of people to noise leads to a decrease in their mental performance, as ascertained by [52], and an increase in blood pressure, especially when people are more irritated, as noted by [50]. Huang et al. [48] observed that the convenience of sound does not increase with distance from the ground for buildings of great height, such as skyscrapers, and that exposure to this noise has an impact on the annoyance and discomfort of its residents. However, Suzuki et al. [49] noted that there was a low percentage of people who were uncomfortable with the presence of low-frequency noise compared to the presence of high-frequency noise.

Background noise levels and sensitivity to noise are associated with higher levels of annoyance; that is, they exceed the thresholds established for this health effect, as indicated by [40,46,54]. Moradi et al. [52] also confirms that the level of annoyance when exposed to noise varies with people's personal traits, with greater sensitivity and annoyance in introverts than in extroverts. Exposure to noise from rail transport is associated with the blood pressure of exposed people, which indicates that people with greater sensitivity to noise, greater annoyance, and more irritability have higher blood pressure values than those who do not have these symptoms, as studied by Lee et al. [50]. Thus, the annoyance increases with exposure to noise, especially when people experience unconventional noise. As described by [81], a greater disturbance is observed due to railway noise in people who are not normally exposed to this noise source. Hansen et al. [55] noted that noise levels had implications for annoyance due to exposure to the wind farm. However, both Pohl et al. [44] and Ishitake [43] determined that people do not feel annoyed due to exposure to wind energy noise. New



methodologies for the evaluation of noise emitted by wind turbines could be used to provide new findings in this field [82].

Exposure to noise causes a potential risk of hearing loss in people subjected to it, as studied by Wang et al. [59] and Venet et al. [61]. Venet et al. [61] also determined that exposure to carbon disulfide (CS<sub>2</sub>) and noise caused a reduction in the auditory level when an increase in CS<sub>2</sub> concentrations was observed. Exposure to occupational noise during pregnancy was also a topic studied by Selander et al. [58] who proved that exposure to this type of noise is associated with the risk of increased hearing impairment in children, with greater relevance in mothers who worked full-time and part-time during pregnancy. Through experiments on rats, Ohgami et al. [60] observed a hearing reduction in wild type rats, in contrast to in rats with an abnormal autolytic morphology in which this hearing loss was not observed. However, studies were observed in which no effects associated with hearing loss were found with exposure to low-frequency noise, as ascertained by Zhou and Fu [62]. All studies analysed in this domain regarded low and high frequencies, revealing hearing loss in the samples exposed to high frequencies. Hearing loss due to low-frequency noise was not totally observed.

Finally, it was observed that exposure to noise—in particular, low-frequency noise—negatively affects the variation in heart rate, which harms health in terms of cardiovascular diseases, as it exceeds the levels established for the prevention of these diseases, as discussed by Walker et al. [63], Wang et al. [59], and Blair et al. [46]. According to Rossi et al. [65], heart rate increases significantly in introverts compared to in a situation of silence, while extroverts show no change in their heart rate. Smith et al. [47] realized that the heart rate in people increased with greater exposure to noise. High long-term exposure to noise from wind turbines is associated with an increase in myocardial infarction and stroke, as studied by Poulsen et al. [64].

The literature review carried out constitutes a novelty in Portugal, whether in the social sciences or the more exact ones, such as environmental acoustics. It is expected that in future studies, this type of evaluation can be explored for a longer period and more sources of low-frequency noise emission. This may provide important data on low-frequency exposure and its effects on human health, as well as important information on the definition of limits for installing wind farms and other sources of low-frequency noise. While some type of impacts on health have not yet been analysed and continue to be an understudied field, the impacts studied can provide good advice for the planning field. Thus, these studies can point out good ways of minimising the influence on human beings and can constitute a good tool for the preventive dimension of planning.

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82. Iannace, G.; Ciaburro, G.; Trematerra, A. Wind Turbine Noise Prediction Using Random Forest Regression. *Machines* **2019**, *7*, 69. [[CrossRef](#)]



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**Johnson, Thad A**

---

**From:** Sharon Burke <sharonb72@att.net>  
**Sent:** Monday, March 25, 2024 6:17 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983, Sunset Ampitheater

[You don't often get email from sharonb72@att.net. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

WARNING: The sender of this email could not be validated and may not match the person in the "From" field..

I Sharon, hereby protest PUD - 1983 application by Mustang Creek Crossing to rezone 810 S. John Kilpatrick Turnpike.

1. I have a problem with the noise it will create in the evenings.
2. I have a problem with it being so close to our schools. (it will be located right behind the schools.)
3. My late husband and I moved out here in 1993 to raise our children in the country away from the big city of Oklahoma City. I do not want to have to think about leaving my home because of PUD - 1983.

It will be very close to my home just to the west of Sara Road and I live on the east side on Sara Rd.

Sharon Burke  
10100 Birkenhead Road  
Yukon Oklahoma

Sent from my iPad

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 4:27 pm, Mar 01, 2024

**From:** [cindyburnam@gmail.com](mailto:cindyburnam@gmail.com) <[cindyburnam@gmail.com](mailto:cindyburnam@gmail.com)>

**Sent:** Friday, March 1, 2024 2:52 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD 1983, Sunset Ampitheather

You don't often get email from [cindyburnam@gmail.com](mailto:cindyburnam@gmail.com). [Learn why this is important](#)

Oklahoma City Council and Mayor:

I am writing in protest to PUD 1983, Sunset Amphitheater at 810 South John Kilpatrick Turnpike. I am not against the project but the location. There will be problems if this is approved at current location.

1. The noise especially low frequencies cannot be contained. They claim it will direct sound to north but any open concert sounds will travel and vibrate our homes and reduce our quality of life, increase stress and decrease productivity due to lack of sleep.
2. There is no access to venue from I40 or turnpike. The main roads to get to venue are already congested. At peak hours we will have limited or no access into our neighborhood. We will be blocked from lines of traffic. Sara road is only a 2 lane road with no bond to widen it, creating a real concern.
3. The close proximity to schools is a concern. Alcohol sales and intoxicated individuals close to our students when events are at the school. Security cannot control all situations. Sound checks will interfere with our children's education.
4. The lights and sounds will be a distraction to vehicles on I40 and the turnpike and could lead to more accidents.
5. Limited parking will lead to cars parking in front of our homes and increased crime in our neighborhood.

I am a home owner of 1020 Sennybridge Dr, Yukon, Ok 73099. I ask you to vote against this PUD 1983 in its current form.

Sincerely,

Cindy Burnam

Sent from [Mail](#) for Windows

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Tuesday, April 2, 2024 2:48 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Subject:** FW: Protest PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Wrights, David R III <david.wrights@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Tuesday, April 2, 2024 12:40 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

David Wrights

---

**From:** Cindy Burns <cjburnsie@att.net>  
**Sent:** Tuesday, April 2, 2024 12:37 PM  
**To:** City Clerk Email <CityClerk@okc.gov>; Ward3 <ward3@okc.gov>; The Mayor <mayor@okc.gov>  
**Cc:** Cindy Burns <cjburnsie@att.net>  
**Subject:** Protest PUD-1983

You don't often get email from [cjburnsie@att.net](mailto:cjburnsie@att.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

My name is Cynthia Burns and I am protesting the rezoning for PUD-1983 by Mustang Creek Crossing, LLC, 810 S John Kilpatrick Turnpike.

I reside at 10016 Thompson Ave in the Westbury South addition between Sarah Rd and Morgan Road and SW 15th and SW 29th Streets.

I live on what was formerly the Westbury Golf Course which was sold and now my view has radically changed. I paid premium because I was on a golf course. Now, I see houses.

I am totally opposed to the proposed Sunset Amphitheater currently being discussed. I have hearing issues and the noise levels and vibrations are going to impact me as well as everyone in this community.

There are currently close to 4,000 homes in this area as well as a middle school and elementary school.

Placing a venue like this in an area like this is unfathomable. The noise, traffic, trash will heavily impact our neighborhood. I have security concerns as well. Will they practice when our kids are still in class?

We try not to go out at rush hour or school pickup times because the traffic is horrible. I cannot imagine how this venue will help anyone at all.

Building something like this is great for people driving from miles away. Will they leave the property however they choose?

Please, I implore you to vote NO on April 9th and always to this type of intrusion. Please consider placing this in an open area.

Thank you for your time.

Cynthia Burns  
[Cjburnsie@att.net](mailto:Cjburnsie@att.net)  
10016 Thompson Ave  
Yukon, OK 73099  
Sent from my iPhone

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:40 am, Mar 11, 2024

**From:** [Sharon Burns](#)  
**To:** [City Clerk Email](#)  
**Subject:** Protest PUD 1983, Sunset Amphitheater  
**Date:** Saturday, March 9, 2024 10:32:57 AM

---

[You don't often get email from sbintake@aol.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Sent from my iPhone

We are writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. There will be problems if this is approved.

Noise from this 12,000 seat amphitheater concerts will be loud and annoying to our surrounding neighborhoods and schools.

Noise can destroy the enjoyment of one's property and leisure time. Noise can be so intense pictures and windows rattle from vibrations. I want to be able to sit in my peaceful backyard.

Former US Surgeon General William H Stewart said "calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere".

Karen Orr special writer to the Gainesville Sun/ Gainesville.com 10/29/2017 stated CDC states "Noise pollution is an increasing public health problem".

There must be a decibel and curfew policy in place before any consideration of building this amphitheater. Who will enforce this vibration and noise pollution? This must be done by a third party.

At a recent WHO Ministerial Conference, the Environmental Burden of Disease Project declared" noise to be number 2 threat to public health, after air pollution".

Also we have lots of veterans in our neighborhoods and the noise can trigger PTSD reactions. This isn't fair to them.

We are the homeowners of property at 10904 SW 21st St, Yukon, OK 73098. We ask you to vote against this PUD 1983 in its current form.

Sincerely,

Michael and Sharon Burns



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 1:34 pm, Mar 04, 2024

**From:** [martwrite@cox.net](mailto:martwrite@cox.net) <[martwrite@cox.net](mailto:martwrite@cox.net)>

**Sent:** Monday, March 4, 2024 12:21 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [martwrite@cox.net](mailto:martwrite@cox.net). [Learn why this is important](#)

To Amy K. Simpson, City Clerk,

I, Marti Burton, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 S. John Kilpatrick Turnpike.

I live in the Westbury North neighborhood which will be hugely impacted by the proposed Sunset Amphitheater. I attended the Town Hall meeting in which the Notes Live company made a whole lot of promises that they are already breaking. I am very concerned about the increased decibel level that was approved by the Planning Commission which is OVER what we were told and OVER the city code. According to others living close to these types of amphitheaters, the bass is the biggest problem, resonating and pounding in their homes. They also promised that they would do nothing to interfere with the two schools immediately south of the site (Mustang Creek Elementary and Mustang North Middle School). Now they have moved up their sound checks to 2:00 pm which will definitely affect the schools in a negative way. They told us that the noise frames would be over by 10pm for each performance. Now the Planning Commission has approved Sun-Thurs until 10:30pm and Friday-Saturday until 11pm. In addition, the "more than adequate" parking they promised has now been cut down by 7 acres. These people are expecting 30% of the concert attendees to Uber to the venue or be dropped off. I believe that to be totally unrealistic for this location. They are basing this on what they experienced in Colorado Springs, which is NOT at all like Yukon, Oklahoma. Few people will pay to Uber from Oklahoma City out to Yukon.

I own my home here and have lived here for over 30 years. This is home to me. My husband and I raised our daughter here and I truly love this neighborhood. It has been quiet and safe all these years. Now, I see that changing dramatically. I am a widow now and am not in a position to sell my home and buy something else at my age. This is my home and I do NOT want to be forced to move because of noise, traffic, and general chaos. There are definitely other places they could put this amphitheater that would not impact thousands of families the way this location will.

And may I just say a word about safety? They "promised" that all kinds of private security would be onsite for their events where they will be serving plenty of alcohol. Also, they promised "some kind of safe room" in the event of a tornado (for 12,500 people??? Really???) It is my opinion that this is a misguided venture from the beginning. Our weather is not going to be as favorable for these events that of Colorado Springs. Their events are to take place from April to October. Only a portion of the amphitheater will be covered. These will be our hottest months, with high incidences of tornados during May and October. Who wants to sit in the heat with the sun bearing down (or alternatively, sit in the rain with no cover at all) to hear a concert? I do not believe that anything about this venture will be "safe" either for the attendees, the performers, or the surrounding area.

I appreciate your understanding about this matter and urge you to take action against this agreeing to a zoning variance for this questionable venture.

Sincerely,

Marti Burton  
10409 Birkenhead Rd  
Yukon, OK 73099  
(405) 641-8510

**Johnson, Thad A**

---

**From:** Lori Cable <lorircable@gmail.com>  
**Sent:** Monday, March 25, 2024 10:49 AM  
**To:** PL, Subdivision and Zoning  
**Subject:** Sunset Amphitheater

[You don't often get email from lorircable@gmail.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

This is an email protesting the location of the projected amphitheater. I live within 2 miles of this and do not want to hear the noise, feel vibration from the bass, or deal with the traffic that will come from this.

It is my understanding this will need to be rezoned for this to occur. Please do NOT rezone.  
I do not want this close to me for the above stated reasons!!

L Cable  
OKC

Sent from my iPhone

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 12:47 pm, Feb 22, 2024

**From:** Karen Cagle <[kjcagle54@gmail.com](mailto:kjcagle54@gmail.com)>  
**Sent:** Thursday, February 22, 2024 12:11 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** "Protest PUD-1983"

You don't often get email from [kjcagle54@gmail.com](mailto:kjcagle54@gmail.com). [Learn why this is important](#)

We are writing in protest to PUD-1983 Application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. If approved, there will be many issues.

First of all, the location for this venue is **NOT** the ideal location. It is in a heavy residential area which will affect many lives in the neighborhood. There are so many other locations which are not in a residential area. Your consideration for another location for this venue would be greatly appreciated.

Secondly, on top of the fact we'll have to deal with the loud noise the traffic is going to be a nightmare. I live in Westbury North and the only way I can get home is on SW 15th between Morgan Road and Sara Rd. Those of us in Westbury North will have a problem getting to our residence as this is the only access we have to our property.

We are the homeowners of property at 10201 Hollyhead Way, Yukon, OK 73099. We ask you to vote **AGAINST** this PUD in its current form.

Sincerely,  
Ted & Karen Cagle

To: Oklahoma City Council and Mayor

2024 MAR 11 PM 3:23  
OKLAHOMA CITY CLERK

Subject: Protest PUD 1983, Sunset Amphitheater

I am writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. There will be problems if this is approved.

1. Here are some quotes from an article from the Gainesville Sun from October 22, 2017 entitled, **"Amphitheater would cause neighborhood noise pollution"**

<https://www.gainesville.com/story/opinion/columns/more-voices/2017/10/22/karen-orr-amphitheater-would-cause-neighborhood-noise-pollution/18182822007/>

"Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere." Former U.S. Surgeon General William H. Stewart

The Centers for Disease Control and Prevention states that noise pollution is an "increasing public health problem."

"Intrusive noise can lead to cardiovascular disease, sleep disruption, reduced productivity, impaired teaching and learning, absenteeism, increased drug use and accidents. Noise can destroy the enjoyment of one's property and leisure time. It adversely affects general health and well-being, and increased anti-social behavior. Future generations are harmed by degraded home, social and learning environments, with corresponding economic losses."

"...When the amphitheater's noise is projected into homes, there's no stopping it. No amount of desperate noise complaints to police, no number of tearful pleas to City Hall will help. Once the noise problems from outdoor amphitheaters begin, they are unsolvable and unending."

But, you as a City Council can STOP this project before it begins, with a vote of NO.

2. How will you as a City Council address complaints if this venue is allowed to be built?

**"Red Rocks Hopes to Silence Complaints without Silencing Music"-CBS news Colorado-April 25, 2014.**

<https://www.cbsnews.com/colorado/news/red-rocks-hopes-to-silence-complaints-without-silencing-music/>

We are homeowners of property at 9956 Birkenhead Ct., Yukon, OK 73099. We ask you to vote against this PUD in its current form.

Sincerely,



Clint and Kay Cain

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 3:30 pm, Feb 08, 2024*

-----Original Message-----

From: Judy Cameron <[osufijimom@aol.com](mailto:osufijimom@aol.com)>

Sent: Thursday, February 8, 2024 3:23 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Sunset Amphitheater in Mustang Creek Crossing

[You don't often get email from [osufijimom@aol.com](mailto:osufijimom@aol.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

My name is Judy Cameron and my husband, Don, and I live in Westbury South. Our address is 9917 Birkenhead Court, Yukon OK 73099. My cell phone is 405-623-0868. We have lived in our home since 1990 and have watched our area swallowed up by money-hungry developers with no regard for natural habitats, traffic patterns, school overcrowding, etc. Now we are faced with greed again and no consideration for the people who choose to live here and raise their families.

The noise, additional traffic, crime, litter, disruption of school schedules, displacement of wildlife in the wetland area next to Creek Elementary School and general lack of respect for the citizens of our area is appalling. Would any of these money grabbers want an amphitheater in their yards? My guess would be a resounding "no!"

Aside from the noise this "entertainment venue" would produce, open fire pits with Oklahoma winds is not exactly smart. Factor in alcohol and trash plus lack of consideration for the surrounding neighborhoods in general and you have a hot mess.

Please consider your fellow citizens and vote against this horrible idea and send these people back to Colorado (or wherever they're from).

Thank you,  
Judy Cameron  
9917 Birkenhead Court  
Yukon, Ok 73099

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 3:44 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: PROTEST PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 1:19 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: PROTEST PUD-1983

---

**From:** Patricia Cantrell <[ptrish1@cox.net](mailto:ptrish1@cox.net)>  
**Sent:** Wednesday, April 3, 2024 1:16 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PROTEST PUD-1983

You don't often get email from [ptrish1@cox.net](mailto:ptrish1@cox.net). [Learn why this is important](#)

I, Patricia J Cantrell, do hereby protest the Sunset Amphitheater, PUD-1983, application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

Why would you put an open air concert venue in a residential area? It doesn't matter which way the stage faces, the music will be heard for miles. And apparently you've already agreed to a higher decibel level that's 5db over the city sound ordinance!

You've also extended the noise time frames, Sun-Thur until 10:30pm and Fri-Sat until 11:00pm. Concerts are well known to extend past their stated curfews. They just pay the fine and move on. Very limited parking is available. A 12,500 seat venue needs a lot more than 3,500 parking spaces. Don't fool yourselves, people won't be using UBER/LYFT as much as you seem to think.

The surrounding neighborhoods will have to deal with:

- 1 Loud music that they'll hear in their backyards, and possibly inside their houses.
- 2 Cars parking in our neighborhoods, along with even more traffic congestion than we already have. Plus, the road condition of SW 15th is terrible already. It will only get worse.
- 3 More trash blowing into the neighborhoods. It's a sad reality that a lot of people (esp those that have been drinking) just throw their trash down wherever they happen to be.

I like concerts and loud music, but I want to be able to choose when I hear it and what kind of music I hear. If approved, this takes away my right to do that. I am the homeowner of 10317 Glasgow Drive.

Thank you, Patricia J Cantrell



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:34 am, Mar 18, 2024

**From:** [Jeremy Carnes](#)  
**To:** [City Clerk Email](#)  
**Subject:** Sunset Amphitheater  
**Date:** Friday, March 15, 2024 6:17:11 PM

You don't often get email from [jeramycarnes@yahoo.com](mailto:jeramycarnes@yahoo.com). [Learn why this is important](#)

**Subject: Strong Support for the Sunset Amphitheater Project at Mustang Creek Crossing**

Dear City Clerk,

I hope this message finds you well. My name is Jeremy Carnes, residing at 10022 Birkenhead Court, Yukon, Oklahoma, 73099. I am reaching out to you as a proud resident of Westbury South and a fervent supporter of the proposed Sunset Amphitheater project at Mustang Creek Crossing. This communication is intended to express my wholehearted support and to articulate the reasons why I believe this initiative will significantly benefit our community.

As a local resident, I have witnessed firsthand the dynamic nature of our community and the potential it has for growth and enrichment. The Sunset Amphitheater project presents a unique opportunity to capitalize on this potential by driving economic impact and fostering community development in ways that we have not seen before. By attracting visitors, stimulating local businesses, and creating new job opportunities, the amphitheater stands to propel the economic vitality of our area.

Moreover, the cultural and social benefits of having a dedicated venue for entertainment and communal gatherings cannot be overstated. It promises not only to be a hub of cultural excellence and innovation but also a place where community members can come together, celebrating the diversity and vitality that make our area unique.

I am particularly excited about this project due to the "lots of great possibilities" it brings to our community, as I believe it will open avenues for local artists, create family-friendly environments for community gatherings, and enhance our cultural landscape. The thought of attending performances and events under the stars at Mustang Creek Crossing fills me with anticipation for the memorable moments it will create for families and friends.

The economic impact and community growth that the Sunset Amphitheater is poised to deliver align perfectly with the vision many of us share for the future of our community. Furthermore, initiatives like these underscore the importance of forward-thinking investments that prioritize both the cultural and economic well-being of our community.

I strongly encourage the City Clerk's Office and city council members to support the Sunset Amphitheater project at Mustang Creek Crossing. This project is more than just an investment in infrastructure; it is an investment in the future of our community, in our shared values of growth, and in the enrichment of our cultural fabric.

Thank you for considering my support and perspective on this matter. I am hopeful that you will see the immense benefits this project will bring to our community and will act promptly to ensure its realization.

Sincerely,

Jeramy Carnes  
10022 Birkenhead Court  
Yukon, Oklahoma 73099

[Yahoo Mail: Search, Organize, Conquer](#)

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 12:38 pm, Mar 22, 2024*

**From:** Carol Carnett <[cjcarnett@yahoo.com](mailto:cjcarnett@yahoo.com)>

**Sent:** Friday, March 22, 2024 10:14 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Amphitheater

You don't often get email from [cjcarnett@yahoo.com](mailto:cjcarnett@yahoo.com). [Learn why this is important](#)

I'm against the building of the amphitheater on 15th and Sarah Road. The roads cannot handle the extra traffic, there is a grade school in the area, and home owners are afraid of what will happen to their properties value. Not to mention the noise and constant people around their homes. Think about it, would you want this built next to your home? I think not. Thanks for your time. Carol Carnett

[Sent from Yahoo Mail for iPad](#)

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 3:46 pm, Mar 07, 2024*

**From:** [vcaudill2@yahoo.com](mailto:vcaudill2@yahoo.com) <[vcaudill2@yahoo.com](mailto:vcaudill2@yahoo.com)>

**Sent:** Thursday, March 7, 2024 3:26 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [vcaudill2@yahoo.com](mailto:vcaudill2@yahoo.com). [Learn why this is important](#)

Dear Amy K. Simpson,

I, Veronica Caudill, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I am a homeowner residing in Ward 3 at the below address and live close to the area of the proposed rezoning.

Sincerely,

Veronica Caudill  
2800 Crystal Creek Dr  
Yukon, Ok 73099

405-226-0911

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:58 am, Mar 25, 2024*

**From:** denisehchilds@aol.com <denisehchilds@aol.com>

**Sent:** Sunday, March 24, 2024 9:34 AM

**To:** City Clerk Email <CityClerk@okc.gov>; The Mayor <mayor@okc.gov>; Ward3 <ward3@okc.gov>

**Subject:** Sunset Amphitheater

You don't often get email from [denisehchilds@aol.com](mailto:denisehchilds@aol.com). [Learn why this is important](#)

Good morning!

I am writing to inform you that I am opposed to the building of the Sunset Amphitheater. I am just two miles from your proposed site. The location selected for this venue is in the middle of a residential area, which may be suitable for a retail center, but it is NOT at a suitable location for a concert venue. How can you even entertain this idea?

This concert venue would increase the traffic in the area exponentially. If our residents wanted Edmond traffic, we would have purchased homes in Edmond. The amphitheater will elevate the use of Marijuana and consumption of alcohol in our area (as occurs in every concert venue), and the only businesses that stand to make money after concert hours are the bars . . . which only serves to perpetuate more drunk drivers in our residential areas.

OKC has PLENTY of concert venues already, and Oklahoma is full of wide open spaces. Find somewhere else to put your amphitheater.

Denise H. Childs  
3108 Walden Ave.  
OKC, OK 73179

2024 FEB 27 PM 12:27  
OKLAHOMA CITY CLERK

**From:** vickie coombes <[coombes4osu@att.net](mailto:coombes4osu@att.net)>  
**Sent:** Monday, February 26, 2024 2:06 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Sunset Amphitheater in Mustang Creek Crossing

You don't often get email from [coombes4osu@att.net](mailto:coombes4osu@att.net). [Learn why this is important](#)  
**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

We live at 12109 Stockdale Place Yukon, OK 73099 about 1 mile from where the Sunset Amphitheater is projected to be built.

we are very much against this project.

We do NOT want the traffic, trash or loud music within our housing additions.

This is located entirely too close to schools, I understand the concerts will be on the weekends. But you will have traffic coming and going before hand to get everything set up.

How is this fair to residents who purchased homes with the expectation of enjoying their outdoor areas.

Please vote against this proposal, again we do not want it in our neighborhood.

Sincerely,

Vickie Coombes  
12109 Stockdale Place  
Yukon, OK 73099  
405-426-5832

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:46 pm, Mar 07, 2024

**From:** Briane Cox <[cox.brie@gmail.com](mailto:cox.brie@gmail.com)>

**Sent:** Thursday, March 7, 2024 11:49 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Cc:** Freeman, Craig A <[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>

**Subject:** Vote NO on Re-Zoning for Sunset Amphitheater

Some people who received this message don't often get email from [cox.brie@gmail.com](mailto:cox.brie@gmail.com). [Learn why this is important](#)

Good afternoon,

I hope this email finds you well.

I want to formally communicate mine and my family's opposition to the proposed rezoning request for the Sunset Amphitheater project at SW 15th and Sara Rd. My family and I have lived in the Westbury North neighborhood on the northeast corner of Sara Rd and SW 15th for 11 years. Our two primary concerns with this proposed project are traffic and noise.

Our neighborhood's only entrances are on Sara Rd and SW 15th, as are the planned entrances for the amphitheater parking. The city is currently widening Sara to two lanes to accommodate the traffic for the Mustang Creek development. There is simply not enough space to allow for amphitheater traffic as well when the amphitheater is projected to hold 12,500 people, and generate an estimated 3,500 cars. I've been to large concerts and know you can wait in line for hours just to park. This would cause traffic to back up in front of both our neighborhood entrances, preventing us from being able to get in or out of our neighborhood, maybe for hours, for 7 months of the year. What if there's an emergency and we can't get in or out of our neighborhood? It never fails, concert venues fail to plan for adequate parking, overflow often extends to nearby businesses and neighborhoods. If there's a need for overflow, what would prevent attendees from parking in our neighborhood and blocking our internal roads? Leaving trash in our yards? Being loud as they come back to their cars late at night? Leaving trash and littering our streets? The traffic level would also create a significant hazard to the children in our neighborhood who would no longer be able to safely play near their homes.

The noise level is our other huge concern. My husband used to be a dj and once performed at a school event in their open-air football stadium. The sound from his two, regularly sized PA speakers was disruptive to the neighborhoods by the school, so much so that the police were called to put a stop to it. These are small speakers causing this disruption. Can you imagine how disruptive huge concert speakers will be? Notes Lives has stated speakers will face away from the neighborhoods, but this won't make a difference. Residents surrounding other amphitheaters across the country were given similar responses and all still complain about the noise level as

well as the vibration from the sound that can be felt up to 3 miles away. When residents complain of the noise, asking for help from the police, nothing is able to be done. Residents around our own Zoo Amphitheater experience this as well. The Zoo now holds concerts on weekdays that were originally said by the venue to be off limits, so residents are more and more affected by its presence in their community every day. Can you imagine living like that? Loud sound and vibrations felt Thursday-Sunday, or whenever the venue chooses apparently, disrupting your ability to sleep, disrupting any peace and quiet you'd like to enjoy in your own backyard? Disrupting the ability for the hundreds of children in nearby neighborhoods to sleep? My husband works from home and is concerned about the noise level during the day as well, as sound checks can start as early as 2pm. Remember that this amphitheater would be right behind a school and within a 3-mile range of 2 other schools as well, disrupting our children while they're trying to learn. What about their wellbeing?

Please consider my family and the hundreds of families in the area that will be negatively affected by this project. Certainly the Sunset Amphitheater can find a more appropriate location for their venue.

We appreciate your consideration and ask that you use your voice to OPPOSE this project.

Briane Cox  
920 Cardiff Pl, Yukon OK 73099  
(405) 406-4656



## Johnson, Thad A

---

**From:** Wrights, David R III on behalf of City Clerk Email  
**Sent:** Tuesday, April 2, 2024 3:16 PM  
**To:** Smiley, Dena L  
**Subject:** FW: Protest PUD- 1983,Sunset Amp.

David Wrights

-----Original Message-----

From: Joe Cox <cox6735@sbcglobal.net>  
Sent: Tuesday, April 2, 2024 3:15 PM  
To: City Clerk Email <CityClerk@okc.gov>  
Subject: Protest PUD- 1983,Sunset Amp.

[You don't often get email from cox6735@sbcglobal.net. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

WARNING: The sender of this email could not be validated and may not match the person in the "From" field..

I herby protest PUD-1983, application by Mustang Creek Crossings,LLC to rezone 810 South John Kilpatrick Turnpike.

We have lived in our home for 32 years and have enjoyed the quiet neighborhood. This will impact the sleep quality and the excess noise will cause hearing problems.

With the Venue being directly behind the Schools, the excessive noise will interrupt their quiet School environment. This could cause learning problems.

School Children go to bed at an early hour. The excessive noise will keep them awake and can cause learning problems from lack of a good sleep.

We own our home in the Westbury North addition.  
Please deny the rezoning of this PUD.

Sincerely  
Joe and Connie Cox  
10416 Birkenhead Road  
Yukon, Ok 73099  
405 760 6503  
Sent from my iPad

## Johnson, Thad A

---

**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:57 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest Pub-1983

---

**From:** Jody Cox <[jodymitchellcox@outlook.com](mailto:jodymitchellcox@outlook.com)>  
**Sent:** Tuesday, March 26, 2024 11:19 PM  
**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A <[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>  
**Subject:** Protest Pub-1983

Some people who received this message don't often get email from [jodymitchellcox@outlook.com](mailto:jodymitchellcox@outlook.com). [Learn why this is important](#)

"I, Jody Cox, herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike."

I oppose Sunset Amphitheater in Mustang Creek Crossing

Jody Cox  
(405)887-2311  
Westbury North Home Owner  
1905 Mackenzie Way  
Yukon OK 73099

Get [Outlook for iOS](#)

**From:** Carmen Cosby <[carmen@aircompressorcfm.com](mailto:carmen@aircompressorcfm.com)>

**Sent:** Tuesday, March 12, 2024 1:48 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** PROTEST PUD-1983

You don't often get email from [carmen@aircompressorcfm.com](mailto:carmen@aircompressorcfm.com). [Learn why this is important](#)

I, Carmen Cosby hereby protest PUD1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kipatrick Turnpike.

This is a horrible idea due to noise pollution, sound checks at 2 pm while two schools are in session, the traffic will be unbearable. You need to listen to the citizens. OUR VOICES MATTER!!!!

--

***Carmen Cosby***  
**405-795-4335**

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:55 am, Mar 04, 2024

**From:** Tim Croucher <[tcroucher1964@gmail.com](mailto:tcroucher1964@gmail.com)>  
**Sent:** Friday, March 1, 2024 9:33 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD 1983, Sunset Ampitheather

You don't often get email from [tcroucher1964@gmail.com](mailto:tcroucher1964@gmail.com). [Learn why this is important](#)

Oklahoma City Council and Mayor:

I am writing in protest to PUD 1983, Sunset Amphitheater at 810 South John Kilpatrick Turnpike. I am not against the project but the location. There will be problems if this is approved at the current location.

**Noise-** The noise will be deafening for all the homes in the area. The noise coming out of the theater will be at high decibels and it will affect everyone in the surrounding area. Which will cause stress. Homeowners have to work and would not be able to sleep.

**Traffic-** The excess traffic will be a nuisance for the homes around the theater.

**Parking-** Where will all the vehicles park for the theater. With the lack of parking, they will be parking in the communities around the theater.

**Quality of life-** The community will not be able to relax in their homes with all of the above. Some residents will not be able to sleep, enjoy watching TV, or just spending time with their family and friends.

**Crime-** By bringing more traffic in the area it will bring a criminal element to the area looking for an opportunity to commit burglary.

**Roads-** The excess traffic will add more wear and tear on the roads, which will cost the taxpayers more to repair each year.

**Home Values-** They will drop due to the location of the theater.

I live at 1020 Sennybridge Dr, Yukon, Ok 73099. I ask you to vote against this PUD 1983 in its current form.

Sincerely,

Tim Croucher

Thank you,

Tim Croucher

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:43 am, Mar 11, 2024

**From:** [Debbie](#)  
**To:** [City Clerk Email](#)  
**Subject:** Vote NO for Amphitheater  
**Date:** Friday, March 8, 2024 11:41:02 PM

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[You don't often get email from [lildebbietx@gmail.com](mailto:lildebbietx@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

To whom it may concern,

Please vote NO on building this amphitheater so close to 2 schools and neighborhoods. I am a 20 year Retired Marine that settled my little family here in Mustang, OK back in 2013. My worst happened and my husband left us and I was left alone to find a life for my children and I. I had 2 weeks to find another home that I could afford on my own and it happened to be Westbury North on 15th and Sara Rd. I have lived here since 2014 and raised my kids here. This new amphitheater will cause nothing but chaos for us. We do not want the added trash that will be blown around and the cars of people looking for a free place to park for these concerts. It is bad enough that we live so close to the highway that we constantly hear that noise to now have to deal with concerts. Our neighborhood is not the best around and it will depreciate even more so that my goal of selling one day will be little to impossible as no one wants to deal with the new traffic problems we will endure. Traffic is already a mess getting out of our neighborhood now as the construction has been going on for a few years now. Yes they plan to open a tunnel off the turnpike, but people will still use Sara and 15th and we are so swamped with traffic as it is. One of my joys is walking the Middle School track and looking at the amazing views. We will no longer have that and have to look at a huge amphitheater in our faces. I have two dogs that just turned 11 and they will not be able to handle to sounds coming from the concerts always there. We also have 2 guinea pigs that are 5 now and that is considered old age and they will not be able to handle the music vibrations in their little bodies. Please please please reconsider this location. We do not want this here.

Deborah Cruz  
USMC, GySgt, Retired  
901 Tulip Dr  
Yukon, OK 73099  
619-244-9872  
Sent from my iPhone

To:

March 8, 2024

2024 MAR 15 AM 9:59  
OKLAHOMA CITY CLERK

Amy K Simpson, City Clerk  
200 N. Walker Ave  
Oklahoma City, OK 73102

RE: Protest PUD-1983

Dear City Clerk Simpson,

I, John Dark, formally submit my protest to the PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

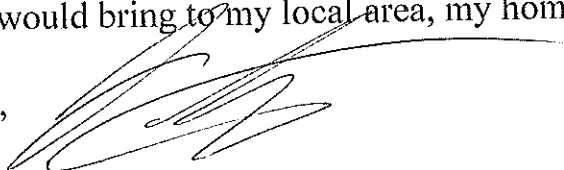
I own and live in a home approximately 1 mile from the proposed site of the Sunset Amphitheater. Having experience in music creation and performance I know very well how far sound can travel in open air environments, not to mention low-frequency vibrations that can result from such performances. The result would be an immense and undesirable increase in noise pollution.

As someone who is ADHD, and can hyperfocus on such uncomfortable and unwanted stimuli, I know it would negatively impact my quality of life in my own home during such events. It would be impossible to fall asleep at night while having to listen to or experience low frequency bass reverberating throughout myself and my home.

I am also concerned about the increase in traffic on and around Mustang Road, not to mention the increase in drugs, alcohol (including drunk drivers), and the homeless who would be drawn to such an increased high traffic corridor.

While I don't object to the project in general, I certainly 'don't want it in my backyard,' along with the issues and problems, foreseen and unforeseen, that such a project would bring to my local area, my home, and my quality of life.

Sincerely,



John Dark, Homeowner  
604 Westview Dr  
Yukon, OK 73099  
425-343-4407

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:55 am, Mar 04, 2024

**From:** Thomas Davidson <[davidson.thomas@att.net](mailto:davidson.thomas@att.net)>

**Sent:** Saturday, March 2, 2024 6:21 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [davidson.thomas@att.net](mailto:davidson.thomas@att.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

I, Tom Davidson, am protesting PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I am two miles from this site. First, the noise will be awful. The noise and vibrations from these things can travel several miles. This will impact my family as we go to bed early due to my job. We don't need noise going on until late at night. Secondly, the traffic will become a nightmare. Traffic on Mustang Road for people accessing I-40 is already bad at certain hours of the day, and now we are wanting to add thousands of other cars trying to leave the area. it will make for a very bad traffic situation. I have already talked to friends who are planning to move out of the area before this can be built because they are afraid property values will drop and they can't get out.

The people who have lived in this area for years and pay taxes and shop here need to be considered above some promoter that is after a buck. Please vote against this for our sakes.

Thank you.

Tom Davidson  
413 Out West Trail




2024 FEB 21 AM 9:03  
OKLAHOMA CITY CLERK

**From:** popesterm@hotmail.com <[popesterm@hotmail.com](mailto:popesterm@hotmail.com)>

**Sent:** Tuesday, February 20, 2024 6:24 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

 You don't often get email from [popesterm@hotmail.com](mailto:popesterm@hotmail.com). [Learn why this is important](#)

**Please include my protest in the legal count.**

I Michele Digby herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

In particular I am strongly opposed to the increased decibel level, 5db over city sound ordinance and extended noise timeframes, Sun - Thur 10:30, Fri -Sat 11 pm. Based on the proximity, the Amphitheater, once built will prevent me and my family from the **implied covenant of quiet enjoyment** of our home.

Thank you for your attention to this project. I urge you to stop the project.

Michele Digby  
2717 Ryder Drive  
Yukon, OK 73099  
860-328-0900 Michele

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024

**From:** Allyn Downen <adownen2@gmail.com>

**Sent:** Saturday, March 23, 2024 4:13 PM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** Protest PUD-1983 sunset amp

You don't often get email from [adownen2@gmail.com](mailto:adownen2@gmail.com). [Learn why this is important](#)

I herby PROTEST PUD 1983 application by Mustang creek crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

1. The noise from concerts of this open air 12,000 seat amphitheater should be unacceptable for a location this close to thousands of existing houses and apartment units.
2. Traffic in this area is congested at times and adding several thousand vehicles would create a safety issues due to impending emergency vehicles.
3. With allowing the minimum amount of parking places concert goers would park in neighborhoods also creating safety issues.
4. The article "East Nashville residents fume over noisy Beck concert at Ascend amphitheater ". The Gainesville Sun in an article dated Oct 22 2017.  
"Former Surgeon General William H Stewart said, "Calling noise is a nuisance is like smog an inconvenience. Noise must be considered a hazard to the health everywhere."
5. Please do not allow the venue to be built this close to our, your neighborhoods but if so at least do not ease restrictions on noise levels both db and times, make exceptions for parking and sound checks.

Please treat our neighborhood as you would the one you live in, ALL of OKC residents deserve better.

Please protect this OKC neighborhood from public safety impedance and noise pollution.

Thank you,

Allyn Downen

1604 Selborne Pl

Yukon, Ok

405-312-1385

Okc resident

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 4:32 pm, Feb 22, 2024

**From:** Jennifer Starks <[jenniferstarks83@gmail.com](mailto:jenniferstarks83@gmail.com)>

**Sent:** Thursday, February 22, 2024 2:25 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Fwd: Protest PUD 1983 Sunset Amphitheater

You don't often get email from [jenniferstarks83@gmail.com](mailto:jenniferstarks83@gmail.com). [Learn why this is important](#)

I'm writing with grave concerns about the implications this proposed amphitheater will create for the surrounding community and my husband and myself.

My name is Jennifer Dykstra I'm a homeowner at 1804 Norwich Pl, Yukon, OK 73099.

My husband is a United States Army Veteran of Operation Iraqi Freedom (OIF), his company was the first to enter the Afghanistan Airport when the United States took it over, and as a consequence of bravely defending our country and the people of Afghanistan my husband came home with severe war-related PTSD, from which he has been hospitalized multiple times, he has undergone years of intense therapy even participating in studies for the organizations such as [Operation Mend](#) at the Ronald Reagan UCLA Medical Center.

When Veterans Affairs (VA) deemed my husband 100 percent totally and permanently disabled due to his PTSD, we decided it would be best to move from Washington State to Yukon Oklahoma, a place that protects and advocates for veterans. We contacted a real estate agent and discussed what my husband's needs are to keep him safe, and we chose Yukon (Westbury South) as it is within 30 minutes of the VA and less than 10 minutes from a newly built VA clinic, away from the noise and crowds as he still isn't able to maintain in these situations.

Since moving to Westbury South, I have seen my husband finally start to heal even participating in community activities that he has not attempted since being medevacked out of Iraq in 2004. We are finally starting to see the benefits of all his hard work in therapy, In the past couple of years that we have been in Yukon (Westbury South) our quiet oasis in which he is not afraid to be outside, he noticed that Yukon did not have any testing available for HAM radio Volunteer Examiners (VE's), he now tests once a

month at the [Yukon Police Station](#). I cannot tell you how incredible that is. Before moving here, I could not get him to sit out in our backyard with me, let alone grocery shop or take the lead in speaking with members of the community. Westbury has been a source of healing for us both, and I fear the noise, crowds and everything that comes with bringing events into our backyard will have a very negative effect on him possibly setting him back in his healing.

I'm asking our community leaders to say NO to PUD 1983.

I have attached some of the many articles and studies regarding the triggers and effects that loud noise has on veterans with war-related PTSD for your consideration.

Jennifer Dykstra

360.306.9215

[Jenniferstarks83@gmail.com](mailto:Jenniferstarks83@gmail.com)

enclosed:

<https://ajp.psychiatryonline.org/doi/full/10.1176/ajp.155.6.812>

<https://www.tandfonline.com/doi/10.1080/23279095.2018.1433179>

<https://veteranshelpgroup.com/what-causes-ptsd-to-be-triggered-in-veterans/#:~:text=A%20loud%20noise%2Fsound%20can,become%20very%20frightened%20or%20scared.>

<https://www.disabledvets.com/claim-types/mental-health/ptsd/triggers/>

<https://www.helpguide.org/articles/ptsd-trauma/ptsd-in-military-veterans.htm>

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:43 am, Feb 20, 2024

**From:** Richard Dykstra <[rdykstra82@gmail.com](mailto:rdykstra82@gmail.com)>  
**Sent:** Monday, February 19, 2024 10:03 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PROTEST PUD-1983, Sunset Amphitheater

You don't often get email from [rdykstra82@gmail.com](mailto:rdykstra82@gmail.com). [Learn why this is important](#)

I am writing in Protest to the PUD 1983 at 810 South Kilpatrick Turnpike. There will be problems should this be approved. I will outline below my concerns in regards to this matter.

1. I am a Disabled Combat Veteran and the noise from the 12,000 seat amphitheater concerts will be very loud to the surrounding neighborhoods. To be quite honest any loud bangs or anything to that effect startle me.
2. I bought my property here 3 1/2 years ago after moving from Washington State because it was peaceful and quiet. I really do not wish to have to sell my home and move due to noise levels from the amphitheater.

I, Richard L Dykstra hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

I am the homeowner of property at:

1804 Norwich Pl.  
Yukon, OK 73099.

I ask you to vote against this PUD in its current form.

--

Richard L Dykstra, N7WFK  
ARRL Volunteer Examiner Liaison  
**Cell:** (360) 224-7785

**From:** Rachel Earls  
**To:** City Clerk Email  
**Cc:** Rachel Earls  
**Subject:** Protest PUD-1983  
**Date:** Sunday, March 17, 2024 10:37:09 PM

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:36 am, Mar 18, 2024

[You don't often get email from rachzoology@gmail.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Dear City Council,

My name is Rachel Earls and I live at 10228 Aberdeen Dr. Yukon, OK 73099. I hereby protest PUD-1983 Application of Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. The proposed Sunset Amphitheater will be in violation of the City's current noise nuisance ordinance. The lower frequency sounds can travel miles away from the original source leaving the surrounding neighborhoods feeling and hearing the effects, especially since we are only 2,000 feet away. The windows will shake and those of us that have sensory sensitivities will feel ill. I also work from home and any sound checks between 2-6pm will drastically affect my productivity. We cannot afford to move with the current housing market, but if you approve this rezoning, we cannot afford to stay either. The health effects will be too drastic and we will be forced out of our home that we have lived in for the last 18 years.

Please review how many complaints the City has received from nearby residents of the Zoo Amphitheater. They seem to only have around a few concerts a year and the residents have stated they try to plan to be gone during that time so they don't have to endure the noise pollution. The Sunset Amphitheater will be almost twice as big as the Zoo Amphitheater which means the sound would have to be even louder to reach all the concert goers in the venue and therefore would travel even further. I have personally witnessed the noise pollution from the Zoo Amphitheater while visiting the Zoo. Another Zoo visitor asked a Zoo worker where the loud music was coming from. He replied it was coming from the amphitheater and he didn't understand why they wanted that there. It was so loud and obtrusive that I had to leave the Zoo. I also feel sorry for poor Zoo animals that can't escape the noise pollution from the amphitheater next door.

The builders of the Sunset Amphitheater have purposely not included their parking all the way to Sara Road in their plans so they wouldn't have to notify as many residents in the surrounding neighborhood. They know what kind of opposition they would face because this is not even close to the best thing to build in this location. They do plan to rent that extra space to Sara Road from the landowner though for parking, and therefore the rest of our voices should be heard on this issue. This means they are not surrounded by Commercial property from each side. There are homes/apartments just 1,500 feet away to the NorthWest, homes 2,000 feet to the East, and 2 Schools just to the South. To have an outdoor amphitheater so close to all of these existing structures is absurd.

Imagine a car sitting outside your house or next to you in traffic with the base turned all the way up. This is the type of noise pollution we would all be subjected to for hours on end if you let this rezoning happen. All of the children, pets, residents and wildlife will be negatively affected by the noise pollution that would be coming from this venue on a regular basis. We all have a right to live in a peaceful and safe environment without intrusive noise. Our team has done extensive research on how outdoor amphitheaters negatively affect surrounding communities. Please listen on the day of the Council Meeting and vote NO on PUD-1983 on behalf of those of us in Ward 3. We all deserve better.

Thank you,  
Rachel Earls

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:54 am, Mar 25, 2024

**From:** Jennifer Eckert <eckertfamily2017@gmail.com>  
**Sent:** Saturday, March 23, 2024 12:11 PM  
**To:** The Mayor <mayor@okc.gov>  
**Cc:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Support for Sunset Amphitheater

Some people who received this message don't often get email from [eckertfamily2017@gmail.com](mailto:eckertfamily2017@gmail.com). [Learn why this is important](#)

Dear Mayor Holt,


I am writing to express favor for the proposed Sunset Amphitheater and Mustang Creek Crossing projects. I reside in Mustang and attend church directly across the street from the proposed site. My young adult son lives in the apartment complex immediately southwest of the site. This project is a wonderful opportunity for Oklahoma and Canadian County residents to have a park similar to Scissortail located downtown or Chilshom Creek in north OKC. I am especially thrilled about the walking trails, pickleball courts, and possible mini-golf to help address Oklahoma's obesity crisis.

Sunset Amphitheater at Mustang Creek will be a place where families can gather for picnics and fellowship, and see shows like we currently see at Scissortail Park (outdoor ballet, youth concerts, etc.) as well as bigger-name performers. It would also re-route cars in the student pick-up line to the back of the school. The potential property value increase will benefit homeowners and the revenue generated will significantly benefit Canadian County and south OKC. With more shops closing at the nearby outlet mall, Oklahoma and Canadian Counties need this project to bring new traffic to the area, help boost revenue, and provide a place to safely congregate. As a member of the church (not speaking on their behalf), I believe it would make more people aware of its presence possibly bringing more into the folds of the congregation.

Respectfully,  
Jennifer Eckert  
405.255.7835  
1935 W. Badger Way, Mustang, OK 73064

**From:** Karl Edgin <kje56@hotmail.com>  
**Sent:** Monday, February 26, 2024 2:23 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Against PUD 1983 Sunset Amphitheater

2024 FEB 27 PM 12:27  
OKLAHOMA CITY CLERK

 You don't often get email from kje56@hotmail.com. [Learn why this is important](#)

The plans presented to the planning committee doesn't show the entire picture of the impacted area.

1: This concert venue will be right directly across the street from several housing additions! One in which I live.

Directly east, southeast and a new large housing being built directly south. We're not talking miles away nor blocks away It's directly across the street!

2: Families, children, infants n will be severely impacted by the loud noise, and amount of traffic into our neighborhoods where our kids play

I am the home owner of the property at 10412 Fairfax Ln, Yukon, OK

Sincerely, Karl J Edgin 405-802-8097



## Johnson, Thad A

---

**From:** Wrights, David R III on behalf of City Clerk Email  
**Sent:** Tuesday, April 2, 2024 3:28 PM  
**To:** Smiley, Dena L  
**Subject:** FW: Protest PUD1983 Amphitheater

David Wrights

---

**From:** Karl Edgin <kje56@hotmail.com>  
**Sent:** Tuesday, April 2, 2024 3:23 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD1983 Amphitheater

You don't often get email from [kje56@hotmail.com](mailto:kje56@hotmail.com). [Learn why this is important](#)

I'm writing in protest of PUD 1983 Amphitheater application by Mustang Creek Crossing., LLC to rezone 810 South John Kilpatric Turnpike.

My name is Karl Edgin and I live at 10412 Fairfax Ln. Changing the zoning to allow this company to build this amphitheater would horribly effect ever person that lives in these neighborhood that is directly across the street from these communities.

The loud music would not end until 11:00 pm at the earliest. Disrupting everyone's sleep, Babies, grade school children, middle school, high school, college as well as advanced education.

We will lose our time to continue making memories with our kids and grandkids because we want be able to enjoy our time outside nor hear what they are saying to us hearing that they love us nor them hearing us telling them how special they are.

Enjoy a fire in the backyard roasting marshmallows' and making smores will no longer be enjoyable because we won't be able to hear each other..

Our established neighborhoods have been peaceful for decades, Allowing this to be built by your vote to change the code will greatly change our community from one that is peaceful to a negative image and impact on the surrounding neighborhoods.

Vote NO to NOT change the zoning to allow this PUd 1983 move forward

Sincerely, Karl Edgin

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:34 am, Mar 18, 2024

**From:** [Yvette Edmon](#)  
**To:** [City Clerk Email](#)  
**Subject:** Protest PUD-1983  
**Date:** Friday, March 15, 2024 7:37:01 PM

You don't often get email from yvette.edmon@gmail.com. [Learn why this is important](#)

Hello Ms. Simpson,

I, Yvette Edmon, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

My understanding is that the proposed project will include the following changes to the zoning:

1. Increased decibel level, 5db over city sound ordinance
2. Extended noise timeframes, Sun-Thur 10:30, Fri-Sat 11pm.
3. Decreased parking lot size by eliminating tree islands and walkways.
4. Sound checks can start at 2 p.m.

As a homeowner and resident in the Sycamore Creek neighborhood in Ward 3 in Oklahoma City, I am worried about the mental health, stress and anxiety of myself and my neighbors if a music amphitheater is located so close to us. I would not have bought my home if I could have foreseen that this amphitheater would be built in the proposed location, and I fear the possibility of having to move if the noise is unbearable. An internet search of news stories, about how other amphitheaters have negatively affected residents in communities across the country, makes the potential problems with these zoning changes very unsettling. The reports indicate the noise and vibrations and be heard and felt for over three miles from the amphitheaters.

I respectfully request that you vote against PUD-1983 for the sake of our neighborhood peace and quiet.

Thank you.

Yvette Edmon  
Resident of Ward 3, OKC  
405-314-5592

11628 SW 10th Street  
Yukon, OK 73099

**From:** Audri Edwards <[audri0421@gmail.com](mailto:audri0421@gmail.com)>

**Sent:** Tuesday, March 12, 2024 8:49 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [audri0421@gmail.com](mailto:audri0421@gmail.com). [Learn why this is important](#)

I, Audri Edwards, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

Audri Edwards  
2824 Bens Circle  
Yukon, Ok 73099  
**WARD 3 resident**

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 5:16 pm, Feb 12, 2024

**From:** Emily Finsand <[emfinsand@yahoo.com](mailto:emfinsand@yahoo.com)>

**Sent:** Monday, February 12, 2024 2:25 PM

**To:** Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>

**Subject:** PUD 1983, Sunset Amphitheater

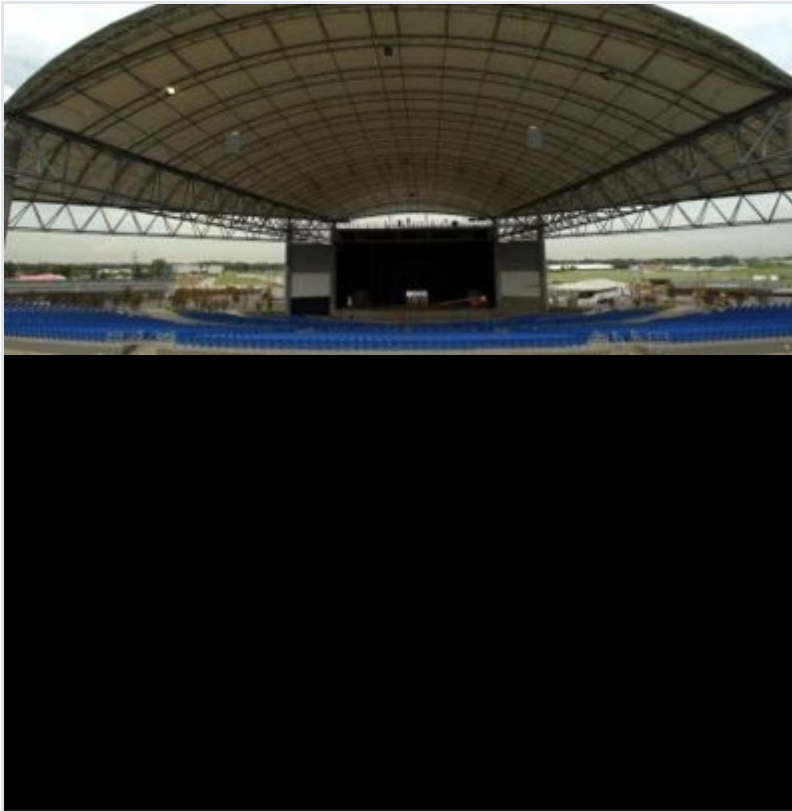
You don't often get email from [emfinsand@yahoo.com](mailto:emfinsand@yahoo.com). [Learn why this is important](#)

I understand that you are our Ward 3 Council member.

I am writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. There will be problems for Oklahoma City if this is approved.

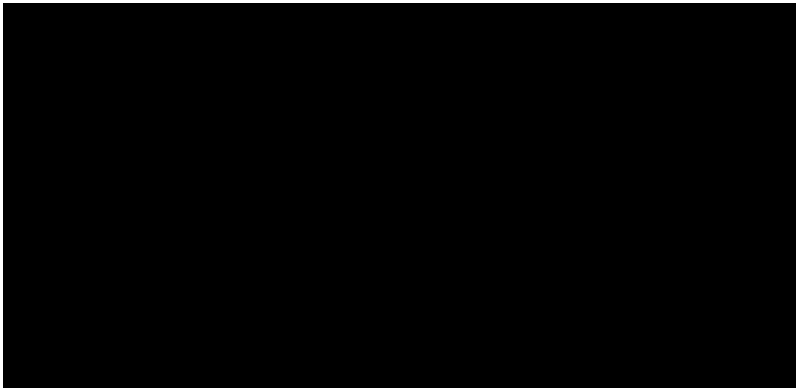
- The noise from this 12,000 seat amphitheater will cause noise pollution not only to my house but to the homes in my neighborhood and others in a much larger area around us.
- An article in the Gainesville Sun discusses the serious health effects caused by noise.

[Amphitheater would cause neighborhood noise pollution](#)



### Amphitheater would cause neighborhood noise pollution

Former U.S. Surgeon General William H. Stewart said, "Calling noise a nuisance is like calling smog an inconveni...



### Amphitheater would cause neighborhood noise pollution

Former U.S. Surgeon General William H. Stewart said, "Calling noise a nuisance is like calling smog an inconveni...

From the Gainesville Sun - "When presented with the possibility of an amphitheater, Virginia Beach residents were concerned but meekly acquiesced when assured there would be no noise problems due to newer-style speakers that were directed away from them, sound walls and a partly underground structure. In reality, neighbors are bombarded with hooting, yelling, chanting and amplified noise projected into their homes.

From the beginning, neighbors of the amphitheater at the Florida State Fairgrounds said noise is so intense, pictures rattle and they are forced to leave home. A mother living less than a mile away said crowd noise is audible even with windows closed. The amplified noise creates headaches and keeps her husband and children awake. Despite legal actions by the Hillsborough County Environmental Protection Commission, noise problems continued."

'Former U.S. Surgeon General William H. Stewart said, "Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere."

- Please do not repeat the same mistake that other cities have. Please keep OKC a great place to live and the Westbury North neighborhood one that I have freedom from excessive noise from the venue.
- The USA constitution was established for the "general welfare" of the people. We want to maintain our residential neighborhood.

We are the homeowners at 10509 Aberdeen Dr., Yukon (OKC), Ok 73099. We ask that you vote against this PUD in its current form.

Sincerely,

*Emily Finsand*

## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:52 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest PUD-1983

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**From:** Linda Fitch <[lwfitch@cox.net](mailto:lwfitch@cox.net)>  
**Sent:** Tuesday, March 26, 2024 12:38 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [lwfitch@cox.net](mailto:lwfitch@cox.net). [Learn why this is important](#)

Ms. Simpson,  
Please forward this email to Mayor Holt and the Oklahoma City Council prior to their consideration of PUD -1983. Thank you.

I live in Oklahoma City Council Ward 3. I am absolutely opposed to the building of the Sunset Ampitheater, PUD-1983, because the proposed location is in a residential area, and adjacent to schools. This is not an appropriate location for this type of venue. The noise will reverberate for miles, and more traffic issues will be created, negatively impacting residents enjoyment of their homes, commute times, family time, school, athletic, religious and social activities. The PUD-1983 applicants should look for a more suitable location in a rural or industrial area where the noise, traffic and disruption to those in the area will not adversely affect anyone. Placing such a venue in the requested location will negatively impact home values and sales in an already difficult market. In addition, placing such a venue adjacent to a school will be disruptive to student learning, traffic flow when the children are coming to or leaving school, attending school events, and leaving the school grounds will create a danger to children, school buses, and parents picking them up on already congested streets.

**Please VOTE NO on PUD-1983.**

Sincerely,

Sybil Linda Fitch  
3600 Sage Trail Circle  
Oklahoma City, OK

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:54 am, Mar 18, 2024

**From:** Doug Forsman <[firefors2@gmail.com](mailto:firefors2@gmail.com)>

**Sent:** Friday, March 15, 2024 4:01 PM

**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Support for Sunset Amphitheater

Some people who received this message don't often get email from [firefors2@gmail.com](mailto:firefors2@gmail.com). [Learn why this is important](#)

My support for the Sunset Amphitheater is rooted in the belief that it transcends ordinary urban development projects. This project represents a venture that holds the promise of economic revitalization and an unmatched cultural renaissance. Imagine fostering a space that not only becomes a hub for arts and entertainment but also a cornerstone for community cohesion and identity. The expected influx of visitors and the stimulation of our local economy are just scratching the surface of its far-reaching benefits.

In a world where community and culture increasingly seek platforms for expression and connection, Mustang Creek Crossing's Sunset Amphitheater emerges as not just a feasible project but a necessary endeavor. It acknowledges the existing foundation laid down by our infrastructure and builds upon it to create a venue that stands as a testament to what our community can achieve.

Mayor Holt, your support for the Sunset Amphitheater project could catalyze a transformative chapter for our metro area. We are asking you to consider the benefits it pledges to bring. This is an unparalleled opportunity to propel our community into a future brimming with economic prosperity, cultural richness, and collective pride.

The utility, transportation and fire service infrastructures are already in place at this location. The use of these forward looking public investments makes good sense for the entire City.

Thank you for taking the time to consider my perspective on this pivotal project. I am hopeful for your affirmative action and support towards making the Sunset Amphitheater at Mustang Creek Crossing a reality.

Warmest regards,

Douglas P. Forsman 11024 NW 20th Street



## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 8:31 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Wrights, David R III <david.wrights@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Tuesday, April 2, 2024 4:57 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

David Wrights

---

**From:** Sara Fox <[sarayvonne13@gmail.com](mailto:sarayvonne13@gmail.com)>  
**Sent:** Tuesday, April 2, 2024 4:49 PM  
**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

Some people who received this message don't often get email from [sarayvonne13@gmail.com](mailto:sarayvonne13@gmail.com). [Learn why this is important](#)

I, Sara Fox, hereby protest PUD-1983 application by Mustang creek crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I ask you to protect our neighborhoods and families from the nuisance this venue will cause so please deny this rezoning.

10437 Aberdeen Dr Yukon, OK 73099

## Johnson, Thad A

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**From:** Wrights, David R III on behalf of City Clerk Email  
**Sent:** Tuesday, April 2, 2024 4:24 PM  
**To:** Smiley, Dena L  
**Subject:** FW: Protest PUD-1983

David Wrights

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**From:** Sara Fox <sarayvonne13@gmail.com>  
**Sent:** Tuesday, April 2, 2024 4:23 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD-1983

You don't often get email from [sarayvonne13@gmail.com](mailto:sarayvonne13@gmail.com). [Learn why this is important](#)

I, Sara Fox, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I ask you to protect our neighborhoods and families from the nuisance this venue will cause so please deny this rezoning.

10437 Aberdeen Dr Yukon, OK 73099

**From:** Robert France <bobfrance@gmail.com>  
**Sent:** Sunday, March 24, 2024 12:58 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD-1983

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024*

You don't often get email from [bobfrance@gmail.com](mailto:bobfrance@gmail.com). [Learn why this is important](#)

Dear Amy K. Simpson

I live at 2245 Timber Crossing, Yukon OK 73099, telephone number 580-695-9045 and hereby respectfully protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

My concerns are; Traffic, Noise, Parking, Trash, safety, and potential property devaluation. Thank you for giving me an avenue to speak to you.

Sincerely  
Bob France

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:54 am, Mar 18, 2024

**From:** Robin Frank <[rer.frank@gmail.com](mailto:rer.frank@gmail.com)>  
**Sent:** Friday, March 15, 2024 4:04 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Cc:** Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>  
**Subject:** Protest PUD-1983

Some people who received this message don't often get email from [rer.frank@gmail.com](mailto:rer.frank@gmail.com). [Learn why this is important](#)

Dear City Clerk, Ward 3 Council Member Barbara Peck and Mayor Holt,

I, Robin E. Frank herby **protest PUD-1983** application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

A 12,500-capacity amphitheater is proposed to be built just a mile from my house. Sam Coury and Carol Hefner plan to sell their land to this multi-million dollar company and thousands of families, children and elderly will be affected by this.

My concerns are as follows:

#### **-Noise pollution**

Everyone knows that entertainment groups will exceed the noise limits and pay the fines required rather than comply with statutes. When you investigate the health effects of noise pollution, which the government recognizes as a thing and fights against in other issues, it's just disheartening. In a Gainesville Sun article concerning their own amphitheater issues, they reported that:

"Intrusive noise can lead to cardiovascular disease, sleep disruption, reduced productivity, impaired teaching and learning, absenteeism, increased drug use and accidents...It adversely affects general health and well-being, and increases anti-social behavior. Future generations are harmed by degraded home, social and learning environments, with corresponding economic loss."

Three of my school aged grandchildren live with me. How can they focus at school if they have spent the night with disruptive sleep due to low frequency ground noise? As you can see, this is very concerning to me, for my family's health and well-being. It also concerns me for all my neighbors in this very large 10–15-mile bubble, we are a very close community.

#### **Proximity to local schools -**

The proposed location is within mere feet of a middle school and an elementary school. My grandchildren will attend the middle school this fall. I'm very concerned about illegal activity, trash, noise and all the things that would impact the local children.

#### **Traffic -**

Traffic in the area is already horrific due to the massive growth in the area the last few years. Try driving West on 15th street Sara to Mustang at 7:30 in the morning. The infrastructure is already inadequate for the 2 schools there.

**Property values -**

The value of my home in the circle of noise will decrease in value because no one wants to live right next door to that. I have no plans to sell my home currently, but if this proposal gets approved, we will definately be selling/moving before ground is broken. I know strangers don't care where I live. This is my home I have worked hard to obtain and was planning on staying until my demise.

I am a homeowner of 9904 SW 14th Street, Yukon, OK 730999. I'm asking you to **vote against** and stop this development on behalf of your constituents' health, well-being and safety. As mentioned, the hazardous effects of this venue close to homes will impact thousands of lives, not once, not 10 times, but 50-60 times a year.

I am aware that millions of dollars in revenue will come into the city through this venue, but at the expense of Oklahoma City's citizens. It's down right rude and inconsiderate to sell your own people's well-being to bring in money. Reject these plans until a plan is presented that does not jeopardize Oklahomans freedom to enjoy their families and homes in quiet.

Thank you for looking into this matter.

Robin E. Frank  
9904 SW 14th Street  
Yukon, OK 73099

March 12, 2024

**Subject: Protect PUD-1983**

**To All that It May Concern, including the Most Honorable Mayor David Holt & every City Council Member, including the City Clerk:**

I, LaVelle 'Lee' Watts Gillespie, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I am a 92 year-old that lives in Mustang Creek at 10613 SW 20<sup>th</sup> St, Yukon, OK 73099. My home is 4 houses in from 20<sup>th</sup> Street and Sara Road, just south of the wide-open area, currently with homes being built on it, and the intersection of SW 15<sup>th</sup> Street and Sara Road.

It is the Northwest corner of that intersection where Sunset Amphitheater is proposed to be constructed. My home is within ¼ mile of the intersection. I purchased my home 12/21/2021 and am feeling very frightened that I will have to sell my home if the Arena goes through.

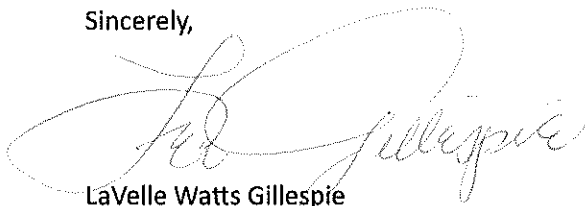
I don't know how to impart upon you that PUD-1983, which is needed to increase the noise level zoning of our neighborhoods, is an attack on all of the families living here. There are 4 residential neighborhoods and 2 schools within ¼ mile, and another 2 residential neighborhoods, now under construction. Our home values will be permanently negatively affected, as we will be unable to escape the onslaught of noise that the concerts & events taking place, will do to our neighborhoods! I beg you, please oppose PUD-1983. The current noise level is high enough.

It is shady business, when the zoning of a beautiful residential area is changed to accommodate a commercial endeavor that will destroy it. The Sunset Amphitheater needs to be located in an area that is already zoned for such a construction. Do you realize that it is going to be located right next to our elementary and middle schools? Why would any responsible adult that cares about the protection of children do something like this? The noise is unacceptable. It does not need to be near 2 schools. For our children, please do the responsible thing and, oppose PUD-1983.

I know that you all got into public service because you wish to better serve our communities and to make them safer for all of us. In order to do this, please oppose PUD-1983 and help protect the families of Ward 3.

Thank you for your attention.

Sincerely,



LaVelle Watts Gillespie

10613 SW 20<sup>th</sup> Street

Yukon, OK 73099

2024 MAR 15 PM2:55  
OKLAHOMA CITY CLERK

**From:** Peter Gill <[pjgill@gmail.com](mailto:pjgill@gmail.com)>  
**Sent:** Wednesday, March 6, 2024 5:13 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Legal Protest : PUD-1983 Amphitheater

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 8:38 am, Mar 07, 2024*

You don't often get email from [pjgill@gmail.com](mailto:pjgill@gmail.com). [Learn why this is important](#)

City Council Members,

I oppose the PUD-1983 zoning application for the proposed amphitheater project because of the noise, traffic, parking concerns and lighting nuisance. I live at 1601 Edinburg Dr. Yukon, OK so my backyard faces their proposed location and both major cross streets that will carry the traffic for this venture. I have young kids, and the reverberations of bass frequencies from concerts and the fireworks they're proposing will be disruptive to their sleep and our quality of life. I also have concerns about how this will impact the adjacent schools when touring acts want to do sound checks, etc.

Furthermore, I believe the business model the developers are using to help fund the project by selling "time share" concert suites is indicative that the development and its staff are unable to secure traditional financing likely in part to a poor business plan. The Hefner/Coury family owns nearby commercial property that continues to sit mostly vacant, unable to attract major tenants so their track record is lacking. Combine that with Mrs. Hefner's history of incendiary and often offensive rhetoric from her failed political aspirations and it's not hard to see why residents don't trust the messaging coming from the applicants.

I urge the council to deny this request. We are in favor of a concert venue like the Jones Assembly or Criterion. We'd love to see some higher-end retail and dining come into the area like what's being done on Memorial. But a noisy amphitheater and acres of parking lot isn't good for the neighborhood or surrounding community.

Thanks,  
Peter Gill

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:07 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD 1983, Sunset Amphitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 2:13 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD 1983, Sunset Amphitheater

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**From:** Brian Greer <[brianpgreer@gmail.com](mailto:brianpgreer@gmail.com)>  
**Sent:** Friday, March 29, 2024 2:10 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD 1983, Sunset Amphitheater

You don't often get email from [brianpgreer@gmail.com](mailto:brianpgreer@gmail.com). [Learn why this is important](#)

I am writing in protest to PUD 1983 at 810 South John Kilpatrick turnpike. This will cause numerous disruptions and a multitude of problems for the surrounding residents and schools.

1. The noise pollution from the amphitheater will negatively affect not just the lives but the physical health of the surrounding residents. It is well known in the medical community the link between excess noise pollution and dementia ("Chronic noise exposure and risk of dementia" <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9251202/>) and the link between noise pollution and poor cardiovascular health ("Cardiovascular effects of environmental noise exposure" <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3971384/>).
2. There are a significant number of children who are going to be negatively affected by the noise pollution, my child included. Currently there are two schools (Mustang North Middle School and Mustang Creek Elementary) just a couple hundred feet south of the proposed development site. The PUD allows the concert venue to begin sound tests at 2 pm when school is still in class. The schools also host functions after school during hours when the concerts will be happening. This is an absolutely obscene level of noise pollution to be exposing our kids too. The link between noise pollution and mental health issues is well studied in adults but now everyday we are finding out just how terrible it is for the mental



health of kids ("Negative Impact of Noise and Noise Sensitivity on Mental Health in Childhood" <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6301087/>). Subjecting kids to this level of noise pollution is just unconscionable.

3. My family first moved to Westbury South in 1985. We moved to our current house at 10405 Paisley Rd in 1993. We have been living in this community for nearly 40 years. There are numerous other families just like mine who have lived in this community as long or longer. This is a quiet suburb that has housed a working class population servicing Oklahoma City for nearly 50 years. Building a 12,000 seat amphitheater right in the middle of 2 schools, 5 apartment complexes and numerous neighborhoods and businesses is just a terrible idea. Especially when you consider there is a significant number of retirees and other people who will not be able to leave due to the increase cost in housing. The Federal Reserve has continued to raise interest rates in recent years to combat inflation and a 30 year fixed currently sits around 7.5%. Many residents here could not afford to move to a new area due to the increased of housing and they simply should not have too.

I stand opposed and in protest to PUD 1983.

Brian Greer  
10405 Paisley Rd  
Yukon, OK 73099  
405-324-5751 Home phone  
405-549-8490 Cell phone

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 4:30 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983, Sunset Amp

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 4:28 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983, Sunset Amp

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**From:** Donna Gregory <dgregory11@gmail.com>  
**Sent:** Wednesday, April 3, 2024 4:27 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD-1983, Sunset Amp

You don't often get email from [dgregory11@gmail.com](mailto:dgregory11@gmail.com). [Learn why this is important](#)

Greetings,

I, Donna Gregory, hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike. I live at 11308 SW 5th Street, Apt 6315, Yukon, OK, 73099. I have been a resident at this address for nearly 6 years.

I am deeply distressed at the thought of a 12,000+ seat outdoor amphitheater being built approximately 1.6 miles from my home. I've lived in northwest Oklahoma City my entire adult life, but I moved to west Oklahoma City to be near aging family members 6 years ago. Rezoning this property to build an outdoor amphitheater would not only impact the quality of my life due to the noise levels coming from an outdoor amphitheater, but also it would impact the lives of the elderly family members I assist. One of them lives only 2 miles from the proposed site.

I gave planetarium shows at the old Omniplex (now Science Museum Oklahoma) as a volunteer lecturer for 8 years. I am very familiar with the experience of sound in domed theaters and half domes (as with the now closed OmniDome at the former Omniplex). Without getting into lengthy specifics in this email, **please know there is no noise abatement that will reduce the impact live outdoor music concerts of**

**any kind will have**, particularly with a semi-domed theater. (I'm happy to share these specifics if you'd like more information.)

But beyond the noise, I'm also extremely worried how the increased traffic in what is basically a semi-rural area will impact emergency services. Will our families in this area, including me and one of my elderly family members, have issues with response times or, worst case, even access for ambulances, fire, and police services to reach residents of the area on concert nights?

We've all been in concert traffic. We know this is a significant likelihood. Even beyond the noise issue, which is a serious and prominent concern, the thought of a loved one dying or being compromised due to concert traffic in a heavy residential area is nightmare-inducing. **There is no business that's worth the risk of potentially costing hundreds or thousands of Oklahoma City citizens their lives or homes.** One cigarette butt thrown on the ground on a hot, dry Oklahoma night could result in a major disaster in these neighborhoods.

Additionally, there are a lot of problems with the application found in PUD-1983 that I urge our City Council members to please consider, including the changes to City Code that will have to happen due to the noise levels, curfews, the proposed parking lots with tree islands, and the size of the EMD3 screen (twice the allowable size in current city code). Plus the 200 square foot LED sign that will be pointed at the Turnpike. And I'm very concerned there's no requirement for the amphitheater to have a noise permit, thus eliminating any accountability for the noise level.

I'm also concerned that when I went to the Notes Live website for the Oklahoma City amphitheater at <https://noteslive.vip/properties/okcsunset/>, the video didn't talk about Oklahoma City, but rather Broken Arrow. It's nothing but a sales pitch for investors. That's unsettling and makes me feel as if Notes Live isn't being as professional as it should be for a project impacting thousands of people and their homes. And I also can't help but wonder about the disturbing lack of transparency about the OKC project on their website.

I also want to mention one more thing. I read an editorial in the Mustang Times from the person who is selling the land to Notes Live. It was written in that editorial that the amphitheater would be used Thursday - Saturday from spring to October. That's 3 days a week from March - October, which is 8 months out of the year. To look at this statistically, **for 61.5% of the year, each week we could potentially have live music blaring into our homes 3 days a week, disturbing our peace, up to 11:00 pm.** Plus the noise of the concert traffic after the shows are over. Honking, revving engines. As I said, we've all been in concert traffic so we know what it's like.

I'm sure my story is just one of hundreds, if not thousands, of people who live in this area. **The bottom line reality regarding PUD-1983 is thousands of Oklahoma City residents' lives will be negatively impacted on multiple levels if this property is rezoned.** For these reasons, and more, **I urgently and with deep heartfelt concern and conviction ask all members of the City Council of Oklahoma City to please deny the rezoning of the PUD-1983 application.**

Thank you for your consideration.

Respectfully,  
Donna Gregory  
11308 SW 5th Street, Apt 6315

Yukon, OK 73099  
Phone: 405-206-6170

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:08 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 2:54 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

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**From:** Karla Guerriero <[karlacat19@gmail.com](mailto:karlacat19@gmail.com)>  
**Sent:** Friday, March 29, 2024 2:52 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [karlacat19@gmail.com](mailto:karlacat19@gmail.com). [Learn why this is important](#)

I, Karla Guerriero, hereby protest PUD-1983 application by Mustang creek crossing LLC to rezone 810 South John Kilpatrick Turnpike. I find it amazing that an outside music venue would be situated right next door to 2 schools. Both my children attended those schools and every time there was a ball game or school event of any kind, the traffic was very congested on the 2 lane street. I know the streets around that area will not be adequate for 12,000 people to navigate, especially if there is a school event. It will be gridlock!

We live less than 3 miles from this spot and I am VERY distressed at the thought of our noise level going up. From what I've read, the bass sounds and vibrations travel for miles. I don't want my property values to go down as a result of this being so close to residential neighborhoods. We are already being overrun with new neighborhoods, massive apartments, businesses, etc. Our nice area is becoming a traffic nightmare as it is now. Please do not allow rezoning of this property.

--

*Karla Guerriero*

**From:** [Rose Gulliver](#)  
**To:** [City Clerk Email](#)  
**Subject:** "Protest PUD-1983"  
**Date:** Thursday, February 29, 2024 8:19:05 PM

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**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 8:01 am, Mar 01, 2024*

[You don't often get email from rose.gulliver@yahoo.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I Rose Gulliver hereby protest PUD-1983 application by Mustang CreekCrossing LLC to rezone 820 South John Kilpatrick Turnpike.

Thank you  
Rose Gulliver  
2308 E Kellen Ct Ter  
Mustang, Oklahoma 73064  
512-818-4545

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024*

**From:** Krista Gustaveson <kwoods722@gmail.com>

**Sent:** Friday, March 22, 2024 8:14 PM

**To:** City Clerk Email <CityClerk@okc.gov>; Krista Gustaveson <kwoods722@gmail.com>

**Subject:** Protest PUD-1983

You don't often get email from [kwoods722@gmail.com](mailto:kwoods722@gmail.com). [Learn why this is important](#)

Dear Members of the OKC City Council,

I, Krista Gustaveson, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. My address is 3220 Rockhampton Ave, OKC, OK 73179. My phone number is 801-882-3994.

I am writing to respectfully implore you to vote against the proposed Sunset Amphitheater project. As a dedicated female business owner who operates from my home, I am deeply concerned about the potential detrimental effects this development could have on both my professional endeavors and the well-being of my family.

Allow me to provide some insight into my work schedule. I maintain consistent hours from 9 am to 2 pm, and resume work from 4 pm to 6:30 pm, Monday through Friday. Additionally, I often work late nights as required, at least twice a week, and commit to working 2-3 Saturdays per month from 10 am to 9 pm. Furthermore, I am actively involved in the establishment of a second business venture, alongside fulfilling mandatory Continuing Education classes in the evenings as mandated by the State to maintain my license.

The introduction of noise from the proposed amphitheater poses a significant threat to my ability to maintain focus and productivity during my working hours, as well as during my educational pursuits in the evenings. Moreover, the impact extends beyond professional concerns. My children already struggle with insomnia, and both my son and husband are on the autism spectrum. My children are diagnosed with ADHD which adversely affects their educational performance necessitating individualized education plans (IEPs) in the OHI (Other Health Impairments) category at school. Any disruption caused by concerts or events in the early and late evenings would undoubtedly exacerbate their challenges, impairing their ability to concentrate on schoolwork and obtain adequate rest.

I cannot emphasize enough how vehemently I oppose the construction of the amphitheater in its proposed location. There are undoubtedly alternative sites within OKC and its suburban areas that would mitigate the adverse effects on residential communities, individuals working remotely, families with children, and small business owners like myself.

I sincerely appreciate your time and consideration in reviewing this letter. I earnestly hope you will take into account the significant negative impact the Sunset Amphitheater project would have on the immediate surroundings and areas extending up to 5 miles or more. Your decision holds the power to safeguard the tranquility



and well-being of our community.

I respectfully urge you to vote against the construction of the amphitheater.

Thank you for your attention to this matter.

Sincerely,

*Krista Gustaveson*  
801-882-3994

***"Life isn't about finding yourself.  
Life is about creating yourself."***

-George Bernard Shaw

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 3:41 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: PUD -1983 I vote no on proposed rezoning of Agricultural land

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 3:06 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: PUD -1983 I vote no on proposed rezoning of Agricultural land

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**From:** Cindy Hall <cahallrn@msn.com>  
**Sent:** Wednesday, April 3, 2024 3:02 PM  
**To:** City Clerk Email <CityClerk@okc.gov>; The Mayor <mayor@okc.gov>; Ward3 <ward3@okc.gov>; Ward1 <ward1@okc.gov>  
**Cc:** Ward2 <ward2@okc.gov>; Ward4 <ward4@okc.gov>; Ward5 <ward5@okc.gov>; Ward6 <ward6@okc.gov>; Ward7 <ward7@okc.gov>; Ward8 <ward8@okc.gov>; Freeman, Craig A <craig.freeman@okc.gov>; govenor@gov.ok.gov; d1.carriehlumert@oklahomacounty.org; brian.maughan@oklahomacounty.org; mylesdavidson@oklahomacounty.gov  
**Subject:** PUD -1983 I vote no on proposed rezoning of Agricultural land

Some people who received this message don't often get email from [cahallrn@msn.com](mailto:cahallrn@msn.com). [Learn why this is important](#)

To the Oklahoma City Council Members.

RE: PUD-1983. I PROTEST THE REZONING. I PROTEST THIS PROJECT MUSTANG CREEK AMPITHEATER

My name is Cindy Hall. I live at 10013 Hollyhead Way, Yukon Oklahoma. I am a home owner, and own another home in Westbury North that was my Mothers. I have lived in my home for 35 years. I have several family members who live in Westbury also. The plot of land currently zoned for Agriculture is zoned appropriately. I protest the rezoning of this land. And ask you to please vote no on rezoning this agricultural land for the following reasons.

The reasons I protest the rezoning:

1. An outdoor Amphitheater is not appropriate for an area that is strictly residential. It is inappropriate. This area is primarily residential with 13 new residential areas under construction. There are 2 schools attached to this plot of land and a wetland preservation area. By approving rezoning with full knowledge of the proposed project. The City Council is imposing noise pollution of 90-130 dB for 5 miles. Thus taking away my right to have peace and tranquility in my home and my yard and thousands of other residents. I live ¼ of a mile away from this plot of land. We have purchased our homes to live in a peaceful neighborhood. 80 DB causes hearing loss. This area is more suitable for a park with walking trails, or residential. This noise will affect people's health and mental health, ability to rest, ability to relax, ability to entertain guests in their homes. Their ability to live in a peaceful environment.

2. The current roads are not designed to accommodate 6200 additional cars. That is approximately the amount of cars for a 12,500 seat amphitheater. The roads are congested now due to 20 additional new neighborhoods in this area. Our roads are dilapidated. No thought has been given on expansion with all the new growth. Roads on Reno, Sara, and SW 15<sup>th</sup> would need expanded. With a ramp off of Sara to I40, ramp on to Kilpatrick from the Amphitheater parking lot. This area will be congested for miles on I40, Mustang road, Morgan Road, Reno, SW 15<sup>th</sup>, and Sara road. Westbury Neighborhood will be blocked in and out for miles. Residents will not be able to get to work, or return from work. Emergency vehicles will not be able to access our neighborhood to put out fires, and render emergency health care. There will be deaths because of this, and homes burned to the ground. No Interstate access for 2 miles from the proposed amphitheater. Bottle necking our neighborhood in. And indirectly affecting traffic for 5 miles south on Morgan road, Mustang road, and I40.

3. We are tax payers generating millions in taxes, and have spent millions in real estate to purchase higher end homes to live west of Oklahoma City. For the intent of peaceful Neighborhoods. There is an article in Gainesville Sun dated Oct 18, 2017. To summarize Noise pollution is a hazard to health by the US Surgeon General William Stewart. CDC states noise pollution is an increasing public health problem. Scientific warnings are well known. The Gainesville is proposing an amphitheater. They gathered information from Florida State fairgrounds, Mountain View California, Austin Texas amphitheater, and Jacksonville Virginia Beach area state Amphitheater noise is a big problem that is unsolvable and unending once it starts. City council in these areas receive 10,000 plus complaints yearly over noise.

Residents continue legal actions and have involved the Environmental Protection Commission the problems are unresolved. Even with all the buffers, directing noise another direction its unsolvable. Residents complain the noise is so Intense pictures rattle on their walls, windows shake. They cannot escape to their backyard or their home. The noise over powers their TV. They are forced to leave their homes for peace and relaxation. They can no longer entertain in their backyards. This proposed amphitheater is proposing April through October. 4 concerts a week. It is only common sense an Amphitheater does not belong in residential areas where people sleep, rest, and relax. If people are sick, suffering from Cancer, Elderly, and Veteran with PTSD it only intensifies the problems.

I feel the City of Oklahoma City is missing out on a great opportunity. The entertainment district would be an ideal area for this venue. On the river walk would create a beautiful background with landscaping, mini bridges to enhance the venue. It would promote additional revenue to OKC. People would come to spend the day or the weekend and purchase additional venues to enjoy all the area offers. Enhancing revenue to the restaurants, ball park, hockey, myriad gardens, farmers market, and the river walk. People would love this. It also provides unlimited parking and hotels. High rise buildings to buffer the noise. It would be an additional venue to make OKC proud. Broken Arrow has designated their amphitheater to be on their river. The two venues will be compared for years to come. Sara road will be far inferior to the location of Broken Arrow. Sara road cannot compete with all the advantages downtown OKC can offer. It has taken 20 plus years to develop downtown OKC area to be what it is today. The Airport also comes to mind or Airport road close to the industrial area. But then again it cannot provide all the advantages downtown OKC can provide.

I am asking the City Council to give great consideration to this proposed rezoning of the agricultural plot. With the proposed Sunset Ampitheater. This plot is not appropriate for an ampitherater. No residential area is appropriate for an Ampitheater. A beautiful City is designed and created by building like with like. Residential compatible with residential, Entertainment with entertainment. Please vote no on re-zoning.

Thank you for your time in reviewing my letter.

Sincerely

Cynthia A Hall

owner and resident of 10013 Hollyhead Way for 35 years. And Owner of 10016 Fairfax Terrace my mothers home.

## Johnson, Thad A

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**From:** Ethan Hall <ehall758@gmail.com>  
**Sent:** Tuesday, April 2, 2024 10:01 PM  
**To:** City Clerk Email  
**Subject:** Protest - PUD 1983  
**Attachments:** Noise Pollution Studies.pdf

You don't often get email from ehall758@gmail.com. [Learn why this is important](#)

To whom it may concern:

I, Ethan Hall, protest PUD-1983 by Mustang Creek Crossing, LLC to rezone 810 S John Kilpatrick Turnpike.

I have been a resident in Westbury North for 27 years and the main concerns I have are listed below.

1. **Noise Pollution:** This venue will sit directly beside numerous homes, daycares, and multiple public schools. Based on the information I have seen posted by the proposed developers, there is no way for them to manage the sound waves in a way that it would not affect local residents in their homes or children at school. I have attached a PDF to this email that contains studies conducted on the effects of noise frequencies and the direct impact on human health. Based on these studies, humans experience increase levels of sleep disorders, anxiety, mental fatigue and decreased mental performance. Our children are already under additional daily stresses, how can we knowingly put in a venue that could directly affect their home life and subsequently their ability to perform during the school day? I'd like you to imagine a car driving through your neighborhood with their base speakers on full blast and all of their windows down. We've all heard these sounds at one point or another and recognize that they are an annoyance. Now imagine that the car doesn't continue to drive past, the music continues to play for hours on end through the entirety of a concert, multiple nights a week, year-round. I did not see any noise mitigation or physical noise abatement structures listed in the proposal from Live Notes, how are they planning to manage the way these sound waves carry through the air and the ground? Regardless of the additional reasons I will list below, this noise pollution issue should be the number one reason why this project does not get approved for rezoning.
2. **Increased Traffic:** I believe that the addition of the Sunset Amphitheater would make the current traffic situation in our area much worse. If you have not driven down SW. 15th St. from 7AM - 8:30 AM, 2:15 PM - 4PM or 5PM - 6:30 PM I would encourage you to take that drive. Between people trying to drop their children off at two different public schools and additional people trying to get to work or back home from work, driving down SW. 15th St. is almost impossible to navigate for a large portion of the day. What should take 2 to 3 minutes ends up taking 20 to 30 minutes. Even with the proposed road widening and proposed turnpike tunnel there is no way to see how this area will be able to handle the additional traffic from a concert venue. We can barely handle having 2 schools let kids out in the afternoons, now we think these roads will be able to manage thousands upon thousands of extra vehicles with no access to I-40 on Sara Road? The truth is that people will inevitably use my neighborhood to cut through to avoid traffic which will only add to more traffic issues at other exits onto SW 15th or Sara Rd. That doesn't include the individuals who will want to park their cars in Westbury streets and walk to the concert to avoid parking fees.

There are currently 3,500 parking spots planned for 12,500 people. Knowing that individuals will need to drive to the venue, how will 1/4 of spots accommodate all of the vehicles needed. What about the addition of rideshare vehicles parked and waiting for passenger pick ups? The traffic issues will be endless and unavoidable, just like when an event is released from Paycom Arena. Are we to expect that main roads will be blocked off by police and concert traffic will take precedence over those who need to access our neighborhood to get to our homes? This is a public safety concern that should also be top of mind.

3. **Increase in Crime & Potential Emergencies:** When bringing 12,500 additional people to a suburban area you can anticipate that there will be emergencies of some nature. When we have an unstable traffic situation and already delayed response times from OKCPD. There is no OKCPD or Canadian County Sheriff's station close to this area. What if a resident has an emergency and first responders are unable to reach us due to traffic blocks? Minutes, even seconds, count when an emergency situation arises. How will we be reached in a timely manner? These emergencies wouldn't just include medical or those of residents but concert goers as well. With any concert venue there is alcohol present and the use of drugs - numerous situations could happen - medical emergencies, physical assaults, robbery, etc. How can we ensure the public's safety and not expect an increase of DUIs and those driving impaired from drugs? What about the fact that these potential situations will be a mere hundred feet from 2 schools and close to 3,000+ homes that have families. Lastly, we have already seen a significant increase in crimes in the Westbury North & South neighborhoods. Personally, our vehicles have been broken into on 4 separate occasions. Like with anything, the more people it attracts the more crime that will come with it. We can't handle more break-ins and random people wandering the neighborhood streets while our families sleep. The "ifs" are too important to wonder and hope they don't happen.

In closing, I hope you and the rest of the Council will see there is much more to be lost here than can ever be gained by an "economic impact". Dropping a concert venue for 12,500 people in the middle of almost 4,000 residents and a town that is already growing too fast is a recipe for disaster. Please think about the long term effects on our residents, our children, and our community. I reside at [10016 Fairfax Terrace Yukon, OK](#) and I ask you to please **vote against rezoning for PUD-1983**.

Articles of similar amphitheaters and the issues they have caused local residents:

[Round Rock Amphitheater, Round Rock, Texas](#)



[Hayden Homes Amphitheater, Bend, Oregon:](#)

Thank you,  
Ethan Hall

[10016 Fairfax Terrace](#)  
[Yukon, OK 73099](#)

Review

# Low-Frequency Noise and Its Main Effects on Human Health—A Review of the Literature between 2016 and 2019

Juliana Araújo Alves <sup>1,\*</sup>, Filipa Neto Paiva <sup>2</sup>, Lígia Torres Silva <sup>2</sup> and Paula Remoaldo <sup>1</sup>

<sup>1</sup> Lab2PT–Landscape, Heritage and Territory Laboratory, University of Minho, 4710-057 Braga, Portugal; premoaldo@geografia.uminho.pt

<sup>2</sup> CTAC–Centre for Territory, Environment and Construction, University of Minho, 4800-058 Guimarães, Portugal; filipa\_paiva@sapo.pt (F.N.P.); lsilva@civil.uminho.pt (L.T.S.)

\* Correspondence: jalves.geografia@gmail.com

Received: 5 July 2020; Accepted: 27 July 2020; Published: 28 July 2020



**Abstract:** This paper summarizes the presently available knowledge about the association between low-frequency noise and its effects on health. A database was constructed with a total of 142 articles published between 2016 and 2019 regarding low-frequency noise exposure and its effects on health. A total of 39 articles were analysed in depth. The articles were divided into categories according to the effects on human health addressed. Regarding the emitting source, there was a greater number of articles addressing issues related to sources of environmental noise and noise from wind turbines. As for the effects generated on human health, there was a greater number of articles referring to the effects on sleep disorders, discomfort, sensitivity to and irritability from noise, annoyance, hearing loss, and cardiovascular diseases, and these effects are analysed in more detail in the present article.

**Keywords:** low-frequency noise; human health; impacts; environment; literature review

## 1. Introduction

At the worldwide level, there is a large number of studies on health impacts due to occupational and environmental exposure to noise. However, there are still few studies focusing exclusively on health impacts and discomfort due to low-frequency noise (Figure 1). One of the main reasons for this is the low sensitivity of the human auditory system to low frequencies. On the other hand, this type of noise has very particular characteristics and causes much more discomfort and long-term, non-auditory effects [1–3].

In the 1920s, research on the subject focused on occupational exposure and generally reported physiological changes such as pain in the hands, swelling, and increased vascular tone [4–6]. Until the 1930s, it was believed that the effects of noise on health were restricted only to hearing loss. In a study published in the *Journal of the Acoustical Society of America*, Jüichi Obata et al. [7] concluded that the effects of noise on human health went beyond hearing loss.

After the low contribution to the improvement of this scientific field in the 1960s, the 1970s were marked by the emergence of a series of studies addressing annoyance caused by environmental noise [1].

Consequently, during the 1970s and 1980s, studies started focusing on the impacts due to exposure to environmental noise [8,9]. The 1990s were marked by research aimed at more specific impacts on human health and reported discomfort due to noise [9–11]. Furthermore, these studies correlated exposure to noise with the onset of cardiovascular diseases [12,13].

In the 1990s, the World Health Organization (WHO) published documents on the subject, such as the *Guidelines for Community Noise*, in 1999. Regarding the studies published during the 2000s,

the most important are those directed at specific environments, such as schools and residential areas [14,15]. These studies used a comparison of the noise level measured by using reference curves with the aim of assessing noise discomfort and reinforced the fact that the A-weighting filter is not ideal to evaluate the non-auditory effects of low-frequency noise (LFN) [1–3]. From 2005, the studies that stand out are oriented to the impacts of low-frequency noise on the quality of sleep [16–18].

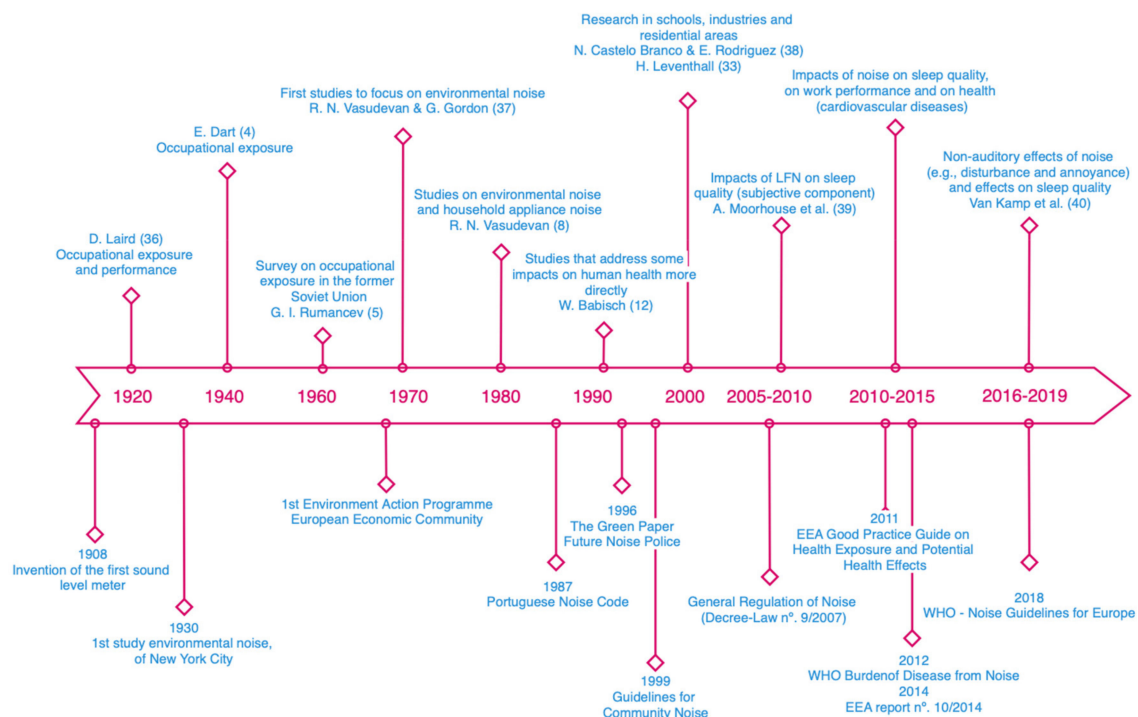
In general, these studies were carried out with voluminous samples involving patient reports, the application of questionnaires, the adoption of cross-sectional studies based on databases, and the comparison of environmental noise levels measured using criteria curves.

In fact, these studies reinforced the fact that low-frequency noise is a powerful stressor. The most cited effects on human health refer to emotional changes such as annoyance [19,20], agitation, and distraction [2,21,22], in addition to the association of low-frequency noise with cognitive alterations [23], the development of cardiovascular diseases [24,25], sleep disorders [26], and high blood pressure [27], and, more recently, the effects of industrial low-frequency noise on dental wear [28,29].

In the field of occupational medicine, there is a large number of studies that claim that low-frequency noise is an agent that interferes with the performance of work tasks [22,30]. In addition to these changes, noise can be an agent that affects mental and physical health.

In this sense, the effects of noise pollution comprise “auditory effects”, which directly affect the human auditory system, and “non-auditory effects”, i.e., the impact of noise on physiological functions. As regards “non-hearing effects”, discomfort has been reported as the most frequent effect caused by exposure to low-frequency noise in humans [1,31,32].

In addition, the discomfort may vary from individual to individual and depends not only on the recorded noise pressure levels but also on the exposure time as well as the low-frequency components present in the measured sound levels. Thus, noise that contains low-frequency components tends to be more annoying than noise without them [1,33–35].



**Figure 1.** A summary regarding health effects due to low-frequency noise exposure. Source: own elaboration based on several authors [4,5,8,12,36–40].

Since 2000, the WHO has recognized low-frequency noise as an environmental problem. In addition, the health impacts of low-frequency components on noise are estimated to be more severe [1,33–35].



The WHO published its most recent noise pollution guidelines for Europe in 2018. This publication states that further research into the health impacts from wind turbine noise is needed, namely, the low-frequency component [35].

In fact, a systematic review of the up-to-date, peer-reviewed, epidemiological literature has been performed on the association between low-frequency noise and its effects on human health. The present paper aims to fill this gap in the literature.

The paper is structured into four sections. After the introduction, the methodology is outlined. A systematic review regarding scientific articles about low-frequency noise and its impacts on human health is presented in Section 3. The article concludes by highlighting the main conclusions of an in-depth analysis of 39 articles published between 2016 and 2019, some limitations of the research, and recommendations for further studies.

## 2. Materials and Methods

### *Database Collection*

The original papers were identified by a literature search between October and December 2019 of all of the principal accessible journals and databases (PubMed, Web of Science, and Scopus) concerning the theme and using the following keywords: “low-frequency noise”; “low-frequency noise and its effects on health”; “noise pollution and health”. A database was constructed with some variables, e.g., sample results and main noise sources. A total of 142 articles published between 2016 and 2019 was found (Supplementary Materials). Only studies were included in which it was mentioned in the title or abstract that the association between the low-frequency noise and effects concerning health or well-being was studied.

The 142 papers selected for the period from January 2016 to December 2019 were grouped into 9 categories: reviews; health effects due to noise and noise pollution; low-frequency sound/infrasound; health LFN case studies (small population); health LFN case studies (large population); LFN case studies (animals); laboratories studies, simulation studies, and computational case studies; and not relevant. A total of 39 articles published between 2016 and 2019 and grouped in the categories “health LFN case studies (small population)”, “health LFN case studies (large population)”, and, finally, “LFN case studies (animals)” were selected for in-depth evaluation. The evaluation carried out focused on the impacts on health, highlighting the incidence of studies aimed at human health and others aimed at carrying out tests on animals that may lead to a future study on humans. Additionally, the 39 articles evaluated used similar techniques (e.g., questionnaires; data previously collected in other studies; cognitive, physiological, and psychological tests based on medical and auditory equipment; noise measurements and audiometric assessments; and experimental tests based on noise exposure). The 39 articles evaluated were carried out mostly in Asian and European countries and were based on small samples.

## 3. Results and Discussion

This section presents the main results obtained from the analysis of articles published on low-frequency noise and its impacts on human health between 2016 and 2019. The results and discussion are structured in five sections on the main effects of low-frequency noise exposure on human health. Each section begins with a description of the methodologies used, followed by the main results achieved in the studies analysed.

### *3.1. Low-Frequency Noise Exposure and Its Main Health Effects*

Table 1 presents a synthesis of the 39 articles based on three of the categories listed in the methodology section. These categories were as follows: cases of low-frequency noise studies in a small population, in a large population, and in a population of animals.

Of the 39 articles that were included in the evaluation of this article, it was observed that the main effects on human health are more prevalent in aspects such as sleep disorders (11.7%), discomfort, sensitivity and irritability to noise (10%), annoyance (13.3%), stress (6.7%), hearing loss (8.3%), reduced performance/fatigue (5%), heart rate/cardiovascular diseases (10%), tension and blood pressure (6.7%), anxiety (1.7%), depression (3.3%), imbalance (3.3%), and mental performance (6.7%).

There were also other effects on human health but with an incidence in very specific aspects (13.3%), such as the frequency of chromosomal aberrations in bone marrow cells, excess bilirubin, peptic ulcers (gastric and duodenal), effects on the cerebral blood barrier, haemodynamic events, irreversible imbalance with structural damage to the otoconial membrane, tinnitus and sound reconversion therapy, and vocal disorders and effort.

Only the effects on human health related to sleep disturbance, noise discomfort, annoyance, hearing loss, and cardiovascular disease were analysed, as these were the themes where a greater number of articles were observed, thus allowing a better comparison and evaluation between the various articles.

### 3.2. Sleep Disturbance

Sleep disturbance is one of the effects on human health that is due to exposure to noise, in particular, low-frequency noise. Long-term exposure to low-frequency noise from wind energy is a major factor in sleep disturbances in residents who live near wind farms. Abbasi et al. [41], Morsing et al. [42], Ishitake [43], Pohl, Gabriel, and Hübner [44], and Poulsen et al. [45] evaluated exposure to low-frequency noise due to proximity to wind turbines. The methodology adopted included the measurement of sound levels and, after the exposure of participants to wind turbine noise, an assessment of sleep disturbances.

The studies [41–43] applied questionnaires to participants to assess the disturbances they felt after exposure to noise. In the study by Abbasi et al. [41], in addition to the questionnaire, Pearson's correlation, analysis of variance, and multiple regression tests were applied for data analysis using software. Morsing et al. [42] evaluated the impact of noise on sleep as measured by polysomnography, after participants were exposed to wind turbine noise for three consecutive nights. Finally, Ishitake [43] assessed sleep disorders using the Athens Insomnia Scale method, based on the responses of participants when exposed to noise.

In the study designed by Pohl, Gabriel, and Hübner [44], the methodology of stress psychology with noise measurement was adopted, ascertaining the physical and psychological symptoms referenced by residents that participated in the study (general mental indisposition, performance and reduced work capacity, lack of concentration, fatigue, tension, nervousness, negative mood, dizziness, irritability, indisposition, reduced sleep quality, and annoyance) caused by exposure to noise from wind turbines. Moreover, Poulsen et al. [45] evaluated the evolution of medical prescriptions related to anxiolytics and antidepressants ingested by the populations living near the wind turbines, in an analysis that lasted two years (2012 to 2014).

Sleep disturbances may also be due to exposure to noise from oil and gas operations, namely in the construction and drilling of wells in residential areas [46]. Blair et al. [46] evaluated the impacts of these operations on human health, including sleep disorders. Sleep disturbances can also be linked to exposure to railway noise, as studied by Smith et al. [47]. They [47] evaluated the effects on physiological sleep resulting from the exposure of participants to railway noise for five consecutive nights, using polysomnography and questionnaires.

As for the results, Abbasi et al. [41] evaluated the effects of noise from wind turbines on the health of employees, divided into three groups (maintenance, safety, and administration). The group with the greatest exposure to noise was the maintenance team, who were considered as a reference group. Maintenance workers were subject to a higher sound level because they are in the vicinity of wind turbines, and higher GHQ (The General Health Questionnaire) scores were also recorded (the health assessment tool for individuals used in the study). Therefore, compared to those on management and safety staff, the harmful health effects of wind turbine noise are stronger on maintenance workers.

The questionnaire was divided into four sections, including somatic symptoms, anxiety and insomnia, social dysfunction, and depression. Based on the results obtained in this study, only the equivalent sound level had a significant effect on the general state of health and in some of its sections. The negative impact of noise exposure of 60 and 66 dBA on general health was approximately six and four times less than that of 83 dBA, respectively. The adverse effect of 60 dBA noise exposure in the anxiety and insomnia section was 1.6 times less than that in the 83 dBA exposure group. The effect of the experiment in the anxiety and insomnia section was 0.2 times greater than that of the 83 dBA noise exposure. This result indicates that the worst health status is due to working conditions and chronic exposure to occupational risk factors, such as noise. The results show that the effect of exposure to noise of 66 dBA in the social dysfunction section was 2.3 times less than that of 83 dBA noise. It was concluded that exposure to noise is significantly correlated with all subsections of general health, except depression. As a general evaluation of the article, the low-frequency noise from the turbines can cause harmful effects on the health of workers who are very close to the turbine, due to the reception of very intense noise [41]. By convention, a frequency A-weighting filter is used in low-frequency noise evaluation [3]. As a matter of fact, the A-weighting filter is not suitable for assessing the effects of low-frequency noise because this filter drastically reduces the low-frequency levels measured [3].

The results obtained by Morsing et al. [42] are due to the measurement of the effects of night noise from wind turbines on sleep measured physiologically in the laboratory. During nights with noise from the turbines, there was some incidence of participants with frequent awakening, less deep sleep, reduced continuous sleep, an increase in sleep disorders self-reported by the participants, and morning tiredness after the nights of noise exposure compared to nights without exposure to noise. Some evidence was observed in the study in which amplitude modulation and rotational frequency were varied; deeper sleep was negatively affected due to higher frequency and strong amplitude modulation while light sleep increased with high frequency and acoustic beat [42].

Blair et al. [46] monitored continuous levels of audible and low-frequency noise during the construction and drilling of oil and gas wells in a residential area. The equivalent monthly levels of continuous noise varied between minimum values of 51.5 and 73.1 dBC, and maximum values of 60.2 to 80.0 dBC. On the one hand, Blair et al. [46] found that continuous weighted noise levels above 50 dBA can have effects on health, such as increasing the risk of cardiovascular disease and hypertension. On the other hand, they found that low-frequency noise levels that exceeded the recommended level of 60 dBC caused nausea and headaches. In a general analysis of the article, the average noise levels in an oil and gas well during construction and drilling exceeded the levels associated with annoyance, sleep disturbances, and cardiovascular health effects; that is, they were higher than 50 dBA or 60 dBC [46].

Ishitake [43] conducted an epidemiological study that suggests that the noise generated by wind power generation facilities may be a risk factor for effects on human health, especially sleep disturbances. In this study regarding sleep disturbances caused by infrasound, it was found that the noise level of the wind turbine measured in the lower frequency range is below the human sensory threshold. As mentioned by Ishitake, 63% reported having sleep disturbance; the effect was reduced with increased distance between the source and the receiver [43].

Pohl, Gabriel, and Hübner [44] carried out a study that combined the methodology of stress psychology with noise measurement. They conducted interviews with residents who lived close to a wind farm and assessed their perception of noise from the wind farm and road traffic at two different points in time, first in 2012 and later in 2014. Residents complained of physical and psychological symptoms due to traffic noise (16%) and noise from wind turbines (10% and 7% in 2012 and 2014, respectively). In the study, 12 symptoms caused by exposure to noise were evaluated. It was found that the participants reported more symptoms in 2012 than in 2014 and the most strongly irritated participants considered their overall health in 2014 to be improved. The sleep disorders assessed decreased from 2012 to 2014. Distraction also decreased slightly from 2012 to 2014 for the most irritated residents, while remaining relatively low and/or unchanged in the other groups. However, only a few participants showed evidence of noise from low-frequency wind turbines: in 2012, 8.5% reported

feelings of pressure related to wind farms and 6.1% reported having felt vibrations in the body; in 2014, these feelings decreased to 6.8% and 3.8%, respectively. The annoyance experienced was very low, and symptoms of dizziness were not observed in this study. Regarding the effects of wind noise stress compared to road traffic noise, there were more reports of symptoms due to traffic (15.8%) than to noise from wind turbines. In 2014, it was observed that about a third (34.9%) of the participants were slightly irritated by traffic noise and 21.2%, by noise from the wind farm [44].

Poulsen et al. [45] determined the numbers of prescriptions for anxiolytics and antidepressants for residents due to prolonged exposure to noise from wind turbines. During the survey carried out between 1996 and 2013, 68,696 adults had recourse to sleeping pills and 82,373 used antidepressants, out of a population of 583,968 and 584,891, respectively. In this study, it was observed that people over the age of 65 years were more affected by the noise of wind turbines, with an HR (hazard ratio) of 1.68 for measuring sleep and 1.23 for antidepressants being found for the group with the greatest exposure. Regarding low-frequency noise due to wind turbines in indoor environments, the risk rate among people aged 65 and over when exposed to noise equal to or higher than 15 dB was 1.37 for anxiolytics and 1.34 for antidepressants. Thus, Poulsen et al. [45] concluded that the combination of high noise levels from wind turbines and the use of anxiolytics and antidepressants can induce sleep disturbance and, in turn, affect the mental health of the elderly [45].

Finally, Smith et al. [47] demonstrated that sleep was significantly affected, both in terms of physiological measures and by self-report, during nights with exposure to 45 dB noise, although the number and size of the effects were modest. Most self-reported sleep measures were adversely affected by terrestrial railway noise. In this study, no significant differences were found in the general sleep structure or disorders and in the subjective quality of sleep between the reference tests and the 35 dB night tests. The results obtained support the value of the Swedish guidelines proposed for the maximum noise level of 35 dB for indoor environments and may be suitable for protection against adverse sleep problems due to terrestrial railway noise [47].

### 3.3. Discomfort from, Sensitivity to, and Irritability from Noise

Discomfort, sensitivity to noise, and irritability are other effects on human health due to exposure to low-frequency noise.

Huang, Pan, Liu, Hou, and Yang [48] analysed acoustic comfort and developed a noise analysis model for a skyscraper by measuring exterior noise, mainly from road traffic.

Suzuki, Suzuki, Onishi, and Penido [49] performed audiometric assessments on patients with persistent tinnitus, through their perception of sounds of nature and everyday life and their comparison with a pure tone or noise (white noise, narrow-band low frequency and narrow-band high frequency). The assessments considered in the patients were otorhinolaryngological, audiological, Pitch Matching and Loudness, Visual Analogue Scale, Tinnitus Handicap Inventory, and Minimum Masking Level [49].

Lee et al. [50] determined the effects of exposure to transport noise and established a relationship with the blood pressure of residents of residential buildings. They determined noise exposure levels ( $L_{den}$ ,  $L_{day}$ , and  $L_{night}$ ) through adjusted linear regression analysis and established the relationship with blood pressure [50]. They also conducted a questionnaire related to the annoyance caused by internal noise, noise sensitivity, and sociodemographic variables [50].

Tao, Wang, Zou, Li, and Luo [51] assessed the irritation from noise in a metro depot and the influence of noise in adjacent residential buildings. They carried out a questionnaire with people working at the metro station and took field measurements, both at the metro station and in the adjacent residential buildings [51].

Moradi et al. [52] studied the effects of noise on the selective attention of university students. They conducted questionnaires to determine students' personality traits; that is, they assessed whether they were extroverted or introverted and analysed their stability or instability [52]. In addition, they also assessed the level of sensitivity to noise using the Weinstein sensitivity scale and the level of selective attention using the DUAF test from the Vienna Test System [52].

Alves, Silva, and Remoaldo [53] analysed the effects of exposure to low-frequency noise pollution emitted by poles and power lines on the well-being of the population, based on a study carried out on “exposed” and “unexposed” populations in two residential areas. Additionally, adapted audiometric tests were carried out to complement the analysis and determine the audibility thresholds of “exposed” and “unexposed” volunteers. To develop the research, Alves, Silva, and Remoaldo [53] used sound level measurements and sound recordings (recordings made at a distance of 5 m from the source), as well as the adapted audiometric performance test [53].

Regarding the results, [48] observed that, due to the effect of the ground, the effect of medium propagation, and the different frequency components, the comfort of the sound does not increase with distance from the ground, that is, on the highest floors. They concluded that low-frequency noise has great potential for the annoyance and discomfort of the residents of the building.

Suzuki et al. [49] identified 181 tinnitus complaints in which pure-tone-type tinnitus was observed in 93 (51%) of the responses (4 low pitch and 89 high pitch) and from noise in 88 (49%) responses (15 low frequency and 73 high frequency). Regarding tinnitus with a low-frequency sensation, 19 responses were determined, while for that with a high-frequency sensation, 162 responses were found. They determined a Visual Analogue Scale average of 5.47 for tinnitus similar to pure tone and 6.66 for that similar to noise, with a higher value for noise. The average loudness of tinnitus similar to pure tone was 12.31 dBNS, and that similar to noise was 10.54 dBNS. For the Tinnitus Handicap Inventory and the Minimum Masking Level, the patients considered in the study were separated into three groups with tinnitus, pure tone, noise, and multiple, with the mean of the largest Tinnitus Handicap Inventory in the group with multiple tinnitus being 61.38. For the Minimum Masking Level, masked noises of the type white noise and narrow band [49] were used.

Lee et al. [50] concluded that general noise (road and rail traffic) and road traffic showed higher associations with systolic blood pressure (SBP) than with diastolic blood pressure (DBP), while rail noise had similar associations with SBP and DBP. They also observed that the closest associations between exposure to noise and blood pressure were estimated for participants who reported higher classifications of annoyance, irritation, and sensitivity to noise. This indicates that the annoyance of internal noise and sensitivity to noise develop regardless of the level of exposure to external noise. They also found that people who were sensitive to noise and participants who were most irritated due to internal noise had significantly higher SBP and DBP than the rest. In addition, the regression coefficients between noise exposure and blood pressure increased slightly in a subgroup that excluded participants exposed to high railway noise [50]. The results established by Lee et al. [50] support the hypothesis that long-term exposure to transport noise is associated with higher blood pressure in adults living in multi-storey residential buildings.

Tao et al. [51] concluded that 96% of respondents feel disturbed by noise and 31% of them feel that the impact of noise is serious. They noted that closing doors in buildings may be a solution, but only a reduction in noise from the low-frequency structure in the range 63 to 125 Hz occurs. They found that there is a problem of annoyance from low-frequency noise. They evaluated that the noise level caused by the fans decreases with the height of the floors. Ventilation noise is one of the dominant noise sources for adjacent buildings, and, therefore, they found that the shorter the distance between the building’s fans and ventilation, the more severe the impact of the noise. They also concluded that the noise attenuation rate increases with an increase in the distance to the noise source [51].

Moradi et al. [52] concluded that there were no significant differences in the average time spent on correct answers before and after exposure to noise between extroverted and introverted participants; however, there was a significant difference among extroverts in the average time spent on correct answers before and after exposure to noise. The results showed that introverted participants are more sensitive to noise than extroverts. The most noise-sensitive participants showed greater stimulation during exposure to noise, which led to increases in incorrect responses and a decrease in mental performance. Moradi et al. [52] found that the participants’ personal traits are related to their annoyance



due to noise. Moradi et al. [52] concluded that stress due to noise improves selective attention in extroverted individuals.

Finally, Alves et al. [53] concluded that the “exposed” area has higher sound levels and, consequently, more problems with well-being and health than the “unexposed” population. Audiometric tests also revealed that the “exposed” population seems to be less sensitive to low-frequencies than the “unexposed” population; that is, the “exposed” group needs a higher sound intensity to perceive noise, especially at lower frequencies. The “exposed” group has a larger number of respondents with health problems (e.g., cardiovascular disease, insomnia, and depression), which can be caused by exposure to low-frequency noise emitted by power poles and lines. On the other hand, the “unexposed” group tends to perceive noise with a slightly lower sound intensity, due to the fact that this residential area is far from the emission source [53].

### 3.4. Annoyance

Annoyance is another effect on human health due to exposure to low-frequency noise.

Boyle et al. [54] assessed how the A-weighted exposure levels differed indoors and outdoors in homes in the vicinity of a natural gas compressor station, where low-frequency noise was found. They performed measurements of the noise levels defined in the A-weighted scale to filter most of the low-frequency noise and in the C-weighted scale to identify the impulse noise (noise measured in less than one second with peak levels 15 dB higher than the background noise) [54].

Van Kamp, Breugelmans, Van Poll, Baliatsas and Van Kempen [40], and Lee et al. [50] presented questionnaires to assess issues related to annoyance due to noise. Van Kamp et al. [40] surveyed complaints due to low-frequency noise using existing data and by means of a questionnaire determining participants’ annoyance due to noise from road, rail, and air traffic sources, low-frequency noise, construction noise, and noise sensitivity; the residential satisfaction index; and a survey of measures applied in the residence to avoid noise. As for the study by Lee et al. [50], the methodologies adopted are referenced in Section 3.3.

The methodologies adopted by Blair et al. [46] and Pohl, Gabriel, and Hübner [44] are referenced in Section 3.2. However, according to [46], noise levels above 50 or 60 dBA can cause annoyance.

Ishitake [43] assessed the level of annoyance regarding the source of low-frequency noise generated by wind energy and road traffic noise, by conducting a questionnaire to obtain these perceptions.

According to Hansen et al. [55], the presence of amplitude modulation in wind farm noise results in increased annoyance and possible sleep disruptions. The developed study investigated the prevalence of this characteristic in homes close to the wind farm [55]. In the article by Hansen et al., several important variables were considered, namely, the receiver-source distance, meteorological conditions, and proximity to reflective surfaces, among others.

Moradi et al. [52] assessed the level of selective attention through the DUAF test (test of selective attention, performance capacity, and general performance) and the level of annoyance based on the ISO15666 (International Organization for Standardization, 2003), based on the study sample referenced in Section 3.3.

As for the results, Boyle et al. [54] found that houses located close to a compressor station have higher average noise levels, both indoors and outdoors, than houses located at a distance greater than 300 m. The authors also found that noise levels during the day were higher than those recorded at night and that the residents of residences located less than 300 m from the station were exposed to low-frequency noise. In this study, they established the relationship of the results with the daytime and nighttime noise levels recommended for the prevention of hearing loss and annoyance, established by the WHO [56,57], and found that the average noise levels determined exceeded these guidelines [54].

**Table 1.** Studies selected and health effects related to low-frequency noise.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2016	Zeitoni, Mäki-Torkko and Stenfelt [66]	27	Binaural hearing capacity	Evaluation of binaural auditory capacity in adults with normal hearing when bone conduction stimulation is applied bilaterally in the bone conduction hearing aid implant position, as well as in the audiometric position in the mastoid.	Exposure to low-frequency noise (400 to 600 Hz) and high-frequency noise (3000 to 5000 Hz).	The results confirmed that the binaural auditory processing with bilateral bone conduction stimulation in the mastoid position is also present in the bone conduction hearing aid (BCHA) implant position. This indicates the capacity for binaural hearing in patients with good cochlear function when using bilateral BCHAs.
2016	Walker, Brammer, Cherniack, Laden and Cavallari [63]	10 (male)	Heart rate variability and stress	The authors conducted a sound monitoring campaign between February 2015 and February 2016 across the city of Boston, MA. Boston occupies an area of 124 square kilometres with an estimated population of close to 700,000 individuals. To identify potential monitoring sites, the authors divided the city of Boston into 500 × 500 m grid cells using ArcGIS. They constructed a list of all accessible potential sites ( $n = 525$ ), and 400 site locations were randomly selected for monitoring by time of day. Convenience sampling was also conducted in certain areas of the city to ensure adequate coverage of varied land use and urban activity. The participants underwent an outpatient electrocardiogram. Blood pressure measurements and saliva samples were collected before, during, and after exposure to noise.	Low-frequency noise (31.5 to 125 Hz at 75 dB (A)); high-frequency noise (500 to 2 kHz at 75 dB (A)); 50 dB (A) “noise-free” exposure.	During exposure to noise, reductions in heart rate variability of 19% (−35; −3.5) with low-frequency power and 9.1% (−17; −1.1) were observed according to the quadratic difference average between adjacent normal heartbeat intervals. During exposure to low-frequency noise, reductions in heart rate variability of 32% (−57; −6.2) with high-frequency power, 34% (−52; −15) with low-frequency power and 16% (−26; −6.1) according to the standard deviation of the adjacent normal heartbeat intervals. During exposure to high-frequency noise, reductions in heart rate variability of 21% (−39; −2.3) with low-frequency power compared to that with exposure to noise.
2016	Liu, Young, Yu, Bao and Chang [67]	1002	Hypertension and blood pressure	Personal noise measurements and environmental analysis of octave bands were carried out to divide workers into similar exposure groups based on the similarity and frequency of the tasks they performed in the company, thus creating a high exposure group ( $\geq 80$ dBA), another of medium exposure (75–79 dBA), and another of low exposure ( $< 75$ dBA).	Noise at frequencies of 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, and 8 kHz during the working period.	Participants exposed to $\geq 80$ dBA for 8 years had a higher relative risk of hypertension (relative risk = 1.38, 95% confidence interval: 1.02, 1.85) than those exposed to $< 75$ dBA. Significant exposure–response patterns were observed between incident hypertension and the stratum of exposure to noise at frequencies of 250 Hz, 1 kHz, 2 kHz, 4 kHz, and 8 kHz. The strongest effect was found at the frequency of 4 kHz, and a 20 dBA increase in noise exposure at 4 kHz was found to be associated with a 34% higher risk of hypertension (relative risk = 1.34, confidence interval of 95%: 1.01, 1.77).
2016	Selander et al. [58]	1,422,333	Hearing dysfunction in children due to noise during pregnancy	Occupational noise exposure during pregnancy, according to the prospective cohort study, FENIX (foetal noise exposure), based on births between 1986 and 2008.	Low-frequency noise ( $< 75$ dBA); high-frequency noise ( $\geq 85$ dBA); medium-frequency noise (75–84 dBA).	In the sample, in a mixture of part-time and full-time workers during pregnancy, HR adjusted for hearing impairment associated with exposure to maternal occupational noise $\geq 85$ vs. $< 75$ dB LAeq, 8 h was 1.27 (95% CI: 0.99 1.64; 60 exposed cases). When restricted to children whose mothers worked full time and had less than 20 days of absence during pregnancy, the HR was 1.82 (95% CI: 1.08, 3.08; 14 exposed cases).

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2016	Abbasi et al. [41]	53	General health; somatic symptoms; anxiety; insomnia; social dysfunction; depression	Study of the effect of wind turbine noise on the general health of employees at a wind farm, with workers divided into three groups: maintenance, security, and office workers. Equivalent sound levels were measured for each group. The individuals' health data were assessed using a 28-item questionnaire. Pearson's correlation, analysis of variance, and multiple regression tests were performed for data analysis using software.	In the maintenance team, an LAeq of 83 dBA was considered, an LAeq of 66 dBA was considered in the security team, and an LAeq of 60 dBA, in the administration team.	Exposure to noise is significantly correlated with all subscales of general health, except depression. The low-frequency noise from the turbines can cause harmful effects on the health of workers who are very close to the turbine and receive very intense noise.
2016	Wang et al. [59]	2700	Cardiovascular diseases; hearing loss.	The authors carried out the study in the metropolitan area of Taichung, Taiwan and set up 50 monitoring stations to collect related information on noise measurements, traffic flow rates, speed limits, and meteorological data. The 50 monitoring stations included 4 agricultural areas, 6 green-land areas (e.g., parks, forests, and mountains), 2 conservation areas, 8 culture-educational areas (i.e., schools, temples, and churches), 11 residential areas, 4 industrial areas, 1 stream-channel area (e.g., harbours), 7 commercial areas, 6 governmental areas (i.e., governmental agencies and institutes), and 1 recreational area. Determination of exposure to traffic noise by measuring the average equivalent noise levels A (LAeq, 24 h) in 50 monitoring stations (25 road traffic stations and 25 non-commercial ones) covering 10 different types of land use.	Equivalent continuous sound levels (Leq, 24 h) in the range of 30–130 dBA; noise levels with the time-weighted average (TWA) at frequencies of 31.5, 63, 125, 250, 500, 1000, 2000, 4000, and 8000 Hz.	The Leq annual average, 24 h in Taichung was $66.4 \pm 4.7$ dBA, exceeding the threshold for cardiovascular disease prevention. The mean annual Leq, 24 h in the flow and commercial channel areas was $71.2 \pm 1.0$ and $70.0 \pm 2.6$ dBA, respectively, revealing a potential risk of hearing loss among residents. The noise levels at 125 Hz had the highest correlation with total traffic and the highest forecast in multiple linear regression.
2017	Vasilyeva, Bepalov, Semenov, Baranenko and Zinkin [68]	96 rats	Frequency of chromosomal aberrations in bone marrow cells; levels of low molecular weight DNA (lmwDNA) in blood plasma.	Exposure to single or multiple LFN from male Wistar rats and their comparison with those in the control group. The control group rats were not subjected to any impact. Measurement of the frequency of chromosomal aberrations in bone marrow cells and the levels of lmwDNA in blood plasma.	Frequency below 250 Hz; simple LFN with sound pressure levels (SPL) of 120 dB; multiple LFN with 150 dB SPL.	Blood plasma lmwDNA levels measured the following day after a single exposure to LFN were significantly higher (7.7 and 7.6 times, respectively) than in the control group ( $11.0 \pm 5.4$ ng/mL), and these levels were higher (4.8 and 2.1 times, respectively) in the week after a single exposure of LFN to the SPL of 120 and 150 dB, respectively, than in the control group ( $18.8 \pm 1.6$ ng/mL). Similar results were obtained in the group with multiple exposures to LFN (36.4 and 22.4 times, respectively) compared to the control group ( $17.7 \pm 1.7$ ng/mL) and suggest an increase in cell apoptosis as a result of impact of the LFN.
2017	Boyle et al. [54]	11	Noise disturbance from natural gas compression stations.	Assessment of how A-weighted exposure levels differ indoors and outdoors in homes near the natural gas compressor station, where low-frequency noise was found. Measurement of noise levels defined in the A-weighted scale to filter out most of the low-frequency noise and in the C-weighted scale to identify the impulse noise.	-	Houses located close to a compressor station have higher average noise levels, both indoors and outdoors, than houses located more than 300 m away. Noise levels during the day were higher than at night. Residents of residences located less than 300 m from the station were exposed to low-frequency noise. The daytime and nighttime noise levels recommended for preventing hearing loss and annoyance were exceeded.



Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2017	Van Kamp, Breugelmans, Van Poll, Baliatsas and Van Kempen [40]	3972	Annoyance due to low-frequency noise	Survey of complaints due to low-frequency noise, based on analysis of existing data. Conducting a questionnaire with participants addressing aspects such as annoyance and sensitivity to noise, sources of emission, and residential satisfaction, among others.	-	The level of background noise, sensitivity to noise, and dissatisfaction with the residential situation were strongly associated with higher levels of annoyance. The lower the background noise levels, the greater the annoyance due to tinnitus. Low-frequency noise is particularly a problem in places with low levels of background noise.
2017	Ohgami, Oshino, Ninomiya, Li and Kato [60]	Rats	Hearing loss; imbalance	Conducting an experimental study in which wild type rats were exposed to similar low-frequency noise and the assessment of noise-induced hearing loss and determination of the rats' imbalance.	Low-frequency noise (70 dB, 100 Hz)	The authors observed that a sound stimulation at 375 Hz at a frequency lower than the audible range of the rats causes a hearing reduction in wild type rats, and in rats with an abnormal otolytic morphology, this hearing loss was not observed.
2017	Venet et al. [61]	117 rats	Effects on hearing	Evaluation of exposure to the combination of low-frequency noise and carbon disulfide.	Low-frequency noise, ranging from 0.5 to 2 kHz at an intensity of 106 dB SPL.	Exposure to CS <sub>2</sub> (250 ppm or more) and noise increased the extent of the damaged frequency window, as a significant hearing deficit was measured at 9.6 kHz in these conditions; in addition, the significance at 9.6 kHz increased with solvent concentrations. Histological data showed that neither hair cells nor ganglion cells were damaged by CS <sub>2</sub> .
2017	Alimohammadi and Ebrahimi [69]	89	Mental performance	All participants underwent the Stroop and Cognitrone tests in silent conditions, after 30 min of exposure to LFN and HFN. The Cognitrone test assesses concentration and attention, and the Stroop interference test is a sensorimotor speed test that records the performance of reading speed.	Low-frequency and high-frequency noise at 50 and 70 dBA.	Both noises emitted (LFN and HFN) not only caused precision in scaling the response but also reduced the duration of the test run. It was concluded that, disregarding the distribution of energy frequencies, noise improved the task performance of participants. The results illustrated that individuals under LFN performed the Cognitrone test more quickly than individuals under HFN.
2017	Huang, Pan, Liu, Hou and Yang [48]	-	Noise disturbance	Analysis of acoustic comfort and development of a noise analysis model for a skyscraper, through the measurement of exterior noise, mainly road traffic noise. The selection of measuring points was made on the horizontal and vertical planes and strictly follows the guidelines (Chinese standard JTG B03–206 and HJ 2.4-2009). The noise measurement instruments were an AWA6270+B noise analyser, AWA6228 frequency analyser, and TES1350A sound level meter.	-	A higher capacity to respond to high-frequency than low-frequency mining noise (LF) was observed, which probably reflects the audibility of the two frequency spectra.
2017	Mancera, Lisle, Allavena and Phillips [70]	57 rats	Effects on behaviour (stress), organ morphology, and faecal corticosterone.	Evaluation of the effects of noise from mining machines on the behaviour and physiological parameters (organ morphology and faecal corticosterone) of wild rats, when subjected to high- and low-frequency ranges, and comparison with a reference treatment without auditory stimuli.	High-frequency noise (>2 kHz); low-frequency noise (≤2 kHz).	The frequencies below and above 2 kHz had differential effects on male and female wild rats that can have important consequences for their well-being and survival.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Morsing et al. [42]	12	Sleep effects	Evaluation of sleep effects, through polysomnography measurement and questionnaires, in 2 pilot studies, due to noise exposure from wind turbines. Six participants spent five consecutive nights in an ambient sound laboratory and, for three nights, were exposed to the noise of the wind turbine with the variation of some parameters.	High-frequency (>125 Hz) and low-frequency noise (125 Hz). Similar to a ventilation noise, a low background noise (18 dB LAeq) was used.	During nights with noise from the wind turbine, there were sleep disturbances compared to during control nights. Deeper sleep was negatively affected by higher rotational frequency and amplitude modulation, but light sleep increased with high rotational frequency and acoustic beat.
2018	Blair, Brindley, Dinkeloo, McKenzie and Adgate [46]	4 (residences)	Annoyance, sleep disorders, and cardiovascular effects	Determination of noise levels in a well block of oil and gas operations of several wells during construction and drilling in a residential area in Colorado and the verification of impacts on human health. A (dBA) and C (dBC) weighted noise measurements were collected at four residences located between 320 (1049.9 ft) and 550 m (1804.5 ft) from the site during development over a three-month period (February to April 2017).	A and C weighted noise levels of 60.2 dBA and 80 dBC, respectively.	Proportionally, 41.1% of continuous daytime equivalent daytime measurements and 23.6% of 1 min dBA exceeded 50 dBA, and 97.5% of daytime and 98.3% of nighttime measurements exceeded 60 dBC. Average noise levels in an oil and gas well during construction and drilling exceed levels associated with annoyances, sleep disturbances, and cardiovascular health effects (greater than 50 dBA or 60 dBC) in studies involving noise sources such as traffic, airports, wind turbines, and rail-related noise pollution.
2018	A.M. Abbasi, Motamedzade, Aliabadi, Golmohammadi and Tapak [71]	35	Physiological effects and mental health (fatigue)	Participants were exposed to low-frequency noise and were ultimately asked to determine their level of mental fatigue. A cognitive test was performed to assess working memory (low, medium, or high workload). Software was used to assess mental fatigue, visual fatigue analogue scale, and psychophysiological indexes.	Low-frequency noise levels of 55, 65, 70, and 74 dBA.	The results showed that mental fatigue significantly affected heart rate, low- to high-frequency rates, and electroencephalogram rates. The results confirmed that the mental fatigue caused by low-frequency noise significantly impacted the participants' psychophysiological and working memory with exposure to noise levels of 65 to 75 dBA.
2018	Ninomiya et al. [72]	44 rats	Stress	A comparison of auditory levels and levels of expression of the Hsp70 protein in the cochlea was performed between rats exposed and not exposed to LFN.	Low-frequency noise (100 Hz to 95 dB).	The results showed that the inner ear may be one of the organs negatively affected by the stress caused by the inaudible exposure to LFN. Exposure to LFN increases the level of Hsp70 expression via Cebpb in the inner ear. The levels of Hsp70 and Cebpb may be candidates for biomarkers of responses to exposure to LFN.
2018	Rossi, Prato, Lesina and Schiavi [65]	25 (19 to 29 years)	Physiological effects (response time and heart rate)	The experiment involved 25 Italian volunteers (12 female and 13 male volunteers), aged 19–29 years. Before starting the test, each subject filled in a general questionnaire specifying age, occupation, musical experience, eyesight and hearing problems, and the presence of noise in their daily life. Measurement of changes in cognitive and physiological parameters in a sample of volunteers exposed to three types of noise in a hemi-anechoic room. Participants were involved in a cognitive task (Stroop effect) for 10 min in four different conditions: silence, multi-tonal broadband (BBN) stochastic noise, low and low-frequency stochastic noise (LFN1), and low-frequency stationary noise with regular amplitude modulation (LFN2).	Sounds reproduced with a sound pressure level equivalent to 93 dB; BBN noise based on frequencies between 315 and 2000 Hz; LFN1 with frequencies between 30 and 60 Hz; LFN2 with frequencies between 30 and 200 Hz.	In noise conditions, participants reduced their response times, that is, there was evidence of increasing stress. Dividing the participants into extroverts and introverts, it was demonstrated that LFN1 and LFN2 produced higher stress effects than BBN noise on cognitive performance and a physiological stress comparable to that produced by BBN noise.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Zhou and Fu [62]	1404	Sensorineural hearing loss (SNHL); excess bilirubin (causes problems in the liver, spleen, kidneys, gallbladder).	Measurements of total serum bilirubin, tympanometry, and determination of the mean threshold of pure tones at low frequencies or high frequencies for a subset of adolescents, to assess levels of total serious bilirubin associated with different subtypes of sensorineural hearing loss.	Low-frequency noise (LPTA: 500, 1000, 2000 Hz); high-frequency noise (HPTA: 3000, 4000, 6000, and 8000 Hz).	Total serum bilirubin levels were associated with any high-frequency SNHL (HPTA > 15 dB in at least one ear) in adolescents in the USA; high-frequency SNHL with HPTA > 15 dB in both ears (bilateral) or with HPTA ≥ 25 dB in at least one ear had a stronger association with total serum bilirubin levels than HPTA > 15 dB in only one ear (unilateral) or HPTA = 15–25 dB in at least one ear.
2018	Ishitake [43]	9000 (≥20 years)	Annoyance; sleep disorders	Conducting an environmental epidemiological study and assessing the effects on sleep disturbance due to low-frequency noise generated by wind power installations, based on residents living in areas close to the source. Assessment of sleep disorders using the Athens Insomnia Scale. Assessment of environmental noise in residential areas (50 community centres) close to the noise source by measuring infrared and low-frequency sound exposure levels.	Infrared, low-frequency (20 Hz) and infrasound (<20 Hz).	As for sleep disturbances caused by infrasound (20 Hz or less), the noise level of the wind turbine measured in the ultra-low-frequency range is below the human sensory threshold. Of the participants, 63% heard the noise when the distance was less than 1000 m. However, the hearing rate decreased significantly when the distance was increased to 5000 m, when only 2% of the participants heard the noise. Based on the Athens Insomnia Scale, 40% of participants had sleep disorders when the distance was less than 1000 m. However, the frequency of sleep disorders decreased to 22% with an increase in distance. Amplitude-modulated sounds and pure tones contained in the noise generated by wind power generation facilities tend to increase annoyance.
2018	Chalansonnet et al. [73]	133 rats	Balance effects	Study of how exposure to low-frequency noise combined with 250 ppm CS <sub>2</sub> affects rat balance. Vestibular function was tested based on post-rotational nystagmus recorded by a video-oculography system. These measurements were completed by behavioural tests and cerebellar analysis to measure levels of gene expression associated with neurotoxicity.	Low-frequency noise, ranging from 0.5 to 2 kHz at an intensity of 106 dB SPL.	Coexposure to CS-250 ppm and low-frequency noise reduced the number and duration of the withdrawals by 33% and 34%, respectively. It was observed that the effects of CS <sub>2</sub> were due to reversible neurochemical disorders of the efferent pathways that manage post-rotational nystagmus. Since the nervous structures that involve vestibular function seem particularly sensitive to CS <sub>2</sub> , post-rotational nystagmus can be used as an early non-invasive measure to diagnose CS <sub>2</sub> poisoning as part of an occupational conservation programme.
2018	Min and Min [74]	466,822 (217,308 with gastric ulcer + 249,514 with duodenal ulcer)	Peptic ulcer (gastric and duodenal)	Investigation of the incidence of peptic ulcers in adults due to long-term exposure to environmental noise. The diagnosis of gastric and duodenal ulcers was made during an 8-year follow-up (2006–2013). Environmental noise data were obtained from the National Noise Information System, a national noise monitoring system.	The interquartile range (IQR) for nighttime noise exposure was 2.37 dB for gastric ulcers and 2.41 dB for duodenal ulcers.	Gastric ulcers occurred in 32.1% of individuals, and duodenal ulcers, in 10.7% of individuals. The diagnostic rate for gastric and duodenal ulcers increased with increasing cumulative mean levels of nighttime ambient noise. With increases in the IQR of nighttime noise, the risk rate increased significantly by 12% for gastric ulcers and 17% for duodenal ulcers, based on the fully adjusted model.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Pohl, Gabriel and Hübner [44]	212 (1st phase) and 133 (2nd phase)	General mental indisposition; reduced performance and work capacity; lack of concentration; fatigue; voltage; nervousness; dizziness; irritability; indisposition; reduced sleep quality; annoyance	A total of 212 persons participated in the first survey; nearly two-thirds (133 persons) remained in the second. Accordingly, a third dropped out ("dropouts"; 79 participants). Indeed, dropouts differed statistically from the other participants only in terms of education level and household size. The remaining participants had higher education levels and slightly larger households compared to the dropouts (small effect size for each). These socio-demographic variables had no significant influence on the central stress and attitude indicators; significant differences in the central attitude and annoyance assessments were not apparent. Longitudinal study, based on the methodology of stress psychology with noise measurements, in which residents of a wind farm in Lower Saxony were interviewed on two occasions (2012, 2014), using audio equipment to record irritating noises. Several residents complained of physical and psychological symptoms due to traffic noise (16%) and wind turbine noise (10%; two years later, 7%), which allowed the assessment of some symptoms caused by noise exposure.	Noise from low-frequency wind turbines (<100 Hz).	Participants reported more symptoms in 2012 than in 2014. From 2012 to 2014, sleep disorders decreased and symptoms of impaired performance were not repeated. Only a few participants showed evidence of low-frequency (<100 Hz) wind turbine (WT) noise effects: in 2012, 8.5% reported feelings of pressure related to wind farms and 6.1% experienced vibrations in the body. The annoyance experienced induced by feelings of pressure or vibrations was slightly greater in 2012. Symptoms of dizziness were not observed. The participants had more symptoms and greater irritation due to traffic noise than to wind noise.
2018	X. Wang, Lai, Zhang and Zhao [75]	6 (3 exposed, 3 unexposed) Bama pigs	Effects on the blood–brain barrier (BBB)	Investigation of the effect of noise exposure on the blood–brain barrier (BBB). Healthy male Bama pigs were randomly divided into a noise exposure group and a control group (no noise) for 30 min. After exposure, brain imaging was performed using computed tomography and fluorescent images.	Low-frequency noise (50, 70, 100, and 120 Hz at 140 dB).	The BBB permeability test showed that 50, 70, and 100 Hz noise exposure at 140 dB increased the BBB permeability, and the BBB opening at 70 Hz was more severe and reversible. Tomographic images demonstrated that noise-induced opening of the BBB did not cause intracerebral haemorrhage.
2018	Suzuki, Suzuki, Onishi and Penido [49]	110	Tinnitus and LFN discomfort	Classification of persistent tinnitus and its comparison with pure tone or noise, high or low pitch, presented to the patient by the sounds of the audiometer. Participants were subject to inclusion and exclusion criteria. The following evaluations were performed on patients: otorhinolaryngological, audiological, Pitch Matching and Loudness, Visual Analogue Scale, Tinnitus Handicap Inventory, and Minimum Masking Level.	Three types of noise: white noise (WN), narrow band low frequency (LFNB) at 500 Hz, and narrow band high frequency (HFNB) at 6000 Hz.	A total of 181 tinnitus complaints were identified, in which the presence of pure tone type tinnitus was observed in 93 (51%) of the responses (4 from low pitch and 89 from high pitch) and from noise in 88 (49%) of the responses (15 low frequency and 73 high). For tinnitus with low-frequency sensation, 19 responses were determined, while for high-frequency sensation, 162 responses were determined. Visual Analogue Scale average of 5.47 for tinnitus similar to pure tone, and 6.66 for that similar to noise. Average Loudness for tinnitus similar to the pure tone of 12.31 dBNS, and for that similar to the noise of 10.54 dBNS.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Paunović, Jakovljević and Stojanov [76]	112 (82 women and 30 men, aged 19 to 32).	Blood pressure; haemodynamic events	Study divided into three 10-min phases: resting in quiet conditions before noise, exposure to traffic noise, and resting in quiet conditions after noise. Measurement of blood pressure, heart rate, and haemodynamic parameters (cardiac index and total peripheral resistance) with a chest bioimpedance device. Use of four statistical models to answer the study questions.	Exposure to noise: resting in quiet conditions before noise (Leq = 40 dBA); exposure to noise registered in traffic (Leq = 89 dBA); resting in quiet conditions after noise (Leq = 40 dBA).	Blood pressure decreased during the quiet phase before noise, increased in the first minute of exposure to noise, then gradually decreased at the end of exposure to noise, and continued to decrease to baseline values after exposure to noise. The cardiac index showed a gradual decrease throughout the experiment, while the total vascular resistance increased steadily during and after exposure to noise.
2019	Negishi-Oshino et al. [77]	Rats	Irreversible imbalance with structural damage to the otoconial membrane	Assessment of rats' imbalance due to acute exposure to LFN. The exposed rats also showed decreased cervical vestibular evoked myogenic potential (cVEMP) with impaired vestibular hair cell activity.	LFN with a frequency of 100 Hz at 85, 90, or 95 dB.	The results of this study demonstrate that acute exposure to LFN at 100 Hz at 95 dB for just 1 h caused irreversible imbalance in rats with structural damage to the otoconial membrane, as the target region for the LFN-mediated imbalance, which could be rescued by Hsp70.
2019	Lee, Park, Jeong, Choung and Kim [50]	400	Discomfort and sensitivity to noise; blood pressure; annoyance due to noise	The study recruited healthy residents aged between 20 and 60 years. Effects of exposure to transport noise on blood pressure in adult residents of multi-storey residential buildings, modification of the effects of discomfort from and sensitivity to internal noise, and self-assessed associations between transport noise and blood pressure. Measurement of noise levels at the top of buildings for 24 h, forecasting the levels of each unit in the house for different sources and periods using noise maps. Conducting adjusted linear regression analyses to estimate associations between noise exposure levels and systolic blood pressure (SBP) and diastolic blood pressure (DBP). Conducting a questionnaire with questions about annoyance from and sensitivity to noise and sociodemographic variables.	Exposure to noise (Lden, LDay, and LNight).	General noise (road traffic and rail noise) and road traffic showed stronger associations with SBP than with DBP, while rail noise had similar associations with SBP and DBP. Stronger associations were estimated for participants who reported higher ratings of annoyance by internal noise. The results support the hypothesis that long-term exposure to transport noise is associated with higher blood pressure in adults living in multi-storey residential buildings.
2019	Scherer and Formby [78]	151	Tinnitus retraining therapy (TRT); sound therapy (ST); tinnitus-specific educational counselling (TC)	Comparison of the effectiveness of TRT and its components, ST and CT, with the standards of care (SoC) in reducing the negative effect of tinnitus on quality of life. Study carried out in 6 military hospitals, in the office and in a data coordination centre, among active, retired, and dependent military personnel with functionally adequate hearing sensitivity and moderate to severe subjective tinnitus, with the objective of treating the military.	LFN (tinnitus).	There were few differences between treatment groups. About half of the participants showed clinically significant reductions in the effect of tinnitus.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Poulsen et al. [45]	Residences between 20 and 40 inhabitants	Annoyance; sleep disorders; depression	Evaluation of the evolution of medical prescriptions related to anxiolytics and antidepressants ingested by the populations that lived near the wind turbines, in an analysis that lasted two years (2012 to 2014). A total of 7256 wind turbines (WT) was considered in noise modelling. The authors collected information on model, type, height, and operational settings. Each WT was classified into one of 99 noise spectra classes, with detailed information on the noise spectrum from 10–10,000 Hz in thirds of octaves for wind speeds of 4–25 m/s.	Exposure to outdoor wind turbine noise (WTN) at night (<24, 24 to <30, 30 to <36, 36 to <42, and ≥42 dB) and nighttime low frequency indoor WTN (<5, 5 to <10.10 and <15, and ≥15 dB).	High levels of outdoors WTN associated with use of anxiolytics and antidepressants among the elderly, suggesting that WTN may be potentially associated with sleep and mental health.
2019	Tao, Wang, Zou, Li and Luo [51]	100	Irritation and sensitivity to noise	Assessment of noise irritation in the metro deposit and the influence of noise in adjacent residential buildings. Conducting a questionnaire with people who worked at the metro station and made field measurements, both at the metro station and in the adjacent residential buildings.	LFN and HFN (31.5, 63, 125, 250, 500, 1000, 2000, 4000, 8000, and 16,000 Hz)	Of respondents, 96% are disturbed by the noise and 31% of them feel that the impact of the noise is serious. They found that there is a problem of annoyance due to low-frequency noise. The authors evaluated that the noise level caused by the fans decreases with the height of the floors and that the shorter the distance between the building's fans and ventilation, the more severe the impact of the noise. They concluded that, with the increase in the distance to the noise source, the noise attenuation rate increases.
2019	Poulsen et al. [64]	717,453	Myocardial infarction (MI), stroke	The authors used the Danish Civil Registration System to identify the study cohort, defined as all adults (aged 25–84 years) who lived in one of these inclusion dwellings any time between five years before the erection of the first neighbouring WT and the end of 2013. Assessment of the impact of MI and stroke risk when there is long-term exposure to noise from wind turbines. Based on hospital and mortality records, an analysis was made of the number of cases of myocardial infarction and stroke that existed in homes located around wind turbines.	Exposure to wind turbine noise (WTN) at night outdoors (≥24 dB) and nighttime low frequency indoor WTN (≥5 dB; 10–160 Hz)	High long-term exposure to noise from wind turbines is associated with an increase in myocardial infarction and strokes.
2019	Hansen, Nguyen, Zajamšek, Catcheside and Hansen [55]	9 (residences) A total of 8716 and 8972 10 min samples of outdoor and indoor data	Annoyance	The outdoor measurements carried out at 9 different residences located between 1 and 9 km from the nearest wind turbine of a South Australian wind farm (37 operational turbines), each with a rated power of 3 MW. The wind farm is positioned along the top of a ridge, and the wind turbine hub height relative to the residences varies between 85 and 240 m. At all residences, the indoor measurements were taken in a room that faced as closely as possible towards the wind farm and the windows were closed. The presence of amplitude modulation in the noise of wind farms results in increased annoyance and possible interruptions in sleep. The study investigated the prevalence of this characteristic present in homes close to the wind farm.	-	During the night, audible amplitude modulation occurred in homes located 3.5 km from the wind farm up to 22% of the time. This had important implications for possible sleep disruptions and annoyance due to the wind farm by audible amplitude modelling, particularly as ambient noise levels in rural South Australia can be as low as 15 and 5 dBA, outdoors and in closed areas, respectively.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Phadke, Abo-Hasseba, Švec and Geneid [79]	140 (between 21 and 56 years)	Voice disorders: dysphonia; neck pain; vocal effort	This study aimed to identify possible correlations between the vocal symptoms of teachers and their perception of noise, the locations of schools, as well as the locations and conditions of their classrooms. They carried out a questionnaire, whose answers were analysed statistically, with questions about the severity and frequency of their voice symptoms, noise perception, and the locations and conditions of their schools and classrooms.	-	Teachers experienced severe dysphonia, neck pain, and increased vocal effort with weekly or daily recurrence. Among the teachers who participated in the study, 24.2% felt that they were always in a noisy environment, with 51.4% of the total participants reporting having to raise their voices. The most common sources of noise were student activities and conversations in the teachers' own classrooms (61.4%), noise from adjacent classrooms (52.9%), and road traffic (40.7%).
2019	Smith, Ögren, Ageborg Morsing and Persson Waye [47]	23	Disorders in physiological sleep; heart rate	The study volunteers slept for five nights in a sound environment laboratory, which was furnished like a typical apartment. The participants were instructed to start trying to fall asleep at 23:00 each evening and were woken with an alarm call at 07:00 each morning. Sleeping at times outside of this 8 h period was not permitted. Participants could follow their normal daytime routine but arrived at the laboratory by 20:00 each evening to allow time for relaxation and the setup of the sleep-measuring equipment. Caffeine was prohibited after 15:00 each day, and alcohol was prohibited at all times. Evaluation of the effects on physiological sleep resulting from the exposure of participants to railway noise for five consecutive nights, using polysomnography and questionnaires. Heart rate was measured by electrocardiography.	Frequencies of 35, 40, and 45 dB.	No significant differences were found in the overall structure of sleep disorders between the reference tests and the 35 dB night tests. Regarding cardiovascular diseases, they observed that the noise spectrum with amplitude frequencies greater than 100 Hz led to increases in heart rate for noise levels equal to or greater than 35 dB.
2019	Zare et al. [80]	75	Serum cortisol concentration	The study aimed to examine the effect of sound pressure level (SPL) on the serum concentration of cortisol at three different times during the night shift, in an industrial and mining company. Participants were divided into three groups (one control and two groups of cases, with 25 each). Dosimetry was adopted to evaluate SPL equivalents using a TES-1345 dosimeter. The serum cortisol concentration was measured using a radioimmunoassay (RIA) test in the laboratory.	Exposure levels of 67, 80, and 92 dB.	The results indicated a downward trend in the serum cortisol concentration of the three groups during the night shift. SPL and exposure time significantly affected cortisol concentration. Age and body mass index had no significant influence on the concentration of cortisol. It was concluded that an increase in SPL leads to an increase in serum cortisol concentration.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Moradi et al. [52]	28 (14 females and 14 males)	Stress; noise sensitivity; annoyance	The study was conducted on students at different levels of educational programmes in an acoustic room in the School of Public Health, Iran University of Medical Sciences, in 2016. The study subjects were comprised of 14 female and 14 male university students who met the following entrance criteria: normal sense of hearing (hearing loss less than 20 dB) and no sensitivity to noise. Study of the effects of noise on selective attention of university students. They carried out questionnaires to determine students' personality traits (extroverted or introverted) and analyse their stability or instability. Evaluation of the level of sensitivity to noise, using the Weinstein sensitivity scale, and the level of selective attention, using the DUAF test.	80 dBA noise at 4000 Hz frequency	Introverted participants are more sensitive to noise than extroverts. The most noise-sensitive participants showed greater stimulation during exposure to noise, which led to increases in incorrect responses and a decrease in mental performance. The participants' personal traits are related to their annoyance due to noise. Stress due to noise improves selective attention in outgoing individuals.
2019	Alves, Silva and Remoaldo [53]	200 questionnaires + 62 measurements of noise levels + 14 adapted audiometric tests	Annoyance from LFN; audibility threshold	Analysis of the effects of exposure to low-frequency noise pollution, emitted by poles and power lines, on the well-being of the population, based on a study of “exposed” and “unexposed” individuals in two areas. Conducting audiometric tests adapted to complement the analysis and determine the audibility threshold of the volunteers. Sound level measurement and sound recording (at a distance of 5 m from the source), as well as the adapted audiometric performance test.	Frequency range between 10 and 160 Hz	The “exposed” area has higher sound levels and, consequently, more welfare and health problems than the “unexposed” population. Audiometric tests also revealed that the “exposed” population appears to be less sensitive to low frequencies than the “unexposed” population.



Van Kamp et al. [40] explored the determinants of annoyance due to tinnitus, that is, low-frequency noise. This article explored the relationship between contextual, situational, and personal characteristics with the level of annoyance due to low-frequency noise, based on secondary analysis of existing data. The results obtained showed significant differences between cities and neighbourhoods, a significant association between background noise levels during the day, and an inverse effect at night. The level of background noise, sensitivity to noise, and dissatisfaction with the residential situation were strongly associated with higher levels of annoyance. Based on the association with nighttime background levels, it was found that the lower the levels, the greater the annoyance due to tinnitus [40].

The main results of the studies by Blair et al. [46] and Pohl, Gabriel, and Hübner [44] have already been described in Section 3.2. Blair et al. (2018) found that the average noise levels during the construction and drilling of an oil and gas well exceeded the levels associated with health annoyance; that is, they were above 50 dBA or 60 dBC [46]. Pohl, Gabriel, and Hübner [44] found that the annoyance experienced was very low and that symptoms of dizziness were not observed in this study.

Ishitake [43] carried out a study regarding annoyance due to wind energy, with a questionnaire carried out for the analysis. In this survey, it was observed that 81% answered that they did not feel annoyed due to the generation of wind energy, while 8% answered that they felt very or a little annoyed [43].

The results related to noise annoyance determined by Moradi et al. [52] and Lee et al. [50] have already been covered in Section 3.3. However, in addition to what was mentioned earlier, Lee et al. [50] concluded that the closest associations between noise exposure and blood pressure were estimated for participants who reported higher classifications of annoyance, irritation, and sensitivity to noise. This indicates that the annoyance from internal noise and sensitivity to noise develop regardless of the level of exposure to external noise. The authors also found that people who were sensitive to noise and participants most irritated due to internal noise had significantly higher SBP and DBP than others [50].

Finally, Hansen et al. [55] determined an audible internal low-frequency tone modulated in amplitude in the frequency of the passage of the blade for 20% of the time up to a distance of 2.4 km. The audible amplitude modelling took place for a similar percentage of time between the wind farm's percentage power capacities of 40% and 85%. The modelling of the audible amplitude in the interior still occurred for 16% of the time at a distance of 3.5 km. At distances of 7.6 and 8.8 km, audible amplitude modelling was only detected on one occasion. During the night, audible amplitude modulation occurred in homes located 3.5 km from the wind farm up to 22% of the time. This had important implications for possible sleep disruptions and annoyance due to the wind farm by audible amplitude modelling, particularly as ambient noise levels in rural South Australia can be as low as 15 and 5 dBA, outdoors and in closed environments, respectively [55]. Although the geometric dimension of the room was not considered in the study by Hansen et al. [55], it is an important variable for this type of study.

### 3.5. Hearing Loss

Although hearing loss is reported as an effect on human health due to exposure to noise, the studies analysed were not totally conclusive regarding hearing loss due to low-frequency noise.

Selander et al. [58] assessed the impairment of children's hearing when occupational noise exposure occurred during pregnancy. They carried out a prospective cut study and determined cases of hearing impairment in children based on medical records and interviews conducted with prenatal unit teams, in a sample of births between 1986 and 2008 [58]. With the information collected, they established risk models to estimate data related to the impairment of children's hearing when exposed to noise with a strong low-frequency component during pregnancy [58].

Wang et al. [59] evaluated the exposure to noise from traffic and established a comparison regarding the potential risk of hearing loss for residents.

Ohgami, Oshino, Ninomiya, Li, and Kato [60] and Venet et al. [61] addressed experimental studies in rats and the assessment of hearing loss when they are exposed to low-frequency noise.

Ohgami et al. [60] carried out a survey of experimental studies carried out on rats when exposed to low-frequency noise and made an assessment of associated hearing loss. In this review, the imbalance in rats when exposed to noise was also assessed [60]. However, Venet et al. [61] effectively performed experimental tests on rats, testing the hearing of the rats with equipment (cubic DPOAEs – Distortion product otoacoustic emissions) when the animals were exposed to low-frequency noise combined with carbon disulfide (CS<sub>2</sub>). The rats' hearing was tested before, during, and after exposure to noise, and blood samples were taken to assess the exposure to CS<sub>2</sub> [61].

Zhou and Fu [62] performed measurements to assess levels of total serum bilirubin, performed tympanometry, and examined pure tone thresholds at low or high frequencies associated with adolescents with different subtypes of sensorineural hearing loss (SNHL), using binary or multinomial logistic regression models.

Regarding the results, Selander et al. [58] divided the sample into three parts: (i) mothers who worked full time, (ii) mothers who worked part-time, and (iii) mothers absent from work during pregnancy. They observed an increased risk of hearing impairment in children after exposure to occupational noise during pregnancy. In the sample considered in the study, they determined adjusted risk rates for 75–84 dBA and  $\geq 85$  dBA, compared to  $<75$  dBA, of 1.05 and 1.27, respectively. They observed 60, 42, and 14 highly exposed cases for all hearing disorders, sensorineural hearing loss, and tinnitus, respectively. They also determined that the adjusted risk rate for exposure to occupational noise  $\geq 85$  dBA compared to  $<75$  dBA was 1.82, based on 14 exposed cases and 2222 cases with low exposure. However, the corresponding relative risks (HR) were 1.25 for high exposure among mothers classified as part-time and 0.74 for women who had more than 153 days of absence from work during pregnancy or who were not working at the time of the interview. Finally, [58] found that, among mothers working full-time, high exposure to occupational noise was associated with an increased risk of hearing impairment. The authors also observed an increase in the risk of hearing impairment of the foetus for the case of mothers who worked part-time. On the other hand, [58] did not find an increased risk of hearing impairment in children whose mothers reported exposure to occupational noise in early pregnancy but were absent from work during pregnancy. Thus, the fact that the mother's risk increases with presence at work proves that occupational noise during pregnancy is associated with an increased risk of hearing impairment in children [58].

Wang et al. [59] observed that the mean annual Leq over 24 h in the flow and commercial channel areas was  $71.2 \pm 1.0$  and  $70.0 \pm 2.6$  dBA, respectively, revealing a potential risk of hearing loss among residents [59].

Ohgami et al. [60] determined that a sound stimulus of 375 Hz, a frequency below the audible range of rats, causes a hearing reduction in wild type rats, while in rats with an abnormal otolytic morphology, no hearing loss was observed.

Venet et al. [61] observed that, after the period of contact with noise, exposure due to noise alone caused a hearing reduction in an area of frequency that varied between 3.6 and 6 kHz. The damaged area was approximately one octave (6 kHz) above the highest frequency of the exposure noise (2.8 kHz). Since the maximum auditory sensitivity is located at around 8 kHz in rats, exposure to low-frequency noise can affect the cochlear regions that detect mid-range frequencies. Exposure to CS<sub>2</sub> (250 ppm or more) and noise increased the extent of the damaged frequency window, as a significant reduction in hearing was measured at 9.6 kHz in these conditions, with an increase in CS<sub>2</sub> concentrations [61].

Finally, Zhou and Fu [62] determined that total serum bilirubin levels were associated with any subtype of high-frequency sensorineural hearing loss (SNHL). However, they observed that total serum bilirubin levels were not significantly associated with any low-frequency SNHL (bilateral or unilateral; LPTA greater or lesser) [62].

### 3.6. Cardiovascular Disease/Heart Rate

Cardiovascular diseases (variations in heart rate) are another effect on human health due to exposure to low-frequency noise.

Walker et al. [63] and Smith et al. [47] used electrocardiograms to measure participants' heart rates when they were exposed to low-frequency noise. In the case of [63], participants were also subjected to blood pressure measurements and saliva samples were collected before, during, and after exposure to noise. Based on linear regression models, the differences between the results obtained before, during, and after the noise were examined [63]. In the case studied by Smith et al. [47], the authors measured participants' heart rates when they were exposed to railway noise.

Poulsen et al. [64] assessed the impact of the risk of myocardial infarction and stroke when there is long-term exposure to noise from wind turbines. Based on hospital and mortality records, they analysed the number of cases of myocardial infarction and stroke in homes located around wind turbines [64].

Wang et al. [59] evaluated the exposure to noise from traffic and established a comparison in relation to the prevention threshold established for cardiovascular diseases.

The methodology adopted by Blair et al. [46] has already been referenced in Section 3.2. According to [46], noise levels above 50 or 60 dBA can cause cardiovascular effects.

Rossi et al. [65] measured the changes in cognitive and physiological parameters—in particular, the response time and heart rate—of participants when exposed to tonal noise (silence or multi-band stochastic noise), low-frequency and low-frequency stochastic noise, and low-frequency stationary noise with regular amplitude modulation.

As for the results, Walker et al. [63] concluded that during exposure to noise, the reductions in heart rate variation (HRV) were 19% with low-frequency power and 9.1% according to the mean square difference between the intervals of adjacent normal heartbeats (RMSSD). On the other hand, during exposure to low-frequency noise, the reductions in HRV were 32% with high-frequency power, 34% with low-frequency power, and 16% according to the standard deviation of the adjacent normal heartbeat intervals (SDNN). Finally, during exposure to low-frequency noise, the reductions in HRV were 21% with low-frequency power, compared to that with exposure to noise. As a general conclusion, [63] determined that exposure to noise—and, in particular, low-frequency noise—negatively affects heart rate variation, which affects health in terms of cardiovascular diseases [63].

Part of the results observed by [47] and [46] have already been described in Section 3.2. Regarding cardiovascular diseases, [47] also observed that the noise spectrum with amplitude frequencies greater than 100 Hz led to increases in heart rate for noise levels equal to or greater than 35 dB and increasing the probability of excitation at a noise level of 45 dB. Meanwhile, [46] concluded that continuous weighted noise above the 50 dBA threshold can cause health effects, such as an increased risk of cardiovascular disease and hypertension [46].

Wang et al. [59] concluded that the average annual equivalent noise levels (Leq, 24 h) were  $66.4 \pm 4.7$  dBA, which exceeded the threshold established for the prevention of cardiovascular diseases.

Rossi et al. [65] concluded that, on average, participants decreased their response times in noise conditions compared to silence conditions; that is, there was evidence of increasing stress, according to the excitation theory. In this study, they observed that participant exposure to low-frequency noise 1 and 2 (LFN1 and LFN2, respectively) produced cognitive stress comparable to stochastic multi-tonal broadband noise (BBN). Subdividing the participants into extroverts and introverts, they demonstrated that LFN1 and LFN2 produced higher stress effects in introverted participants than BBN noise on cognitive performance, but had no effect on extroverts. In addition, heart rates increased significantly in the introverts during the tests, compared to those in a condition of silence before the start of the Stroop effect, while the extroverts showed no changes [65].

Finally, [64] concluded that, for external nighttime noise from long-term-operated wind turbines greater than 42 dBA and low-frequency noise from internal wind turbines greater than 15 dBA, the risks were slightly higher for myocardial infarction than those from exposures less than 24 and 5 dBA, respectively, but the number of cases was low in the groups with the highest exposure. As for strokes, all low-frequency noise levels from internal wind turbines were associated with adjusted incidence rates close to 1.0, while for noise from external wind turbines, the adjusted incidence rates were greater

than 1.0 for the groups of intermediate exposure, and lower than the unit for the groups with greater exposure. High long-term exposure to wind turbine noise was associated with slightly elevated point estimates for myocardial infarction, for both exposure to outdoor wind turbine noise and exposure to potentially more biologically relevant indoor wind turbine noise [64].

#### 4. Conclusions

In the present research, 39 articles addressing exposure to low-frequency noise and its impacts on human health were analysed in depth. The articles were divided into categories according to the emitting source of the noise, and the effects on human health were addressed. Regarding the emitting source, there was a greater number of articles addressing issues related to environmental noise and wind turbine sources.

As for the effects generated on human health, there was a greater number of articles referring to effects on sleep disorders, discomfort, sensitivity to and irritability from noise, annoyance, hearing loss, and cardiovascular diseases, and these effects were analysed in more detail in this article.

In the case of impacts on sleep disturbance, a dependence on the distance to the source of noise was observed; that is, the greater the proximity to the source, the greater the effects on sleep, as established by [41,43]. With long-term noise exposure, noise sensitivity is lower, which reduces the effects on sleep disturbance, as determined by [44]. Exposure to noise at night disturbs sleep and causes more frequent awakenings, less deep and non-continuous sleep, and morning tiredness in the participants, as discussed by [42,47].

With increasing age, especially for people over the age of 65, exposure to noise causes sleep disturbances, which adds to the demand for sleeping pills and antidepressants, as determined by [45].

According to [46], the average noise levels exceeded the levels for sleep disturbances established for human health.

Discomfort, irritability, and sensitivity to noise were among the effects analysed. Discomfort due to noise depends on the proximity of people to the emitting source, making their sensitivity to noise different. Tao et al. [51] proved that with increased distance from the noise source, the noise attenuation rate increases, due to the fact that they feel uncomfortable and disturbed by the low-frequency noise. Alves et al. [53] observed that constant exposure to noise makes people less sensitive to the perception of noise compared to people who are more distant from the emitting source, necessitating greater sound intensity for the perception of low-frequency noise. This sensitivity of people to noise leads to a decrease in their mental performance, as ascertained by [52], and an increase in blood pressure, especially when people are more irritated, as noted by [50]. Huang et al. [48] observed that the convenience of sound does not increase with distance from the ground for buildings of great height, such as skyscrapers, and that exposure to this noise has an impact on the annoyance and discomfort of its residents. However, Suzuki et al. [49] noted that there was a low percentage of people who were uncomfortable with the presence of low-frequency noise compared to the presence of high-frequency noise.

Background noise levels and sensitivity to noise are associated with higher levels of annoyance; that is, they exceed the thresholds established for this health effect, as indicated by [40,46,54]. Moradi et al. [52] also confirms that the level of annoyance when exposed to noise varies with people's personal traits, with greater sensitivity and annoyance in introverts than in extroverts. Exposure to noise from rail transport is associated with the blood pressure of exposed people, which indicates that people with greater sensitivity to noise, greater annoyance, and more irritability have higher blood pressure values than those who do not have these symptoms, as studied by Lee et al. [50]. Thus, the annoyance increases with exposure to noise, especially when people experience unconventional noise. As described by [81], a greater disturbance is observed due to railway noise in people who are not normally exposed to this noise source. Hansen et al. [55] noted that noise levels had implications for annoyance due to exposure to the wind farm. However, both Pohl et al. [44] and Ishitake [43] determined that people do not feel annoyed due to exposure to wind energy noise. New

methodologies for the evaluation of noise emitted by wind turbines could be used to provide new findings in this field [82].

Exposure to noise causes a potential risk of hearing loss in people subjected to it, as studied by Wang et al. [59] and Venet et al. [61]. Venet et al. [61] also determined that exposure to carbon disulfide (CS<sub>2</sub>) and noise caused a reduction in the auditory level when an increase in CS<sub>2</sub> concentrations was observed. Exposure to occupational noise during pregnancy was also a topic studied by Selander et al. [58] who proved that exposure to this type of noise is associated with the risk of increased hearing impairment in children, with greater relevance in mothers who worked full-time and part-time during pregnancy. Through experiments on rats, Ohgami et al. [60] observed a hearing reduction in wild type rats, in contrast to in rats with an abnormal autolytic morphology in which this hearing loss was not observed. However, studies were observed in which no effects associated with hearing loss were found with exposure to low-frequency noise, as ascertained by Zhou and Fu [62]. All studies analysed in this domain regarded low and high frequencies, revealing hearing loss in the samples exposed to high frequencies. Hearing loss due to low-frequency noise was not totally observed.

Finally, it was observed that exposure to noise—in particular, low-frequency noise—negatively affects the variation in heart rate, which harms health in terms of cardiovascular diseases, as it exceeds the levels established for the prevention of these diseases, as discussed by Walker et al. [63], Wang et al. [59], and Blair et al. [46]. According to Rossi et al. [65], heart rate increases significantly in introverts compared to in a situation of silence, while extroverts show no change in their heart rate. Smith et al. [47] realized that the heart rate in people increased with greater exposure to noise. High long-term exposure to noise from wind turbines is associated with an increase in myocardial infarction and stroke, as studied by Poulsen et al. [64].

The literature review carried out constitutes a novelty in Portugal, whether in the social sciences or the more exact ones, such as environmental acoustics. It is expected that in future studies, this type of evaluation can be explored for a longer period and more sources of low-frequency noise emission. This may provide important data on low-frequency exposure and its effects on human health, as well as important information on the definition of limits for installing wind farms and other sources of low-frequency noise. While some type of impacts on health have not yet been analysed and continue to be an understudied field, the impacts studied can provide good advice for the planning field. Thus, these studies can point out good ways of minimising the influence on human beings and can constitute a good tool for the preventive dimension of planning.

**Supplementary Materials:** The following are available online at <http://www.mdpi.com/2076-3417/10/15/5205/s1>. A list of 142 references.

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## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 8:56 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD - 1983

Thanks,

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 7:30 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD - 1983

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**From:** Linda hall <[johnlindahall@msn.com](mailto:johnlindahall@msn.com)>  
**Sent:** Thursday, March 28, 2024 8:51 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Fwd: Protest PUD - 1983

You don't often get email from [johnlindahall@msn.com](mailto:johnlindahall@msn.com). [Learn why this is important](#)

**From:** Linda hall <[johnlindahall@msn.com](mailto:johnlindahall@msn.com)>  
**Date:** March 27, 2024 at 3:27:53 PM CDT  
**To:** [cityclerk@okc.gov](mailto:cityclerk@okc.gov)  
**Subject:** Protest PUD - 1983

I Linda Hall hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kirkpatrick Turnpike. If this is approved I have the following concerns.

1. I live in the blast zone (1 mile away) Even though I might not hear the music I will feel the vibrations and possibly the bass. In research of other similar amphitheaters people three miles away feel the vibrations strongly in their homes. This is a residential community that houses elderly and many school age children. The 2 schools right at the property will be affected as well as the sleep of the children that attend there.

2. The increased traffic that will happen every evening there is a concert will be extremely disruptive to our residential areas. As you know 1,000s of homes have been added to the

area in the last five years, however the infrastructure has not been improved enough to handle that surge in people. The amphitheater will not help to improve the infrastructure but will further deteriorate it. The drainage remains a concern. The roads are mainly two lane except for the few major streets they have widened. When the turnpike was extended the 40 enters onto the turnpike right at the 15th street off-ramp. As it is now the traffic backs up onto the turnpike between 4:30 to 6:30. You add 3000 plus cars trying to get to the amphitheater for a 7:00 concert and you will have not only horrific traffic jams but the residents of the area cannot get home and several may be late to the concert. Emergency vehicles will have a difficult time getting through. In addition there are only 3,500 parking spaces and 12,500 seats! No rapid transit! Where will they park? In our neighborhoods?

3. Our residential property values will go down, we may not even be able to sell. No one wants to buy a house that vibrates and has excessive traffic several nights a week.

Please be respectful of the thousands of residents that are affected by this PUD, and keep our communities safe and noise/vibration free. I am a homeowner of the property at 9901 SW 15th Terrace Yukon OK 73099. Please vote to deny and reject PUD - 1983.

Thank you for your consideration,  
Linda Hall

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:02 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD - 1983

Thanks,

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 7:30 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD - 1983

---

**From:** Linda hall <[johnlindahall@msn.com](mailto:johnlindahall@msn.com)>  
**Sent:** Thursday, March 28, 2024 8:51 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Fwd: Protest PUD - 1983

You don't often get email from [johnlindahall@msn.com](mailto:johnlindahall@msn.com). [Learn why this is important](#)

**From:** Linda hall <[johnlindahall@msn.com](mailto:johnlindahall@msn.com)>  
**Date:** March 27, 2024 at 3:27:53 PM CDT  
**To:** [cityclerk@okc.gov](mailto:cityclerk@okc.gov)  
**Subject:** Protest PUD - 1983

I Linda Hall hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kirkpatrick Turnpike. If this is approved I have the following concerns.

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2. The increased traffic that will happen every evening there is a concert will be extremely disruptive to our residential areas. As you know 1,000s of homes have been added to the

area in the last five years, however the infrastructure has not been improved enough to handle that surge in people. The amphitheater will not help to improve the infrastructure but will further deteriorate it. The drainage remains a concern. The roads are mainly two lane except for the few major streets they have widened. When the turnpike was extended the 40 enters onto the turnpike right at the 15th street off-ramp. As it is now the traffic backs up onto the turnpike between 4:30 to 6:30. You add 3000 plus cars trying to get to the amphitheater for a 7:00 concert and you will have not only horrific traffic jams but the residents of the area cannot get home and several may be late to the concert. Emergency vehicles will have a difficult time getting through. In addition there are only 3,500 parking spaces and 12,500 seats! No rapid transit! Where will they park? In our neighborhoods?

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Please be respectful of the thousands of residents that are affected by this PUD, and keep our communities safe and noise/vibration free. I am a homeowner of the property at 9901 SW 15th Terrace Yukon OK 73099. Please vote to deny and reject PUD - 1983.

Thank you for your consideration,  
Linda Hall

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Tuesday, April 2, 2024 2:51 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Lakin, Cynthia A; Welch, Sarah; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983, Sunset Amphitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Wrights, David R III <david.wrights@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Tuesday, April 2, 2024 2:45 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983, Sunset Amphitheater

David Wrights

---

**From:** Calli Hamar <[callihamar@hotmail.com](mailto:callihamar@hotmail.com)>  
**Sent:** Tuesday, April 2, 2024 2:36 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983, Sunset Amphitheater

You don't often get email from [callihamar@hotmail.com](mailto:callihamar@hotmail.com). [Learn why this is important](#)

I protest PUD - 1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike. The following are just a few points I'd like to make:

1. As a homeowner in the neighboring neighborhood, Westbury North, I have great concern on the noise pollution that this Amphitheater will cause. Our neighborhood is quiet and quaint with many families. The stress, of the loud music and events that are planned to be at the Amphitheater, is of great concern for those who have PTSD, Special needs, have children that have early nighttime sleep schedules. We need our city council to protect its residents that they are supposed to be representing.
2. The distraction of the screen that will be used at the events will cause on Turnpike and I-40 drivers!

I have been the homeowner of 10116 Banff Way Yukon, Ok for 11 years this month (April) and ask you to deny the rezoning of this PUD, please!

Sincerely,

Calli Hamar

10116 Banff Way

Yukon, Ok 73099

405-248-0071

## Johnson, Thad A

---

**From:** Nicky Hanson <terry.nicky.hanson@gmail.com>  
**Sent:** Saturday, March 30, 2024 12:02 AM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983

You don't often get email from terry.nicky.hanson@gmail.com. [Learn why this is important](#)

Oklahoma City Clerk's office:

I, Lacy Hanson, hereby protest PUD-1983 application by Mustang Creek crossing LLC to rezone 810 S. John Kilpatrick.

As a resident in Sycamore Creek just west of the planned amphitheater this project would be a nuisance to us and would disrupt and disturb our peace. There are many negative things about this project that would impact our family and our neighbors. Please cease planning, deny the rezoning and find a better location for this project.

Sincerely,

Lacy Hanson  
405-412-2751 | [terry.nicky.hanson@gmail.com](mailto:terry.nicky.hanson@gmail.com)



## Johnson, Thad A

---

**From:** Terry Hanson <thanson000@gmail.com>  
**Sent:** Saturday, March 30, 2024 12:13 AM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983

[You don't often get email from thanson000@gmail.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Oklahoma City Clerk's office:

I, Terry Hanson, hereby protest PUD-1983 application by Mustang Creek crossing LLC to rezone 810 S. John Kilpatrick.

As a resident in Sycamore Creek just west of the planned amphitheater this project would be a nuisance to us and would disrupt and disturb our peace. There are many negative things about this project that would impact our family and our neighbors. Please cease planning, deny the rezoning and find a better location for this project.

Sent from my iPhone

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024

**From:** Terry H <tlh1014@hotmail.com>

**Sent:** Saturday, March 23, 2024 9:17 AM

**To:** City Clerk Email <CityClerk@okc.gov>; Ward1 <ward1@okc.gov>; Ward2 <ward2@okc.gov>; Ward3 <ward3@okc.gov>; Ward4 <ward4@okc.gov>; Ward5 <ward5@okc.gov>; Ward8 <ward8@okc.gov>

**Subject:** PUD-1983

Some people who received this message don't often get email from [tlh1014@hotmail.com](mailto:tlh1014@hotmail.com). [Learn why this is important](#)

To Whom It May Concern:

I am writing as a concerned grandparent of a child attending Mustang Creek Elementary school. I am protesting the PUD-1983 due to concerns of the noise affecting my granddaughters education and home life.

It is easy to find noise complaints of outdoor concert venues across the country. The venues ruin the home life of those that live within a 3 Mile radius. I find astounding this is even being considered with .25 miles from an elementary school and middle school. They have already stated soundchecks will begin while school is still in session. This is unacceptable! It goes against common sense and human decency to put this burden on children.

Please do not approve the rezoning of this area.

Thank you,

Terry and Sue Hargis

Please con

Get [Outlook for Android](#)

## Johnson, Thad A

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**From:** Paul Harless <harless\_p@yahoo.com>  
**Sent:** Monday, March 25, 2024 6:55 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983- Vote NO

You don't often get email from harless\_p@yahoo.com. [Learn why this is important](#)

Mayor Holt and City Council,

My family and I protest PUD-1983 application by Mustang Creek Crossing LLC to refine 810 South John Kilpatrick Turnpike for several reasons. The infrastructure will not hold the anticipated 12,500 additional guests. This area has grown at a rapid pace and its residents already struggle with the crowded roads and businesses. The proposed 3500 parking spots will not even hold the 12,500 guests. This would force overflow parking to be illegally done at the local school and neighborhood streets.

Once you get past the influx of people and traffic there's the issue with the noise that this will create. My in-laws have land several miles away from the Tumbleweed in Stillwater and you can clearly hear the music from that venue. With this proposed venue near the turnpike and highway they will surly need to turn the music louder to overcome the traffic noise in this area. I don't think we should need to deal with the added noise pollution while an out of state investor gets paid.

The secondary issue with bringing in a concert venue to a neighborhood setting are the after concert issues that come with it. There will be a higher number of people driving after drinking. There will be a high chance of other crimes to happen due to the parking lot full of cars. This is just added stress to the already under staffed OKCPD in this area.

I am completely onboard with developing land and bringing in new businesses but you must weigh the consequences that these changes will have on the environment. In this case the environment we need to protect is not the land but the people already living in the surrounding neighborhoods and the children in the adjacent school building.

A question we should ask, is do we need another location for concerts in the city? We have the Zoo Amphitheater, Paycom Arena, Scissortail Park, Firelake Casino, Riverwind Casino, Newcastle Casino, Lucky Star Casino, Diamond Ballroom, The Criterion, Jones Assembly, Civic Center Music Hall, the New State Fair Arena, the New to be built Thunder Arena, and WinStar World Resort. This is just within the metro and southern part of the state. Tulsa has its own list of venues. So do we really need this to be added to the list?

Please vote NO to building an outdoor amphitheater in a neighborhood setting.

Thanks for reading our concerns,  
Paul Harless  
11816 sw 17th St  
Yukon, ok

## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Friday, February 9, 2024 9:43 AM  
**To:** Johnson, Thad A  
**Subject:** FW: Sunset Amphitheater

---

**From:** Josh <[jhayen219@gmail.com](mailto:jhayen219@gmail.com)>  
**Sent:** Thursday, February 8, 2024 8:46 AM  
**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A <[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>  
**Subject:** Sunset Amphitheater

Some people who received this message don't often get email from [jhayen219@gmail.com](mailto:jhayen219@gmail.com). [Learn why this is important](#)

Good morning,

I am a resident of Yukon and have lived in this area the majority of my life, attending Mustang Creek elementary school at a young age and also recently becoming a homeowner with my first little one on the way.

With the current news that a 12,000 person amphitheater is being created, I was initially excited, but thinking of the logistics of it all, I am now 100% against the development of this music venue. Me and my wife currently live across the street from the proposed location of the venue, and the current traffic in the area is terrible to say the least. SW 15th street is currently a 2 lane road with horrendous traffic during drop off and pick up times for the 2 schools located on this street, so much so that the pick up lines cross Sara rd, making the current intersection at Sara Rd. and SW 15th st. dangerous.

Another factor in the creation of this music venue is the noise. These are very quiet neighborhoods, and traffic on the turnpike can already be loud enough. With our first little one on the way, I am worried that the sound from the venue will travel through the house, making an already tiring and stressful time as a parent even harder. A quick google search shows that this is a common complaint of the other venues that have been built near residential areas across the US. Here are some examples:

<https://www.journal-topics.com/articles/noise-from-music-venue-too-much-for-neighboring-residents/>

<https://www.gainesville.com/story/opinion/columns/more-voices/2017/10/22/karen-orr-amphitheater-would-cause-neighborhood-noise-pollution/18182822007/>

<https://kesq.com/cnn-regional/2022/05/11/homeowners-desperate-for-solutions-to-late-night-amphitheater-noise/>

I urge each of you to please consider your position on the topic. I would love a new amphitheater in OKC, but this proposed location is not suited for the traffic and noise.

**Josh Hayen**  
**Yukon Resident**  
**405-328-3262**

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Thursday, April 4, 2024 1:58 PM  
**To:** Olivo Harrison, Elena; Welch, Sarah; Johnson, Thad A; Lakin, Cynthia A; Davis, Benjamin E  
**Subject:** FW: Protest PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Thursday, April 4, 2024 1:17 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

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**From:** Addie Heflin <[addiemheflin@gmail.com](mailto:addiemheflin@gmail.com)>  
**Sent:** Thursday, April 4, 2024 1:15 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>  
**Subject:** Re: Protest PUD-1983

Some people who received this message don't often get email from [addiemheflin@gmail.com](mailto:addiemheflin@gmail.com). [Learn why this is important](#)

I, Addie Heflin, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I ask you to protect our neighborhoods and families from the nuisance this venue will cause so please deny this re-zoning.

OKC, Yukon, and Mustang cities must work together to provide acceptable living conditions to their citizens, especially considering how the city borders are so mangled. The driving conditions between these cities need to be improved with the continued increase in population, and the amphitheater will only worsen driving conditions as well as other areas of the quality of life in neighborhoods surrounding the amphitheater.

Thank you for your attention,

Addie Heflin  
405-503-6809

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:55 am, Mar 04, 2024

**From:** Vicki Henderson <[vhenderson5@yahoo.com](mailto:vhenderson5@yahoo.com)>

**Sent:** Sunday, March 3, 2024 3:04 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [vhenderson5@yahoo.com](mailto:vhenderson5@yahoo.com). [Learn why this is important](#)

Dear Ms. Simpson, (City Clerk

I, Vicki Henderson, hereby **protest the PUD-1983 application** by Mustang Creek Crossing, LLC to rezone 810 South John Kilpatrick Turnpike.

My family and I moved here in June of last year from Texas and were so excited about living in a smaller, yet vibrant community. When we recently found out about the proposal to build the Sunset Amphitheater about ten blocks from our house, we became quite upset and concerned for the following reasons:

**1. NOISE.** The noise this amphitheater would cause on such a regular basis would be unbearable. In Texas, we lived over a mile from a place where they occasionally held huge outdoor concerts like this and it was **impossible to fall asleep** until the concerts were over. Not only that, but the base that permeated and shook our house would cause one of my children and me to get **migraine headaches**. The thought of dealing with that again but on a regular basis and being even closer to the venue is unfathomable. Especially since we intentionally bought a house *away* from any kind of noise.

**2. TRAFFIC.** The current roads in this area cannot handle such an increase of cars. So many of our roads are only **two-way streets with stop signs**, which would make it impossible to navigate with an additional 3500 cars.

**3. PROPERTY VALUE.** Having an amphitheater of this size will decrease the surrounding property values of homes. We know, from experience, that it is very difficult to sell a house that has such consistent noise issues. If we had known that an amphitheater was going to be built just a few blocks from us we never would have purchased this home, which we have now come to love.

**4. SCHOOLS.** While it doesn't affect me personally because my children are in high school and college, Mustang North Middle school and Mustang Creek Elementary school would be gravely affected. Having an amphitheater that can start sound checks at 2:00pm while children are still in school would be disastrous for both the students and the teachers. Students have a difficult time concentrating toward the end of the day anyway, and I can't imagine those poor teachers trying to keep their students' attention while listening to the loud sound checks.

With these reasons in mind, **I strongly protest the PUD-1983 application.**

Sincerely,  
Vicki Henderson  
Ward 3  
10321 SW 23rd Street  
Yukon, OK 73099  
512-897-5713

City Council, City of Oklahoma City  
[cityclerk@okc.gov](mailto:cityclerk@okc.gov)

Jennifer and Adam Hinsperger  
2412 Crystal Creek Drive  
Yukon, OK 73099

Re: PROTEST of PUD #1983

April 3, 2024

Dear Councilmembers:

I write this letter in protest to the proposed “Sunset Amphitheater” (PUD #1983) near S.W. 15<sup>th</sup> Street and Sarah Road in far west Oklahoma City. I grew up in the Mustang/Yukon area and have lived here most of my life. This is a wonderful community and a great place to raise a family. My husband and I have two little boys, who are now two and seven years old. Two years ago, we decided to build what we hope will be our “forever” home along the Mustang Creek in the Crystal Creek at Westbury addition (near S.W. 29<sup>th</sup> Street and Sara. Road). We specifically chose this location not only for the great schools and closeness to family, but also because of the peace and quiet our neighborhood provides. As our house is only a mile and a half from the proposed outdoor amphitheater, we now find the peaceful enjoyment of our own home to be in imminent jeopardy.

There are many obvious reasons why the amphitheater project is a terrible idea for this area. I would like to address the three most troubling to me: noise pollution, the proximity to public schools, and public safety. First and foremost, despite the developer’s claims to the contrary, the sound from the venue will without doubt be intolerable to those of us living close by. Notes Live has already requested a variance above the City’s ordinary decibel limits. And it’s not only the soundwaves traveling through the air that will create a nuisance, but also the incessant bass reverberating through the ground.<sup>1</sup> With the extended curfew Notes Live has also sought from the City, I have no idea how my children will be able to concentrate on homework in the evenings or get to sleep at a decent hour. And, as experience tells us, the venue is unlikely to abide by curfew limits. Shows start late, fans demand encores, and any fine imposed for a curfew violation would be a drop in the bucket to concert organizers. There is simply no effective means of enforcement. For the surrounding neighborhoods, especially the Westbury additions *directly across the street*, there will be no meaningful recourse for the intrusion into their own homes.

Second, the proposed amphitheater will literally back up to the property lines of both Mustang Creek Elementary and Mustang North Middle School (where my children will attend). The developers have already acknowledged they will begin sound checks for events at least an hour before school lets out. This will plainly disrupt both instruction hours and afterschool activities. I would also invite council members to sit outside these schools during school pick-up

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<sup>1</sup> See, e.g., [Hayden Homes Amphitheater neighbors plead for venue to lower the volume | Central-oregon-daily | centraloregondaily.com](https://www.centraloregondaily.com/story/news/local/2023/03/28/hayden-homes-amphitheater-neighbors-plead-for-venue-to-lower-the-volume/11444444002/). Please note the venue operator admits “it is not as simple as turning down the volume,” “there is no golden fix” for the issues the bass creates, and adjusting sound levels would “really hamper the viability” of booking big-ticket acts.



times. That is, if you can even get through traffic to do so. Because both 15<sup>th</sup> Street and Sara Road are two-lane roads. Under ordinary circumstances, they are nearly impassible during school drop-off/pick-up times and evening rush hour. An influx of 12,000 concert goers, plus vendors and other concert workers, will create unimaginable gridlock.

Finally, a venue like this, particularly this close to schools and neighborhoods, will cause numerous public safety concerns. I was a prosecutor in Oklahoma County for ten years, and I am all too aware of the safety risks large-scale performance venues like this can create. Drug use and drunk driving are the most obvious problems such venues invite, but in today's times we can also expect the violence that inevitable accompanies large crowds and intoxicants. In the event of a true emergency, it will be nearly impossible for first responders to timely respond due to the relative inaccessibility of the venue, which—again—is limited to two-lane roads. From a purely public safety perspective, this venue will pose a nightmare for rescue workers.

To be clear, I am not opposed to Oklahoma City hosting a large outdoor concert venue like this, provided it is sufficiently remote from residential and school properties. I am also not opposed to the commercial development of the area near S.W. 15<sup>th</sup> Street and Sara Road. On the contrary, we could really benefit from more retail and dining options on our side of town. However, the development of the proposed outdoor amphitheater at this location will be disastrous for those of us that will have to live with it in our backyards, essentially, forever. Simply put, the Sunset Amphitheater and Notes Live will be the worst possible neighbors. For the sake of my family and my community, I oppose in the strongest terms PUD #1983 and respectfully ask this Council to deny the developer's application.

Sincerely,

Jennifer Hinsperger

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:07 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Sunset Amphitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 2:36 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Sunset Amphitheater

---

**From:** Craig Horton <[hordog@sbcglobal.net](mailto:hordog@sbcglobal.net)>  
**Sent:** Friday, March 29, 2024 2:35 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Sunset Amphitheater

You don't often get email from [hordog@sbcglobal.net](mailto:hordog@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

(The following email was sent March 19th to Mayor Holt and the 8 city council members. The City Clerk's office was not on the list of recipients. I am correcting that omission.)

I respectfully ask Mayor Holt and the City Council to reject building an open-air amphitheater in dead center of multiple neighborhoods and schools. For these residents, it will be a huge negative quality of life. Please consider the well-being of our children.

Noise Pollution: loud thumping bass frequencies cause lack of sleep quality, disruption and loss of sleep for all ages, but especially babies, toddlers, and young children at naptimes and bedtimes. Getting the kids up to go to school the next morning after a week-night concert that ended at 10:30 the night before will not be easy or fun. Soundchecks beginning at 2 p.m.? School is still in session at Mustang Creek Elementary and Mustang North Middle School. When can students successfully do homework without the noise assaulting their ears and brains? Sound travels a long way, and there will only be one barrier to soften the concert noise-the exterior walls of each home or school.

Traffic congestion and gridlock: I-40 and Mustang Road is congested now. The next exit is Morgan Road with all the truck stops and 18- wheelers. I40 and Council is an awful choice. No exit for Sara Road, which is a 2-lane road. From

the turnpike, SW 15th is not in the best condition. Adding 12.5K people trying to get to the amphitheater, finding a parking spot (and perhaps parking in the neighborhoods if it's easier for them) will be a nightmare.

Teachers trying to teach during soundchecks will be difficult. I can't imagine owning one of the homes across the road from this proposed venue. Being assaulted with the noise pollution and traffic frustrations while trying to raise a happy and healthy young family, or being a veteran with PTSD, having autism and noise sensitive syndromes, or having an ambulance unable to quickly get to my house would be a miserable way to live. Decibel levels and event timeframes are being increased, and I assume the number of events will follow suit. I believe very few people would consider buying a home that close.

Please do not allow this monstrosity to be built. Please vote against it. Thank you.

Karen and Craig Horton

11025 NW 21 St.

Yukon, OK 73099

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Thursday, April 4, 2024 10:53 AM  
**To:** Olivo Harrison, Elena; Welch, Sarah; Johnson, Thad A; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Sunset OPEN-AIR Amphitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Thursday, April 4, 2024 10:52 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Sunset OPEN-AIR Amphitheater

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**From:** Craig Horton <[hordog@sbcglobal.net](mailto:hordog@sbcglobal.net)>  
**Sent:** Thursday, April 4, 2024 10:51 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>  
**Subject:** Sunset OPEN-AIR Amphitheater

You don't often get email from [hordog@sbcglobal.net](mailto:hordog@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

Our previous email detailing our objections to this proposed open-air concert venue did not include the following information.

Our home is approximately 2 miles due north of the proposed amphitheater location. The wording of Notes Live and Carol Hefner's promotion of this location infers that the neighborhoods immediately adjacent to the amphitheater will be protected from noise pollution because the sound will be directed north toward I-40, where no one will be affected. There are many neighborhoods north of I-40, including ours. We will still hear and feel the music and accompanying vibrations.

Please do not allow this venue to be built in the midst of thousands of families. Look for an alternate location that won't negatively affect family lives.

Thank you.

Karen and Craig Horton  
11025 NW 21 St.



## Johnson, Thad A

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**From:** Wrights, David R III on behalf of City Clerk Email  
**Sent:** Tuesday, April 2, 2024 3:11 PM  
**To:** Smiley, Dena L  
**Subject:** FW: PUD 1983, Sunset amphitheater attn. Amy K .Simpson

David Wrights

---

**From:** Donna Hough <donnahough@sbcglobal.net>  
**Sent:** Tuesday, April 2, 2024 3:04 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** PUD 1983, Sunset amphitheater attn. Amy K .Simpson

You don't often get email from [donnahough@sbcglobal.net](mailto:donnahough@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

I am writing this letter out of concern for our neighborhood, Westbury South. We have lived here 44 years. We have lived here because of the location and safety. The older we have gotten we have had to call EMSA several times. We have a daughter who is multi handicapped and we have always been thankful for fast emergency help. I had a heart attack 2 years ago. It only took first responders a few minutes to get to our home.

We definitely protesting against rezoning as well as an amphitheater being build so close to our neighborhood and schools. Very simply please consider the quality of life we have compared to what it would look like with an amphitheater. The noise, the traffic, safety, too close to schools and quality of life. I pray that you would show wisdom on a very important issueand vote no.

Thank you for your time,

Dr. Jack and Donna Hough  
2123 Bentham Place  
Yukon, OK 73099  
(405)921-2603



Virus-free. [www.avast.com](http://www.avast.com)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024

**From:** Houk Family <familyofhouks@gmail.com>

**Sent:** Friday, March 22, 2024 9:14 PM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** Protest PUD-1983

You don't often get email from [familyofhouks@gmail.com](mailto:familyofhouks@gmail.com). [Learn why this is important](#)

Dear Ms. Simpson,

We, Corrie and Daniel Houk, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kim Patrick Turnpike.

Our contact information is 2505 Wyatt Way, Yukon, OK 73099, which is within 2 miles of the proposed amphitheater. Although our address is Yukon, we have OKC utilities and are considered under OKC. We purchased our home in early 2018. Our telephone number is (405) 412-1794.

With 2 young kids ages 5 and 7, we are emphatically against the rezoning application allowing the Sunset Amphitheater to be built so closely to our neighborhoods and schools.

This amphitheater will be surrounded by residential neighborhoods with school-age kids who have early bedtimes, and who also should not be subjected to possibly offensive/inappropriate language and/or subject material from the music that is played in the theater.

The sound from the amphitheater would be over current city sound ordinance, for long hours well into the night, and the vibrations of the sound will be felt as well in our homes and schools.

Please do not hurt our children's ears, bodies, sleep wellness, and overall well-being by approving the rezoning for a project that should not be placed within such a close distance to existing residential neighborhoods.

Thank you for your consideration of the opinions of a family that will be directly impacted by your decision.

With hope,  
Corrie and Daniel Houk

## Johnson, Thad A

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**From:** Kimberly Howard <kimhoward4@icloud.com>  
**Sent:** Monday, March 25, 2024 11:27 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD 1983

[You don't often get email from kimhoward4@icloud.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Name: Kim Howard  
Address 125 Czech Hall Place, Oklahoma City OK 73099

Dear Ms Simpson,

I am writing in protest of the proposed rezoning associated with PUD 1983.

The primary basis for the protest is the lack of emergency service availability and delayed response times to this area. The large crowds are likely to have an increased need in emergency personnel. The delayed response times without the increased traffic are already an issue. The concert venue will only exacerbate the issue delaying needed services to residents and concert attendees.

The traffic impact fees will be collected for the new construction, but there is no guarantee when the fees, or their entire fee contribution will be used to improve the flow of traffic through this area. It would be an extreme hazard to build the venue, and future state build the infrastructure. Additional construction along the roadways after the concerts are in play will further restrict flow of traffic in the area is Sara and SW15th.

Secondly, the sound engineers that have opined on the set up of this proposed venue have spoken out about the low frequency base sound that sends vibration through the ground. For residents living within 3 mile radius of the venue the concern is more about the overwhelming pulsing sensation from the earth that is inescapable. This leads to a diminished quality of life.

Thank you for your consideration,

Kim Howard



To: Oklahoma City Council & Mayor

Subject: PROTEST PUD 1983,  
Sunset Amphitheater

From: Homeowner Carlisa Hudspeth  
at 10425 Leicester Dr. Yukon, OK 73099  
# (405) - 245-0537

I am the homeowner and my protest  
is included on the next several pages.

I ask you all to vote NO = AGAINST this  
PUD 1983.



To: Oklahoma City Council and Mayor

Subject: Protest PUD 1983, Sunset  
Amphitheater

I am writing in PROTEST to PUD 1983  
at 810 South John Kilpatrick Turnpike.  
There will be many serious problems if this  
change is approved.

### ① Noise Pollution-

The studies I have read with similar venues  
with similar noise levels create sound being  
heard & felt. My daughter has ADHD and struggles  
with sleep, the noise and vibration along with  
falling objects in our home will not be conducive  
for her or anyone living within 5 miles of  
this. This noise pollution will also affect all animal  
life. We already deal with Earthquakes and now  
as a residential homeowner I and many others  
will have to deal with vibration from noise.

### ② Safety-

I am a single mother of an 8 year old. The  
reason I bought my home 14 years ago was  
because this is a safe neighborhood with  
close schools. Westbury South is a wonderful  
neighborhood to raise children but now I'm going



to be concerned about individuals driving into our neighborhood & parking, and then coming back after concert being drunk and high. I will have to be concerned with the employees that this venue will be hiring being in such close proximity to 2 of our schools and my home along with homes being turned into short term rentals for these shows and having to deal with all that each weekend. I know that none of you on the City Council would appreciate this venue being across the street from your home. There are so many issues w/ short term rentals like; drugs, alcohol and major crimes.

### (3) Traffic-

It is a big one as well. It already takes me 25 minutes to get from Mustang Rd. on SW 15<sup>th</sup> traveling east to Sara Rd., I can't imagine or I can what chaos it will be on concert days. I have many older neighbors who often need EMSA and my Mother lives with me and almost passed in 2021 from COVID. She was on a ventilator for 14 days and in Mercy for 2 months before she could be released. She has never fully recovered and still suffers from



10425 Leicester Dr.  
Yukon Ok 73099

Carlisa  
Hudspeth

many serious illnesses and at times have needed emergency assistance. It's not just that but this will rob all of us from leaving our homes for simple pleasures of going out to eat or shopping because of the traffic issue. This will take away from our rights to have a peaceful, safe and advantageous home ownership.

#### ④ Home Property Values.

I am a real estate broker and own my own real estate company. The homeowners that surround this proposed venue will be negatively impacted by this venture. I will be negatively impacted by this venture. The asset of my home equity is at least \$180K. That will be severely reduced because of this project. This is so wrong to do this to hard working Oklahomans. It's not the ~~OK~~ Oklahoma Way or is it American to destroy the average Oklahoman to put millions of dollars into the pockets of the rich and destroy all of the people that will be hurt financially by this project. You cannot take an event center like the Paycom and dump it in a family-friendly, residential and public school area. You will be destroying our way of life along with our finances.

Sincerely, Carlisa Hudspeth

405-245-0537

pg 4



## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Thursday, March 28, 2024 12:09 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Amphitheater

---

**From:** Karen Huett <[karenhuettcasa@gmail.com](mailto:karenhuettcasa@gmail.com)>  
**Sent:** Thursday, March 28, 2024 7:31 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Amphitheater

You don't often get email from [karenhuettcasa@gmail.com](mailto:karenhuettcasa@gmail.com). [Learn why this is important](#)

I strongly oppose the theater being built off Sara and 15th.  
15th is a rotten pothole road

Two schools, don't think the children will be able to get good sleep, SOUND CHECKS in the afternoon.  
Also getting around after 2 is already a huge challenge. We have a grandson going to school right there.

I worked and struggled for 30 years so I can retire at 67. I can't afford to move away. My husband has dementia and it's going to be a personal hell with the noise.

There are much better locations with no homes and schools you can find. I see some everyday. Look some more I beg you.

Respectfully  
Huett home

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 5:14 pm, Feb 07, 2024

**From:** C Hughes <[cap.hughes55@gmail.com](mailto:cap.hughes55@gmail.com)>

**Sent:** Wednesday, February 7, 2024 4:29 PM

**To:** C Hughes <[cap.hughes55@gmail.com](mailto:cap.hughes55@gmail.com)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A <[craig.freeman](mailto:craig.freeman)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>

**Subject:** Sunset Amphitheater in Mustang Creek Crossing

Some people who received this message don't often get email from [cap.hughes55@gmail.com](mailto:cap.hughes55@gmail.com). [Learn why this is important](#)

Good afternoon, Mayor Holt, Ms.B. Peck, Ms.A. Simpson, and Mr. C. Freeman.

My name is Christine Hughes. I live at 1800 Mackenzie Way, Yukon, OK 73099. Phone # 405-255-3099, and email address is [cap.hughes55@gmail.com](mailto:cap.hughes55@gmail.com).

The reason for this email is that as my residence is on the Northeast corner of the purposed Sunset Amphitheater in Mustang Creek Crossing and the concern of problems that will ensue.

- \* With each performance there will be a nightmare of traffic making it difficult to get in and out of my neighborhood. 12,500 seating, 3,500 parking.
- \* will there be non-resident people trying to park in our neighborhood when other parking is fully occupied? There are multiple cars parked in our streets as it is.
- \* Three main entrances/exits on to Sara Road just north of SW 15th. It will become very dangerous and long waits exiting the neighborhood at those times.
- \* One entrance/exit south to SW 15th. Once again very dangerous and long waits to exit since Sara Road has become the road most used by the surrounding neighborhoods as well as Westbury South neighborhood to get to Mustang or Yukon.
- \* There will be concerts from April to October which means the noise will be unbearable for ours neighbors who have noise issues not to mention those who have to get up early for work.
- \* The noise timeframe will be an issue Sun-Thursday 10:30 pm, Friday & Saturday to 11pm. It will take an hour at least for them to breakdown the equipment and leave. Again a good night sleep for those who to go to work or church(on Sunday). What about those who go to bed by 7 pm? Will we need to be on sleep aids too?
- \*Will the Mustang Creek school be eliminated as well? There is already a traffic jam when school is in session with parents parking in the lanes to pick up their children.
- \* Let's talk about the increase decibel level of 5db over the city code.
- \* Let's talk about doing away with the environment. Eliminating the tree islands and the wildlife that live in there.

If these are not issues for you, how about we move this Sunset Amphitheater into your neighborhoods or put it in the OKC downtown area.

I don't have the money to move to get out of the nightmare that is about to happen just so some wealthy people can make more money.

I ask you to look into this and reconsider not to go forward with this problem project.

Thanking you in advance for your consideration.  
Christine Hughes

## Johnson, Thad A

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**From:** Gordon Hukill <gordonhukill@yahoo.com>  
**Sent:** Friday, March 29, 2024 8:05 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983

You don't often get email from gordonhukill@yahoo.com. [Learn why this is important](#)

I, Gordon Hukill hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

My concern is on several levels. This arena is to be located near Mustang North Middle school and Mustang Creek Elementary School. The increased traffic and noise around the SW 15<sup>th</sup> Street and Mustang Road would be very disruptive to students and dangerous with the increased traffic as there are many students who cross SW 15<sup>th</sup> Street to and from school as well as parents dropping off and picking up their children as preparation for these concerts would begin before kids even get out of school. It could also interfere with the fluidity of the bus system as well.

The location is right in the middle of many residential areas as well. The estimated number of concerts expected, and the duration of the season (85) is preposterous because the noise level will be very disruptive to the residents, with the increased decibel level, 5db over city sound ordinance and extended noise timeframes. It has been reported that the sound and vibrations from these types of events travel miles away.

I realize it is a great opportunity for increased revenue, and drawing attention to the Yukon/OKC area for entertainment, however, it would make much more sense to have this at the edge of the any town in Oklahoma, thus not disturbing the lifestyle of the residents who have chosen to live in this area, purchased their homes here, and enrolled their children in school because it is a great place to live. Yukon is already bursting at the seams with new residences, let's not make them sorry they chose this area.

Let me ask you, how would you feel if your family was subjected to this concert arena in your backyard?

Your consideration of this protest is greatly appreciated.

Gordon Hukill

1506 Forrest Ridge Way

Yukon, OK 73099

405.248 8253

## Johnson, Thad A

---

**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:56 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest PUD-1983

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**From:** Cody Icorn <[codyicorn@gmail.com](mailto:codyicorn@gmail.com)>  
**Sent:** Tuesday, March 26, 2024 4:15 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [codyicorn@gmail.com](mailto:codyicorn@gmail.com). [Learn why this is important](#)

I, Cody Icorn, residing at 10405 Glasgow Dr., Yukon OK 73099, hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike. I shall provide my points of contention below.

1. The entertainment of a *few* should not take precedence to the health, safety, sanity, and quality of life of the *many* who reside in the area.
2. I have an autistic child who has sensory processing disorder regarding unpleasant sound, which he will experience at home as well as at Mustang North Middle School, both of which are within one mile of the proposed site. He is on an IEP for his autism, and already has a hard time without the added stress of uncontrollable sound at his school, only to be subjected to it when he gets home as well.
3. Sleep deprivation for children must be considered. Some students, such as my son, must wake up early for school. He must be awake at 6:00 A.M., and if concerts are allowed to go as late as is proposed, he won't get the required sleep for a child of his age.
  - a. A Johns Hopkins expert says teens need more sleep and "experience a natural shift in circadian rhythm", "...making it more difficult for them to fall asleep before 11 p.m. Add in early school start times and an increase in homework, extracurricular activities and sometimes a part-time job, and sleep deprivation in teens becomes common" <sup>[1]</sup>.
4. I am a disabled veteran on permanent disability, and one of my conditions is cerebral small vessel disease, which affects the blood flow to my brain. My concern is not only for myself, but others who suffer from small vessel diseases ("SVDs"). Low frequency sounds negatively affect these people to a high degree.
  - a. "CSVD is the attributable cause of 25% of strokes and more than doubles the odds of recurrent stroke; furthermore, it contributes to 45% of dementia cases" <sup>[2]</sup> according to the National Institute of Health. The prevalence "increases from about 5% for people aged 50 years to nearly 100% for people aged 90 years" <sup>[2]</sup>. This means that over the thousands of households close to this proposed amphitheater site, there is a significant number of people who are affected by this disease.
  - b. Low frequency sounds in the range the proposed site would produce cause issues with blood pressure as indicated by multiple studies <sup>[3]</sup>. Blood pressure increases the impact of vascular diseases like mine, as well as heart disease in general, which is the leading cause of death in the United States according to the CDC <sup>[4]</sup>.



Thank you for taking the time to read my letter. I trust you will make the right decision for the people who reside in this area and call it home. Whether they are raising a family in a quiet neighborhood, an elderly couple who want to live out their remaining years in relative peace and tranquility, or a couple renting their first house together, we *all* need you to consider our needs as residents first and foremost.

Sincerely,

Cody Icorn

#### References:

1. <https://www.hopkinsmedicine.org/health/wellness-and-prevention/teenagers-and-sleep-how-much-sleep-is-enough>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6598791/>
3. <https://www.mdpi.com/2076-3417/10/15/5205>
4. <https://www.cdc.gov/heartdisease/facts.htm>

## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 4:19 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Sunset Amphitheater

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**From:** Tim and Vera <[tim.and.vera@gmail.com](mailto:tim.and.vera@gmail.com)>  
**Sent:** Wednesday, March 27, 2024 4:16 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Sunset Amphitheater

You don't often get email from [tim.and.vera@gmail.com](mailto:tim.and.vera@gmail.com). [Learn why this is important](#)

I, Vera Isaac hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

Point #1. A problem I have with this is that our neighborhood will no longer be a quiet neighborhood.

Point #2. I am concerned about this venue being built so close to two schools. There will be a problem for the parents who are trying to pick up their children after school with other vehicles there waiting to get into the Amphitheater.

Point # 3. In the neighborhoods close to the proposed Sunset Amphitheater are people who are retired and worried about the noise level. They would not be able to sell their homes and move to a different neighborhood because of being on a fixed income.

I am the home owner at 11933 SW 18th St, Yukon, OK 73099 and ask you to deny the rezoning of this application.

Sincerely, Tim and Vera Isaac

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 12:37 pm, Mar 22, 2024*

**From:** Sherry Jackson <[saj.hinton@gmail.com](mailto:saj.hinton@gmail.com)>

**Sent:** Friday, March 22, 2024 10:17 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [saj.hinton@gmail.com](mailto:saj.hinton@gmail.com). [Learn why this is important](#)

I, Sherry Jackson, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South Kilpatrick Turnpike.

Sherry Jackson  
3509 Tecumseh Dr,  
Yukon, OK 73099  
405 545 0776


**From:** Taylor Jennings <[jennings.taylord@gmail.com](mailto:jennings.taylord@gmail.com)>

**Sent:** Tuesday, February 20, 2024 8:38 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

2024 FEB 21 AM 9:03  
OKLAHOMA CITY CLERK

 You don't often get email from [jennings.taylord@gmail.com](mailto:jennings.taylord@gmail.com). [Learn why this is important](#)

Dear Ms. Amy Simpson,

I, Taylor Jennings, a resident of Ward 3, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

My address is 10613 SW 23rd Pl Yukon, OK 73099. As a resident of Ward 3, I oppose this rezoning and the building of the Sunset Amphitheater. This area is directly North of both a middle school and elementary school, as well as being in the middle of a highly residential area. The schools would be disrupted, and residents of the surrounding area would be consistently disturbed by both the noise and the traffic.

I ask the council to please oppose this proposal so that we may maintain our peaceful community, and so the students at our schools can stay focused on their learning.

Thank you for your time.

Sincerely,

Taylor Jennings

## Johnson, Thad A

---

**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:51 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest PUD-1983

-----Original Message-----

From: Kay Johnson <kay.johnson42@icloud.com>  
Sent: Tuesday, March 26, 2024 1:40 PM  
To: City Clerk Email <CityClerk@okc.gov>  
Subject: Protest PUD-1983

[You don't often get email from kay.johnson42@icloud.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Amy K. Simpson, City Clerk, Oklahoma City, Oklahoma This is to notify you that I, John C. Johnson hereby protest PUD-1983 by Mustang Creek Crossing LLC to rezone 810 S. John Kilpatrick Turnpike.

My main concerns are disruption to our neighborhood. Concerns such as additional traffic. We are already on overload when it comes to traffic. SW 15th backs up for miles (westbound) multiple times a day. Many of the streets in this area are two lane, with no immediate plans to widen.

Noise pollution is another concern. The thought of thousands of people yelling, screaming, clapping or singing along, basically in my back yard. NO Thanks.

This location is not appropriate for such a venue.

I have lived in my home for almost 44 years. I would prefer to stay in my home at 1404 Danbury Pl., Yukon, OK 73099 for many more years.

Thank You

John C. Johnson  
1404 Danbury Pl.  
Yukon, OK 73099

Sent from Kay's iPad

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 10:01 am, Mar 25, 2024*

From: Kay Johnson <kay.johnson42@icloud.com>  
Sent: Saturday, March 23, 2024 2:33 PM  
To: City Clerk Email <CityClerk@okc.gov>  
Subject: Protest PUD-1983

[You don't often get email from [kay.johnson42@icloud.com](mailto:kay.johnson42@icloud.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Amy K. Simpson, City Clerk, Oklahoma City, OK.

This is to notify you that I, Kay Johnson hereby protest PUD-1983 by Mustang Creek Crossing LLC to rezone 810 S. John Kilpatrick Turnpike.

My concerns are disruption to our neighborhood. Those concerns would be additional traffic & noise pollution. Most of the roads surrounding this area are two lane, with no immediate plans to expand to four lanes in the immediate future. With two schools & a church with in half a mile, traffic is already a major issue. Traffic on SW 15th backs up for miles with parents trying to get to the school to pick up their children. In many instances at rush hour traffic backs up for miles on SW 15th (westbound) as our neighbors try to get home or other late afternoon & evening appointments.

There is traffic coming off of S Morgan Rd., Sara Rd. & the Kilpatrick Turnpike. It is gridlock. Our neighborhood is relatively quiet & we prefer that it stay that way. Can't imagine several thousand yelling, clapping, screaming & perhaps singing along people in our backyard. The area being planned for the amphitheater is totally inappropriate. I have no problem with an amphitheater coming to Oklahoma City, but find a better fit for this type of venue, NOT in the middle of multiple neighborhoods.

We have lived in our house at 1404 Danbury Pl., Yukon, OK 73099 since April 1, 1980, that is almost 44 years. I am not young any more & would prefer to live here until my life circumstances change.

Than You

Kay Johnson

1404 Danbury Pl.

Yukon, OK 73099

Sent from Kay's iPad

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 3:41 pm, Feb 15, 2024*

-----Original Message-----

From: Manda Banks <[banks.manda777@gmail.com](mailto:banks.manda777@gmail.com)>

Sent: Thursday, February 15, 2024 3:03 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Sunset Amphitheater in Mustang Creek Crossing

[You don't often get email from [banks.manda777@gmail.com](mailto:banks.manda777@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Hello:

I am a resident of the Westbury neighborhoods. We recently moved to Oklahoma, and love our home and its location. The proposed building would cause multiple issues for residents in Yukon and Mustang. We have children that go to school in the area, this amphitheater would cause traffic and safety concerns as the road around us do not support something of this magnitude, and would cause an influx of traffic unsafe to children in and around those schools. It would lower any home values around with the noise and crowds it would bring in. This is not only traffic, this will disrupt the peace of the neighborhoods surrounding. We love the community we have around us, that we can feel safe about our children being in a residential area, and the land that isn't over crowded, this will go directly against that. We love concerts as much as the next person, but this isn't the right area for a development of this magnitude. It goes against every reason we moved our family to this beautiful quiet area.

Please consider moving this project to an area that is already zoned for more commercial use, as this space isn't suitable and is more residential.

Shawn and Amanda Kelly

9928 Fairfax Terrace

Yukon OK 73099

801-935-0327

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024*

From: Gwen Kennedy <redladyca@aol.com>  
Sent: Sunday, March 24, 2024 4:59 PM  
To: City Clerk Email <CityClerk@okc.gov>  
Subject: Protest PUD-1983/ Sunset Amphitheater

[You don't often get email from [redladyca@aol.com](mailto:redladyca@aol.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

WARNING: The sender of this email could not be validated and may not match the person in the "From" field..

I absolutely object to the rezoning, the changes in the noise ordinance, and building this facility at all.  
Let alone this close to residential areas.

If you allow this, you devalue all of our properties.  
Rest assured, I will do everything in my power to have everyone on that board voted OUT!

I Gwen Kennedy who lives at 10233 Aberdeen Dr Yukon, OK 73099 hereby protest PUD-1983 the rezoning of the Sunset Amphitheater at 810 South John Kilpatrick Turnpike.



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:07 am, Mar 06, 2024

**From:** Melissa Kennedy <[kennmd@sbcglobal.net](mailto:kennmd@sbcglobal.net)>

**Sent:** Tuesday, March 5, 2024 4:37 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [kennmd@sbcglobal.net](mailto:kennmd@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

To Whom It May Concern,

I, Melissa Kennedy, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I have read the information on the Sunset Amphitheater that is planned for this location, and object to this project based on the following:

- noise intrusion that will likely be audible from my house
- proximity to the local elementary school and the likely disruptions caused by the activities
- increased traffic that will cause congestion in our neighborhoods and nearby streets
- lack of current police presence and slow response in this corner of the OKC jurisdiction, and the likely need for increased presence due to the large crowds and activities associated with large concert venues

We pay very high property taxes and do not want our quality of life or property values to be negatively impacted by this project. I would recommend finding land 10-15 miles away from housing additions to place this type of venue. Please vote No on this issue on April 9th.

Melissa Kennedy, Homeowner  
616 Out West Trail  
Yukon, OK 73099  
Ward 3 OKC  
(405) 664-0137

## Johnson, Thad A

---

**From:** lora koeninger <westburyinfo@yahoo.com>  
**Sent:** Tuesday, April 2, 2024 10:29 AM  
**To:** City Clerk Email  
**Subject:** City Clerk OKC: PUD 1983 April 9th City Council Meeting re: REZONING

You don't often get email from westburyinfo@yahoo.com. [Learn why this is important](#)

City Clerk and City Council OKC:

WSNA has always petitioned for INFRASTRUCTURE before Development in the SW Sector of Oklahoma City, OK so as NOT to jeopardize existing (tax paying) Homeowners Property Rights.

Sara Road North of SW 15th is a NARROW Two (2) lane road which is currently over crowded with traffic at almost any hour of the day and backed up between 5- 6:30 in the evenings with coming home traffic. Three (3) INGRESS/EGRESS are in the development plan for the Amphitheater project off this NARROW 2 LANE ROAD. This is a reoccurring situation in the SW Sector of Oklahoma City because INFRASTRUCTURE has not been put in place before DEVELOPMENT has been approved.

SW 15th is in the plan for widening in 2025 but, with the widening of Sara Road between SW 15th and Mustang - this took YEARS to Complete. Putting the Development in on this APPLICATION BEFORE widening of Sara Road North of SW 15th would be catastrophic mess both for the Current Homeowners and the traffic coming into the development in the next years.

Do what is RIGHT not what is EASY. Please consider INFRASTRUCTURE before approving any FURTHER DEVELOPMENT.

Respectfully.

WSNA  
P.O Box 852115  
Yukon OK 73085

2024 FEB 27 PM 12:23  
OKLAHOMA CITY CLERK

**From:** James R King <[jamesrking72@icloud.com](mailto:jamesrking72@icloud.com)>  
**Sent:** Monday, February 26, 2024 2:03 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Fwd: No Sunset Amphitheater, Protest PUD-1983

You don't often get email from [jamesrking72@icloud.com](mailto:jamesrking72@icloud.com). [Learn why this is important](#)

Begin forwarded message:

**From:** James R King <[jamesrking72@icloud.com](mailto:jamesrking72@icloud.com)>  
**Subject:** Re: No Sunset Amphitheater, Protest PUD-1983  
**Date:** February 14, 2024 at 1:57:02 PM CST  
**To:** [ward3@okc.gov](mailto:ward3@okc.gov)

Dear Barbara,

I didn't see my first letter attached the agenda item PUD-1983. I wanted to make an update as I have gained new knowledge, and make sure it was attached properly.

I James R King herby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

The proximity of this venue is not in harmony with the surrounding zoned PUD's. Two schools as well as established neighborhoods on each side. The developers have created their boundaries within the middle of this area and set back from Sara Rd 350 feet so it would look on paper as if there were no other use zones in conflict. I would say they have been sneaky from the beginning in trying to get this through without protest. Well, hundreds of us in the surrounding neighborhoods are protesting and sending in letters.

The Planning Commission may have voted to recommend PUD-1983, however in their staff report from January 11, 2024 they say:

"The proposal triggers potential operational impacts near the elementary school and middle school to the south. Operational impacts are also identified with the proposed use of an outdoor concert venue/amphitheater near schools and neighborhoods, specifically related to noise and traffic." -Page 10.

"However, potential compatibility issues are identified with the proposed use of an outdoor concert venue/amphitheater near schools and neighborhoods, specifically related to noise and traffic." -Page 13.

In the 'Master Design Statement' Section 4.0 they list the surrounding property zones and say the "The proposed use of this property is in harmony with the surrounding zoning." They purposely created their eastern border set back 350' so they wouldn't have a residential zone in contact with the property. Also, it would cause issues with a valid protest petition because they now only have the developers land (PUD-1628) around them. How are the residents, (owners of 50% of the land within 300') supposed to

They promised to be "great neighbors" but most in my neighborhood and the surrounding neighborhoods have yet to receive any communication from Livenotes. Articles mention flyers being sent out but no one has seen said flyers.

As a resident of Westbury North neighborhood just east of the proposed Sunset Amphitheater I am opposed to the project and urge you to vote no on March 12th.

James Rogers King  
10200 Hollyhead Way  
Yukon, OK 73099  
(405)-761-6747

**From:** [Cathy](#)  
**To:** [City Clerk Email](#)  
**Subject:** Protest PUD-1983  
**Date:** Saturday, March 16, 2024 3:25:07 PM

---

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:37 am, Mar 18, 2024*

[You don't often get email from philkirk@cox.net. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Phil and Cathy Kirkpatrick hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

Thank you for your consideration.

Phil and Cathy Kirkpatrick  
3217 Hampshire Ln  
Oklahoma City, OK. 73179

405-261-7896

Sent from my iPhone

## Johnson, Thad A

---

**From:** Jones, Sharon D on behalf of City Clerk Email  
**Sent:** Tuesday, April 2, 2024 10:33 AM  
**To:** Smiley, Dena L  
**Subject:** FW: City Clerk OKC: PUD 1983 April 9th City Council Meeting re: REZONING

---

**From:** lora koeninger <westburyinfo@yahoo.com>  
**Sent:** Tuesday, April 2, 2024 10:29 AM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** City Clerk OKC: PUD 1983 April 9th City Council Meeting re: REZONING

You don't often get email from [westburyinfo@yahoo.com](mailto:westburyinfo@yahoo.com). [Learn why this is important](#)

City Clerk and City Council OKC:

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Sara Road North of SW 15th is a NARROW Two (2) lane road which is currently over crowded with traffic at almost any hour of the day and backed up between 5- 6:30 in the evenings with coming home traffic. Three (3) INGRESS/EGRESS are in the development plan for the Amphitheater project off this NARROW 2 LANE ROAD. This is a reoccurring situation in the SW Sector of Oklahoma City because INFRASTRUCTURE has not been put in place before DEVELOPMENT has been approved.

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Do what is RIGHT not what is EASY. Please consider INFRASTRUCTURE before approving any FURTHER DEVELOPMENT.

Respectfully.

WSNA  
P.O Box 852115  
Yukon OK 73085

## Johnson, Thad A

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**From:** lora koeninger <westburyinfo@yahoo.com>  
**Sent:** Friday, January 19, 2024 9:55 AM  
**To:** Ward3; Fulton, Boyd; Miller, Deborah K; Jerimy Meek; planningandzoning@okc.gov; DS, Subdivision and Zoning; Rupe, Chase  
**Cc:** julie5.mccoy@me.com; Dennis Beringer; gary.reimer  
**Subject:** Fw: Starred ingress..egress Sara Rd.. Narrow -Two (2) Lane SARA Road PUD 1983 Amphitheater - 3 Entrances off of Sara Road into proposed project  
**Attachments:** Resized\_20240115\_093932.jpeg

You don't often get email from westburyinfo@yahoo.com. [Learn why this is important](#)

----- Forwarded Message -----

**Sent:** Friday, January 19, 2024 at 09:26:01 AM CST

**Subject:** Starred ingress..egress Sara Rd.. Narrow -Two (2) Lane SARA Road PUD 1983 Amphitheater - 3 Entrances off of Sara Road into proposed project

Group:

See the picture - page 396 Agenda OKC Planning Commission Meeting January 11, 2024. Watched the Planning Commission Meeting on January 11th (full meeting) along with other members of the association. The item that needs to be addressed at the OKC City Council Meeting (do we have a date?) is the Narrow two (2) Lane Sara Road north of SW 15th to Reno which has already been an issue with north middle school traffic backing up on Sara Rd to get to the school. This issue took a couple of weeks to partially correct with the help of Boyd Fulton and Chase Rupe.

Coming home from work traffic hits SW 15th and Sara Rd any time between 5-6:30 and lines are backed up all the way - full mile at the SW 15th/Sara Rd intersection and the SW Mustang/SW 15th Intersection and that is just coming home traffic - with the traffic (trying to get to the proposed Amphitheater) trying to get down SW 15th (which will be widened to 4 lanes which will help) and North/South Sara Rd (two (2) lane from SW15th to Reno - 4 lane from SW 15th to SW 29th) it will be a mess if SW 15th going north to Reno is not Widened.

The Amphitheater has offered in their PUD 1983 (starred below) to have assistance at the point of Ingress into the project off Sara Rd (whether police or whomever) but, this is still going to be a mess if Sara isn't widened to Reno or at least past the Westbury North area which is the furthest point of entry into the project giving coming home traffic a way to get through the traffic backed up to get into the project.

Westbury South has preached Infrastructure for years - putting in development before the infrastructure has been a nightmare in the SW side of Oklahoma City and we are in Oklahoma City limits. The 190 unit development on the southwest corner of SW 15th and Sara Rd will be completed by 2025 and this development will add more traffic at the intersection of SW 15th and Sara Rd. Don't know how many police officers your going to need to manage all this traffic?

Request is that you have studies done again to assess this prior to approving at City Council - or that the City of Oklahoma City approve a four lane to Reno - SW 15th to Reno Avenue. Existing

Taxpayers in the SW Sector should not be compromised in their traveling back and forth to work or just to go out and eat and not be able to use Sara Rd for travel.

There are only two other entrances to the project - one off of SW 15th going north and one off the Turnpike which will be a VIP entrance. So these two entrances are not going to take the impact of the Project Traffic on ingress at 5:30-6:30 on event nights or maybe they will if everyone avoids Sara Road. As I mentioned before the 190 unit project will be done by 2025 so studies on road traffic on Sara Rd will not reflect the additional cars and these folks will have to use Sara Rd or SW 15th to get out of addition.

Please have Barbara Peck, our Ward 3 City Council Person on board with this issue as she will be our representative at City Council.

Thank you and appreciate the review prior to approval of the Amphitheater project.

Lora  
WSNA







## Johnson, Thad A

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**From:** lora koeninger <westburyinfo@yahoo.com>  
**Sent:** Wednesday, January 24, 2024 11:17 AM  
**To:** Ward3; Jerimy Meek; The Mayor; Fulton, Boyd; DS, Subdivision and Zoning; Miller, Deborah K  
**Subject:** Please see below Requests/Issues re: Live Note proposed Amphitheater SW Sector of Oklahoma City

You don't often get email from westburyinfo@yahoo.com. [Learn why this is important](#)

Oklahoma City Officials, Mayor Holt, Ward 3 Representatives Barbara Peck and Jerimy Meek:

Due to residents of the Westbury North and South Concerns on the proposed Amphitheater see Issues below:

1. Need a police substation in the SW sector due to overwhelming development and now the amphitheater project. We have tried for years to get a substation out here next to the 33 fire station but, now with Development and possible Amphitheater it is NEEDED!
2. Need four (4) Lane Sara Road from SW 15th to Reno Avenue. Sara Road not only 2 lane but, narrow 2 lane. Will not accommodate 3500 cars plus coming home traffic from work for the SEVERAL 1000's of residents boarding Sara Road and SW 15th. Even with police directing. Traffic will be coming North and South on Sara Road. WAITING UNTIL THE PROJECT IS COMPLETED WILL BE TO LATE.
3. Need signs at Westbury North entrances - "NO Parking ALLOWED VIOLATORS WILL BE TOWED".
4. Need Amphitheater to have arrangements for trash pickup as there will be trash either thrown out or blown out during the Oklahoma winds into Sara Rd and adjoining neighborhoods.
5. Need Noise Buffers not only on the west side of the Amphitheater but, also on the East Side of the Amphitheater.. it will help that their proposed project is adding covering over the amphitheater but, Buffers will be needed.
6. Need to make sure Dr. Beringer's yearly calibration be put in the project PUD.
7. Need the Live Note project marketing to "add" all addresses for the surrounding Westbury North, Westbury South, Mustang Creek and other developments surrounding the Amphitheater so they can transmit UPDATES on the amphitheater including dates that the "neighbor friendly" project has meetings that neighbors can attend or contact information neighbors can send questions.
8. Need the North Middle School and other surrounding schools to be in the loop on daily activities that will involve the school opening times and NO PARKING in School Lots during the Show Times or before/afterwards.
9. Need the Amphitheater and City of OKC to assess the 3500 parking spots for 12,500 seats. Those parking spots will also need to accommodate buses, taxis, ubers, VIP parking, police, workers, etc...etc... There is no way this parking is going to be able to accommodate all the people within this small area. WAITING UNTIL THE PROJECT IS COMPLETED WILL BE TOO LATE.

We have heard from many residents in Westbury South with Concerns and sure that Westbury North will be strongly impacted as they will be adjacent to the proposed project. The HOA President and wife are: Jack & Barbara Belanger and have been sending messages to Barbara Peck and Jerimy Meek also with concerns of the residents in North Westbury.

Many residents have trouble making the meetings due to work schedules but, will furnish them with all contact information for the City of OKC including the Ward 3 representatives: Barbara Peck, Council person and Jerimy Meek, Planning Ward 3.

This project was not actively announced to the residents of the SW Sector proficiently and no one knew about it until October last year at which time Live Note had a meeting in Mustang which most residents of the surrounding areas had no notice. Not sure how the OKC Planning Commission had enough time to address a "lot" of the above issues prior to their approval January 11th?

There's so much that goes into such a LARGE project and just the location is not always the major issue - it's all the INFRASTRUCTURE that needs to go in around it....same with development. Westbury South has shown up at many many meetings at Planning and Council over the last 20-30 years with 50-60 and even more people and the Petitions in the 100's and still the projects have passed but, at least we revisions.

Please review the above revisions and listen to the existing residents in Ward 3 regarding this LARGE project.

Thank you for Reading and make sure this is given to the OKC City Council Members who will be making the final decisions and City Officials who can make changes to help the SW Sector of the City which is in the Oklahoma City limits.

Appreciate.

Lora  
WSNA

## Johnson, Thad A

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**From:** lora koeninger <westburyinfo@yahoo.com>  
**Sent:** Friday, February 2, 2024 2:44 PM  
**To:** Fulton, Boyd; Ward3; The Mayor; Jerimy Meek; Miller, Deborah K; DS, Subdivision and Zoning  
**Subject:** Fw: Barbara Pecks response to the Amphitheater

You don't often get email from westburyinfo@yahoo.com. [Learn why this is important](#)

Ward 3 Representatives, OKC Officials and Mayor Holt:

This Facebook message was forwarded re: message from Barbara Peck, Ward 3 City Council (BELOW) and appreciated her adding the Sara Road Widening North of SW 15th to the future Bond Issue, if there is one, in 2-3 years. At the time the Bond Issue to Widen Sara Road South from SW 15th was approved - prior we tried to get the Bond Issue to include SW 15th North to Reno but, traffic control didn't see the necessity as there was not enough traffic. Now we have 190 housing/duplexes going in on the South/West corner of Sara/SW 15th - project started to be completed this year. And, a PROPOSED Amphitheater going in on the North West Corner of SW 15th and Sara Road with Three (3) Ingress/Egress Entrances off of the NARROW Sara Rd going North from SW 15th. If approved will go in approximate 2025. There is one ingress/egress offered at SW 15th but, the coming home traffic at 5-6:30 is crazy on SW 15th which is the time people will be traveling to the amphitheater so traffic will try to be directed to Sara Rd.

Really don't know if SW 15th will be widened at that point (2025) as the Widening will start at Czech Hall Road and come east past Mustang Road and then start on SW 15th to Sara Road sometime in 2024/2025. The widening of the SW 15th from SW 29th to SW 15th has been a year if not more and still NOT completed. I hope your seeing the time-frame here and the fact that the Amphitheater Project should look at all the infrastructure to take place before making plans to start their project. The lack of Infrastructure before development disrupts everyone's lives and has over the development in the SW Sector.

This seems like a long message but, "important" as Projects/Developments getting approved without INFRASTRUCTURE in place has been a major issue in the SW Sector. Know the City has their rules regarding Bonds, etc..but, residents in these areas do not understand Bond Issues to the fullest and it might be a good idea - and, this is a suggestion - that the City of Oklahoma City in the next couple of weeks set up a meeting with Oklahoma City Officials/Traffic/Parking/Noise who can look at the issues prior to the Amphitheater coming before the City Council on March 12th. if the City wants to invite residents to attend the February Introduction Meeting - please let us know. Second, suggestion: If the City of Oklahoma City wants to set up a separate meeting outside of the Live Notes meeting to discuss infrastructure issues - that is fine also. As long as the residents of the area are aware of "what is going on" .

One last thing, the cards sent out (supposedly 5000) did not reach everyone. Some of us had to get them from neighbors - don't know if it was the post office or just mess up in mailing. So... Between October when residents found out on facebook about the meeting and January Planning Commission Meeting (was deferred from December) there was not a lot of time (Christmas Holidays) for residents to really "grasp" what was going on or really the Planning Commissioners -

Please read the full email and consider taking some time to think out this project - not saying were not totally against it, at least some - just need to know the City of OKC is considering the Infrastructure issues before approving this "Large" Project.

Thank you for your Consideration.

Lora  
WSNA

Posted on Facebook today "Westbury South" a response from Barbara Peck (BELOW) regarding the widening of Sara Rd and that she put it in for consideration in the Bond issue coming up in two (2) years or more. Added --- a response also, that even if it is included in a Bond Issue in two (2) years and it's approved - it takes 4-5 years for the project to start (have to sell bonds) and that's after the city takes bids for the widening. It's a long process. So if the City of OKC approves the

Sunset project - it would be traffic on a narrow two lane Sara Rd with three ingress/egress for 3500+ cars/buses/ etc...for probably 6-7 years after the project was completed for Sara Rd to be widened. Maybe longer. What a traffic mess.

----- Forwarded Message -----

FROM FACEBOOK: READ TO BOTTOM OF PAGE - MESSAGE GOES PAST PICTURE ----TOOK OUT ADS.

Councilwoman Barbara Peck attended the October town hall and is asking Notes Live to host another meeting before the city council vote. She said area residents stay busy and are not always able to attend such meetings. She encouraged residents to call her office at City Hall at 405-297-2402 or email her at [ward3@okc.gov](mailto:ward3@okc.gov).



She said she recently added Sara Road to the city's unfunded bond project list and is hoping to get it added to the next bond election.

"Development is important to Oklahoma City," Peck said. "And this part of Oklahoma City is going to develop. We want to do that the best way possible and constituents' concerns need to be addressed as best as possible."

## Johnson, Thad A

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**From:** lora koeninger <westburyinfo@yahoo.com>  
**Sent:** Wednesday, February 7, 2024 1:22 PM  
**To:** Jerimy Meek; Fulton, Boyd; Miller, Deborah K; DS, Subdivision and Zoning; City Clerk Email; Freeman, Craig A; The Mayor; Ward3; Lakin, Cynthia A  
**Subject:** SUNSET AMPHITHEATER BEFORE OK CITY COUNCIL MARCH 12TH - Message to Mayor Holt

You don't often get email from westburyinfo@yahoo.com. [Learn why this is important](#)

This project is to Large for a Small area - needs to be researched thoroughly - see below.

Mayor Holt:

Received Message from Barbara Peck via her facebook message re: Widening of North SARA RD - put on Bond issue which should be coming out in 2-3 years. Also, same message from ACTION LINE. If this SUNSET AMPHITHEATER is approved and project will be construct by 2025 which they forecast - the NARROW 2 LANE SARA RD with three (3) INGRESS/EGRESS into the Amphitheater will have to accommodate 3500-5000 cars plus ubers/buses/etc.. all within the hours of 5:00-6:30 INGRESS and then 10:00-11:00 EGRESS. IF IN FACT the Bond issue is approved in 2-3 years - then it's another 3-4 years for the widening even begins - AT THAT TIME: Amphitheater will be constructed and operating and Widening will progress - effecting the 3500-5000 cars, buses, ubers. etc...getting into the Amphitheater. This is not ONLY a Hinderance to those living in subdivisions around the Widening but, also those who "own" suites in the Amphitheater who may or may not have expected this upon their purchase of the SUITE. IF you want to see how BAD it will be - drive out to the SW Sector of Oklahoma City and look at the Widening going on today on Sara RD south - it's a mess. We are dealing with that but, will the Owners of the Suites at the Sunset Amphitheater APPRECIATE IT? ASK THE SUNSET AMPHITHEATER TO PAY FOR THE 1/4 MILE WIDENING OF SARA RD NORTH OF SW 15TH IN THE PUD TO BE COMPLETED ALONG WITH THEIR CONSTRUCTION AND FIGURE IT INTO THEIR COST OF DEVELOPMENT.

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:17 pm, Feb 07, 2024

**From:** lora koeninger <[westburyinfo@yahoo.com](mailto:westburyinfo@yahoo.com)>

**Sent:** Wednesday, February 7, 2024 1:22 PM

**To:** Jeremy Meek <[okcward3planning@gmail.com](mailto:okcward3planning@gmail.com)>; Fulton, Boyd; Miller, Deborah K; DS, Subdivision and Zoning <[Subdivisionandzoning@okc.gov](mailto:Subdivisionandzoning@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Lakin, Cynthia A

**Subject:** SUNSET AMPHITHEATER BEFORE OK CITY COUNCIL MARCH 12TH - Message to Mayor Holt

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This project is too large for a small area - needs to be researched thoroughly - see below.

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etc...getting into the Amphitheater. This is not ONLY a Hindrance to those living in subdivisions around the Widening but, also those who "own" suites in the Amphitheater who may or may not have expected this upon their purchase of the SUITE. IF you want to see how BAD it will be - drive out to the SW Sector of Oklahoma City and look at the Widening going on today on Sara RD south - it's a mess. We are dealing with that but, will the Owners of the Suites at the Sunset Amphitheater APPRECIATE IT? ASK THE SUNSET AMPHITHEATER TO PAY FOR THE 1/4 MILE WIDENING OF SARA RD NORTH OF SW 15TH IN THE PUD TO BE COMPLETED ALONG WITH THEIR CONSTRUCTION AND FIGURE IT INTO THEIR COST OF DEVELOPMENT.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 1:40 pm, Mar 04, 2024*

**From:** lora koeninger <[westburyinfo@yahoo.com](mailto:westburyinfo@yahoo.com)>

**Sent:** Monday, March 4, 2024 8:21 AM

**To:** [westburyinfo@yahoo.com](mailto:westburyinfo@yahoo.com)

**Subject:** Fw: Daily Oklahoman Article February 15, 2024 SUNSET AMPHITHEATER - Please don't be my Neighbor

You don't often get email from [westburyinfo@yahoo.com](mailto:westburyinfo@yahoo.com). [Learn why this is important](#)

WSNA Members Residents and Adjoining Neighbors:

Member sent this article - guess it was on Channel 4 at couple of nights ago.

----- Forwarded Message -----

**To:** [westburyinfo@yahoo.com](mailto:westburyinfo@yahoo.com) <[westburyinfo@yahoo.com](mailto:westburyinfo@yahoo.com)>

**Sent:** Wednesday, February 28, 2024 at 02:24:24 PM CST

**Subject:** Fw: Daily Oklahoman Article February 15, 2024 SUNSET AMPHITHEATER - Please don't be my Neighbor

**Subject:** Fw: Daily Oklahoman Article February 15, 2024 SUNSET AMPHITHEATER - Please don't be my Neighbor

## OPINION

# Mother: Sunset Amphitheater will be anything but a good neighbor, particularly for children

**Kristen Bruce**

Guest columnist





*“It’s a beautiful day in this neighborhood, A beautiful day for a neighbor... Won’t you be my neighbor?” — Mister Rogers*

The 12,000-seat Sunset Amphitheater planned by Colorado company Notes Live will be anything but a good neighbor, particularly for children.

The proposed landsite, owned by Sam Coury and Carol Hefner, near SW 15 and Sara Road, has multiple neighborhoods in the 1-mile bubble around it. Good neighbors do not make plans to get an increased sound decibel level over the city code or extend noise timeframes to 10:30 p.m. on weekdays and 11 p.m. on weekends. Notes Live asked for both at the Oklahoma City Planning Commission meeting on Jan. 11. Even an OKC planning commissioner remarked, “It’s not great for the neighbors!”

**More:** West OKC residents worry \$100 million amphitheater will ruin their neighborhoods

A quick search on Google on amphitheater complaints garners staggering results. Noise pollution is at the top of the list — specifically, the bass

frequencies. We all know that annoyance (cue the booming music of a lowrider truck). But an amphitheater with 12,000 spectators and numerous loudspeakers will be more than just a nuisance. The former U.S. Surgeon General William H. Stewart said, “Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere.”

If amphitheaters in other states have earned noise complaints from residents a half-mile to 15 miles away, like Brushy Creek Amphitheater in Hutto, Texas, what hazards will a massive, outdoor amphitheater have on children nearby?

The first hazard is lack of sleep. From over 3 miles away, a homeowner near Hayden Homes Amphitheater in Bend, Oregon, reported she could “...feel and hear a low-frequency vibrating bass that permeates the entire house.” Another resident over a mile from Red Rocks Amphitheater in Morrison, Colorado, complained, “The windows are rattling, the walls shake, you put covers over your head, and it doesn’t do anything.” In Round Rock, Texas, a homeowner 4 miles away from the Round Rock Amphitheater said the vibrations were so strong, his child could not sleep.

Most kids are not getting enough sleep as it is. According to the Centers for Disease Control and Prevention, 34.9% of children ages 4 months to 17 years lack appropriate amounts. Sixty percent of middle schoolers and 70% of high schoolers don’t get enough. Add a vibrating bass until 10:30 or 11 p.m. and it will be nearly impossible for kids to get adequate sleep.

Kids get up early and are expected to engage well in school and with people. Disruptive noise during sleep impedes their physical development and success in academics. Students who lack sleep exhibit lower grades and higher behavioral issues, according to Anne G. Wheaton in a National Institutes of Health article.

The next hazard: schoolwork. Notes Live has promised to delay daytime sound checks until 2 p.m. on school days, though school is not even done at that time. What about kids in the afternoon and evening needing to complete homework?

The website “Sound Is Fun” reports that “background noise can affect children’s ability to learn ... it’s hard for them to separate sounds they want to listen to from those they don’t want to focus on.” Researchers found that noise pollution can affect reading skills. In Queens, New York, a resident living near Forest Hills Stadium ended up moving because her son was unable to study at home with frequent concert noise.

Lastly, children are likely to be harmed by the repercussions noise pollution will have on parents and caregivers. When parents’ mental well-being is affected, children suffer. Wise caregivers know the importance of recoup time. If parents are continually tending to children unable to sleep because of noise, they are not getting the rest they need. These precious moments in the evening help replenish sanity.

What’s more, the physical health of parents is at risk. Peter James, an associate professor in the Department of Environmental Health at Harvard T.H. Chan School of Public Health stated, “Loud noises can signal to the auditory system that something is wrong, triggering a fight-or-flight-response, which floods the body with stress hormones that cause inflammation and can lead to disease.” Harvard found that effects of noise pollution include insomnia, heart disease, cognitive impairment, depression and anxiety, among other things. With all these things stacked up against parents, their ability to parent well will suffer.

Sleep. Academics. Loving parents. These are crucial to a child’s well-being.

I have not heard any Oklahoma politician, lawyer, investor or spokesperson bring up the impact this amphitheater will have on children. It seems gaining

money is very important. So important that our kids' well-being is in danger for it.

As a homeschooling mama of seven kids who lives in Ward 3, I become a mama bear over my kids' sleep, ability to learn and need of receiving care from parents that are not sleep-deprived or abnormally stressed. It concerns me that some, like the OKC Council members, Mayor David Holt or landowners Sam Coury and Carol Hefner, do not care about the thousands of kids that will be adversely impacted by this development. The Sunset Amphitheater needs to be located several miles away from residential housing, so no one's well-being is put in jeopardy for money. Not my family, not your family. Share this with your council member.

I'll be singing Mr. Roger's famed song a little differently, "...Please, don't be my neighbor!"



*Kristen Bruce is a wife and homeschooling mom of seven kids who loves Oklahoma sunsets, family board games and knitting.*



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024

**From:** Kyndra Kreger <kyndrakreger@gmail.com>  
**Sent:** Sunday, March 24, 2024 5:10 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest

You don't often get email from [kyndrakreger@gmail.com](mailto:kyndrakreger@gmail.com). [Learn why this is important](#)

Dear Ms. Simpson,

**I, Kyndra Kreger, hereby protest PUD 1983 application by Mustang Creek Crossing LLC to rezone 810 S. John Kilpatrick Turnpike.** There will be problems if this is approved.

The most serious problem is the noise pollution that it will create for residences in a large area around this site. I understand that they have proposed several measures to try to reduce the noise levels. While these may help the higher frequency noise, they will have little to no effect on the lower frequency bass sounds. These sounds are omnidirectional and travel further than the higher frequencies. Since the venue is outside, there are several unknown factors such as wind and humidity that can also change the distance in which these lower sounds can travel.

I am concerned about the impact these low frequency sounds will have on everyone but especially concerned on those who are most vulnerable, including veterans with PTSD, children (especially those with autism or sensory issues), pets, and local wildlife (there is a nearby eagle nest).

The second concern I have is the lack of parking for this venue. While the venue advertises up to 12,500 seats, the proposed parking lot can only accommodate less than 4,000 vehicles. Even if there were two people per vehicle, this still leaves 2,500 vehicles with no place to park. Many might park in nearby elementary and/or middle school parking lots (which can create another whole mess of problems). What happens on a Friday night when the middle school has a football game or other night time activity? The closest alternative parking would really be in residential neighborhoods. Not only would this cost additional funds to the city for repair and upkeep of the city streets, it could potentially impede emergency vehicles from getting through to those in need.

Perhaps a better site would be in the entertainment district. There are many large buildings to help in the absorption of the outdoor sounds. Also, additional parking is already available for possible overflow from event parking.

**I am the homeowner of 10705 SW 31st Ct. Yukon, OK (this is inside OKC limits). I ask you to vote against this PUD in its current form.**

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

**From:** Sam <[skrempl29@gmail.com](mailto:skrempl29@gmail.com)>

**Sent:** Monday, March 25, 2024 12:02 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>

**Subject:** Protest PUD-1983

Some people who received this message don't often get email from [skrempl29@gmail.com](mailto:skrempl29@gmail.com). [Learn why this is important](#)

I Sam Krempl hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. My address is 9125 SW 28<sup>th</sup> Street, Oklahoma City, OK 73128. My phone number is 405-476-4017. This rezoning would have a direct impact on our quality of life.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

**From:** Sam <[skrempl29@gmail.com](mailto:skrempl29@gmail.com)>

**Sent:** Monday, March 25, 2024 12:02 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>

**Subject:** Protest PUD-1983

Some people who received this message don't often get email from [skrempl29@gmail.com](mailto:skrempl29@gmail.com). [Learn why this is important](#)

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**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024

**From:** Linda Rinehart <[lrgrannyof3@gmail.com](mailto:lrgrannyof3@gmail.com)>

**Sent:** Monday, March 25, 2024 11:58 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD 1983

You don't often get email from [lrgrannyof3@gmail.com](mailto:lrgrannyof3@gmail.com). [Learn why this is important](#)

Good Morning Ms. Amy Simpson,

My name is Mrs. Linda Rinehart and I live at 10013 Dover Dr., Yukon, OK. 73099.

I am writing this email today in opposition of the Sunset Ampitheater to be voted on by the City Council on April 9, 2024.

I am a retired, surviving spouse of a 100% permanently disabled veteran. My husband and I purchased our home in 2014 because of the quiet location, and family atmosphere surrounding us and our entire neighborhood. Since my husband's passing I have learned to adjust to some things but social anxiety, loud constant noises, and constant heavy machinery running cause anxiety for me. I also have pets as well who deal with issues of loud noises upsetting them. My dog and my senior cat deal with seizures. Any type of loud noise or bright lights can bring those seizures on.

While I have listed my personal issues to deal with regarding this pending Ampitheater decision I also am very concerned about traffic in the area becoming impassable for not only people who live here but for emergency personnel getting to someone in need.

One final issue to address are my concerns for the safety of children who are in school at Mustang North Middle School and Mustang Creek Elementary. I have a grandson who is pre-enrolled in Mustang North Middle School for next school year. The noise that the ampitheater would bring will be very disrupting for him in learning as well as safety in after school events and getting home from school via school bus.

Finally, I respectfully ask that this location Not be considered as a good location for such a venue.

Respectively,

Mrs. Linda Rinehart  
10013 Dover Dr.  
Yukon, OK 73099

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

**From:** Lynne Wheeler <ilovequilts63@gmail.com>

**Sent:** Monday, March 25, 2024 11:38 AM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** Sunset Theater

You don't often get email from [ilovequilts63@gmail.com](mailto:ilovequilts63@gmail.com). [Learn why this is important](#)

Dear City Council

I am sure you have heard from several people in the Yukon & Mustang area. I would like to add my voice of concern to the proposed building of the Sunset Amphitheater. One of the many reasons that my husband and I have lived in the area for the last 37 years is because it is quiet and away from all the traffic of the big city. As this area has grown, the traffic has gotten worse especially on the main roads such as Sara and Mustang Road. If the amphitheater is built, this will only make the already congested traffic even worse than it is now. The roads that we currently have can not handle the extra traffic. The amphitheater will likely bring more crime to this quiet area as well.

The noise that it will bring is also of major concern. Just yesterday, someone was blaring their base in their car somewhere in the area (we were unable to find them) and it shook our house at the core and was very disturbing. To have an entire concert for several hours making that type of noise is not acceptable to this area that is filled with families. To also build this by a school is not acceptable. Even though the concerts would not be during school hours, the bands normally have to have a time of testing sound before the concert which could be during school hours and would be very disruptive.

Please vote "no" and voice your constituents concerns about building this amphitheater in the proposed site.

Thank you for listening to a concerned citizen,

Lynne Wheeler  
700 Westridge Drive  
Yukon, OK

**From:** Gay Teter <[teterp1@hotmail.com](mailto:teterp1@hotmail.com)>  
**Sent:** Monday, March 25, 2024 12:49 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

You don't often get email from [teterp1@hotmail.com](mailto:teterp1@hotmail.com). [Learn why this is important](#)

I am a resident of Westbury South and I own rental property in Westbury North. I am concerned about the noise pollution depreciating the value of my property. Please do not rezone.

Patricia Teter

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

**From:** Julie <[julie5.mccoy@cox.net](mailto:julie5.mccoy@cox.net)>  
**Sent:** Monday, March 25, 2024 1:25 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PUD 1983 protest

You don't often get email from [julie5.mccoy@cox.net](mailto:julie5.mccoy@cox.net). [Learn why this is important](#)

To city clerk,

To city clerk Amy K Simpson,

My name is Julie McCoy.

I live at 10320 Paisley Road Yukon OK 73099.

I am protesting against PUD 1983 the Sunset amphitheater at 15th street and Sarah Rd.

The sound will not only travel north especially the low frequencies.

The low frequencies will disturb our lively hoods during our summer activities in our backyard.

The parking lot is not conducive enough for all the vehicles of a 12,500 capacity seat amphitheater with only 3,500 parking spaces, where are all the other cars going to park, along busy city streets and in our neighborhoods.

Our homes will depreciate.

People's livelihoods/ way of living will be changed forever with noise pollution during the times we would be outside enjoying their family and friends.



We would be robbed from many memorable times forever during these months and other months as the venue will allow.

Please choose quality of life for those affected by this noise polluting monstrosity trying to be forced upon 40+ year established family homes.

Council persons were voted in by we the people to represent we the people and I know they work hard to serve us well, of which I appreciate.

I have faith to believe the council members will vote in the behalf of the majority of us that will be most affected and do not want this in our backyard.

Thank you, Julie Mccoy

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

From: Julie Whittaker <[dwhitt2038@gmail.com](mailto:dwhitt2038@gmail.com)>

Sent: Monday, March 25, 2024 1:59 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Protest to PUD 1983

[You don't often get email from [dwhitt2038@gmail.com](mailto:dwhitt2038@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I Julie Whittaker hereby protest PUD 1983 application by Mustang Creek Crossing LLC to rezone 810 S. Kirkpatrick Turnpike.

2016 Norwich Pl., Yukon, OK 73099. 405-831-7286.

Reasons for my complaint.

Noise pollution, blowing dust, and debris, parking.

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:37 am, Mar 11, 2024

**From:** [Jamison Kubala](#)  
**To:** [City Clerk Email](#)  
**Subject:** PROTEST PUD-1983  
**Date:** Monday, March 11, 2024 2:08:41 AM

You don't often get email from jamisonkubala@gmail.com. [Learn why this is important](#)

Hello City Clerk,

I am writing today to Protest PUD-1983 Application by Mustang Creek Crossing, LLC. To re zone 810 S. John Kilpatrick Turnpike.

To whom it may concern,

I am writing to express my concern with the new 12,000 seat amphitheater development proposed near Mustang Rd. and 15<sup>th</sup> St. I understand there will be a vote, and I am urging you to vote no to PUD-1983.

I currently live in a neighborhood near the proposed development site. I can say for certain that our traffic infrastructure in this area is already in desperate need of update. Mustang Rd. is very congested and poorly designed to handle the current traffic. I can tell you from personal experience that a 4-mile trip can easily take me 50 minutes at certain times. Additionally, it lacks proper turning lanes which causes accidents on what appears to be a daily basis. Sara Rd., 15<sup>th</sup> St., Czech Hall Rd., and Reno Ave. are all congested in the area. Adding a large business development would only add to the inconvenience of travel in the area and make the already unsafe roads even worse.

I also am concerned about the noise. Our communities have noise ordinances for a reason. Noise ordinances aim to preserve peace and tranquility in residential areas. Regulating noise levels ensures that residents can enjoy a reasonable quality of life without excessive disturbances. Excessive noise can lead to stress, anxiety, sleep disturbances, and health issues in both humans and pets. Noise regulations protect public health by minimizing these adverse effects. It seems like common sense to me that large outdoor entertainment venues do not belong in residential areas, simply due to noise alone.

These issues, along with many others, should be considered. This area is growing faster than the supporting infrastructure permits. I can foresee electrical issues with the power grid, sewer and sanitation problems, water supply issues, and serious problems with emergency personnel and response, just to name a few. I feel as though none of these were given consideration or closely studied. Any Urban Planning and Development board could easily see that this is not the right area for a large amphitheater. I can't fathom why an amphitheater would even be proposed among multiple residential areas, much less in an area that already suffers from traffic congestion and poor road conditions. It's very inconvenient and, in this case, it's unsafe.

In closing, I will ask that you consider whether you would like a 12,000-seat amphitheater business development within a few hundred feet of your home. If

the answer is no, please vote no on PUD-1983.

Sincerely,

Jamison Kubala  
11800 SW 4<sup>th</sup> Ter.  
Yukon, OK 73099



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:48 pm, Mar 08, 2024

**From:** Jennifer Kubala <[jennkubala@gmail.com](mailto:jennkubala@gmail.com)>

**Sent:** Friday, March 8, 2024 2:40 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** PROTEST-PUD-1983

You don't often get email from [jennkubala@gmail.com](mailto:jennkubala@gmail.com). [Learn why this is important](#)

Dear City Clerk,  
I Jennifer C. Kubala resident homeowner of  
11800 SW 4th Terrace Yukon, Ok. 73099  
580-471-0279

Hereby protest PUD-1983 application by Mustang Creek Crossing, LLC to rezone 810 S. John Kilpatrick Turnpike”

I am writing to express my concern with the new 12,000 seat amphitheater development proposed near Mustang Rd. and 15 th St. I understand there will be a vote, and I am urging you

to vote no to PUD-1983.

I currently live in a neighborhood near the proposed development site. I can say for certain that our traffic infrastructure in this area is already in desperate need of update.

Mustang

Rd. is very congested and poorly designed to handle the current traffic. I can tell you from personal experience that a 4-mile trip can easily take me 50 minutes at certain times. Additionally, it lacks proper turning lanes which causes accidents on what appears to be a daily

basis. Sara Rd., 15 th St., Czech Hall Rd., and Reno Ave. are all congested in the area.

Adding a

large business development would only add to the inconvenience of travel in the area and make

the already unsafe roads even worse.

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Regulating

noise levels ensures that residents can enjoy a reasonable quality of life without excessive disturbances. Excessive noise can lead to stress, anxiety, sleep disturbances, and health issues

in both humans and pets. Noise regulations protect public health by minimizing these adverse effects.

These issues, along with many others, should be considered. (Emergency calls will increase, emergency response will take longer, emergency personnel will be stressed, etc...)

Any Urban Planning and Development board could easily see that this is not the right area for a

large amphitheater. I struggle to understand why an amphitheater would even be considered among multiple residential areas, much less in an area that already suffers from traffic congestion and poor road conditions. It's very inconvenient and it's unsafe. In closing, I will ask that you consider whether you would like a 12,000-seat amphitheater business development within a few hundred feet of your home. If the answer is no, please vote no on PUD-1983.

Sincerely,

Jennifer Kubala



Virus-free. [www.avg.com](http://www.avg.com)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:49 pm, Mar 08, 2024

**From:** Jennifer Kubala <[jennkubala@gmail.com](mailto:jennkubala@gmail.com)>  
**Sent:** Friday, March 8, 2024 2:12 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PROTEST-PUD-1983

You don't often get email from [jennkubala@gmail.com](mailto:jennkubala@gmail.com). [Learn why this is important](#)

Dear City Clerk,

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to vote no to PUD-1983.

I currently live in a neighborhood near the proposed development site. I can say for certain that our traffic infrastructure in this area is already in desperate need of update.

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among multiple residential areas, much less in an area that already suffers from traffic congestion and poor road conditions. It's very inconvenient and it's unsafe.

In closing, I will ask that you consider whether you would like a 12,000-seat

amphitheater business development within a few hundred feet of your home. If the answer is no, please vote no on PUD-1983.

Sincerely,

Jennifer Kubala



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## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:57 PM  
**To:** Johnson, Thad A  
**Subject:** FW: PUD-1983 REZONE REQUEST

---

**From:** Kelsey Kuehn <[ksolenberg03@gmail.com](mailto:ksolenberg03@gmail.com)>  
**Sent:** Wednesday, March 27, 2024 11:16 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PUD-1983 REZONE REQUEST

You don't often get email from [ksolenberg03@gmail.com](mailto:ksolenberg03@gmail.com). [Learn why this is important](#)

Hello, I am protesting the proposed sunset amphitheater by Southwest 15th and Sarah Road. My elderly mother and good friend with small children both live in westbury south and they will both be negatively impacted by this rezone. This will not be good for the area . Please vote no on this request.

Best Regards,

Kelsey Kuehn  
3920 Tori Place, Yukon, 73099

---

**Kymberlin Lockett**

913 Danbury Pl  
Yukon, OK 73099  
(405) 673-9947  
Kymberlin2292@gmail.com

March 6th, 2024

**Amy K. Simpson**

Oklahoma City Clerk  
200 N Walker Ave., 2nd Floor  
Oklahoma City, OK 73102

2024 MAR 11 PM 3:23  
OKLAHOMA CITY CLERK

Dear Ms. Simpson,

I, Kymberlin Lockett, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I currently reside at 913 Danbury Place, the neighborhood directly east of the address above. I have small children who are highly sensitive to noise pollution. We also love being outside in our quiet neighborhood. Rezoning 810 South John Kilpatrick turnpike, will greatly affect my family's peace. I am a homeschool mom to a kindergartener who needs adequate sleep to be able to wake up ready to learn in the morning. I also have an 18 month old who already struggles with sleeping who will also be affected by the noise pollution rezoning would do. I understand the want to bring more business to the OKC metro but there are far too many neighborhoods, including two schools that will be too affected by the rezoning. I ask that the council does not allow this rezoning to happen. I would love to keep my family where we are for the long haul because we love our neighborhood, but if the rezoning is allowed we will have no choice but to leave the neighborhood we love and likely the OKC metro area.

Sincerely,

Kymberlin Lockett

March 26, 2024

To: Oklahoma City Council and Mayor  
Subject: PROTEST PUD 1983, Sunset Amphitheater

We are writing in PROTEST to PUD 1983 at 810 S John Kilpatrick Turnpike.

When we purchased our home in 2008, we chose this location because of the sparse suburban feel. We feel the small town charm and feel this community offers is one of the main reasons why this area has been growing so rapidly in recent years. While we realize growth would and is happening in this area, this is not the direction we ever envisioned this community to head in. Developing this land for the purpose of a 12,500 seat Amphitheater, completely negates the culture here and does not fit the needs of this community.

The current development plan doesn't benefit the residents in the area and our quality of life. This land will be developed, let's make it fit the already well-established area— an actual park, YMCA (Mitch Park in Edmond comes to mind for this area!), perhaps some pickleball courts, as Mayor Holt recently stated, "we can't have enough pickleball courts in OKC" – this would be inclusive to all ages and allow them to engage in an active lifestyle; restaurants, TopGolf, BassPro shop, a smaller VA hospital catered towards all the Veteran's in the area and those that live on the west side of the state, retail stores, etc.

We feel you are all more than aware of the complaints that come with an Amphitheater (traffic, noise, trash, etc). However, we would like you to seriously consider the appropriateness of this location.

**Concerns** – As far as this company goes, have you done research on them? Are you aware they do not have any amphitheater actually open yet? Colorado Springs will open in August 2024. The owner recently stated, "he wants to work with municipalities that are enthusiastic and put some skin – or economic incentives – into the project." The only locations for amphitheaters that are moving forward at this time are those where the city has agreed to incentives or financially assisted. Isn't this concerning? Isn't it concerning that this company pushed so hard to become part of the NY Stock Exchange? Bottom line, they need money to build these expensive venues. Why are they pushing to have so many locations open in a short time span? Also, so far, the company has only opened in areas where they have a connection: Colorado Springs - owner's home base, Gainesville - home of the President and COO, McKinney/DFW - former Dallas Cowboys player, now serves on Notes Live Board of Directors, Tulsa/Broken Arrow – lead singer of One Republic is originally from Tulsa, lived there until junior year in high school, his father now works for them. So, who from our area will be working for them? The land owner has stated in recent years, "City boards are stacked with persons driving their own agendas rather than allowing citizens to have input at the larger community levels." Well, whose agenda is this? Who does this *really* benefit? Who is an investor in this venue? It's not us, the local residents, those who actually live in THIS area. Has anyone asked us what we want here? Notifications have been sparse. PR and media coverage presents it as an already done deal.

Lastly, we feel it is a shame that not all of our neighbors and local business owners feel safe and comfortable to express their protest for fear of retribution. Whether that be because of where they work, who they work for, where their funding comes from, or who their landlord is.

This PUD has turned too political and we, the residents who actually LIVE in this community, are being forgotten. Those in support of this venue are largely affiliated with the land owner and family (very easy to find the connections).

Let's get back to the Oklahoma Standard!

We kindly ask that you come out to this area, walk the grounds. Please. Visually see just how close our homes are. Seeing it on a Google Earth document just doesn't do it justice. Our home, and entrance to our neighborhood, is right beside one of the proposed entrances. How do you think our 12 year old will sleep when a concert will last until 10:30-11:00pm then 12,500 patrons have to exit the area...it will be midnight before everyone will be gone, THEN the equipment still has to be broken down. School can start as early as 7:35am at the elementary school that will be right next to the venue.

We, Alvin and Melissa LaFave, are the homeowners of property 913 Edinburg Drive, Yukon, OK 73099. We are asking you to vote No to this PUD 1983.

Sincerely,

Alvin and Melissa LaFave  
913 Edinburg Drive  
Yukon, OK 73099  
405-808-6004  
[melis.lafave@yahoo.com](mailto:melis.lafave@yahoo.com)  
[aj.lafave@yahoo.com](mailto:aj.lafave@yahoo.com)

<https://noteslive.vip/about/the-team/>

<https://www.costar.com/article/788578942/on-road-to-ipo-notes-live-unveils-plans-for-its-biggest-us-music-venue-yet>

[https://en.wikipedia.org/wiki/Ryan\\_Tedder#:~:text=Ryan%20Benjamin%20Tedder%20\(born%20June,record%20producer%20from%20Tulsa%2C%20Oklahoma](https://en.wikipedia.org/wiki/Ryan_Tedder#:~:text=Ryan%20Benjamin%20Tedder%20(born%20June,record%20producer%20from%20Tulsa%2C%20Oklahoma)

<https://www.oklahoman.com/story/news/2022/02/01/okc-mayor-election-candidate-carol-hefner-what-to-know/6583450001/>

<https://www.oklahoman.com/story/news/2022/01/26/oklahoma-city-mayoral-election-q-a-2022-candidate-frank-urbanic/9231460002/>



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:58 am, Mar 25, 2024

**From:** Michelle LaFluer <michellesroom@cox.net>  
**Sent:** Sunday, March 24, 2024 9:17 AM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD-1983, Sunset Amphitheater

You don't often get email from [michellesroom@cox.net](mailto:michellesroom@cox.net). [Learn why this is important](#)

I, Michelle LaFluer, hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

1. First problem I have is the low frequency vibrations affecting my house, pet and peace. Please vote no to protect my investment and mental health.
2. Second problem I have is incremental flooding on my property with every new development in the Ward 3 area due to lack of proper drainage. Please vote no to protect my investment.
3. Third problem I have is the noise pollution due to decibel limits over city code, lack of curfew enforcement, lack of green space and lack of traffic plan. Please vote no to protect my investment and mental health.

I am the homeowner of property at 8400 SW 35th, OKC, OK, 73179 and ask you to deny the rezoning of this PUD.

Sincerely,

Michelle LaFluer  
8400 SW 35th St  
OKC, OK 73179  
405-473-9819

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024

**From:** Derek larsen <larsenderek20@yahoo.com>

**Sent:** Friday, March 22, 2024 6:02 PM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** Protest PUD-1983

You don't often get email from [larsenderek20@yahoo.com](mailto:larsenderek20@yahoo.com). [Learn why this is important](#)

I Derek Larsen herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike, my address is 1101 Sennybridge drive Yukon OK, 73099 in Ward 3.

The first point that I would like considered is the public safety of the children in and around the neighborhoods of the proposed construction/Amphitheater as well as the kids attending school at Mustang North Middle school, and Mustang Creek Elementary. The amount of proposed seating (12,500) is not conducive to the 3,500 parking spots that have been planned. This would cause the issue of people parking in the school parking lot, our neighborhood walking over to the venue, as well as the fact that more people would be at risk of injury or death due to alcohol sales, and Sarah road only being two lanes. The two main inertances are also a problem for this reason as well, you would effectively be causing more traffic, wrecks, and wear and tear on the surrounding area.

There being no limit to the amount of concerts able to be played would bring more business, but on the other hand you would effectively ruin the property value in the area forcing many of us to have to move if it were even a possibility. The mustang creek area would then become like the surrounding areas of the zoo amphitheater where people don't want to live there, and their own property values are negatively impacted.

We don't want the noise or the amount of people that it would bring, the people in this area moved here so we wouldn't have to deal with things like this. A venue like this is better suited for downtown where it can be accommodated, and the people that live there are ok with this type of venue.

Thank you  
Derek Larsen

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024

**From:** Marty Lawson <mashermoto2@cox.net>

**Sent:** Friday, March 22, 2024 9:13 PM

**To:** City Clerk Email <CityClerk@okc.gov>; The Mayor <mayor@okc.gov>; Ward1 <ward1@okc.gov>; Ward2 <ward2@okc.gov>; Ward3 <ward3@okc.gov>; Ward4 <ward4@okc.gov>; Ward5 <ward5@okc.gov>; Ward6 <ward6@okc.gov>; Ward7 <ward7@okc.gov>; Ward8 <ward8@okc.gov>

**Subject:** Protest PUD 1983

Some people who received this message don't often get email from [mashermoto2@cox.net](mailto:mashermoto2@cox.net). [Learn why this is important](#)

I desire to protest PUD-1983 for the Sunset Amphitheater proposed in Ward 3.

I have seen much opposition to the PUD due to traffic and noise concerns and I agree that will likely be an irreversible nuisance if the amphitheater is built. But I would also like you to consider the distraction that will be created on the John Kilpatrick Turnpike (JKT). If time would permit in your busy schedules I would encourage you to travel the JKT by entering at SW 15<sup>th</sup> and proceed North toward the I-40 East exit. This is a tricky route because the entrance at SW 15<sup>th</sup> requires a driver to accelerate up to 70 mph within a short distance while navigating a turn to the right with traffic in the two left lanes already at 70 mph and approaching the driver from behind on the curve. Staying in the entrance lane will force the driver to take the I-40 East exit that is at about ¼ mile ahead. If the driver desires to proceed North on JKT then a merge to the left lane into 70 mph traffic is required on the curve. This is not an easy maneuver regardless of one's driving skills.

On Monday, April 17, 2023, an 18 year old Mustang High School student lost his life in a vehicle accident at this very location I described. I'll withhold his name out of respect to his family, but he was a friend of my son who was one of his classmates. I don't know much details about the accident other than it was tragic. He was pinned in the car for 35 minutes before firefighters could get him out. With this said, I would like you to consider the distractions that will be created at night at this part of the JKT with music loud enough to hear and feel, bright lights flashing on and off in a multitude of colors, stage smoke rising in the air, and famous musicians performing on a stage just below the roadway. The temptation for drivers to "look and see" on this dangerous curved roadway at high speed will no doubt increase the probability for accidents. Hopefully none would be fatal, but likely to be so. PLEASE take this into consideration before you vote.

As a person who enjoys attending live concerts, I agree with Councilwoman Peck's letter to Ward 3 residents where she stated opposition to the PUD, but hoped the applicants could find a more suitable location. I too would like to see an amphitheater built, but in a more suitable location.

I am the homeowner of property at 2113 Edinburg Drive, Yukon, OK 73099. I ask you to vote against this PUD.

Marty Lawson  
405-409-0723





## Johnson, Thad A

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**From:** alex.leal@yahoo.com  
**Sent:** Friday, March 29, 2024 10:43 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983

You don't often get email from alex.leal@yahoo.com. [Learn why this is important](#)

I, Alexander Leal, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

There are many reasons not to do this, the main one being safety. Rezoning to build an amphitheater could cause multiple cases of unwanted visitors who don't care about our families and these neighborhoods/schools that literally border the area. This will lead to multiple issues of crimes, especially if drugs/alcohol is involved (if you deny people consume copious amounts of either at music venues, then you are either in denial or incredibly naive). We already have history of thievery and gun violence at the 7-Eleven, I'd hate for things like that to multiply.

Also there will be crazy amounts of unwanted traffic jamming up our streets, especially in a residentially heavy area. We already see crazy traffic with the turnpike entrances, I fear that even adding lanes won't solve the issue. Not to mention it's bordering a school zone and the other turnpike entrance is right in the middle of another residential zone.

I love the thought of an awesome music venue that will bring revenue and bigger names to perform in Oklahoma, but I just beg you to keep it out of our neighborhoods.

I strongly ask you to protect our neighborhoods and families from the nuisance this venue will cause so please deny this rezoning.

From a concerned citizen who strongly believes in contributing to society for the betterment of our community, state and country,

Alexander Leal  
10209 Glasgow Dr  
Yukon, OK 73099

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:55 pm, Mar 06, 2024

**From:** Don Levings <[dlevings@niagarawater.com](mailto:dlevings@niagarawater.com)>

**Sent:** Wednesday, March 6, 2024 3:45 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Proposed Amphitheater

You don't often get email from [dlevings@niagarawater.com](mailto:dlevings@niagarawater.com). [Learn why this is important](#)

My name is Don Levings, I live in the Westberry north addition next to the proposed Amphitheater location. I have lived here for 6 years and work very close to where I live. The location that has been suggested for this project in my opinion needs to be looked at very carefully because of its location to homes, schools and businesses. This area has grown very rapidly just in the past 6 years since I have lived here. The area has seen a lot of residential development and this doesn't seem like a good location to put a business such as this. The traffic in the area of Mustang rd and I-40 is busy almost 24 hrs a day and it seems like this will make it worse. Even finishing Sara Rd and SW 15<sup>th</sup> will not help the traffic in this area. In the evenings the line to turn south on Mustang road off SW 15<sup>th</sup> backs up to the Kilpatrick turnpike exit on I-40. The noise from this business that will invade the little quiet time we have left in life will be difficult to live with in my opinion. I like to sit in my back yard and enjoy my evenings and weekends but I fear this will be something that I hear every weekend during the warm months. I just ask if you would like this to be built next to your home and you have to listen to the constant bass thump till 11 pm 3 days a week from April to October? Please vote no, this can be built away from homes and not be as evasive as this will be to us that live there.

Don Levings  
1234 Birkenhead Rd  
Yukon Ok 73099

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:31 am, Feb 20, 2024

-----Original Message-----

From: Don Levings <[dlevings@niagarawater.com](mailto:dlevings@niagarawater.com)>

Sent: Monday, February 19, 2024 6:57 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Amphitheater concerns

[You don't often get email from [dlevings@niagarawater.com](mailto:dlevings@niagarawater.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I am a home owner and resident of Westberry addition at SW 15th and Sara road. My address is 1234, Birkenhead Rd, Yukon OK 73099. I want it say how bad of an idea this could be with noise and traffic in this area. The roads here are already busy and difficult to get around but adding the traffic would make it even more difficult. Then with the noise going on it will be hard to live a quiet life. Not counting what could happen to our property values. I hope each of you that have a say in this decision wouldnt want this built next to your home. Imagine this next door to your home and you are having a outdoor event at your house and all you can hear is the bass thumping from a half mile away. It sounds like we won't have a quiet weekend during warm part of the year. Please keep this away from your neighbors here. If it doesn't fit all it shouldn't be here.

Don Levings  
1234 Birkenhead Rd  
Yukon ok.

## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:58 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest PUD-1983

-----Original Message-----

From: Kayla Lloyd <hopetk4@cox.net>  
Sent: Wednesday, March 27, 2024 11:18 AM  
To: City Clerk Email <CityClerk@okc.gov>  
Subject: Protest PUD-1983

[You don't often get email from hopetk4@cox.net. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Kayla Lloyd, do hereby protest PUD-1983 by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I understand they want to put a large loud amphitheater in our surrounding neighborhoods and directly next to an elementary school and Middle school. This is a terrible idea based upon the following reason that I would hope that our City Council can foresee as well:

- 1) This very area already has traffic issues especially in the evenings during rush hour and extends down to Morgan and SW 15th where there are already lines in the evenings when people would be arriving for the venue to "get in line". This would be a heavy burden on your constituents in this area.
  - 2) There are also multiple activities in this area for young children and their families: soccer practices, church activities at The Good Shepherd right there and ballgames, track, and soccer games at the mid high in the evenings and weekends. This venue would create obtrusive noise levels and traffic for these families in theses communities.
  - 3) The type of clientele that these venues bring in you are also bringing, to a peaceful, family neighborhood, an increase in crime (traffic violations, theft, DUI's, drug trafficking, child trafficking, rape, assault, etc) that will come with such a venue. This is really hard to believe that the city is even considering this.
- Please reconsider such a burden on this residential area.



David Wrights

**From:** Lowry <[lowrycy@gmail.com](mailto:lowrycy@gmail.com)>  
**Sent:** Tuesday, February 20, 2024 8:47 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Amphitheater and set speed limit concerns

2024 FEB 20 AM 8:48  
OKLAHOMA CITY CLERK

|| You don't often get email from [lowrycy@gmail.com](mailto:lowrycy@gmail.com). [Learn why this is important](#)

I am sending this email in hopes you will have enough feedback to this proposition and hope that you will deny the zoning change request that would allow the ampitheater to be built in our area. This venue is a great idea, wrong location.

I also would like to know how to request a speed limit change in this area. Mustang road from Reno to SW 59th has had a large increase in the number of outlets for businesses and housing off this road in the past several years. 55 mph from 15th to 59th is dangerous. There have been multiple accidents and getting out of businesses and housing additions is very difficult. This road is also the main road to Mustang High School, which teenage drivers use regularly. Please consider decreasing the speed limit.

Respectfully,

Cheryl Lowry  
11701 Sandy Cir  
Yukon, Ok 73099  
(Okc city limits, Yukon mailing, Mustang schools)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:12 am, Mar 22, 2024

**From:** Jennifer Ludwick <[jennlud99@gmail.com](mailto:jennlud99@gmail.com)>

**Sent:** Friday, March 22, 2024 7:11 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [jennlud99@gmail.com](mailto:jennlud99@gmail.com). [Learn why this is important](#)

Dear Clerk Slmpson,

I, Jennifer Ludwick, hereby **protest PUD-1983** application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I live very near this proposed site and believe this type of venue will cause major disruptions not only for local homeowners but also cause problems with traffic and strain our already sparse emergency services. While I understand that the city is looking for an increase in tax revenue, I believe it will end up not creating revenue but rather be a drain on the city with the cost of upgrades to existing roads and infrastructure that will not be recouped. This project will ruin the local housing communities forcing people to move and risk not being able to find housing within the Mustang school district and it will have a negative impact on millions of dollars worth of nearby high quality housing.

I ask that you please stop this project. This will have a tremendously negative impact on our community.

Regards,

Jennifer Ludwick

3409 Walden Estates Drive

Oklahoma City, OK 73179

405-408-5321

**WARD 3 VOTER**

**CC:**

City Clerk - Amy Simpson - [cityclerk@okc.gov](mailto:cityclerk@okc.gov)

Mayor David Holt - [mayor@okc.gov](mailto:mayor@okc.gov)

City Council Bradley Carter - [ward1@okc.gov](mailto:ward1@okc.gov)

City Council James Cooper - [ward2@okc.gov](mailto:ward2@okc.gov)

City Council Barbara Peck - [ward3@okc.gov](mailto:ward3@okc.gov)

City Council Todd Stone - [ward4@okc.gov](mailto:ward4@okc.gov)

City Council Matt Hinkle - [ward5@okc.gov](mailto:ward5@okc.gov)

City Council JoBeth Hamon - [ward6@okc.gov](mailto:ward6@okc.gov)

City Council Nikki Nice - [ward7@okc.gov](mailto:ward7@okc.gov)

City Council Mark K. Stonecipher - [ward8@okc.gov](mailto:ward8@okc.gov)

## Johnson, Thad A

---

**From:** Linda Marrese <lindam0511@gmail.com>  
**Sent:** Monday, March 25, 2024 7:58 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD-1983

You don't often get email from lindam0511@gmail.com. [Learn why this is important](#)

I Linda Marrese hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

Thank you,

Linda Marrese  
3516 Wimberley Creek Dr,  
Yukon, OK 73099  
206-369-1299

**From:** Beccaa Rytlewski <[thepuppylove2@yahoo.com](mailto:thepuppylove2@yahoo.com)>

**Sent:** Wednesday, February 7, 2024 12:49 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Sunset Amphitheater in Mustang Creek Crossing

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:17 pm, Feb 07, 2024*

You don't often get email from [thepuppylove2@yahoo.com](mailto:thepuppylove2@yahoo.com). [Learn why this is important](#)

Hello, to whom it may concern my name is Rebecca Martin, I live at 10404 Leicester Dr. Yukon ok 73099. If you do not know that is a couple of blocks from this amphitheater that is supposed to be built. Honestly, it is a horrible idea to build the amphitheater there. Here are a few of my reasons why:

1. It can and will bring crime to this part of Mustang/Yukon. Mustang/Yukon is seen as a safer place to live. It won't be if it is built.
2. The neighborhood will no longer be quiet and safe, which is why my family and I decided to move here.
3. Once the parking lot is filled, people will start to park in or around the existing neighborhoods.
4. No concert ever ends at 10:30 p.m. Some concerts do not end till midnight or later. That is way too late for me or any of my family to hear or feel vibrations from the amphitheater.
5. As well they have increased the decibel level to 5db over the city code. That is ridiculous, the concerts will get louder by the type of music.
6. They will do a sound check around 2:00 p.m. when kids are in school, young kids already have a hard time paying attention in class. Which can result in children not getting the education they deserve. Those children are the future.
7. Traffic, let's be real, no one wants to wait 40 minutes or more to get out of their neighborhood after a concert.
8. It is super close to an elementary school and middle school, that's not okay, think about children's safety.
9. There are other places to build this where it is not near any school or neighborhood.
10. There are plenty of arenas that can hold concerts downtown OKC. Mustang DOES NOT need one!
11. It is said, that the amphitheater will be close to the size if not bigger than the Paycom center. If that is the case, when the Paycom Center downtown holds concerts you can hear them outside with the doors shut. Imagine how bad the noise will be in an amphitheater a couple blocks from your home!

With that being said, neither I nor others want this Sunset Amphitheater to be built. It needs to be stopped!

feel free to call me if you or anyone in your office would like to talk. My cell number is (405) 593-9814

-Rebecca Martin



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:32 am, Mar 13, 2024

**From:** [Beccaa Rytlewski](#)  
**To:** [City Clerk Email](#)  
**Subject:** Protest PUD-1983  
**Date:** Tuesday, March 12, 2024 5:20:47 PM

You don't often get email from thepuppylove2@yahoo.com. [Learn why this is important](#)

To whom it may concern,

I, Rebecca Martin herby protest PUD-1983 by Mustang Creek Crossing, LLC to rezone 810 S John Kilpatrick Turnpike.

A few of my concerns are:

1. It can and will bring crime to this part of Mustang/Yukon. Mustang/Yukon is seen as a safer place to live. It won't be if it is built.
2. The neighborhood will no longer be quiet and safe, which is why my family and I decided to move here.
3. Once the parking lot is filled, people will start to park in or around the existing neighborhoods.
4. No concert ever ends at 10:30 p.m. Some concerts do not end till midnight or later. That is way too late for me or any of my family to hear or feel vibrations from the amphitheater.
5. As well they have increased the decibel level to 5db over the city code. That is ridiculous, the concerts will get louder by the type of music. Country, rock, metal, etc.
6. They will do a sound check around 2:00 p.m. when kids are in school, young kids already have a hard time paying attention in class. Which can result in children not getting the education they deserve. Those children are the future.
7. Traffic, let's be real, no one wants to wait 40 minutes or more to get out of their neighborhood after a concert. It is already congested; the amphitheater will make it much WORSE!
8. It is super close to an elementary school and middle school, that's not okay, think about children's safety.
9. There are other places to build this where it is not near any school or neighborhood.
10. There are plenty of arenas that can hold concerts downtown OKC. Mustang DOES NOT need one!
11. It is said, that the amphitheater will be close to the size if not bigger than the Paycom center. If that is the case, when the Paycom Center downtown holds concerts, you can hear them outside with the doors shut. Imagine how bad the noise will be in an amphitheater a couple of blocks from your home!

I am the homeowner of 10404 Leicester Dr. Yukon OK, and ask you to vote against rezoning for PUD-1983

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 11:54 am, Feb 20, 2024

**From:** Lorena Massey <[lorena.laks@gmail.com](mailto:lorena.laks@gmail.com)>

**Sent:** Tuesday, February 20, 2024 11:00 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Sunset Amphitheater opposition

You don't often get email from [lorena.laks@gmail.com](mailto:lorena.laks@gmail.com). [Learn why this is important](#)

Good morning,

I am writing to express my opposition towards the Sunset Amphitheater being approved at the March 12th meeting. I am a current resident of Westbury North (10428 Hollyhead Way, Yukon, OK 73099) and I am concerned about the proposed location of the amphitheater causing the following issues:

**Traffic:** All possible entrances to the amphitheater, whether from the turnpike or highway, all lead to traffic entering from either Sara road or SW 15th street. Neither of these roads are built or expanded enough to withstand the traffic flow coming to and from the amphitheater. This will cause significant traffic in the area and make it impossible to get out of our neighborhood during concert times.

**Parking:** I was informed that there aren't enough parking spaces for a sold out show. The amphitheater is supposed to seat a maximum of 12,500 with only 3,500 parking spaces planned out. Those that are situated closer to the amphitheater in Westbury North, including our home, will result in attendees parking in our neighborhood. I don't believe placement of "no parking" signs will deter people from parking in our neighborhood or along our block. There has been no indication from the developer on whether a third party company will be hired to patrol our neighborhood so no one parks in it. Our HOA doesn't believe a mandatory HOA fee is possible for us to gate in all of our entrances to prevent attendees from parking. We have absolutely no answers for the parking situation, which is extremely frustrating for us. We do not want to be responsible for calling towing companies to tow cars every time there is a concert.

With the parking issue, we are concerned that attendees parking in our neighborhood may make the neighborhood unsafe with people we don't know roaming around to find their car, especially if those people have been drinking. We are concerned about people coming up to our doors or not leaving the neighborhood in a timely fashion. Attendees trashing up our neighborhood is also a concern.

If you look at the OKC dodgers stadium as an example and contrast, it is situated downtown with a max seat capacity of 9,000. However, there are several parking options downtown that do not interfere with residences. Most of the parking can be found at Bass Pro Shop and curves around to the Harkins Movie Theater. There is also paid parking meters all around and other lots that people can pay to park in.

The Sunset Amphitheater is much bigger than the OKC dodgers stadium in an area that primarily has residences around them with no additional parking options. It is clear that the Sunset Amphitheater is not located in a place where additional parking options are available. It will leave the neighborhoods to suffer with the inconveniences of events.

**Noise:** Since the amphitheater is being built as an outdoor venue, the sound from the events will travel and be heard throughout our neighborhood. I understand that the event has to be cut off by a certain hour, but the event organizer can always choose to pay to extend their time at the venue without any

consideration for the neighborhoods around them. The traffic noise from people leaving the concert will also take a while to clear up.

Property values: Although this venue is supposedly going to drive up property values, I strongly disagree with this. Westbury has been around since the 70s, maybe earlier than that, so this is a much older neighborhood with families and those who are elderly. We are not interested in living in a highly congested and noisy area when this neighborhood has been exactly the opposite for decades. This will make selling property here extremely difficult unless we find someone on the off chance that doesn't care about all the commotion going on around the neighborhood.

Thank you for your time and consideration in this matter. Please feel free to contact me should you need any additional information about my concerns.

Sincerely,

Lorena M. Massey  
915-494-5737  
10428 Hollyhead Way, Yukon, OK 73099

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 11:54 am, Feb 20, 2024

**From:** Lorena Massey <[lorena.laks@gmail.com](mailto:lorena.laks@gmail.com)>

**Sent:** Tuesday, February 20, 2024 11:00 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Sunset Amphitheater opposition

You don't often get email from [lorena.laks@gmail.com](mailto:lorena.laks@gmail.com). [Learn why this is important](#)

Good morning,

I am writing to express my opposition towards the Sunset Amphitheater being approved at the March 12th meeting. I am a current resident of Westbury North (10428 Hollyhead Way, Yukon, OK 73099) and I am concerned about the proposed location of the amphitheater causing the following issues:

**Traffic:** All possible entrances to the amphitheater, whether from the turnpike or highway, all lead to traffic entering from either Sara road or SW 15th street. Neither of these roads are built or expanded enough to withstand the traffic flow coming to and from the amphitheater. This will cause significant traffic in the area and make it impossible to get out of our neighborhood during concert times.

**Parking:** I was informed that there aren't enough parking spaces for a sold out show. The amphitheater is supposed to seat a maximum of 12,500 with only 3,500 parking spaces planned out. Those that are situated closer to the amphitheater in Westbury North, including our home, will result in attendees parking in our neighborhood. I don't believe placement of "no parking" signs will deter people from parking in our neighborhood or along our block. There has been no indication from the developer on whether a third party company will be hired to patrol our neighborhood so no one parks in it. Our HOA doesn't believe a mandatory HOA fee is possible for us to gate in all of our entrances to prevent attendees from parking. We have absolutely no answers for the parking situation, which is extremely frustrating for us. We do not want to be responsible for calling towing companies to tow cars every time there is a concert.

With the parking issue, we are concerned that attendees parking in our neighborhood may make the neighborhood unsafe with people we don't know roaming around to find their car, especially if those people have been drinking. We are concerned about people coming up to our doors or not leaving the neighborhood in a timely fashion. Attendees trashing up our neighborhood is also a concern.

If you look at the OKC dodgers stadium as an example and contrast, it is situated downtown with a max seat capacity of 9,000. However, there are several parking options downtown that do not interfere with residences. Most of the parking can be found at Bass Pro Shop and curves around to the Harkins Movie Theater. There is also paid parking meters all around and other lots that people can pay to park in.

The Sunset Amphitheater is much bigger than the OKC dodgers stadium in an area that primarily has residences around them with no additional parking options. It is clear that the Sunset Amphitheater is not located in a place where additional parking options are available. It will leave the neighborhoods to suffer with the inconveniences of events.

**Noise:** Since the amphitheater is being built as an outdoor venue, the sound from the events will travel and be heard throughout our neighborhood. I understand that the event has to be cut off by a certain hour, but the event organizer can always choose to pay to extend their time at the venue without any



consideration for the neighborhoods around them. The traffic noise from people leaving the concert will also take a while to clear up.

Property values: Although this venue is supposedly going to drive up property values, I strongly disagree with this. Westbury has been around since the 70s, maybe earlier than that, so this is a much older neighborhood with families and those who are elderly. We are not interested in living in a highly congested and noisy area when this neighborhood has been exactly the opposite for decades. This will make selling property here extremely difficult unless we find someone on the off chance that doesn't care about all the commotion going on around the neighborhood.

Thank you for your time and consideration in this matter. Please feel free to contact me should you need any additional information about my concerns.

Sincerely,

Lorena M. Massey  
915-494-5737  
10428 Hollyhead Way, Yukon, OK 73099

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:49 pm, Mar 08, 2024

**From:** Michael Massey <[michael.massey@enverus.com](mailto:michael.massey@enverus.com)>  
**Sent:** Friday, March 8, 2024 12:36 PM  
**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A <[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>  
**Subject:** Sunset Amphitheater in Mustang Creek Crossing

Some people who received this message don't often get email from [michael.massey@enverus.com](mailto:michael.massey@enverus.com). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

To whom it may concern,

I am a resident in the Westbury North housing addition off of SW 15<sup>th</sup> & Sara Rd. I've lived here for over 16 years now. From what I understand there is a plan in motion for an outdoor amphitheater within walking distance of my house. I came home one day to a flyer on my door saying there is still time to stop the amphitheater and to specifically email everyone I'm emailing. Don't know if that's true... but I thought I'd go ahead and voice my concerns if that is still a possibility.

I am **opposed** to this project. I have to say that the whole time I've lived in my house I've never once thought to myself, *self: it sure would be nice to have a venue for outdoor concerts nearby with low tier local bands to play at while roasting in the Oklahoma heat, however a grocery store like a neighborhood market would be nice though.*

I don't understand the need. I honestly just think it's going to drive the current residence away because of the noise. There is school nearby, the traffic is already backed up enough in that area. Personally I feel like it's a struggle to keep up with what I'm paying now to live where I do and I don't want there to be a reason for my property taxes to go up.

I'm sure the idea of this is nice, but I just foresee it being an overall disappointment and a future home for drug deals to go down and homeless people to camp out at night. Feel free to reply back if you think you can pacify my concerns. I just wanted to offer some perspective from someone in the area. And in case you aren't aware there is a Facebook group for those also opposed to this with over 500 members so I know it's not just me who feels this way.

Thanks for taking the time to read this. I greatly appreciate your time.

---Michael Massey

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 12:32 pm, Feb 12, 2024

**From:** Mitzi McAllister <[mitzim1954@icloud.com](mailto:mitzim1954@icloud.com)>

**Sent:** Monday, February 12, 2024 11:54 AM

**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>

**Cc:** Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A <[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>

**Subject:** Sunset Amphitheater in Mustang Creek Crossing

You don't often get email from [mitzim1954@icloud.com](mailto:mitzim1954@icloud.com). [Learn why this is important](#)

To Whom It May Concern:

I am writing with concerns about the proposed Sunset Amphitheater that may be located in Mustang Creek Crossing just northwest of SW 15th and Sara Road in the Yukon/Mustang area. They are planning to have 12,500 seats yet only 3500 parking spaces. I read they expect most of the concert goers to Uber in and even so those Ubers need a holding ground. One of my concerns is we will have cars parking in our neighborhood causing dangerous conditions for pedestrians. Our neighborhood doesn't have sidewalks and many families walk and bike with their small kids through the streets. We have multiple children who ride their bicycles through the neighborhood on a regular basis. This is dangerous for concert goers and our neighbors. Also, there are currently no other retail businesses in this area for cars to park. This will cause a line of cars down SW 15th street causing a street closure as it is currently two lane road. This street becomes blocked every morning and afternoon with parents dropping children off at the elementary school. I know there is a plan for widening SW 15th street and it is behind schedule as they are still finishing Sara Rd south of SW 15th Street. There also is no current plan for widening Sara Rd north of SW 15th Street, which is a narrow two lane road. Some of us have been notified by Ms. Hefner that ODOT was proposing to widen the streets. However, ODOT informed us that this was not true.

Another concern is trash, beer bottles/cans being left on the street after a concert. We know this will not be picked up in a timely manner.

The proximity to two schools, Mustang Creek Elementary and Mustang North Middle School also give concerns. In one of the early articles I read they stated they would like to have concerts almost everyday. Have they communicated with the schools about scheduling around school hours or functions? Not only for sound but also traffic? There are soccer and baseball fields just south of the schools that can get very busy. Currently the only planned route out of the amphitheater would take cars to SW 15th Street and or Sara Road. There is no I-40 access at Sara Road so cars will still need to make their way to and from Mustang Road or Morgan Road.

How has Livenotes guaranteed music acts will book at the amphitheater? Paycom Center and Criterion have a contract with LiveNation for booking acts and I don't think they easily just share them when a schedule allows. Do they have any ongoing talks with the music industry to guarantee acts? This unknown business planning also brings up that Canadian County currently doesn't allow alcohol sales on Sundays. I know it will be up for vote in March but that doesn't guarantee it will pass. This all just seems like poor planning to me and tied to millions of investors dollars can easily become a scam not unlike Frye Festival.

They promised to be “great neighbors” but most in my neighborhood and the surrounding neighborhoods have yet to receive any communication from Livenotes. Articles mention flyers being sent out but no one has seen flyers.

For once, put yourself in our shoes. Rather than focusing on dollars, will you please consider focusing on quality of life for those who do not have the means to move?

As a resident of Westbury South neighborhood just east of the proposed Sunset Amphitheater, I am opposed to the project and urge you to vote no on March 12th.

Mitzi McAllister  
1801 Mackenzie Way  
979-820-4566



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:58 am, Mar 25, 2024*

**From:** ludwig drums <ludwig.drums@cox.net>

**Sent:** Sunday, March 24, 2024 7:34 PM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** Protest PUD 1983

You don't often get email from [ludwig.drums@cox.net](mailto:ludwig.drums@cox.net). [Learn why this is important](#)

Protest PUD 1983

My name is Arizona F. McCoy and I live at 10320 Paisley Road, Yukon, Oklahoma, 73099.

I am protesting the planning commissions approval of PUD 1983 and below are my concerns:

In June of 2023 we moved my less than 9 month widowed Grandmother from Arizona in with us, one of her most greatest joys is to set outside on the patio and watch the wildlife.

The increased sound and noise pollution for the Sunset Amphitheater will greatly alter that in the evenings and one of her greatest pleasures in the evenings and enjoying the Oklahoma outdoors with her limited mobility.

Thank you not approving this proposal in favor of the many families and schools that are within the radius of this Amphitheater that will be affected the most.

Thank you for your time.

Arizona F. McCoy

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:58 am, Mar 25, 2024

**From:** Wes McCoy <wes.mccoy@cox.net>  
**Sent:** Sunday, March 24, 2024 7:07 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD 1983  
**Importance:** High

You don't often get email from [wes.mccoy@cox.net](mailto:wes.mccoy@cox.net). [Learn why this is important](#)

Protest PUD 1983

My name is Dale Wesley McCoy and I live at 10320 Paisley Road, Yukon, Oklahoma, 73099.

I am protesting the planning commissions approval of PUD 1983 and below are my concerns:

In June of 2023 we moved my less than 9 month widowed mother-inlaw from Arizona in with us, one of her most greatest joys is to set outside on the patio and watch the wildlife.

The increased sound and noise polution for the Sunset Amphitheater will greatly alter that in the evenings and one of her greatest pleasures in the evenings and enjoying the Oklahoma outdoors with her limited mobility.

Thank you not approving this proposal in favor of the many familes and schools that are within the radius of this Amphitheater that will be affected the most.

Thank you for your time.

Dale Wesley McCoy.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

**From:** Julie <[julie5.mccoy@cox.net](mailto:julie5.mccoy@cox.net)>  
**Sent:** Monday, March 25, 2024 1:25 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PUD 1983 protest

You don't often get email from [julie5.mccoy@cox.net](mailto:julie5.mccoy@cox.net). [Learn why this is important](#)

To city clerk,

To city clerk Amy K Simpson,

My name is Julie McCoy.

I live at 10320 Paisley Road Yukon OK 73099.

I am protesting against PUD 1983 the Sunset amphitheater at 15th street and Sarah Rd.

The sound will not only travel north especially the low frequencies.

The low frequencies will disturb our lively hoods during our summer activities in our backyard.

The parking lot is not conducive enough for all the vehicles of a 12,500 capacity seat amphitheater with only 3,500 parking spaces, where are all the other cars going to park, along busy city streets and in our neighborhoods.

Our homes will depreciate.

People's livelihoods/ way of living will be changed forever with noise pollution during the times we would be outside enjoying their family and friends.

We would be robbed from many memorable times forever during these months and other months as the venue will allow.

Please choose quality of life for those affected by this noise polluting monstrosity trying to be forced upon 40+ year established family homes.

Council persons were voted in by we the people to represent we the people and I know they work hard to serve us well, of which I appreciate.

I have faith to believe the council members will vote in the behalf of the majority of us that will be most affected and do not want this in our backyard.

Thank you, Julie Mccoy



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 5:18 pm, Mar 20, 2024

**From:** [viki12june@gmail.com](mailto:viki12june@gmail.com) <[viki12june@gmail.com](mailto:viki12june@gmail.com)>

**Sent:** Wednesday, March 20, 2024 3:27 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [viki12june@gmail.com](mailto:viki12june@gmail.com). [Learn why this is important](#)

Viki McMillin  
11716 SW 24<sup>th</sup> Terrace  
Yukon, OK 73099  
405-243-4858

I, Viki McMillin hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 S John Kilpatrick Turnpike.

The increased decibel level and the close proximity to the school is not acceptable for the wellbeing of the community. The proposed location is adjacent to two schools. From our understanding, sound checks and setup could occur during school hours. Not only would this be severely disruptive to those schools, but I would also expect an increased security concern for those students. There would be so many individuals required for the setup of these concerts and with the schools so close, anyone could wander over to the campus. Additionally, as you have people arriving early for the concert, traffic will increase causing issues for parents picking up children from school, could cause an increase in traffic accidents, and endanger the lives of the students. It is disappointing that such a venue would even be considered in such close proximity to these schools.

The traffic right now in the Yukon/Mustang area is a burden to residents. Adding this Amphitheater will only cause more traffic problems. The current road infrastructure is barely sufficient to accommodate the current flow of traffic, much less accommodating the traffic a new amphitheater would bring. As a resident near the proposed site.... I can see no upside to the proposal.

Thank you,

Viki McMillin

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:46 pm, Mar 15, 2024*

**From:** Corey Meehan <[cmeehan2687@gmail.com](mailto:cmeehan2687@gmail.com)>

**Sent:** Friday, March 15, 2024 2:33 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [cmeehan2687@gmail.com](mailto:cmeehan2687@gmail.com). [Learn why this is important](#)

My name is Corey, and I hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike. I live at 1915 Lankestar Way in the Westbury subdivision of OKC. I'm asking you to please reconsider the building of The Sunset Amphitheater. It sounds really impressive and would bring a boost to the local economy, but it would also create a nuisance to the people who live in the surrounding neighborhoods. I moved to Oklahoma nearly 10 years ago from Denver. My wife and I moved to get away from the noise and pollution that was overtaking that wonderful place. Now we find ourselves at a crossroads again of noise and pollution. We love Oklahoma and would welcome a new venue to see great talent, but just not next door. I hope you read this, and again, I ask that you would not build the Amphitheater at Mustang Creek Crossing.

Thank you,  
Corey

**From:** Heather Meehan <[hmeehan@rocketmail.com](mailto:hmeehan@rocketmail.com)>

**Sent:** Thursday, February 22, 2024 4:15 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** PUD 1983 Protest, Sunset Amphitheater

You don't often get email from [hmeehan@rocketmail.com](mailto:hmeehan@rocketmail.com). [Learn why this is important](#)

I, Heather Vitry-Meehan, hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

The proximity of this venue is not in harmony with the surrounding zoned PUD's. Two schools as well as established neighborhoods on each side. The developers have created their boundaries within the middle of this area and set back from Sara Rd 350 feet so it would look on paper as if there were no other use zones in conflict. I would say they have been sneaky from the beginning in trying to get this through without protest. Well, hundreds of us in the surrounding neighborhoods are protesting and sending in letters.

The Planning Commission may have voted to recommend PUD-1983, however in their staff report from January 11, 2024 they say:

"The proposal triggers potential operational impacts near the elementary school and middle school to the south. Operational impacts are also identified with the proposed use of an outdoor concert venue/amphitheater near schools and neighborhoods, specifically related to noise and traffic." -Page 10.

"However, potential compatibility issues are identified with the proposed use of an outdoor concert venue/amphitheater near schools and neighborhoods, specifically related to noise and traffic." -Page 13.

In the 'Master Design Statement' Section 4.0 they list the surrounding property zones and say the "The proposed use of this property is in harmony with the surrounding zoning." They purposely created their eastern border set back 350' so they wouldn't have a residential zone in contact with the property. Also, it would cause issues with a valid protest petition because they now only have the developers land (PUD-1628) around them. How are the residents, (owners of 50% of the land within 300') supposed to have a legal protest if the development is skewed in their favor? This is very deceptive of them. We ask to have them alter PUD-1983 and push their parking lot out to Sara Road.

I urge you to visit the site and see just how close this will be to the schools and our homes that we have invested our time and money into.

I am the homeowner of property at 1915 Lankestar Way, Yukon, OK 73099. I ask you vote against this PUD in its current form.

Sincerely,

Heather Vitry-Meehan

[Sent from Yahoo Mail on Android](#)

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:02 am, Mar 06, 2024*

**From:** Brent Miller <[my2greys@yahoo.com](mailto:my2greys@yahoo.com)>

**Sent:** Tuesday, March 5, 2024 4:01 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [my2greys@yahoo.com](mailto:my2greys@yahoo.com). [Learn why this is important](#)

Dear Amy K. Simpson,

I, Brent Miller, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I am a homeowner residing in Ward 3 at the below address and live close to the area of the proposed rezoning.

Sincerely,

Brent Miller  
2800 Crystal Creek Dr  
Yukon, Ok 73099

405-659-0284



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024*

-----Original Message-----

From: Jae Miller <jaetommi@gmail.com>

Sent: Sunday, March 24, 2024 4:11 PM

To: City Clerk Email <CityClerk@okc.gov>

Subject: Protest PUD 1983

[You don't often get email from [jaetommi@gmail.com](mailto:jaetommi@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Good afternoon

I, Jae Miller, hereby protest PUD 1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike. I reside at 2617 Kingsley Lane, OKC, OK 73128.

This is not an acceptable location for an amphitheater. Traffic is already a problem at SW 15th and Sara Road. Additional traffic and people in this school zone raises concerns for the safety of children. The loud noise will negatively impact residents.

I think this would be a great asset to Oklahoma, but not here. It does not belong behind a school and in a residential area.

Please make your description based on what is best for people.

Jae Miller

Sent from my iPhone

## Johnson, Thad A

---

**From:** Matt Miller <matt.miller@millertechnologyservices.com>  
**Sent:** Saturday, March 30, 2024 7:31 AM  
**To:** City Clerk Email; The Mayor; Ward3  
**Subject:** Protest PUD-1983

Some people who received this message don't often get email from matt.miller@millertechnologyservices.com. [Learn why this is important](#)

Oklahoma City Leaders,

I Matthew Miller hereby protest PUD-1983 application by Mustang creek crossing LLC to rezone 810 South John Kilpatrick Turnpike. I am a home owner in the area and a concerned citizen of ward 3 who stands against this project.

Oklahoma City has failed to properly maintain and keep up its infrastructure in this part of the city, yet you continue to zone, rezone, and approve building proposals for businesses and neighborhoods with no regard to the impact which such projects will have on your existing infrastructure or the needs of that infrastructure once a project is completed.

There are other places that such a project might make more sense, where zoning is already in place and infrastructure is sufficient to support the added logistical challenges that such a project will inevitably create.

Protect our families, our neighborhoods, and our property from such a venue by denying this rezoning request.

P.S. Come out and fix our roads and make it so we can get in and out of our neighborhoods and around our schools. I would invite any of our council members or city leaders to come see the traffic problems during rush hour. You could come ride around with me and I would show you the deficiency of roads in our area.

Sincerely,

---

**Matthew Miller**

Miller Technology Services, Owner



Phone: 405.265.2000

<https://www.millertechnologyservices.com>

Book a Meeting with me: <https://calendly.com/mts-ok/30min>

A Veteran Owned Company

## Johnson, Thad A

---

**From:** Steve and Kathy Miller <stevesaccount@live.com>  
**Sent:** Tuesday, April 2, 2024 9:46 PM  
**To:** City Clerk Email  
**Subject:** PUD 1983 Protest letter

You don't often get email from stevesaccount@live.com. [Learn why this is important](#)

I am writing to protest the Amphitheater being built on the land off the turnpike.

There are several things I think should be considered (maybe they have and maybe these will be some new things).

1. I know from a city point this will bring in tax dollars which is what makes the world go around. However, I feel the property values around the area will go down due to the excess traffic and noise. This in turn will cause less tax dollars. Since the amphitheater will not operate year around there will be a lot of tax dollars that would not be collected if the area was built up to be shopping. You could be collecting tax dollars every day of the year (maybe not Christmas but for sure all the others). I would be willing to bet that Crest will bring in more tax dollars than the amphitheater why not get a Costco built on the land there is not a Costco on this side of town.
2. I am pretty sure that with the heat in Oklahoma not many of the bigger concert groups will want to be playing outdoors in that kind of heat. Which I would assume the owners of the theater are saying big name groups will be coming. (We should think that through).
3. I think the roads to the location were not set up to handle the traffic that they will be getting. I have not seen any survey crews checking on the traffic. Not all people will use the turnpike like a lot of people think. I will not pay a toll if there is a free road to use.
4. Mentioning the noise level and decreasing the home values one thing I do not understand. Why would the city allow louder music at this venue as opposed to the Zoo theater. Why do we need louder music when we were told by our parents that the loud music will cause you hearing loss later in life. I can testify to the hearing loss. They do not need the music louder.
5. I am not sure if drinking will be allowed but I am sure if not at first they will be trying to get it approved. If they do then when the concert is over and all the people and cars are leaving they will find the fastest way out and some of that will be the neighborhoods. This could possibly cause cars parked on the street to be hit or even if a pedestrian if they are out which they could be. We surely do not want that.
6. Last thing that I would like to mention is about what kind of activity will be happening in the area when the concerts are not going. Will this be a place that people come to buy and sell drugs. I personally do not want this being done around my neighborhood.

Thank you for your time reading my concerns, please vote to reject the PUD 1983

Steve Miller  
11845 SW 3<sup>rd</sup> St  
Yukon, OK 73099

stevesaccount@live.com



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:15 pm, Mar 21, 2024*

**From:** D moore <[debimooreok@hotmail.com](mailto:debimooreok@hotmail.com)>

**Sent:** Thursday, March 21, 2024 1:40 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest for PUD-1983

You don't often get email from [debimooreok@hotmail.com](mailto:debimooreok@hotmail.com). [Learn why this is important](#)

Dear Amy K. Simpson,

I love concerts and I love our city. I also love my peace and quiet when I go home.

I, Debi Moore, herby protest PUD-1983 Application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I have owned my house at 721 Bluegrass Lane since 1999. The traffic has continued to get more congested on our streets month after month. The traffic and booming noise that this amphitheater would create is not going to make my life or my neighbors' lives better. In fact, it will only make living in this area of Oklahoma City even more challenging and much less desirable. This amphitheater in our neighborhood does not give us "improvements in quality of life".

If they choose to build this amphitheater away from homes, I'll gladly buy a ticket, but in this location, I do not believe this will be positive for our future.

I am a longtime homeowner at 721 Bluegrass Lane, Yukon, OK 73099, which is only a mile away from this proposed site. I am asking City Council and my City Council Member, Barbara Peck, to vote NO on this rezoning.

Thank you for all you do for our city!

Kindest regards,

Debi Moore  
721 Bluegrass Lane  
Yukon, OK 73099  
405-650-2210

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:15 pm, Mar 21, 2024*

**From:** D moore <[debimooreok@hotmail.com](mailto:debimooreok@hotmail.com)>

**Sent:** Thursday, March 21, 2024 1:40 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest for PUD-1983

You don't often get email from [debimooreok@hotmail.com](mailto:debimooreok@hotmail.com). [Learn why this is important](#)

Dear Amy K. Simpson,

I love concerts and I love our city. I also love my peace and quiet when I go home.

I, Debi Moore, herby protest PUD-1983 Application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I have owned my house at 721 Bluegrass Lane since 1999. The traffic has continued to get more congested on our streets month after month. The traffic and booming noise that this amphitheater would create is not going to make my life or my neighbors' lives better. In fact, it will only make living in this area of Oklahoma City even more challenging and much less desirable. This amphitheater in our neighborhood does not give us "improvements in quality of life".

If they choose to build this amphitheater away from homes, I'll gladly buy a ticket, but in this location, I do not believe this will be positive for our future.

I am a longtime homeowner at 721 Bluegrass Lane, Yukon, OK 73099, which is only a mile away from this proposed site. I am asking City Council and my City Council Member, Barbara Peck, to vote NO on this rezoning.

Thank you for all you do for our city!

Kindest regards,

Debi Moore  
721 Bluegrass Lane  
Yukon, OK 73099  
405-650-2210

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 3:46 pm, Mar 07, 2024*

**From:** John Morales <[john.r.morales86@gmail.com](mailto:john.r.morales86@gmail.com)>

**Sent:** Thursday, March 7, 2024 11:41 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [john.r.morales86@gmail.com](mailto:john.r.morales86@gmail.com). [Learn why this is important](#)

Please accept this official protest to PUD-1983 the rezoning for Sunset Amphitheater.

Thank you.

Juan and Cathy Morales

Residential owers at

11016 SW 40th St, Mustang, OK 73064

Ward 3

Cell 580.917.5040/5041

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:58 am, Mar 25, 2024

**From:** Barb Moreira <[barbara.moreira0418@gmail.com](mailto:barbara.moreira0418@gmail.com)>

**Sent:** Monday, March 25, 2024 8:46 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [barbara.moreira0418@gmail.com](mailto:barbara.moreira0418@gmail.com). [Learn why this is important](#)

I, Barbara Moreira, hereby protest the PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kirkpatrick Turnpike.

This rezoning will negatively impact property sales in a large surrounding area. It will negatively impact the education of our children at Mustang North Middle School and Mustang Creek Elementary. The increase in decibel level will negatively impact the health of neighbors in the surrounding and also impact wildlife.

According to the CDC, "Noise above 70 dB over a prolonged period of time may start to damage your hearing. Loud noise above 120 dB can cause immediate harm to your ears. Hearing loss can result from a single loud sound (like firecrackers) near your ear. Or, more often, hearing loss can result over time from damage caused by repeated exposures to loud sounds. The louder the sound, the shorter the amount of time it takes for hearing loss to occur. The longer the exposure, the greater the risk for hearing loss (especially when hearing protection is not used or there is not enough time for the ears to rest between exposures)".

Please do not approve the rezoning request for PUD-1983.

Sincerely,

Barbara Morera  
2713 Lysander Place  
Oklahoma City, 73128  
702-219-8586  
WARD 3



## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Thursday, April 4, 2024 11:49 AM  
**To:** Olivo Harrison, Elena; Welch, Sarah; Johnson, Thad A; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Application by Mustang Creek Crossing LLC to rezone 810 S. John Kirpatrick PUD 1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Wrights, David R III <david.wrights@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Thursday, April 4, 2024 11:47 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Application by Mustang Creek Crossing LLC to rezone 810 S. John Kirpatrick PUD 1983

David Wrights

---

**From:** myrna morse <[mm6102@yahoo.com](mailto:mm6102@yahoo.com)>  
**Sent:** Thursday, April 4, 2024 11:42 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Application by Mustang Creek Crossing LLC to rezone 810 S. John Kirpatrick PUD 1983

You don't often get email from [mm6102@yahoo.com](mailto:mm6102@yahoo.com). [Learn why this is important](#)

April 04, 2024

To City Council Members:

I have been in the neighborhood for over 30 years and have seen a lot of changes, but I think you would do an injustice to approve the development of the Amphitheater. The road they plan to use is only a narrow two lane that cannot handle the proposed traffic to their events. Please disapprove at your April 9th meeting and do what's right not what's easy.

Myrna Morse  
9904 Sudbury Rd.  
Yukon, OK 73099

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 8:42 am, Mar 11, 2024*

**From:** [Kelsey Murray](#)  
**To:** [City Clerk Email](#)  
**Subject:** Mustang Ampitheater - attn Barbara Peck  
**Date:** Saturday, March 9, 2024 9:45:48 AM

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[You don't often get email from kgmurray218@gmail.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Hi Mrs. Peck,

As a fellow resident in the Mustang/OKC area (we live in Castlebrook Crossing neighborhood at Sw29th and Sara), I wanted to email you And let you know that I do NOT support the new ampitheater that is being proposed. Please vote AGAINST the zoning change that would allow this.

Thank you,  
Kelsey Murray  
405-318-7147  
2709 Busheywood Drive, Yukon, OK 73099

Sent from my iPhone. Please forgive any typos.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024*

**From:** BRYAN MYERS <bem10429@yahoo.com>

**Sent:** Saturday, March 23, 2024 10:41 AM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** Protest PUD-1983

You don't often get email from [bem10429@yahoo.com](mailto:bem10429@yahoo.com). [Learn why this is important](#)

I, Bryan Myers, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

Thank You.

Bryan Myers  
10429 Birkenhead Rd.  
Yukon, Ok. 73099  
405-761-4007

2024 FEB 20 AM 8:49  
OKLAHOMA CITY CLERK

**From:** Janey Myers <[janeymyers@hotmail.com](mailto:janeymyers@hotmail.com)>

**Sent:** Tuesday, February 20, 2024 8:17 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Sunset Amphitheater

You don't often get email from [janeymyers@hotmail.com](mailto:janeymyers@hotmail.com). [Learn why this is important](#)

To Whom it May Concern,

I am writing to let you know that I am opposed to the construction of the Sunset Amphitheater in Mustang Creek Crossing. I own a home in the Westbury North Addition on Sara Road and SW 15<sup>th</sup> St. I am concerned about the traffic that would add to the already congested conditions in this area. But more concerning would be the noise created by this project. It is my understanding that not only would we be able to hear the music, but that there would be a constant vibration that would be felt inside our homes that is quite uncomfortable. During the fall when the North Middle School band practices outdoors for the parade, their sound is heard clearly in the neighborhood. Imagine professional concerts that are amplified. I hope you will take seriously that many of us have spent the last 30 years working hard to own our homes. Please do not let this become our biggest regret. Thank you for your consideration to this matter.

Sincerely,

Janey Myers

10429 Birkenhead Road

Yukon, OK. 73099

405-761-4007



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024*

**From:** Janey Myers <janeymyers@hotmail.com>  
**Sent:** Saturday, March 23, 2024 10:43 AM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD-1983

You don't often get email from [janeymyers@hotmail.com](mailto:janeymyers@hotmail.com). [Learn why this is important](#)

I left off my phone number of the email I sent regarding the Protest PUD-1983.

Rita J. Myers  
10429 Birkenhead Rd.  
Yukon, OK. 74099  
405-761-4007

**From:** Janey Myers <janeymyers@hotmail.com>  
**Sent:** Saturday, March 23, 2024 10:38 AM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD-1983

You don't often get email from [janeymyers@hotmail.com](mailto:janeymyers@hotmail.com). [Learn why this is important](#)

I, Rita J. Myers, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

Sincerely,  
Rita Myers  
10429 Birkenhead Rd.  
Yukon, OK. 73099

## Johnson, Thad A

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**From:** Taylor Bales <taylornelms23@yahoo.com>  
**Sent:** Wednesday, April 3, 2024 3:30 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD- 1983

You don't often get email from taylornelms23@yahoo.com. [Learn why this is important](#)

To Whom it May Concern,

My name is Taylor Nelms. I live at 11017 NW 20th St, Yukon, OK 73099 (OKC Limits). I'm 100% AGAINST PUD-1983. Frankly, myself and numerous other residents don't want an amphitheater near our homes for various reasons, including: noise levels past what city ordinance allows, heavier traffic, road noise, wrecks, etc. How will traffic control work? There aren't enough police officers on the streets as is, and I really don't think paying overtime for something we don't want is a good use of government resources and money.

My husband is a musician on the side. We completely understand the importance of the arts. But, that's love doesn't trump my desire not to have to listen to excessive noise house after my children are put to bed. Frankly, it's a terrible location for an amphitheater. People move out towards Yukon/Mustang to get away from the city and the noise. Don't bring the noise to our front door.

Feel free to build it near your homes, but don't build it by ours. Please reach out if you have any questions/concerns.

Taylor Nelms

**Johnson, Thad A**

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**From:** Zac Nelms <zacnelms@yahoo.com>  
**Sent:** Wednesday, April 3, 2024 3:29 PM  
**To:** City Clerk Email  
**Cc:** Ward1  
**Subject:** PUD 1983

[You don't often get email from zacnelms@yahoo.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

To Whom it May Concern,

My name is Zac Nelms. I live at 11017 NW 20th St, Yukon, OK 73099 (OKC Limits). I'm 100% AGAINST PUD-1983. Frankly, myself and numerous other residents don't want an amphitheater near our homes for various reasons, including: noise levels past what city ordinance allows, heavier traffic, road noise, wrecks, etc. How will traffic control work? There aren't enough police officers on the streets as is, and I really don't think paying overtime for traffic control is a good use of government resources and money, which city council has sworn to be good stewards of. I understand it'll bring in money, but that isn't more important than putting the residents first.

I'm a musician on the side. I completely understand the importance of the arts. But, that's love doesn't trump my desire not to have to listen to excessive noise house after my children are put to bed. Frankly, it's a terrible location for an amphitheater. People move out towards Yukon/Mustang to get away from the city and the noise. Don't bring the noise to our front door.

Feel free to build it near your homes, but don't build it by ours. Please reach out if you have any questions/concerns.

Zac Nelms  
405-887-4152

**From:** mickin30 <[mickin30@gmail.com](mailto:mickin30@gmail.com)>

**Sent:** Friday, March 22, 2024 4:36 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** PUD 1983, Sunset Amphitheatre

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 4:40 pm, Mar 22, 2024*

You don't often get email from [mickin30@gmail.com](mailto:mickin30@gmail.com). [Learn why this is important](#)

My name is Micki Nittler. I live at 10204 Hollyhead Way in Westbury north. I have lived here 40 years. All my kids graduated from Mustang high school and the all went to North middle school. I am writing in protest to this PUD - 1083 application to rezone 810 south Kilpatrick turnpike. The noise alone is going to totally disrupt our lives. There is also going to be so much traffic, we will be trapped in our homes certain times of the day. It will bring people from all over to come to the shows. My husband is wheelchair bound and we are in our 70's and there's no way we can move. Please put yourselves in our shoes and think about where you live and how a venue like this would not be good for quality of life. It's way to close to the schools, and they have lots of extracurricular activities which will become a nightmare. Please vote no for this rezone.

Thank you,  
Micki Nittler

Micki Nittler



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:22 pm, Mar 11, 2024

**From:** Debbie Oplotnik <[debbieoplotnik@gmail.com](mailto:debbieoplotnik@gmail.com)>

**Sent:** Monday, March 11, 2024 11:01 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>

**Subject:** Protest PUD-1983

Some people who received this message don't often get email from [debbieoplotnik@gmail.com](mailto:debbieoplotnik@gmail.com). [Learn why this is important](#)

To Whom It May Concern,

I, Debbie Oplotnik, hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

I would like to begin by thanking you for serving residents in our city. I know that the Council Member's compensation is not equivalent to most full-time jobs and it comes with a heavy workload. This shows that you truly want to make a difference in your community.

I am contacting you in protest of the 12,500-capacity amphitheater proposed to be built less than a mile from my daughter's elementary school, Mustang Creek Elementary. It is also 1.5 miles away from my home. The proximity of this venue is not in harmony with the surrounding zoned PUD's. This is less than one mile of two schools (Mustang Creek Elementary and Mustang North Middle School) as well as established neighborhoods on each side.

The developers have created their boundaries within the middle of this area and set back from Sara Rd 350 feet so it would look on paper as if there were no other use zones in conflict. I would say they have been duplicitous from the beginning in trying to get this through without protest. Well, hundreds of us in the surrounding neighborhoods are protesting and sending in letters.

Although the Planning Commission has voted to recommend PUD-1983, their staff report from January 11, 2024 has multiple reasons not to approve it.

"The proposal triggers potential operational impacts near the elementary school and middle school to the south. Operational impacts are also identified with the proposed use of an outdoor concert venue/amphitheater near schools and neighborhoods, specifically related to noise and traffic." -Page 10.

"However, potential compatibility issues are identified with the proposed use of an outdoor concert venue/amphitheater near schools and neighborhoods, specifically related to noise and traffic." -Page 13.

These combined with the deception in "Master Design Statement" in Section 4.0 should be a red flag to the Oklahoma City Council.

"The proposed use of this property is in harmony with the surrounding zoning."

They purposely created their eastern border set back 350 feet so they wouldn't have a residential zone in contact with the property. Also, it would cause issues with a valid protest petition because they now only have the developers land (PUD-1628) around them. How are the residents, (owners of 50% of the land within 300 feet) supposed to have a legal protest if the development is skewed in their favor? This is very deceptive of them.

Please visit the site yourself and see how close this will be to the schools and homes in the area. If this is approved, the home life of thousands of families and education of thousands of children will be forever ruined. This is not something that can be walked back once the burden of its negative impact has been placed on the shoulders of children.

A quick google search of the complaints of other amphitheaters reveals staggering information. Residents from varying distances (in my research I found from less than a mile and as far as to 15 miles) have numerous complaints. Here are some specific complaints that I found in one article:

- In Virginia Beach, residents were concerned about noise during proposed concerts at a new outdoor venue, but they reluctantly acquiesced when assured there would be no problems due to newer-style speakers, acoustical design and a partly underground structure. Now, neighbors complain about being bombarded with amplified music and crowd noise projected into their homes during every concert.

- At a Palo Alto outdoor venue, concerts have led to over 10,000 complaints during a decade since the venue opened. City Council members said they wouldn't lower the volume because they weren't convinced it would work.

- In Costa Mesa, California, outdoor concerts generate numerous residential noise complaints. Residents are told there's little, if anything, the city can do about it due to the zoning code.

- Near Austin, hundreds of residents of a formerly quiet residential neighborhood have complained about amplified noise from a new outdoor concert venue. Neighbors say they can't enjoy their backyards or even escape into their houses because of window-rattling noise levels forced upon them.

- In Jacksonville, nearby residents have been tormented by repeated loud concerts at Metro Park. Area neighbors were previously told they wouldn't be affected because speakers would be aimed away from them.

- In Nashville, the city-owned amphitheater receives numerous noise complaints from downtown condominium residents, and even from nearby businesses disrupted by daytime sound checks.

- In Gainesville, nearby residents and businesses complain about concert noise so much that the city is considering whether to change its noise ordinance. Residents also voice complaints about departing patron vehicles that continue to blast music loudly after the concert ends.

- In Queens, New York, at the recently "reborn" Forest Hills Stadium, residents were told that the 13,000-seat renovated stadium was optimized and designed to minimize the sound that reaches neighbors. However, the concert music is so loud that nearby residents complain it affects their quality of life. They state that they can't enjoy their weekends, their home, their time with kids and friends, etc. One resident moved out of her home so her son could study. In May, 2023, angry neighbors decided to take legal action and filed a lawsuit against the stadium owner.

The noise pollution ruining thousands of resident's home life and children's education is not the only issue. I am also very concerned about the crime this will bring to Ward 3. This will bring in alcohol, drugs, and an intoxicated crowd. This is a deadly combination in a residential area. Ward 3 is a safe area. We are proud to live here. This amphitheater will change that while raising our property taxes. I've heard people tell us to just move. They say this as if moving is free. We are lower middle class families. We can't move at the drop of hat, especially with interest rates as high as they are now.

Please do not change the zoning to allow this amphitheater to be built here. I have seen that the new zoning will require sound checks to begin after 2:00 p.m. My daughter's elementary school doesn't end until 2:30 p.m. Are the last 30 minutes of her education meaningless? The middle school is in session until 3:30. Should those children be distracted for one and half hours to line the pockets of millionaires?

How are people supposed to live with this type of noise invading their home life? How are children as young as 4 years old supposed to learn with this type of distraction invading their school? I am asking you to vote on behalf of your constituents' health, well-being and safety.

I am fully aware that millions of dollars in revenue will come into the city through this venue, but at the expense of your fellow Oklahoma's and children. It's downright unethical to sell your own people's well-being to bring in money. Please reject this plan and keep my child's future safe and peaceful.

I am the homeowner of property at 709 Harvest Trail, Yukon, OK 73099. I ask you to vote against this PUD in its current form.

Sincerely,

Debbie Oplotnik



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 4:27 pm, Feb 29, 2024

**From:** Beth Orton <[beth.orton1@gmail.com](mailto:beth.orton1@gmail.com)>  
**Sent:** Thursday, February 29, 2024 3:44 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [beth.orton1@gmail.com](mailto:beth.orton1@gmail.com). [Learn why this is important](#)

I, Beth Orton, hereby protest PUD-1983 Application by Mustang Creek Crossing, LLC to rezone 810 South John Kilpatrick Turnpike. I am reaching out regarding the Sunset Amphitheater and the proposed rezoning of the area. My family and I have lived at our current address for more than 12 years and feel the proposed location is not ideal for the surrounding neighborhoods.

The rezoning area is next to a number of neighborhoods that are filled with thousands of families. Many of these families have children; children that typically have earlier bedtimes. I understand it has been stated the events will occur from April-October with times occurring until 10:30 p.m. or 11 p.m. As the timeframes for the events could go late into the night it causes legitimate concerns. I have a special needs child who requires a very strict routine. Inconsistency from his routine can cause severe behavior issues. His bedroom faces the proposed location for the Sunset Amphitheater, which causes his dad and I concern about his sleep being disrupted. I understand that the suggested fixes for the noise and vibrations is to build businesses in between the Amphitheater and the neighborhoods; however, there is no guarantee this will happen or that this option will help reduce the noise levels or vibrations. Our house is within a mile of the proposed location. We will be able to hear the music and feel the vibrations, which means my son will be able to hear and feel them too. There are so many houses, with more neighborhood additions going in, one currently is being built on the corner of SW 15<sup>th</sup> and Sara Road, that make this area an undesirable location for a venue such as the Sunset Amphitheater.

Also, two schools, one being an elementary school, will be directly south of the proposed location with no barriers in between the structures. It has been stated sound checks will be allowed to begin at 2 p.m. School is still in session at this time. The sound and vibrations will be heard and felt at the school causing disruption to the school day.

In addition, the main road to be utilized for traffic will be SW 15<sup>th</sup> Street. I understand traffic is normally an issue everywhere; however, during the afternoon and evenings SW 15<sup>th</sup> Street is backed up due to the number of people trying to get to the school or their homes. Adding another 5,000 or more cars trying to get to the venue will make the street a parking lot. The cars will be exiting from Mustang Road, Morgan Road and John

Kilpatrick Turnpike and converging onto SW 15<sup>th</sup> Street where there will be no where to go, possibly causing traffic issues for hours. The residents of this area should not have to worry about whether or not they will be able to get to and from their homes.

The proposed parking for the venue is also a concern. From the information provided it appears as though the proposed parking areas will not be able to accommodate the number of cars, thereby, causing people to park in the nearby neighborhoods. This will only add to the difficulty of residents trying to come and go as needed.

When making the final decision on whether or not to go forward with rezoning the land, we ask that you take into consideration the children in the area, including the children with disabilities, like my son, that need to have a consistent routine and how the Amphitheater may be disruptive to their schedules. Please consider if you would want this type of venue a couple blocks or even a mile or two from your own home and vote as if that were the case. I am the homeowner of property 2008 Edinburg Drive, Yukon, OK 73099. I ask you to vote against this PUD in its current form.

If you would like to discuss further, please do not hesitate to call me at 405-740-1675.

Thank you,

Beth Orton

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:05 am, Mar 01, 2024

**From:** [Sonny Orton](#)  
**To:** [City Clerk Email](#)  
**Subject:** Protest PUD-1983  
**Date:** Thursday, February 29, 2024 7:54:39 PM

You don't often get email from sonnykorton@gmail.com. [Learn why this is important](#)

I, Sonny Orton, hereby protest PUD-1983 Application by Mustang Creek Crossing, LLC to rezone 810 South John Kilpatrick Turnpike. I am reaching out regarding the Sunset Amphitheater and the proposed rezoning of the area. My family and I have lived at our current address for more than 12 years and feel the proposed location is not ideal for the surrounding neighborhoods.

The rezoning area is next to a number of neighborhoods that are filled with thousands of families. Many of these families have children; children that typically have earlier bedtimes. I understand it has been stated the events will occur from April-October with times occurring until 10:30 p.m. or 11 p.m. As the timeframes for the events could go late into the night it causes legitimate concerns. I have a special needs child who requires a very strict routine. Inconsistency from his routine can cause severe behavior issues. His bedroom faces the proposed location for the Sunset Amphitheater, which causes his dad and I concern about his sleep being disrupted. I understand that the suggested fixes for the noise and vibrations is to build businesses in between the Amphitheater and the neighborhoods; however, there is no guarantee this will happen or that this option will help reduce the noise levels or vibrations. Our house is within a mile of the proposed location. We will be able to hear the music and feel the vibrations, which means my son will be able to hear and feel them too. There are so many houses, with more neighborhood additions going in, one currently is being built on the corner of SW 15<sup>th</sup> and Sara Road, that make this area an undesirable location for a venue such as the Sunset Amphitheater.

Also, two schools, one being an elementary school, will be directly south of the proposed location with no barriers in between the structures. It has been stated sound checks will be allowed to begin at 2 p.m. School is still in session at this time. The sound and vibrations will be heard and felt at the school causing disruption to the school day.

In addition, the main road to be utilized for traffic will be SW 15<sup>th</sup> Street. I understand traffic is normally an issue everywhere; however, during the afternoon and evenings SW 15th Street is backed up due to the number of people trying to get to the school or their homes. Adding another 5,000 or more cars trying to get to the venue will make the street a parking lot. The cars will be exiting from Mustang

Road, Morgan Road and John Kilpatrick Turnpike and converging onto SW 15<sup>th</sup> Street where there will be no where to go, possibly causing traffic issues for hours. The residents of this area should not have to worry about whether or not they will be able to get to and from their homes.

The proposed parking for the venue is also a concern. From the information provided it appears as though the proposed parking areas will not be able to accommodate the number of cars, thereby, causing people to park in the nearby neighborhoods. This will only add to the difficulty of residents trying to come and go as needed.

When making the final decision on whether or not to go forward with rezoning the land, we ask that you take into consideration the children in the area, including the children with disabilities, like my son, that need to have a consistent routine and how the Amphitheater may be disruptive to their schedules. Please consider if you would want this type of venue a couple blocks or even a mile or two from your own home and vote as if that were the case. I am the homeowner of property [2008 Edinburg Drive, Yukon, OK 73099](#). I ask you to vote against this PUD in its current form.

If you would like to discuss further, please do not hesitate to call me at 405-628-9310



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 4:27 pm, Mar 01, 2024

-----Original Message-----

From: [junepage1951@yahoo.com](mailto:junepage1951@yahoo.com) <[junepage1951@yahoo.com](mailto:junepage1951@yahoo.com)>

Sent: Friday, March 1, 2024 1:44 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: PUD 1983 application by Mustang Creek Crossing LLC

[You don't often get email from [junepage1951@yahoo.com](mailto:junepage1951@yahoo.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, June P.Page hereby protest PUD 1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

My reasons are many, but first and foremost is the impact the noise pollution from the decibels will have on schoolchildren who live in the nearby neighborhoods. I've been told concerts do not end until 11 pm., when children are sleeping. I ask, how will this sleep disturbance affect their ability to learn?

Next, my husband and I purchased our home in 1988, and we worked many long years to pay it off and hoped to enjoy our retirement here. The noise pollution, increased traffic (as concert goers will take shortcuts through the neighborhoods), and possible introduction of crime into our peaceful neighborhoods will be the future for Westbury North, Westbury South, and surrounding neighborhoods.

I'm also concerned about the many veterans here who may have PTSD or other health issues. In addition, my husband and I both have health issues. I have atrial fibrillation and my husband and are both under the care of cardiologists. I pray someone on the city council cares about the many hundreds and hundreds and hundreds of people who will be affected by the building of this Sunset Amphitheater.

We are Oklahomans and it's not good for us, no matter how many times Matt Pinnell says it is!

My husband and I are the homeowners of property at 10205 Bradford Way in North Westbury, Yukon OK 73099. We ask you to vote against this PUD 1983 in its current form.

Sincerely,

June and David Page

Sent from my iPad

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 12:37 pm, Mar 22, 2024

**From:** Kim Payne <[paynekimj@yahoo.com](mailto:paynekimj@yahoo.com)>

**Sent:** Friday, March 22, 2024 11:16 AM

**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [paynekimj@yahoo.com](mailto:paynekimj@yahoo.com). [Learn why this is important](#)

I, Kim Payne, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 S. John Kilpatrick Turnpike. I am protesting for the following reasons:

- The noise created by this proposed commercial venue outweighs any benefits to the neighbors within a radius greater than the immediate vicinity (i.e., the building and parking lots).
  - I used to live three miles west of The Tumbleweed in Stillwater. The thumping bass could be heard all the way to our house, despite closed windows with the air conditioner turned on;
  - The increased noise is a torture for people with migraines, young children trying to sleep, elderly residents (Westbury South and the 55+ housing just east of Westbury on Morgan Rd. are neighborhoods with many seniors);
- Despite recent and current widening of Sara. Rd. (south of SW 15th), the areas cannot support the heavy traffic:
  - to and from I-40, which would be South Mustang Rd (to I-40, which is already a high accident area),
  - Sara Rd. to I-40 (north of SW 15th, which is high residential),
  - and both Kilpatrick accesses (one on SW 15th and the other on Sara Rd, which takes traffic past residential neighborhoods.

Any claims by the commercial developer that this will create jobs through construction is a smoke-screen because those jobs go away after construction is completed. Other employment would only be on nights of the venue, not providing daily employment.

I feel that this venue needs to be moved to a specific area away from neighborhoods, schools (four are in the immediate area), and small businesses. They should look at land further west on I-40; although I understand that OKC may lose any tax benefits, which seems to be the goal in this decision. But there comes a time when decisions need to be made based on what benefits the Yukon-Mustang community that was there first, not based on any financial gains for Oklahoma City.

Respectfully,  
Kim Payne  
South Pointe Estates  
10009 Millspaugh Way  
Yukon, OK 73099

## Johnson, Thad A

---

**From:** Alvin <chipmunkokc@aol.com>  
**Sent:** Tuesday, April 2, 2024 5:31 PM  
**To:** City Clerk Email  
**Cc:** Ward3  
**Subject:** Protest PUD-1983, Sunset Amp

You don't often get email from chipmunkokc@aol.com. [Learn why this is important](#)

I hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

I oppose this rezoning and building of the Sunset Amphitheater near my home. I am concerned that the noise level will affect the property value of my home of 43 years.

I am the homeowner of property at 10305 Exter Ave and ask you to deny the rezoning of this PUD.

Sincerely,

Alvin Pemberton  
10305 Exter Ave  
Yukon, OK 73099-7565  
405-414-2943

## Johnson, Thad A

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**From:** Deborah Pemberton <grandmadnok@yahoo.com>  
**Sent:** Tuesday, April 2, 2024 5:58 PM  
**To:** City Clerk Email; The Mayor; Ward3  
**Subject:** Protest PUD-1983 Sunset Amp

You don't often get email from grandmadnok@yahoo.com. [Learn why this is important](#)

I am writing to protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

I am asking the City Council to protect the homeowners and occupants of the surrounding neighborhoods from the excessive noise levels venues such as the Sunset Amphitheater generate. I am deeply concerned that these noise levels will affect my quality of life, as well as my neighbor's, especially children and those suffering from anxiety disorders.

I reside at 10305 Exter Ave, Yukon in the Westbury North division and I am respectfully asking you to deny the rezoning of this PUD.

Sincerely,

Deborah Pemberton  
10305 Exter Ave  
Yukon, Oklahoma 73099  
405-324-8155



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:23 pm, Feb 29, 2024*

To the following:

Mayor David Holt

Ward 3 City Council- Barbara Peck

City Clerk- Amy K. Simpson

City Manager- Craig Freeman

### Opposition to Sunset Amphitheater in Mustang Creek Crossing

The proposed Sunset Amphitheater in Mustang Creek Crossing is a great concern to my community and myself. The location is simply outrageous itself! Right by our Elementary, Middle School, and Intermediate schools is not only an unacceptable location, it's a disgrace. With a distance of only 1250' north of North Middle and Mustang Creek Elementary School, how is this even legal? Our children are the most important, but only the first of many concerns we have in this Amphitheater.

Having Sunset Amphitheater at its planned location will increase the number of people around the schools, (affecting our children's safety). Having Sunset Amphitheater in this location will affect school with sound checks which can start at 2pm, (affecting our children's learning). Having Sunset Amphitheater at this location will increase our decibel level over city code to 5db., not only with noise, but also vibrating our schools and homes, both nearby and up to miles away. Having Sunset Amphitheater at this location will extend our noise timeframes to 10:30pm Sunday through Thursday. On Friday and Saturday, the noise timeframe is increased an extra 30 minutes to 11pm. We are housing developments with children, lives, and rights to have an acceptable environment in which we have chosen to buy our homes. Having Sunset

Amphitheater at its planned location will overtake 7 acres of land! Of all places to put an Amphitheater that has 12, 500 seats, would hold 50-60 concerts from April to October, and have so many impacts to its location, this location was the thought-out plan? I can't seem to wrap my head around that concept. No one should be able to understand nor accept this location of the proposed Sunset Amphitheater!

I would hate to think our community could be thought of so little as to put such a horrendous grievance literally right behind our schools. Impacting our children's safety, learning, ability to get a good night's rest, right not have our homes vibrating from the noise, and having to wait in traffic just to pull into our homes is not acceptable. I for one, want Sunset Amphitheater to be stopped at its proposed location which has been shown above to be a critical location in our community. Other spaces in more acceptable locations should have been the first planned location of this new "cash cow." I do not want this in my community; nor should anyone accept this in this community. Please find another location more acceptable for the proposed Sunset Amphitheater in Mustang Creek Crossing.

Sincerely,

Monica Poe

1342 Selborne Pl.

Yukon OK, 73099

(520)258-9097

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 1:24 pm, Mar 15, 2024*

From: Debra Priest <[priestdl54@gmail.com](mailto:priestdl54@gmail.com)>  
Sent: Friday, March 15, 2024 10:26 AM  
To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
Subject: Protest PUD-1983

[You don't often get email from [priestdl54@gmail.com](mailto:priestdl54@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Debra Priest, hereby protest PUD-1983 application by Mustang Creek LLC to rezone 810 South John Kilpatrick Turnpike

Debra Priest  
2232 Timber Crossing  
Yukon, OK 73099  
580-421-4688

Sent from my iPad

2024 FEB 20 AM 8:10  
OKLAHOMA CITY CLERK

**From:** Lori Rehrig <[rehrigs@gmail.com](mailto:rehrigs@gmail.com)>  
**Sent:** Tuesday, February 20, 2024 8:10 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Sunset Amphitheater, Mustang Creek Crossing

You don't often get email from [rehrigs@gmail.com](mailto:rehrigs@gmail.com). [Learn why this is important](#)

I am a resident of Westbury North, located just north of SW 15th and East of Sara Road in Yukon.

I am very much opposed to the new Sunset Amphitheater being built directly west of our neighborhood in Yukon. The two main reasons are (1) the noise level and vibrations from such a loud volume for several hours at a time up to 60 days a year and (2) the huge increase of traffic on all surrounding streets. We will be greatly inconvenienced having such a huge attraction just a few hundred yards from our homes. I wonder if even our property values may be affected.

Please consider whether you would want a large amphitheater being built this close to YOUR home, YOUR neighborhood. We in Westbury North DO NOT.

Please stop Sunset Amphitheater from being built in Mustang Creek Crossing.

Lori Rehrig  
10105 Banff Way  
Yukon, OK 73099  
405-229-4715



## Johnson, Thad A

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**From:** gary.reimer <gary.reimer@protonmail.com>  
**Sent:** Friday, January 5, 2024 10:04 AM  
**To:** DS, Subdivision and Zoning; Ward3  
**Subject:** Protest to PUD-1983 Sunset Theater at Mustang Creek

You don't often get email from gary.reimer@protonmail.com. [Learn why this is important](#)

Good morning,

I am writing to express my strong opposition to PUD-1983, the proposed rezoning of 810 South John Kilpatrick Turnpike and subsequent proposed construction and operation of a commercial outdoor amphitheater concert venue. Notwithstanding the general information provided in the Environmental Noise Assessment (ENA), an outdoor amphitheater of this scale cannot reasonably be operated in the proposed location without producing noise which will cause "discomfort or annoyance, or which endangers the comfort, repose, health or peace of residents in the area," and I believe will be a public nuisance as per the City's noise ordinance § 34-11. In addition, this noise / public nuisance will potentially lower the property values of the nearby community.

This amphitheater would force nearby residence to endure annoying and inescapable low-frequency impulsive noise inside our homes. I understand the desire for economic development, but this would result in a gross and unfair tax on the nearby community; we'll be paying with our peace, our health, our ability to carry out our daily lives day after day, year after year, not to mention negatively impacting our property values and limiting the market of potential buyers.

I am urging all OKC Planning Commission Commissioners help protect existing individual property owners and disapprove any zoning changes for PUD-1985.

### Further Discussion:

The Planning Commission Staff Report for PUD-1983 is noted, however, I do not believe the Technical Evaluation noise requirements can be satisfied:

"10. The Specific Plan for an outdoor/open air amphitheater or concert venue shall, in addition to Code requirements, also include a) physical sound attenuation measures along with a revised noise study showing compliance with the City's noise ordinance, including L90, L10, and L1 requirements" (PUD-1983 STAFF REPORT)

Low-frequency noise is a specific problem not clearly addressed by this recommendation. Assessment using solely L90, L10, and L1 compliance is flawed since it uses the decibel scale with A-weighting applied dB(A). This scale is not sensitive to low frequencies and is not appropriate for high sound level measurements, such as from live music production (C-weighting would be more appropriate). Low-frequency noise is most offending because it is impulsive (think bass guitar, bass drum...) and penetrates residential housing structures very well. The ENA even states "**Low frequency sounds are the hardest to reduce at a distance,**" but offers little assured mitigation other than the previously mentioned flawed measurement to be made at the FOH, not even even at the property boundaries.

Judging from the values presented in the ENA Aggregate Effect table for distant boundaries (such as "Across S Sara Rd ~2,300 NE"), the nearby residents will indeed be forced to endure annoying low-frequency impulsive noise, yet a decibel measurement using A-weighting would otherwise indicate compliance with the ordinance.

Noting § 34-6.(a)(3), regardless of PUD-1983 zoning, the Table § 34-1. noise limits for R-1 should apply for the Westbury Addition boundary. Also, since low frequency noise is percussive for the types of expected events/sounds produced, § 34-6.(a)(4) should apply, thus reducing the Table I limits by five. These modified values are reflected in the table below:

percentile sound level limits, dBA
------------------------------------

Zoning	time	L90	L10	L1
R-1	7:00 a.m. - 10:00 p.m.	50	60	70
	10:00p.m. - 7:00 a.m.	45	55	65

These values will not even fully mitigate the low-frequency noise risk to residents due to the application of A-weighting to the decibel measurement.

Ultimately, I believe § 34-4. - Specific prohibitions.(6) simply cannot be met, even beyond a distance of 2,500 feet: “Radios, television equipment, electronic audio equipment, musical instruments and similar devices. Operating or permitting the use or operation of any device designed for sound production, amplification, or reproduction, including but not limited to any radio, musical instrument, phonograph, television set, tape recorder, loud speaker, or other similar device:

a. if plainly audible within any dwelling unit which is not the source of the sound;”

For reference, Plainly audible means where the listener clearly can hear the content of the sound produced by the noise source. Sounds which may be clearly audible include, but are not limited to, **musical rhythms**, spoken words, vocal sounds, and engine noises.

Again, I urge you all OKC Planning Commission Commissioners to protect existing property owners and disapprove the proposed rezoning.

Thank you for your continued service and support of our communities.

Respectfully,  
Gary Reimer  
Westbury Addition

Respectfully,

Gary Reimer

Westbury Addition

Sent with [Proton Mail](#) secure email.

## Johnson, Thad A

---

**From:** gary.reimer <gary.reimer@protonmail.com>  
**Sent:** Wednesday, January 10, 2024 5:36 AM  
**To:** okcward3planning@gmail.com  
**Cc:** DS, Subdivision and Zoning; Ward3; dr\_who@swbell.net; westburyinfo@yahoo.com  
**Subject:** Re: Protest to PUD-1983 Sunset Theater at Mustang Creek

Good morning Jerimy,

I've reviewed the updated application. I see the Staff comment "It remains unclear if noise can or will be mitigated with the measures proposed." I assert that noise **is not – and will not be mitigated**, plus it is disheartening to see other ordinance provisions being relieved in the PUD. I can't fathom why we're negotiating "when and how much" we're going to have to listen to annoying bass noise during our expected quiet evenings inside our homes. This potentially seems unjust.

The noise-based recommendation from the initial OKC PC Staff report has not been met. Their numbers are not in accordance with the City's noise ordinance – and I see no assurance that excessive low frequency noise or noise disturbances will be mitigated. I think the risk is extremely high they will create excessive noise and noise disturbances in the nearby R-1 zoned land, regardless of the addition of the two monitoring locations. I have comments below on land-use planning, but at the very least I recommend the following to be required to reasonably mitigate low frequency noise, otherwise I don't see how this can be considered consistent land use; we in the nearby community deserve better:

**(1)** Retain § 34-6.(a)(3) requirements – R-1 zoning sound level limits should apply at the R-1 boundaries; "sound projected from one use district into another use district of a lesser sound level limit shall not exceed such lesser sound level measured at the boundary of such use district."

**(2)** Retain § 34-6.(a)(4) requirements – for any stationary source of sound which emits impulsive sound, the limits set forth in Table I shall be reduced by five dB(A). The need here is to mitigate difficult-to-control bass frequencies; these are usually impulsive – "sound pulses of short duration, usually less than one second, with an abrupt onset and rapid decay."

The previous two issues would result in the following noise limits, **regardless of the day of the week:**

		perc (imp)
Zoning	time	
R-1	7:00 a.m. - 10:00 p.m.	

(3) Ordinance noise permit authorizations extend only to 2,500 feet. Any PUD authorization should be limited to 2,500 feet. "A permit shall expressly designate a distance, not to exceed 2,500 feet, beyond which the permittee shall not be permitted to create a noise disturbance or excessive noise."

(4) In addition, to ensure any low-frequency noise mitigation at all, **require use of C-weighting instead of A-weighting for noise monitoring measurements**. Their own Environmental Noise Assessment directly states ". Low frequency sounds are the hardest to reduce at distance" and their Aggregate Effect tables confirm this. "At distance" would better read as "in nearby residential areas." It is imperative C-weighting is adopted in order to mitigate this risk. I'd ask that you watch this video from a pro which offers a clear and practical explanation (thanks to stageleftaudio):

[https://www.youtube.com/watch?v=vdr\\_3ISA7p0](https://www.youtube.com/watch?v=vdr_3ISA7p0) A couple of notable quotes from the previous:

**"We use C-weighting when we take our measurements....bass is pretty loud and pretty percussive"**

**"C-weighting picks up bass; A-weighting does not."**

(5) We need enforcement/injunctive relief when we find the unqualified operational mitigations don't work as expected, regularly creating a "noise disturbance or excessive noise" in the nearby R-1 areas.

For land-use planning considerations, I don't see how this can be considered consistent land use nestled in an area surrounded by a church, schools, and an ever-growing area (and density!) of residential housing. The health effects of increased noise exposure are well-documented. Allowing PUD for land which allows increased noise pollution relative to the City's noise ordinance is negatively inconsistent with OKC planning documentation. From the PlanOKC Health Impact Assessment, please note the following from the Health Promoting Recommendations--

"Reduce noise pollution:

- Require increased levels noise-mitigating strategies for land uses that produce a high level of noise"

I bought a house in Westbury over twenty years ago due to its quiet setting. It has been great retreat after a day's work as you'd expect for a home in a suburban area. It has gone from a quiet golf-course neighborhood to a neighborhood to being at risk for a purpose-designed noise nuisance to be built next door. This was no way predictable for this historically quiet area. I fear what this obvious and persistent noise nuisance will do to our property values. Although, it is just not right to effectively be run out of my own home for negative land use a on someone else's land, effectively



taking my right to a quiet soundscape inside my home (imminent domain?)? By the time I would be able to sell my home and move, I fear the damage by Notes Live will have been realized. They will be in operation and I will have a house with a blatant nuisance to the west. I'm not even sure what market would remain interested in purchasing property in this area. The existing homeowners in the area are participants in a market themselves and deserve protection. I do have hope based on information found in the Oklahoma Planning Commissioners Handbook.

"Zoning is intended to protect property values, not limit them. Its original intent was to protect property owners from the negative land use decisions made by their neighbors and to make the land use pattern of a community predictable. Zoning power is limited by the Constitution to protect the individual property owner from the tyranny of the majority." (Oklahoma Planning Commissioners Handbook)

**This situation feels exactly like (1) negative land use, (2) unpredictable land use, and (3) tyranny of the majority.** I hope in light of this, the OKC Planning Commission will protect existing individual property owners and disapprove any zoning changes for PUD-1983.

Thank you for your time and all you do for Ward 3!

Respectfully,

Gary Reimer  
Westbury Addition

On Friday, January 5th, 2024 at 4:03 PM, gary.reimer <gary.reimer@protonmail.com> wrote:

Good morning,

I am writing to express my strong opposition to PUD-1983, the proposed rezoning of 810 South John Kilpatrick Turnpike and subsequent proposed construction and operation of a commercial outdoor amphitheater concert venue. Notwithstanding the general information provided in the Environmental Noise Assessment (ENA), an outdoor amphitheater of this scale cannot reasonably be operated in the proposed location without producing noise which will cause "discomfort or annoyance, or which endangers the comfort, repose, health or peace of residents in the area," and I believe will be a public nuisance as per the City's noise ordinance § 34-11. In addition, this noise / public nuisance will potentially lower the property values of the nearby community.

This amphitheater would force nearby residence to endure annoying and inescapable low-frequency impulsive noise inside our homes. I understand the desire for economic development, but this would result in a gross and unfair tax on the nearby community; we'll be paying with our peace, our health, our ability to carry out our daily lives day after day, year after year, not to mention negatively impacting our property values and limiting the market of potential buyers.

I am urging all OKC Planning Commission Commissioners help protect existing individual property owners and disapprove any zoning changes for PUD-1985.

#### **Further Discussion:**

The Planning Commission Staff Report for PUD-1983 is noted, however, I do not believe the Technical Evaluation noise requirements can be satisfied:

“10. The Specific Plan for an outdoor/open air amphitheater or concert venue shall, in addition to Code requirements, also include a) physical sound attenuation measures along with a revised noise study showing compliance with the City’s noise ordinance, including L90, L10, and L1 requirements” (PUD-1983 STAFF REPORT)

Low-frequency noise is a specific problem not clearly addressed by this recommendation. Assessment using solely L90, L10, and L1 compliance is flawed since it uses the decibel scale with A-weighting applied dB(A). This scale is not sensitive to low frequencies and is not appropriate for high sound level measurements, such as from live music production (C-weighting would be more appropriate). Low-frequency noise is most offending because it is impulsive (think bass guitar, bass drum...) and penetrates residential housing structures very well. The ENA even states “**Low frequency sounds are the hardest to reduce at a distance,**” but offers little assured mitigation other than the previously mentioned flawed measurement to be made at the FOH, not even even at the property boundaries.

Judging from the values presented in the ENA Aggregate Effect table for distant boundaries (such as “Across S Sara Rd ~2,300 NE”), the nearby residents will indeed be forced to endure annoying low-frequency impulsive noise, yet a decibel measurement using A-weighting would otherwise indicate compliance with the ordinance.

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		percentile sound level limits, dBA		
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	10:00p.m. - 7:00 a.m.	45	55	65

These values will not even fully mitigate the low-frequency noise risk to residents due to the application of A-weighting to the decibel measurement.

Ultimately, I believe § 34-4. - Specific prohibitions.(6) simply cannot be met, even beyond a distance of 2,500 feet: “Radios, television equipment, electronic audio equipment, musical instruments and similar devices. Operating or permitting the use or operation of any device designed for sound production, amplification, or reproduction, including but not limited to any radio, musical instrument, phonograph, television set, tape recorder, loud speaker, or other similar device:

a. if plainly audible within any dwelling unit which is not the source of the sound;”

For reference, Plainly audible means where the listener clearly can hear the content of the sound produced by the noise source. Sounds which may be clearly audible include, but are not limited to, **musical rhythms**, spoken words, vocal sounds, and engine noises.

Again, I urge you all OKC Planning Commission Commissioners to protect existing property owners and disapprove the proposed rezoning.

Thank you for your continued service and support of our communities.

Respectfully,  
Gary Reimer  
Westbury Addition

Respectfully,

Gary Reimer

Westbury Addition

Sent with [Proton Mail](#) secure email.

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:39 am, Mar 11, 2024

**From:** Patrick Renshaw <[patren60@gmail.com](mailto:patren60@gmail.com)>

**Sent:** Saturday, March 9, 2024 5:54 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [patren60@gmail.com](mailto:patren60@gmail.com). [Learn why this is important](#)

Amy K. Simpson or Whom it may Concern,

I (Patrick Renshaw) hereby protest PUD1983 application by Mustang Creek Crossing LLC to rezone 810 S. John Kilpatrick Turnpike. I am a homeowner that resides in Westbury North Addition within one mile of the proposed new amphitheater. I have lived in this addition for forty (40) years and have concerns regarding the following:

- Dramatically Increased traffic. This area is already congested in the mornings during work drive times, mid-afternoon school pick-up times and evening work drive home times. Also, it would have a major impact on egress to the residential areas and school for emergency vehicles (e.g., Police, Fire, and Ambulances). Additionally, the amphitheater attendees cutting through the residential neighborhoods to bypass the amphitheater traffic. The possibility of increased pedestrian and traffic accidents due to the increased traffic.
- Potential for increased crime, vandalism, and property damage due to the substantial number of people coming into the area at one time that would not normally be in this area.
- Sound levels/noise disturbances prior to, during and after concerts or other venues. It is my understanding that the proponents have stated that the amphitheater will be constructed pointing north to resolve the noise issue. I am not an audio expert on noise levels, but I find it exceedingly difficult to believe that in an open-air concert venue that facing it to the north will eliminate the noise issues. Especially residents living along the perimeter of the proposed rezoned area.
- Light pollution. With the size of the amphitheater (12,500 people) lighting, associated parking areas there would need to be substantially increased lighting to sufficiently provide safe adequate lighting. This would not include any potential lighting for special effects or firework displays.
- Solar heat radiation and pollution. With the large hard surface (e.g., concrete, asphalt, etc.) areas proposed to be constructed and the increased number of vehicles during the venues it would seem that there would be a greatly increased heat radiation and pollution that would extend into the school and residential areas.
- Wild game and animal/pet disturbance. With the additional noise, pollution, increased traffic, and loss of green areas it would surely affect these populations. Especially, local pets (e.g., dogs, cats, etc.) that can be greatly affected by the noise and the addition of the amphitheater.
- Depreciated property values. The residential property values in this area will decrease due to the approval and construction of this proposed amphitheater. This will affect a large number of people living in the surrounding areas.

This entire area is ever expanding and growing with new residential homes and apartments. In fact, on the Southwest corner of S.W. 15<sup>th</sup> and Sara Road there is currently a new housing addition under development across from where the new Sunset Amphitheater is proposed to be constructed. I have remained in this addition for all these years because the neighbors are very friendly, the traffic is less than in the more populated areas, little crime, and the area is extremely quiet and peaceful. Additionally, you can see on almost any day people walking their pets, children, jogging, biking and in general enjoying the neighborhood. I believe that the construction of a large amphitheater would greatly impact (for the worse) this and the surrounding residential neighborhood areas.



In closing, I am a homeowner residing at 10128 Bradford Way, Yukon, OK. less than one mile from the proposed PUD-183 referenced above. I request that you vote against the proposed rezoning. Thank you for your time in the review of this correspondence and this request.

Sincerely,

Patrick Renshaw

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:20 pm, Mar 19, 2024

-----Original Message-----

From: Vicki Riffle <[meek1949vjr@icloud.com](mailto:meek1949vjr@icloud.com)>

Sent: Tuesday, March 19, 2024 2:02 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Cc: Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>

Subject: Protest PUD-1983

[You don't often get email from [meek1949vjr@icloud.com](mailto:meek1949vjr@icloud.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Vicki J Riffle, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 820 South John Kilpatrick Turnpike.

First, I would like to commend Barbara Peck for already taking a stand against this proposed amphitheater in the middle of a very large bedroom community as I was informed when I first learned of this proposed rezoning a short time ago.

Second, no matter where the entrances and exits are located, main access to the Kilpatrick Turnpike is on SW 15th which is a 2-lane road at that point. Traffic congestion would be impossible for those of us living in the area. Even if attendees tried to access the proposed site from SW 29th, that street is also 2 lanes from Mustang Road to Sara Road and just past the entrances and exits to the Kilpatrick Turnpike on Sara Rd and SW 29th. These streets (SW 15th and 29th) are already in poor repair.

Third, if sound checks were allowed to begin during the day, students at the 2 schools just south of the venue would be significantly impacted from April to May and again from August to October. This would be totally unacceptable for a quality learning environment.

Fourth, my understanding of other neighborhoods in other states that have been subjected to an amphitheater of smaller size in the midst of their neighborhoods is that the sound and vibrations from venues of this sort are unbearable. I would ask that the Mayor and each Council member consider whether you would like an amphitheater such as this to exist in the middle of your neighborhood.

As previously mentioned, the intended area for the Sunset Amphitheater is surrounded by many housing additions and apartment complexes as well as being located just north of Mustang Creek Elementary and Mustang North Middle School which are located on SW 15th. I have lived in the area just north of SW 15th and just east of Sara Road since 1985 with the last 25 years being just east of Sara Road off SW 29th in the South Pointe Estates addition and have watched this area grow from a few housing additions to many additions with thousands of occupants. This area is home to starter homes up to and including homes in the \$500,000+ range.

Not only will noise pollution be a huge issue but will probably result in lowered property values. That may not be a concern since we are barely in Canadian County but it is of major concern to those of us who live here within Oklahoma City limits.

I implore you to vote against allowing rezoning of this area to allow an outdoor amphitheater. There is plenty of land to the west off I40 where the impact to the residents would not be as horrendous as

putting it in the middle of thousands of homes and apartment complexes. If you are not familiar with this area, I ask you to come out and drive around the surrounding neighborhoods and access streets to see just how detrimental this development would be to thousands, if not a hundred thousand, of your constituents with new additions being built as this message is penned.

Vick J Riffle

10100 Daughety Dr

Yukon OK 73099

405-924-3041

(Yukon mailing address, Mustang schools, Canadian County and Oklahoma City limits)

Sent from my iPhone

Sent from my iPhone

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024

**From:** Linda Rinehart <[lrgrannyof3@gmail.com](mailto:lrgrannyof3@gmail.com)>

**Sent:** Monday, March 25, 2024 11:58 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD 1983

You don't often get email from [lrgrannyof3@gmail.com](mailto:lrgrannyof3@gmail.com). [Learn why this is important](#)

Good Morning Ms. Amy Simpson,

My name is Mrs. Linda Rinehart and I live at 10013 Dover Dr., Yukon, OK. 73099.

I am writing this email today in opposition of the Sunset Ampitheater to be voted on by the City Council on April 9, 2024.

I am a retired, surviving spouse of a 100% permanently disabled veteran. My husband and I purchased our home in 2014 because of the quiet location, and family atmosphere surrounding us and our entire neighborhood. Since my husband's passing I have learned to adjust to some things but social anxiety, loud constant noises, and constant heavy machinery running cause anxiety for me. I also have pets as well who deal with issues of loud noises upsetting them. My dog and my senior cat deal with seizures. Any type of loud noise or bright lights can bring those seizures on.

While I have listed my personal issues to deal with regarding this pending Ampitheater decision I also am very concerned about traffic in the area becoming impassable for not only people who live here but for emergency personnel getting to someone in need.

One final issue to address are my concerns for the safety of children who are in school at Mustang North Middle School and Mustang Creek Elementary. I have a grandson who is pre-enrolled in Mustang North Middle School for next school year. The noise that the ampitheater would bring will be very disrupting for him in learning as well as safety in after school events and getting home from school via school bus.

Finally, I respectfully ask that this location Not be considered as a good location for such a venue.

Respectively,

Mrs. Linda Rinehart  
10013 Dover Dr.  
Yukon, OK 73099



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:41 am, Feb 20, 2024

**From:** Linda Risk <[linda\\_risk@att.net](mailto:linda_risk@att.net)>  
**Sent:** Saturday, February 17, 2024 12:07 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Sunset Amphitheater

You don't often get email from [linda\\_risk@att.net](mailto:linda_risk@att.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

Amy Simpson  
City Clerk

**I would like to let you know that I DO NOT want the Sunset Amphitheater to go in at Mustang Creek Crossing.**

I retired and bought my home at 10333 Banff Way, Yukon, OK when I retired 20 years ago. This has always been a nice and quiet neighborhood. Banff Way is only 5 blocks from Sara Road.

I feel this will be a very bad thing to come into our area. They plan 3 exits onto Sara Rd. and one on 15th Street. These two are already have an extreme amount of traffic.

This will take an extreme amount of power to operate, and I am on oxygen 24/7, so if we lose power, it is horrible for me.

I can't be around any loud noises, and this will be unbearable. We won't even be able to listen to each other talk, hear our tv or radio, and the bass will rattle our windows and walls.

We won't be able to sleep either.

It is planned to be built by the two schools, which I think is terrible.

Please do everything in your power to keep this Amphitheater from going in.

Thank you for your consideration in this matter.

Linda Risk  
10333 Banff Way  
Yukon, OK 73099

405-246-6686 phone

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024*

-----Original Message-----

From: Stephanie Roberts <stephanieroberts249@yahoo.com>

Sent: Saturday, March 23, 2024 4:18 PM

To: City Clerk Email <CityClerk@okc.gov>

Subject: Protest PUD-1983

[You don't often get email from [stephanieroberts249@yahoo.com](mailto:stephanieroberts249@yahoo.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Stephanie Roberts, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kirkpatrick Turnpike.

My phone number is 405 3239726

Address 9341 sw 21st street okc ok 73128 and 10104 Glasgow Drive Yukon ok 73099 Regards, Stephanie Roberts Sent from my iPhone

**From:** MIKE ROBINSON <flukie@cox.net>  
**Sent:** Tuesday, February 27, 2024 11:52 AM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Protest PUD 1983 Sunset Amphitheater

2024 FEB 27 PM 12:27  
OKLAHOMA CITY CLERK

You don't often get email from [flukie@cox.net](mailto:flukie@cox.net). [Learn why this is important](#)

I, Lois Robinson, hereby protest the PUD 1983 application by Mustang Creek Crossing to rezone 810 Sarah John Kilpatrick Turnpike. There will be problems if this is approved.

**1. Curfew and Decibel Levels Monitoring**

- Standard code for business's PUD is 65 db. This project got approved by the planning committee for up to 75 db, which exceeds this threshold.
- Curfew on Sunday-Thursday in the area is set for 10:30 PM and 11 PM on Friday and Saturday. The current city code is 10 PM.
  - Who will be responsible for monitoring this timeframe?
    - Police?
    - Owners?
    - Developers?
  - Who will be penalized if the sound levels and curfew restrictions are not maintained?
    - Owners?
    - Performers?
    - Developers?
    - Planning Committee?

**2. Safety**

- Will individuals be checked for weapons?
  - Who will be monitoring for weapons?

**3. Individuals Impacted by Noise and Vibrations**

- Children with noise related defects (autism, hearing problems, etc.)
- Veterans and others with PTSD
- Individuals working on weekends (nurses, policemen, firemen, etc.)
- Children going to be early (8-9 PM)

**4. Property Value**

- Home values dropped by over 25% in 1984 when Penn Square Bank went under. With the development of this amphitheater this could happen again.

I am the homeowner of property at 10409 Fairfax Lane, Yukon, OK 73099. This is an established neighborhood since the 1970's. We have owned and lived in our home for 41 years.

I invite Mayor Holt and the Council Members to our neighborhood to understand why we are protesting PUD 1983 Sunset Amphitheater. Please take this all into consideration. Ask yourself, would you want this project developed in your neighborhood? I ask you to vote against PUD 1983 in its current form.

Sincerely,  
Lois A. Robinson

**From:** [MIKE ROBINSON](#)  
**To:** [City Clerk Email](#)  
**Subject:** Protest PUD-1983, Sunset Amphitheater  
**Date:** Sunday, March 10, 2024 11:43:31 AM

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:37 am, Mar 11, 2024

You don't often get email from flukie@cox.net. [Learn why this is important](#)

Dear Amy K. Simpson,

I, Michael Robinson, am writing in protest to PUD 1983 application by Mustang Creek Crossing LLC (MCC LLC) to rezone 810 South John Kilpatrick Turnpike. These requested changes to current city codes will create serious problems – requested changes, I believe if approved, would be almost impossible to enforce.

1. Noise curfew levels: MCC LLC has requested to increase noise regulations decibels over the current city code (55dB 10:00 p.m. to 7:00 a.m./60dB 7:00 a.m. to 10:00 p.m.). MCC LLC has also requested later curfew times (Sunday-Thursday until 10:30 p.m. Friday-Saturday until 11:00 pm. The established city residential regulations are designed to maintain peace, quiet, and well-being of residents. The code changes requested will have a negative effect on the residential community.
2. Property values: I discussed the development of the amphitheater with a local realtor. Their response was “They couldn’t imagine the amphitheater would not adversely affect property values.”
3. This community should continue to enjoy the peace and quiet that is prevalent under present city codes/regulations. I ask you to vote AGAINST PUD 1983.

I am a homeowner at 10409 Fairfax Lane, Yukon, Oklahoma 73099. I have resided in this peaceful community for the past 41 + years. I urge you to vote AGAINST PUD 1983.

Sincerely,  
Michael Robinson



Attention City Clerk: PROTEST POD-1983  
J. Lee Rockway, hereby protest POD-1983 Application by  
Mustang Creek Crossing LLC to Re-Zone 810 John Kilpatrick  
Tunpike  
February 18, 2024

Dearest Mayor David & Ward 3 Council Woman Barbara Peck,

My name is Lee Rockway. My 92-year old Mother and I live in Ward 3,  
where the proposed Sunset Amphitheater is to be built.

We live at 10613 SW 20<sup>th</sup> St, which is one block south of the SW 15<sup>th</sup>  
Street & Sara Road intersection. We live in a large residential neighborhood.  
There are many, many families that live in this area! Your proposed location is  
right on top of our elementary and middle schools. I don't see how anyone  
could think it is a good idea to place an amphitheater right next to children in  
school. An amphitheater, with all of its various events, brings in a bad element,  
such as sex predators. It is the adult events put on at the amphitheater that cause  
this to happen. We, the residents of Ward 3, do not want our families and  
children put in danger.

There are so many vast open locations in OKC better suited for an  
amphitheater, such as many along Reno Avenue. Ward 3 requests that you halt  
this proposal immediately because we must protect our families. We must  
protect our kids and our elders.

I know first hand all of the drug-dealing that follow events like the  
amphitheater will be hosting. Ward 3 is a safe neighborhood right now, and we

2024 FEB 27 PM 2:40  
OKLAHOMA CITY CLERK

value our safety very much. Drugs not only bring guns and crime to a neighborhood – they bring drug-users near our kids! This is exposure we don't want or need. I implore you to please protect Ward 3 from this monstrosity.

There is another argument to be made against the proposed Ward 3 location for Sunset, which is the fact that it will lower the property value for every resident in Ward 3. This could be grounds for a class action lawsuit filed by Ward 3 against The City of Oklahoma. Have you considered this development which would derail the whole project? It is a very good possibility.

Please Reject Ward 3 as your proposed site for the Sunset Amphitheater.

Sincerely,



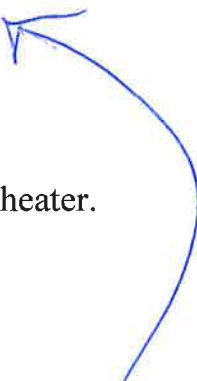
Lee Rockway

Your constituent & Ward 3 Resident

10613 SW 20<sup>th</sup> St

Yukon (actually OKC), OK 73099

714-206-3612



What I am  
trying to say  
is this will  
change  
my home's  
habitability.  
I'm scared &  
so is my Mom!  
JR

## Johnson, Thad A

---

**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:52 PM  
**To:** Johnson, Thad A  
**Subject:** FW: PROTEST PUD 1983

---

**From:** Rene'e Ross <[rross@tribunecm.com](mailto:rross@tribunecm.com)>  
**Sent:** Tuesday, March 26, 2024 11:11 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; [contact@carolhefnerok.com](mailto:contact@carolhefnerok.com)  
**Subject:** PROTEST PUD 1983

You don't often get email from [rross@tribunecm.com](mailto:rross@tribunecm.com). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

To whom this may concern,

I am emailing you regarding my PROTEST against PUD 1983.

My husband and I moved to this area because it was remote, yet close to shopping and dining. With the amphitheater that you are proposing we LOSE out on the quiet and serene surroundings we have come to enjoy. We were aware of additional houses going up in the area which is fine, more families to fill up the empty space! But this amphitheater will destroy our quality of life due to some of the following reasons:

The Noise!! It is entirely too close to our neighborhood. Even IF you only host concerts on Thursdays, Fridays and Saturdays; these are days that we choose to not hear this nonsense! As well as any other day of the week.

The congested traffic! The area that you propose two entrances/exits is a 2 lane road which will prove extremely difficult for residents in the surrounding neighborhoods to gain access to their homes with the immense increase of traffic.

The crime! With these types of services comes CRIME! There are many people that will utilize this area to facilitate their crime. Theft, Litter, Traffic Accidents, Harm to Another Person. These are the types of crimes one CAN expect to come hand in hand with this type of arena.

If this bill is passed or accepted, we will be forced to come out of pocket to move from our now retirement home to a different location. I am positive that you nor anyone else cares that we will have to bear this expense for your amphitheater but thought it to be a good idea to, at the very least, place these concerns in writing.

We live in Ashton Court off of Sara Road. Our address is 10616 SW 23rd Ter., Yukon, OK 73099

**Please!!! We beg of you to not do this to us!!** You will be destroying our retirement plans with this measure! We are not rich, nowhere close to this but will need to move away from this thing in order to continue experiencing a quality of life as we now know it.

Rene'e & Matthew Ross



-----Original Message-----

From: marilea ryder <[mryder128@yahoo.com](mailto:mryder128@yahoo.com)>

Sent: Monday, March 11, 2024 10:16 AM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>

Subject: Protest PUD-1983

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:23 pm, Mar 11, 2024*

[You don't often get email from [mryder128@yahoo.com](mailto:mryder128@yahoo.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Marilea Ryder, hereby protest PUD-1983 application by Mustang Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I have lived in my dream home at 2001 Mulberry Creek Avenue in the Mustang Creek neighborhood since 2007. My daughter Beth and her husband Brad Benefield just built their dream home on SW 20th Street and moved in August, 2023. They live across the creek from the proposed amphitheater. We (and many others in this area) strongly object to it! It will also affect the two schools and UMCGS church on SW 15th Street.

Please consider all the people that protest this amphitheater.

Marilea Ryder

(405) 324-5401

Sent from my iPad

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 12:47 pm, Feb 22, 2024*

**From:** Hannah Savage <[hannah.ellice@gmail.com](mailto:hannah.ellice@gmail.com)>

**Sent:** Thursday, February 22, 2024 11:11 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [hannah.ellice@gmail.com](mailto:hannah.ellice@gmail.com). [Learn why this is important](#)

Dear City Clerk's office, I hope this email finds you well. I, Hannah Savage, herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. As a resident of this community, I strongly protest the proposed rezoning and urge you to consider the impact it will have on our neighborhood.

The proposed development will have significant negative effects on the area, including increased traffic, noise pollution, and decreased property values. I urge you to carefully consider the potential effects of this rezoning and to take into account the concerns of the community. Thank you for your attention to this matter. Sincerely, Hannah Savage

10609 SW 22ND ST, Yukon, OK 73099

972-489-1156

March 13, 2024

Dear Mr. Mayor and Members of City Council,

I am contacting you in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. There will be a problem if this is approved.

Point 1: The noise from the 12,000 seat amphitheater will be very loud to the surrounding neighborhoods. We have a family and pets just like you and deserve a peaceful neighborhood.

Point 2: There is evidence that the level of low frequency vibrating bass permeates the entire house and to some it is unbearable.

Point 3: If the venue is responsible for self-regulating their noise levels. I feel our neighborhood will be left helpless and our peaceful evenings will be a thing of the past.

I am the homeowner of the property at 1501 Edinburg Drive Yukon, Oklahoma 73099. I ask you to vote against the PUD in its current form.

Sincerely,

  
Cynthia R Schmerfeld

405-625-1029

2024 MAR 18 AM 9:18  
OKLAHOMA CITY CLERK

March 13, 2024

2024 MAR 29 PM 5:14  
HOLST AND ASSOC

Dear Mr. Mayor and Members of City Council,

We are contacting you in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. There will be a problem if this is approved.

Point 1: The noise from the 12,000 seat amphitheater will be very loud to the surrounding neighborhoods. We have a family and pets just like you and deserve a peaceful neighborhood.



Point 2: There is evidence that the level of low frequency vibrating bass permeates the entire house and to some it is unbearable.

Point 3: If the venue is responsible for self-regulating their noise levels. I feel our neighborhood will be left helpless and our peaceful evenings will be a thing of the past.

Point 4: This will cause a hardship for Abigail as she works from home overnights and since our property backs up to Sara Road there will be no way to block the sound while she is working.

I am renting and soon to own the property at 1507 Edingburg Drive Yukon, Oklahoma 73099. I ask you to vote against the PUD in its current form.

Sincerely,

Rodney L Schmerfeld

Abigail A Schmerfeld

405-209-8600



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:10 pm, Feb 20, 2024

**From:** Darrell Schmidt <[texomalife1@att.net](mailto:texomalife1@att.net)>

**Sent:** Tuesday, February 20, 2024 1:46 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>

**Subject:** Protest PUD-1983- Mustang Creek Crossing / Sunset Amphitheatr

You don't often get email from [texomalife1@att.net](mailto:texomalife1@att.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

I, Darrell Schmidt, 1241 Edinburg Drive, Yukon, Ok. 73099, would like to file a protest for the development of the Sunset Amphitheater.

I don't believe the developer has sufficiently answered the concerned citizens and homeowners questions and concerns.

They claim that they sent 5000 notices to nearby residences but I'm as close as you can get and I did not receive one.

My neighbors and I are concerned about the noise levels and what assurances we will be given by the city that the noise ordinance will be adhered to. I know that they have already asked for extensions on noise levels and ending times. What recourse would we as citizens/homeowners have if they do not? I do not think we should be forced out of our homes for 90-100 days per year to get some peace and quiet.

Their plans look pretty on paper but the traffic and parking issues are also going to be a nightmare on SW 15th and on Sara Road which has only two lanes.

I also believe this will drive down the value of our homes as who would want to live 1500 feet from a nuisance such as this.

Sincerely,

Darrell Schmidt

**From:** Stephanie Schmidt <[stephanie.schmidt@bcbtransport.com](mailto:stephanie.schmidt@bcbtransport.com)>

**Sent:** Tuesday, February 20, 2024 6:11 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983 - Sunset Amphitheater

You don't often get email from [stephanie.schmidt@bcbtransport.com](mailto:stephanie.schmidt@bcbtransport.com). [Learn why this is important](#)

I, Stephanie Schmidt, 1241 Edinburg Drive, Yukon, Ok. 73099, hereby protest the proposed PUD-1983 by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike, Oklahoma City.

I'm not opposed to this type of venue, but I am opposed to the site that is proposed. I have lived in my home in Westbury North for 39 years. Our family home backs up to Sara Road and will be a mere 1500-2000 feet from this venue. I believe this will make our home uninhabitable from 2:00PM until 10:30-11:00PM on concert evenings for nearly one-third of the year.

I believe the proposed site is not suitable for this endeavor for the following reasons.

1. This property is located in the middle of a residential area with thousands of homes that will be impacted by the noise and vibration that simply cannot/won't be controlled because of they type of venue that it is. The nearest home is only 1500 feet from this proposed site.
2. This property is adjacent to an elementary and middle school which is only 1250 feet away. The students will still be in class when the 2:00PM sound checks begin, There are many after school sports and events as well.
3. The roads surrounding the property are already insufficient for the amount of traffic that uses them daily. Three of their proposed exits are dumping on Sara Road which is a two-lane road with no interstate access. Currently there are no plans to widen this roadway or add interstate access.
4. I don't believe 3600 parking spaces for a 12,500-seat venue is sufficient. There is no other large parking area for overflow which will cause street parking in our neighborhoods and along Sara Road which as I stated is only two lanes. This lack of parking will essentially block us either in or out of our own neighborhood on concert nights.
5. As I understand it there have been no restrictions on how many shows they will book per year or that they will all be on weekends. This will leave many homes uninhabitable in the evening for one-third of the year.
6. Oklahoma City has a noise ordinance that Mustang Creek Crossing LLC has already requested another 5dB increase.
7. Mustang Creek Crossing LLC has also requested an extension of noise timeframes on school/work nights to 10:30 and 11:00 on weekends.

Before casting your vote, please consider whether you would want this to be in your backyard. None of the thousands who purchased homes in this area signed up for a nuisance such as this to be approved in their neighborhood.

Respectfully,

**Stephanie Schmidt**

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:08 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983

-----Original Message-----

From: Jones, Sharon D <sharon.jones@okc.gov> On Behalf Of City Clerk Email  
Sent: Friday, March 29, 2024 2:45 PM  
To: Smiley, Dena L <dena.smiley@okc.gov>  
Subject: FW: Protest PUD-1983

-----Original Message-----

From: wayne@schrzan.com <wayne@schrzan.com>  
Sent: Friday, March 29, 2024 2:44 PM  
To: City Clerk Email <CityClerk@okc.gov>  
Subject: Protest PUD-1983

[You don't often get email from wayne@schrzan.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I Wayne Schrzan herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I ask you to protect our neighborhoods and families from the nuisance this venue will cause so please deny this rezoning.

Thank you,

Wayne Schrzan

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 4:40 pm, Mar 22, 2024*

-----Original Message-----

From: KATHRYN SENSE <[ksense1@att.net](mailto:ksense1@att.net)>

Sent: Friday, March 22, 2024 1:33 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Protest PUD-1983

[You don't often get email from [ksense1@att.net](mailto:ksense1@att.net). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

WARNING: The sender of this email could not be validated and may not match the person in the "From" field..

I hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike. There will be problems if this is approved.

1. Noise from this proposed project will be very loud to the surrounding neighborhoods.
2. I believe people wanting to attend concerts will park in my neighborhood making it difficult to drive through the neighborhood. There are enough cars parked on the street already and adding more cars owned by non-residents could make it impossible to exit the subdivision.
3. I believe the atmosphere that will be created will bring negative factors including drugs and alcohol which are not the kind of atmosphere that should be allowed around our elementary and middle school students. We need to provide positive role models not negative influences

I am the homeowner at 1304 Fairfax Court, Yukon, OK 73099. Please vote to deny and reject PUD 1983. Thank you.

Sincerely,

Kathy Sense

March 20, 2024

Jean R. Setzer, Ph.D.  
3104 Rockhampton Ave.  
Oklahoma City, OK 73172  
[jeanrsetzer@gmail.com](mailto:jeanrsetzer@gmail.com)  
210. 269. 7838

Subject: "Protest RUD-1983"

Dear Oklahoma City Clerk Amy Simpson:

I am writing to protest RUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kirpatrick Turnpike.

My husband and I moved here from Northern California four years ago to be nearer our family. We selected SW Oklahoma City and the Yukon area because it was family oriented and quiet. As retired senior citizens, we desired a residential area that has a small-town ambiance and near a major medical center. We enjoy walking and bird watching. Also, we have enjoyed the Pay Com Center, only 20 minutes away via Interstate 40.

The proposed Sunset Amphitheater will have a negative impact on the quality of life and environment in SW Oklahoma City and surrounding residential areas in Mustang and Yukon. Specially, the environmental and traffic impact of this project has not been adequately vetted. Moreover, it is far from clear that this entertainment venue is needed, desirable, or financially feasible.

I ask that you vote against the proposed 12,500 seat outdoor amphitheater and 3,500 parking spaces. Instead of eliminating the estimated seven acres of trees and green space, I suggest the City Council consider establishing a regional park to serve the recreational needs of this growing residential community.

Thank you for considering this request.

Sincerely,



Jean R. Setzer, Ph.D.

2024 MAR 27 AM 10:46  
OKLAHOMA CITY CLERK



## Johnson, Thad A

---

**From:** thomasivy <thomasivy53@gmail.com>  
**Sent:** Friday, March 29, 2024 3:11 PM  
**To:** City Clerk Email  
**Subject:** PUD-1983

You don't often get email from thomasivy53@gmail.com. [Learn why this is important](#)

We, Tom and Ann Sewell, protest the PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I ask you to protect our neighborhoods and families from the nuisance this venue (Sunset Amphitheater) (traffic, crime, noise, etc) will cause. Please deny this rezoning.

Thank you.

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:22 pm, Mar 11, 2024

**From:** Brian Shaffer <[brian\\_shaffersr@hotmail.com](mailto:brian_shaffersr@hotmail.com)>

**Sent:** Monday, March 11, 2024 1:24 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Opponent of Sunset Ampitheater

You don't often get email from [brian\\_shaffersr@hotmail.com](mailto:brian_shaffersr@hotmail.com). [Learn why this is important](#)

Mayor Holt,

I Brian Shaffer herby protest PUD-1983 by Mustang Creek Crossing, LLC to rezone 810 S John Kilpatrick Turnpike.

My concerns are first and foremost:

- Noise which is projected to be 5db over city code. I live approximately ¼ mile from the planned location in the Mustang Creek addition. These noise levels and the planned times of concerts will negatively impact my quality of life. It will also interrupt my sleep as I work early hours in the mornings. There are many complaints online from similar venues and how it negatively affecting peoples' lives.
- I am also concerned about the increased traffic which will cause a large increase in traffic in our area.
- Then there is the impact on home values, which could very well go down.

This type of venue should be placed in a more rural area where it will not negatively affect those that live in the area where people can choose to live in close proximity or not. I believe that if this was being built near your residence, you wouldn't want this intrusion into your life either.

I am the homeowner of 2105 Mulberry Creek Ave. and ask you to vote against rezoning for PUD-1983

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:38 pm, Feb 08, 2024

**From:** Kim Shelton <[kshelton59@yahoo.com](mailto:kshelton59@yahoo.com)>  
**Sent:** Thursday, February 8, 2024 1:28 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Mustang Creek Sunset Amphitheater

You don't often get email from [kshelton59@yahoo.com](mailto:kshelton59@yahoo.com). [Learn why this is important](#)

Please forward to OK City Council Members and Mayor Holt.

I can appreciate the heavy burden you carry for the citizens of OKC. Looking out for the well-being of all and at the same time bringing in revenue that benefits the city. I am asking as a constituent and concerned neighbor that you listen to our plea for help in stopping the proposed Sunset Amphitheater so close to many families in the area. It is for our health and well-being that we are pleading this case. We cannot compete with their dollars, but we feel our well-being is of utmost concern.

Major Concerns about the Sunset Amphitheater:

1) Noise - will need Buffers to the East along Sara Road (The Westbury neighborhoods across the street within 1200 feet). The neighborhood in Westpoint off Mustang backs up to the planned Amphitheater. The schools and churches nearby will be affected by noise pollution during soundchecks, concerts, other live venues. The bass vibrations have been proven to shake structures and disturb the peace of those in their homes, businesses, churches, schools. Noise pollution is indeed a significant public health concern. According to the American Public Health Association, noise is recognized as a public health hazard, with human exposure to harmful noise levels being widespread. It can cause a range of health problems, including hearing loss, sleep disruption, stress, cardiovascular disease, and even premature mortality. The World Health Organization (WHO) and the European Environmental Agency report that noise ranks second only to air pollution as the environmental exposure most harmful to public health.

2) Traffic - Sara Road between SW 15th and the North end of the three (2) Ingress/Egress into the proposed project are on a narrow 2 lane road (Sara Road). And I believe one other at SW 15<sup>th</sup>. This will not only affect the property owners adjacent to the project and other subdivisions on down Sara, but the attendees of the Amphitheater. Traffic will back up for miles between the hours of 5:30-6:30 trying to get into the Amphitheater. The access on Turnpike is VIP. The Access on SW 15th is already backed up with rush hour traffic off the turnpike during these hours.

3) OK City Council Members, PLEASE take some time in making this decision about the Amphitheater. Do some research please on this project, look at both sides – and make an

INFORMED DECISION! I am asking you to vote on behalf of your constituents' health, well-being, and safety. As mentioned, the hazardous effects of this venue close to homes will impact thousands of lives, not once, not 10 times, but 50-60 times a year.

Sincerely,  
Kim Shelton 10020 Leeds Drive Yukon, OK  
(405) 226-8774

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 4:26 pm, Feb 29, 2024

**From:** Kim Shelton <[kshelton59@yahoo.com](mailto:kshelton59@yahoo.com)>  
**Sent:** Thursday, February 29, 2024 10:09 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PUD 1983, Sunset Amphitheater at Mustang Creek

You don't often get email from [kshelton59@yahoo.com](mailto:kshelton59@yahoo.com). [Learn why this is important](#)

Dear Council Members and Mayor Holt

I am writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike.

I appreciate you continuing to listen and consider our concerns regarding the Sunset Amphitheater at Mustang Creek's proposed site. We are spreading awareness, growing in number, organizing, and coming together unified in our concerns and opposition to not only the location of this site, but also the unenforceable restrictions, such as noise reduction if they go over stated and agreed to limits with regard to noise and curfew.

From my understanding, if they go beyond restrictions, they only have to pay a fine then they may continue with the concert. Same with stated curfews, all they have to do as written, is pay a fine and continue ignoring their neighbors need for peace and quiet. There will be no viable outlet for us to complain, if you approve this as is, we will need enforceable restrictions. We would like to have a requirement for a thick, 12 ft brick wall to encase the entire site for soundproofing installed. Enforceable penalties and curfew. Charge them \$75 a ticket every time they go beyond the agreed to restrictions.

Widen Sara Road before any construction can begin.

How will they monitor weapons brought to the venue? What kind of security is determined? We've seen assaults and violence carried out in outdoor venues across the nation. The first one that comes to mind is the Las Vegas mass shooting in 2017, where nearly 60 were killed and wounding at least almost 500 with approximately 22,000 in attendance. [59 people killed, more than 500 hurt in Las Vegas Strip shooting](#)



59 people killed, more than 500 hurt in Las Vegas Strip shooting

At least 59 people were killed when a gunman opened fire during a Jason Aldean performance from the 32nd floor o...

Please come and see for yourself how close in proximity this site is to many backyards and two public schools. The satellite images don't do justice to an up close and personal visual. The commercials and press releases by Notes Live have been misleading, they present this area as only surrounded by fields. In my opinion, that is deceptive to the rest of the public. Which causes me to question their stated desire to be a good neighbor. Please watch this interview with Channel 5 news. They give a different



perspective from a neighbor's backyard and you can see how close this will be to the neighborhood and two local schools.

[Homeowners worry about possible noise, traffic from west OKC amphitheater development](#)



Homeowners worry about possible noise, traffic from west OKC amphitheater...

Jason Burger

Residents worried that the Sunset Amphitheater, a facility that would seat thousands of people, would hit close ...

I thank you for listening to the citizens of OKC. I thank you for looking into this further. I trust that you will make a well-informed decision by asking more questions, meeting with us, and visiting the site. Then, put into place protections for your citizens before ever denying or allowing Sunset Amphitheater to build so close to many families in the area. It is for our health and well-being that we are pleading this case. We cannot compete with their dollars, but we feel our well-being and the sanctuary of our homes should be of utmost concern.

I am the homeowner of property at 10020 Leeds Drive, Yukon, OK 73099. I ask you to vote against the PUD in its current form.

Sincerely,

Kim Shelton  
405 226-8774

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024

**From:** Kim Shelton <kshelton59@yahoo.com>

**Sent:** Sunday, March 24, 2024 5:41 PM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** PUD 1983 at Mustang Creek

You don't often get email from [kshelton59@yahoo.com](mailto:kshelton59@yahoo.com). [Learn why this is important](#)

Dear Council Members:

I am writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike.

I appreciate you continuing to listen and consider our concerns regarding the Sunset Amphitheater at Mustang Creek's proposed site. We are spreading awareness, growing in number, organizing, and coming together unified in our concerns and opposition to not only the location of this site, but also the unenforceable restrictions, such as noise reduction if they go over stated and agreed to limits with regard to noise and curfew.

From my understanding, if they go beyond restrictions, they only have to pay a fine then they may continue with the concert. Same with stated curfews, all they have to do as written, is pay a fine and continue ignoring their neighbors need for peace and quiet. There will be no viable outlet for us to complain, if you approve this as is.

Sara Road needs to be widened before any construction can begin.

How will they monitor weapons brought to the venue? What kind of security is determined? We've seen assaults and violence carried out in outdoor venues across the nation. The first one that comes to mind is the Las Vegas mass shooting in 2017, where nearly 60 were killed and wounding at least almost 500 with approximately 22,000 in attendance. [59 people killed, more than 500 hurt in Las Vegas Strip shooting](#)



#### 59 people killed, more than 500 hurt in Las Vegas Strip shooting

At least 59 people were killed when a gunman opened fire during a Jason Aldean performance from the 32nd floor o...

Please come and see for yourself how close in proximity this site is to many backyards and two public schools. The satellite images don't do justice to an up close and personal

visual. The commercials and press releases by Notes Live have been misleading, they present this area as only surrounded by fields. In my opinion, that is deceptive to the rest of the public. Which causes me to question their stated desire to be a good neighbor. Please watch this interview with Channel 5 news. They give a different perspective from a neighbor's backyard and you can see how close this will be to the neighborhood and and two local schools.

[Homeowners worry about possible noise, traffic from west OKC amphitheater development](#)

Homeowners worry about possible noise, traffic from west OKC amphitheate...

Jason Burger

Residents worried that the Sunset Amphitheater, a facility that would seat thousands of people, would hit close ...

I thank you for listening to the citizens of OKC. I thank you for looking into this further. I trust that you will make a well-informed decision by asking more questions, meeting with us, and visiting the site. Then, put into place protections for your citizens before ever denying or allowing Sunset Amphitheater to build so close to many families in the area. It is for our health and well-being that we are pleading this case. We cannot compete with their dollars, but we feel our well-being and the sanctuary of our homes should be of utmost concern.

I am the homeowner of property at 10020 Leeds Drive, Yukon, OK 73099. I ask you to vote against the PUD in its current form.

Sincerely,

Kim Shelton  
405 226-8774

[Sent from Yahoo Mail for iPhone](#)

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:22 pm, Mar 11, 2024*

**From:** H <[hshepherd308@aol.com](mailto:hshepherd308@aol.com)>  
**Sent:** Monday, March 11, 2024 1:35 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [hshepherd308@aol.com](mailto:hshepherd308@aol.com). [Learn why this is important](#)

Amy K Simpson

I H. Shepherd hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South Joh Kilpatrick Turnpike.

I think there are way better options by the Turnpike that is also away from communities. It would also be great to be near a body off water for boaters to enjoy.

H Shepherd (Ward 3)  
10000 SW 23rd St. Yukon, Oklahoma 73099

## Johnson, Thad A

---

**From:** amber.simpson84@yahoo.com  
**Sent:** Tuesday, April 2, 2024 11:15 PM  
**To:** City Clerk Email  
**Subject:** PUD-1983 Protest Letter

You don't often get email from amber.simpson84@yahoo.com. [Learn why this is important](#)

I, Amber Simpson, hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike. This land is not suitable for the proposed development. I wish to protect my, and my neighbors, quality of life. This development would negatively impact us in several ways. The noise pollution that will occur as a direct result of this amphitheater will be detrimental to the many residential areas surrounding the proposed site. Similar amphitheaters in other areas have caused noise and vibrations for miles, disturbing the peace one should have in their home. The land in question backs up to 2 Mustang schools. The children attending these schools deserve a quiet, safe, and peaceful learning environment. This will be impossible with a 2pm soundcheck. The roads surrounding the proposed site cannot handle the current traffic, much less the sudden influx of thousands of vehicles. Traffic already backs up during rush hour and school pickup and drop off times. Events of the proposed magnitude will cause gridlock, or steady traffic through the neighborhoods immediately surrounding the site. While I understand this land is prime for development, it is wholly inappropriate for this amphitheater.

I am the homeowner at 12429 SW 15th Ter. I respectfully ask you to deny the rezoning of this application.

Sincerely,

Amber Simpson



## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 3:44 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Lakin, Cynthia A; Welch, Sarah; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Subject: Protest PUD – 1983, sunset, amphitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 2:09 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Subject: Protest PUD – 1983, sunset, amphitheater

---

**From:** William Smith <bsmith@emeraldhospice.com>  
**Sent:** Wednesday, April 3, 2024 2:04 PM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Subject: Protest PUD – 1983, sunset, amphitheater

You don't often get email from [bsmith@emeraldhospice.com](mailto:bsmith@emeraldhospice.com). [Learn why this is important](#)

## To: Oklahoma city clerk, mayor, city council ward #3 Barbara Peck

My wife and I want to protest PUD – 1983 application by Mustang Creek crossings, LLC to rezone 810 S. John Kilpatrick Turnpike.

To : Oklahoma city clerk, mayor, city council ward# 3 Barbara Peck

My wife and I have lived in our privately owned home located at 10025 Thompson Ave, Yukon, for 10 years. We are aware of the proposed plans for an amphitheater to be constructed near Southwest 15th and Sarah Road. This is approximately 1 mile from our home. We are aware that our hundreds of homes which are even closer proximity to this proposed location. This amphitheater would affect the

following neighborhoods, just to name a few: Canyon Creek, Whispering Hollow, The Enclave, Crystal Creek in Westbury North, and Westbury South.

My wife and I both have very serious concerns about an amphitheater being constructed at this location.

Our concerns include:

A. Noice concerns: the noise concerns would be occurring predominantly when families are at home in the evening and would continue well past most children's bedtimes and likely some adult bedtimes. Bands start setting up their equipment as early as 10 AM and by the time the concerts over, you're looking at 11 to midnight. Therefore it could be a total of 12 hours of people having noise pollution.

B. Property values: Property values declining because of the amphitheater, increased traffic with congestion, high-volume sound disturbances related to actual productions, and potential for destruction to private property and increase crime.

"People might buy into a neighborhood because of a golf course but nobody ever buys into a neighborhood because of an amphitheater."

B. Noise Concerns: The noise concerns would be occurring predominantly when families are at home in the evening and would continue well past most children's bedtimes and likely some adult bedtimes.

C. Our Tax Funded Schools: the extra wear and tear on the parking lots of the schools. The schools will also be an increased target for vandalism and or trash on the property.

D. Our neighborhoods: People parking in our neighborhoods, leaving trash and possible destruction of private property.

We do not have personal concerns with the concept of an amphitheater being constructed in the OKC metro area, but why would anyone think this is a good idea to place in the middle of a highly populated neighborhoods?

E. Local Businesses: Businesses within 2 to 3 miles will have difficulty of conducting any business because of the volume. They won't be able to hear the customers.

We are asking the city Council and the mayor to listen to the voters and please reject the proposed zoning for this project in its proposed location. My wife and I appreciate your consideration of these concerns. We have loved living in Yukon, and would hate to feel the need to move to another municipality because of the potential encroachment upon the safe, quiet, family – oriented environment we have come to love and enjoy. Please, listen to the citizens and vote no on PUD-1983.

Thank you,

Bill and Sue Smith  
10025 Thompson Ave.  
Yukon, Ok 73099

Get [Outlook for iOS](#)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:13 am, Feb 20, 2024

**From:** Karen Smith <[karensmith3@att.net](mailto:karensmith3@att.net)>

**Sent:** Monday, February 19, 2024 6:12 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Opposition to Proposed Rezoning for Ampitheater PUD-1984

You don't often get email from [karensmith3@att.net](mailto:karensmith3@att.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

I am contacting you in reference to the proposed zoning change to allow for the building of an amphitheater in the middle of a residential neighborhood(s). I have been a resident of Westbury North since 2000 and moved here because it was out and away from the hub bub of OKC proper. Since that time the residential construction has exploded with other people looking for a quiet refuge from the city. Now we are faced with having our nice quiet neighborhood(s) besieged with extremely loud music/noise and an onslaught of traffic. Referencing the proposed plans for this amphitheater it appears that the performance stage and amps are only about a 200 yards away from the neighborhood houses. These residents will be constantly barraged with loud music through out the concert/event season not to mention the neighborhoods directly south who will have the entire event blasted directly at them.

I feel there is a location better suited for this type of construction. A location not in the center of neighborhoods and schools.

I am voicing my opposition of re-zoning the north east corner of SW 15th and Sara to allow the building and operation of the Sunset Ampitheater. I hope that our council members and our mayor will put their constituents first, ahead of big business. We all just want a nice quiet place to live. A place we can find peace after a hard days work and worries of our daily lives.

Sincerely

Karen Smithee-Smith  
10328 Bradford Way  
Yukon, OK 73099

Get [Outlook for Android](#)

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Tuesday, April 2, 2024 8:12 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Lakin, Cynthia A; Welch, Sarah; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983, Sunset Ampitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Graham, Miki D <miki.cowley@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Tuesday, April 2, 2024 7:29 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983, Sunset Ampitheater

Miki Graham, MM/PA, CMC  
Assistant City Clerk  
The City of Oklahoma City  
405-297-2396  
[Miki.graham@okc.gov](mailto:Miki.graham@okc.gov)

---

**From:** Smith, Samuel <[Samuel.Smith@Mercy.Net](mailto:Samuel.Smith@Mercy.Net)>  
**Sent:** Tuesday, April 2, 2024 5:34 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983, Sunset Ampitheater

You don't often get email from [samuel.smith@mercy.net](mailto:samuel.smith@mercy.net). [Learn why this is important](#)

To: Oklahoma city council , mayor and city clerk

I am Samuel Smith, the homeowner of 1609 Edinburg Dr. and I hereby **protest PUD-1983** application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike. Our neighborhood is a very peaceful and quite area in which my family and I have lived for 23 years. The Sunset Ampitheater should not be allowed in proximity to a residential area due the **noise** and other **disruptions to the quality of life** in not just my neighborhood but many other surrounding neighborhoods as well. The citizens of this area have an expectation that the *zoning rules put into place are there to protect citizens from the very kind of disruptions of quality of life that the rezoning proposed by PUD-1983 will allow.*

Thank you for your time and consideration in this matter, Samuel Smith



This electronic mail and any attached documents are intended solely for the named addressee(s) and contain confidential information. If you are not an addressee, or responsible for delivering this email to an addressee, you have received this email in error and are notified that reading, copying, or disclosing this email is prohibited. If you received this email in error, immediately reply to the sender and delete the message completely from your computer system.

**From:** Smith, Tonia <[smitht@mustangps.org](mailto:smitht@mustangps.org)>  
**Sent:** Tuesday, March 12, 2024 11:08 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [smitht@mustangps.org](mailto:smitht@mustangps.org). [Learn why this is important](#)

I, Tonia Smith, herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I am a teacher at Mustang North Middle School and live less than 2 miles from the school. We are already seeing an influx of residential and commercial buildings and do not need to add a 12,000 seat amphitheater to our community.

Thank you for your help in opposing the Sunset Amphitheater.

Tonia Smith  
11732 SW 20th St  
Yukon, OK 73099  
479-234-7728



**Tonia Smith**  
7th grade ELA 2 - grammar and writing  
Mustang North Middle School  
Room A-103

The information contained in this e-mail message, and any files transmitted with it, is confidential and may be legally privileged. It is intended only for the use of the individuals or entities named above. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or forwarding of this e-mail message is strictly prohibited. If you have received this e-mail message in error, please notify the sender from Mustang Public Schools and delete the material from any computer. Thank you for your cooperation.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 8:40 am, Feb 28, 2024*

**From:** Debora Snyder <[deborasnyder10@gmail.com](mailto:deborasnyder10@gmail.com)>  
**Sent:** Tuesday, February 27, 2024 6:46 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Sunset Amphitheater in Mustang Creek Crossing

You don't often get email from [deborasnyder10@gmail.com](mailto:deborasnyder10@gmail.com). [Learn why this is important](#)

Please DO NOT let the amphitheater be placed in Mustang Creek Crossing. The amphitheater would cause traffic issues for those of us who live in the area. The noise will cause issues and greatly disturb our lives. There are two schools that would be directly affect by the sound checks. How do you expect our children to learn under those circumstances. When concerts are going on parents will have issues with children not being able to study or go to sleep due to the noise disruption. This construction will decrease our home values and greatly disturb our peaceful environment. Please find a more suitable location than in our back yards.

Sincerely yours,

Debora Snyder  
10724 SW 21st Street  
Yukon, Ok

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 11:11 am, Feb 13, 2024*

**From:** Donsolom4 <[donsolom4@aol.com](mailto:donsolom4@aol.com)>

**Sent:** Tuesday, February 13, 2024 8:24 AM

**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>;  
Freeman, Craig A <[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>

**Subject:** Sunset Amphitheater

You don't often get email from [donsolom4@aol.com](mailto:donsolom4@aol.com). [Learn why this is important](#)

Hello. I'm writing to express my OPPOSITION to Sunset Amphitheater in my neighborhood. I live in North Westbury at SW 15th and Sara Rd. I believe the noise and traffic would interrupt our lives. We can barely accommodate the traffic that the home growth has created in our area. I'm hopeful you'll reconsider the placement of this amphitheater.

[Sent from the all new AOL app for iOS](#)

## Johnson, Thad A

---

**From:** Karen Spivey <k\_spivey@att.net>  
**Sent:** Wednesday, April 3, 2024 11:32 AM  
**To:** City Clerk Email  
**Subject:** Protest PUD 1983

[You don't often get email from k\_spivey@att.net. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

WARNING: The sender of this email could not be validated and may not match the person in the "From" field..

We Jerry & Karen Spivey protest the Sunset Amphitheater PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

We ask for your protection from the nuisance this proposed project will cause. We ask for your help protecting my home, my family and my neighborhood by denying the rezoning of this project.

We are the homeowners of 2104 Hackberry Creek Ave a resident of Mustang Creek for one year.

Thank you

Jerry and Karen Spivey  
2104 Hackberry Creek Ave  
Sent from my iPhone



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 5:18 pm, Mar 20, 2024

**From:** Kenneth Sponburg <[veritasbulldog82@yahoo.com](mailto:veritasbulldog82@yahoo.com)>

**Sent:** Wednesday, March 20, 2024 2:28 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Sunset Amphitheater

You don't often get email from [veritasbulldog82@yahoo.com](mailto:veritasbulldog82@yahoo.com). [Learn why this is important](#)

Hello,

I am very concerned about the proposed construction of an amphitheater near my home. I feel it will cause a disturbance from noise and vibrations, not to mention increase the traffic problem in the area. As I work in Oklahoma City this will cause me issues coming to and from Yukon everyday. I ask that this project be declined and that no amphitheater be built.

Respectfully,

Ken Sponburg  
Yukon, Oklahoma

[Sent from Yahoo Mail for iPhone](#)

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 5:18 pm, Mar 20, 2024*

**From:** Kenneth Sponburg <[veritasbulldog82@yahoo.com](mailto:veritasbulldog82@yahoo.com)>

**Sent:** Wednesday, March 20, 2024 2:35 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [veritasbulldog82@yahoo.com](mailto:veritasbulldog82@yahoo.com). [Learn why this is important](#)

I, Kenneth Sponburg, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike and feel any such proposed amphitheater will be a disturbance to residents through noise, vibrations from noise, and increased traffic.

Respectfully,

Kenneth Sponburg  
1800 Wheatfield Avenue  
Yukon, OK 73099  
405-795-4982

[Sent from Yahoo Mail for iPhone](#)

**From:** [Toby Stamps](#)  
**To:** [The Mayor](#); [Ward3](#); [City Clerk Email](#); [Freeman, Craig A](#)  
**Subject:** Sunset Amphitheater in Mustang Creek Crossing  
**Date:** Monday, March 4, 2024 6:28:26 PM

---

Some people who received this message don't often get email from stampstoby@gmail.com. [Learn why this is important](#)

To Whom it may concern:

I am writing to protest the proposed Sunset Amphitheater that I understand will be built very near to where we live. We don't want to be hearing the noise of concerts at our home. This will cause us to have to move out of our home we dreamed of when we bought it just 2 1/2 years ago. But if we sell I'm worried that our home may be devalued due to the Amphitheatre which will be a double blow to us. Also we own a rental in the same area and I am concerned that tenants will not like all the noise and that that home could be devalued as well. I strongly urge the city to listen to those of us in the neighborhood and not to proceed with this project in our area.

Toby Stamps  
10616 SW 21st St.  
Yukon, OK 73099  
405-205-0481

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 12:19 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: From Greg Staples | Letter in Support of PUD-1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 10:57 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: From Greg Staples | Letter in Support of PUD-1983

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**From:** [action=supportsunset.com@m.supportsunset.com](mailto:action=supportsunset.com@m.supportsunset.com) <[action=supportsunset.com@m.supportsunset.com](mailto:action=supportsunset.com@m.supportsunset.com)> **On Behalf Of** Friends of Sunset  
**Sent:** Wednesday, April 3, 2024 10:56 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** From Greg Staples | Letter in Support of PUD-1983

Dear City Clerk,

I am writing to you today as a resident of Mustang, OK, living at 1110 N. Thoroughbred Way, to express my strong support for the proposed Sunset Amphitheater project at Mustang Creek Crossing, identified in the planning documents as PUD-1983. My relationship to this project is that of a local resident who sees the immense potential it has for our community.

The Sunset Amphitheater project represents a significant opportunity for community enrichment and an expansion of our collective knowledge of the arts. As someone deeply invested in the cultural and social development of our area, I believe that the introduction of this venue will serve as a beacon for cultural events that can bring our community together in new and exciting ways. The arts play a crucial role in the development of our societal fabric, offering avenues for expression, education, and connection that are unparalleled.

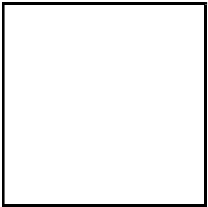
I am particularly passionate about the specific benefits this project promises to deliver. The enrichment of our community through diverse cultural programming will not only enhance the quality of life for all residents but will also serve as an educational platform for our youth and adults alike. By providing a space where the arts can thrive, we are investing in the future of our community and laying the groundwork for a more cohesive, informed, and vibrant society.

From a personal standpoint, I believe the Sunset Amphitheater will be a cultural asset not only to our local community but also to the region at large. The potential to attract performances and events from a wide range of genres and cultures is an exciting prospect that could position Mustang Creek Crossing as a key destination for cultural tourism and local entertainment.

In conclusion, I wholeheartedly support the development of the Sunset Amphitheater project at Mustang Creek Crossing. I urge you to consider the profound impact this project could have on our community's cultural landscape and the lasting benefits it would bring. Let us seize this opportunity to enrich our community, educate our residents, and celebrate the arts in all its forms. I look forward to seeing the positive changes that the Sunset Amphitheater will bring to our community and am excited about the potential it holds for making Mustang, OK, a cultural landmark in the region.

Sincerely,  
Greg Staples  
1110 N. Thoroughbred Way, Mustang, OK 73064,  
[greg.staples1@gmail.com](mailto:greg.staples1@gmail.com)

If you no longer wish to receive these emails from your constituents, you may [unsubscribe](#), but you may be missing out on important communications.





## Johnson, Thad A

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**From:** sls9929 <sls9929@aol.com>  
**Sent:** Friday, March 29, 2024 6:39 PM  
**To:** City Clerk Email  
**Subject:** PUD-Protest-1983

[You don't often get email from sls9929@aol.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Sharon Stewart, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. I am a home owner in the area and do not want this amphitheater to be built. This is not something that should be built here at all. We have homes and schools that definitely will be impacted with noise, traffic & no doubt unwanted trash that we all know will be left behind. We have young families that back up to Sara Road. They DO NOT need any kind of noise that would absolutely keep newborns & young children from getting the sleep they need & require. Surely this is something that everyone can understand can and would definitely happen. It's hard to believe that money would take precedence over families. This company and everyone pushing to get this built is, I'm sure, trying to say it will be a nice project and will have no negative impact on our entire community- that they're going to make every effort to make sure it won't - but our community is saying they can't possibly make that assumption. Please please please do not let this Sunset Amphitheater be built in our neighborhood! This is something that should be built downtown where all other large venues are. Our families- young & old - don't want it here. You wouldn't want it your backyard and we sure don't. I live at 9929 Rutland Terrace - OKC Ward 3 and would appreciate your vote to say NO to this project.

Sincerely,

Sharon Stewart

Sent from my iPad

Cameron Story  
1237 Edinburg Dr  
Yukon OK 73099  
April 3, 2024

Barbara Peck  
Council Member, Ward 3  
200 N Walker Ave  
Oklahoma City OK 73102

Dear Barbara Peck:

Thank you for your service to the constituents in Ward 3. Your time and efforts are appreciated.

I, Cameron Story, owner of 1237 Edinburg Dr Yukon OK 73099, do hereby protest the proposal by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike from AA Agricultural and PUD-1628 Planned Urban Development Districts to PUD-1983 Planned Urban Development District, Ward 3. This is an area of 51 acres is within the Southeast quarter (SE/4) of Section 3, Township 11 N, Range 5 W, of the Indian Meridian, Canadian County, Oklahoma. The rezoning request has been made by Developer Sunset at Mustang Creek, LLC. The company, Notes Live Inc. hopes to rezone this area from agricultural to commercial property in order to build a 12,500-seat outdoor concert amphitheater called the Sunset Amphitheater. The proposed area is located just northwest of SW 15<sup>th</sup> and Sara Road; east of the John Kilpatrick Turnpike; and south of I-40.

A notice of the proposed PUD-1983 was not sent addressed to me, the current owner of this lot, as per legal requirement, as part of the rezoning application. A notice was instead sent addressed to the person who owned this home many years ago, Mr. Ronald Staggs. I found out about the rezoning request through neighbors who alerted me to this situation.

I am requesting that you vote “no” on April 9, 2024 when the final vote is made regarding PUD-1983 due to a number of concerns that have been noticed by myself and many other homeowners in this neighborhood. My home along with several other homes are adjacent to and in very close proximity to the proposed new amphitheater site. (Some homes are just a few hundred feet away from the site.)

The Colorado based Notes Live company plans to build a 12,500-seat outdoor concert amphitheater on this site, which will hold approximately 80 concerts or more per year. The noise level produced by these concerts will exceed normal acceptable limits for noise according to normally accepted city noise ordinances. This means that nearby homeowners will have to suffer with extremely loud noise coming from the arena every time they hold sound checks and concerts. Other similar amphitheaters which have far less seating have been known to have multiple noise complaints from neighbors who live between 2-5 miles away, and even up to 10 miles away from the amphitheater in their respective cities. My home is within a very short distance of the amphitheater sound system. These complaints have mentioned that residents living miles away from an amphitheater had to suffer through their home shaking, they could hear noise that sounded like a vacuum cleaner was being run inside their home, and they heard and felt vibrations from the concert noise frequencies.

Barbara Peck

April 3, 2024

Page 2

In order to build this massive amphitheater, the company will destroy all of the trees and vegetation currently in this area, which will mean loss of habitat for barred owls, Cooper hawks and other species of birds, deer, and an abundance of other wildlife who have already faced a reduction in available habitat due to expansion of the Turnpike and new residential areas. To destroy vegetation will disrupt the wetlands, hinder drainage, and create a devastating loss of habitat for wildlife who are already threatened by the encroachment of development into their previous areas of sanctuary. The noise levels will also negatively impact backyard birds and domestic pets who reside nearby or who take shelter in trees near the amphitheater site.

Other amphitheaters around the nation have experienced a high-volume of noise complaints from area residents who live several miles from the amphitheaters. Those amphitheaters are also 8,000 seat or smaller venues, yet the site that Notes Live is proposing here in Oklahoma City will be a vastly larger amphitheater, with an approximately 12,500 seat capacity, thus the sound levels and negative effects from traffic issues will be exponentially higher.

I am not opposed to having an amphitheater for Oklahoma City residents to enjoy, I am only opposing this particular location, as I do not believe that there has been sufficient investigation and research done into the negative consequences of putting this massive amphitheater in this location so close to a residential neighborhood, and in an area which has for many years been a much-needed habitat for many wildlife species. The disruption to homeowners and their pets along with the damage done to nearby wildlife species and their habitat is just not worth allowing this project to be built on this particular acreage. Oklahoma City is growing and expanding, which is a great thing, but please do not allow growth and progress in this city at the expense of long-time homeowners.

Please do not approve this rezoning for this area at this time. I heartfully plea with you to find a better suited area for this large of an amphitheater. This is not the right place for the Sunset Amphitheater. There are plenty of other locations which would be better suited for such a massive outdoor concert amphitheater. It should be further away from homes, and in an area where there are not wetlands, trees, a drainage area, and a wildlife habitat. Please allow additional time for studies to be done, regarding noise and the impact this project will have on the threatened Oklahoma wildlife.

I am wholeheartedly and sincerely asking for a "NO" vote to the proposed rezoning for PUD-1983.

Thank you for your thoughtful consideration in this very important matter.

Respectfully,


Cameron Story

1237 Edinburg Dr

Yukon OK 73099

**From:** Kate Stringer <[stringerkatelyn@gmail.com](mailto:stringerkatelyn@gmail.com)>  
**Sent:** Tuesday, February 27, 2024 9:59 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PUD-1983

2024 FEB 27 PM 12:27  
OKLAHOMA CITY CLERK

 You don't often get email from [stringerkatelyn@gmail.com](mailto:stringerkatelyn@gmail.com). [Learn why this is important](#)  
Hello Amy Simpson,

I, Katelyn Stringer, herby protest PUD-1983 Application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. As a mom of four with two of them being little, I am extremely concerned about the sound coming into our home at late hours. We love our home and the peace it brings us!

The Oklahoman has reported concerns from residents who have lost that peace.  
[https://www.oklahoman.com/story/opinion/2024/02/15/opinion-noise-pollution-from-planned-amphitheater-not-seen-as-neighborly/72570060007/?fbclid=IwAR09uwTaqJaluCxRlkXTWMBdiWNpGC69JEZgLWavnaFWuuYqS8SHY9abV8w\\_aem\\_ATwcJB7klHqPH4Q-aF2rOj1Mmz-AEq\\_rtLkLJSj4qT6URw4OdG-9DOARCcgGx4mX6qY#lt4ixu6wc4a7ut1oyg8](https://www.oklahoman.com/story/opinion/2024/02/15/opinion-noise-pollution-from-planned-amphitheater-not-seen-as-neighborly/72570060007/?fbclid=IwAR09uwTaqJaluCxRlkXTWMBdiWNpGC69JEZgLWavnaFWuuYqS8SHY9abV8w_aem_ATwcJB7klHqPH4Q-aF2rOj1Mmz-AEq_rtLkLJSj4qT6URw4OdG-9DOARCcgGx4mX6qY#lt4ixu6wc4a7ut1oyg8)

Here is what those parents and homeowners say “From over 3 miles away, a homeowner near Hayden Homes Amphitheater in Bend, Oregon, reported she could “...feel and hear a low-frequency vibrating bass that permeates the entire house.” Another resident over a mile from Red Rocks Amphitheater in Morrison, Colorado, complained, “The windows are rattling, the walls shake, you put covers over your head, and it doesn’t do anything.” In Round Rock, Texas, a homeowner 4 miles away from the Round Rock Amphitheater said the vibrations were so strong, his child could not sleep.”

I am the home owner of 9929 Sudbury Rd Yukon Ok 73099 and I ask that you vote NO on the PUD-1983 rezoning.

Thank you.

Katelyn Stringer

have a legal protest if the development is skewed in their favor? This is very deceptive of them. We ask to have them alter PUD-1983 and push their parking lot out to Sara Road.

I urge you to visit the site and see just how close this will be to the schools and our homes that we have invested our time and money into.

I am the homeowner of property at 10200 Hollyhead Way, Yukon, OK 73099. I ask you vote against this PUD in its current form.

Sincerely,  
James R King

On Jan 23, 2024, at 3:37 PM, James R King <[jamesrking72@icloud.com](mailto:jamesrking72@icloud.com)> wrote:

Dear Barbara Peck,

I am writing with concerns about the proposed Sunset Amphitheater that could be located in Mustang Creek Crossing just northwest of SW 15th and Sara Road in the Yukon/Mustang area.

They are planing to have 12,500 seats yet only 3500 parking spaces. I read they expect most of the concert goers to Uber in and even so those Ubers need a holding ground. My concern is we will have cars parking in our neighborhood causing dangerous conditions for pedestrians. Our neighborhood doesn't have sidewalks and many families walk and bike with their kids through the streets. This is dangerous for concert goers and our neighbors. Also, there are currently no other retail businesses in this area for cars to park. This will cause a line of cars down SW 15th street causing a street closure as it is currently two lane road. This street becomes blocked every morning and afternoon with parents dropping children off at the elementary school. I know there is a plan for widening SW 15th street and it is behind schedule as they are still finishing Sara Rd south of SW 15th Street. There also is no current plan for widening Sara Rd north of SW 15th Street, which is a narrow two lane road.

The proximity to two schools, Mustang Creek Elementary and Mustang North Middle School also give concerns. In one of the early articles I read they stated they would like to have concerts almost everyday. Have they communicated with the schools about scheduling around school hours or functions? Not only for sound but also traffic? There are soccer and baseball fields just south of the schools that can get very busy. Currently the only planned route out of the amphitheater would take cars to SW 15th Street and or Sara Road. There is no I-40 access at Sara Road so cars will still need to make their way to and from Mustang Road or Morgan Road.

How has Livenotes guaranteed music acts will book at the amphitheater? Paycom Center and Criterion have a contract with LiveNation for booking acts and I don't think they easily just share them when a schedule allows. Do they have any ongoing talks with the music industry to guarantee acts? This unknown business planing also brings up that Canadian County currently doesn't allow alcohol sales on Sundays. I know it will be up for vote in March but that doesn't guarantee it will pass. This all just seems like poor planning to me and tied to millions of investors dollars can easily become a scam not unlike Frye Festival.



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 9:40 am, Mar 18, 2024

**From:** [Anjanette Taylor](#)  
**To:** [City Clerk Email](#); [Freeman, Craig A](#); [The Mayor](#); [Ward3](#)  
**Subject:** Re: Sunset Amphitheater  
**Date:** Saturday, March 16, 2024 12:09:28 PM

Some people who received this message don't often get email from [anjanettet1@gmail.com](mailto:anjanettet1@gmail.com). [Learn why this is important](#)

On Sat, Mar 16, 2024 at 12:05 PM Anjanette Taylor <[anjanettet1@gmail.com](mailto:anjanettet1@gmail.com)> wrote:  
I protest the rezone of PUD-1983

On Tue, Feb 27, 2024 at 11:59 AM Anjanette Taylor <[anjanettet1@gmail.com](mailto:anjanettet1@gmail.com)> wrote:  
Dear Mr. Holt, my name is Anjanette Arnett and I live at 1308 Fairfax Circle, Yukon, OK 73099. So yes, I am one of the residents that this will directly affect! first of all, I want to say that I have worked in the box office at the zoo amphitheater for the past nine years of my life. I have answered too many phone calls to count from the residence around there about when the noise would stop! I also know that you sit on the Oklahoma City amphitheater board! Or something like that I have literally given you tickets to get into the shows! I live in a neighborhood with a lot of children and where they're wanting to build this monstrosity is in the middle of a huge residential community!!! I know that Oklahoma City is trying to grow and I also know that 73099, which is my ZIP Code, is the third fastest growing city in the United States of America!! I ask you to put yourself in my shoes and how you would feel if they were building this by your house! I pray that you all keep our cities safe from the mistakes we have made in the past!! I would think the zoo amphitheater would be the biggest deterrent to this ever happening again! I thank you for your time, and I hope you make the right decision on this one! sincerely, Angie

## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Thursday, February 15, 2024 8:50 AM  
**To:** Johnson, Thad A  
**Subject:** FW: Objection to PUD-1983

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**From:** Dawn <[dawn777t@gmail.com](mailto:dawn777t@gmail.com)>  
**Sent:** Wednesday, February 14, 2024 6:29 PM  
**To:** McDermid, Aubrey E <[aubrey.mcdermid@okc.gov](mailto:aubrey.mcdermid@okc.gov)>  
**Subject:** Objection to PUD-1983

You don't often get email from [dawn777t@gmail.com](mailto:dawn777t@gmail.com). [Learn why this is important](#)

Dear Ma'am,

I am writing in protest to PUD-1983 application by Mustang Creek Crossing to rezone at 810 South John Kilpatrick Turnpike. There will be problems if this is approved.

My concern that I am writing to you today is about adequate parking for this venue. My understanding, from what has been submitted, is that there are going to be less than 4,000 spaces for a venue which could potentially hold up to 12,500 people. According to the paperwork submitted, this is based on an estimated 30% of people arriving through a rideshare type of transportation as well as multiple patrons coming to the venue in the same vehicle. I ask that at the very least, additional studies be conducted, and additional parking be added to prevent potential parking in nearby neighborhoods that could impede emergency vehicles from traveling down residential streets.

I also ask you to carefully consider page 13 of the planning commission staff report on January 11th that talks about compatibility issues with this location.

Perhaps, an amendment can be made to PUD-1983 to look for alternative sites, such as land south of I-40 on Frisco Rd. This area has little to no residential developments and is still in Oklahoma City Ward 3, with easy access to I-40.

I am the homeowner of property at 10408 Leicester Dr, Yukon, OK . I ask you to vote against this PUD in its current form.

Sincerely,

Dawn Taylor

10408 Leicester Dr.

Yukon Ok 73099

(405) 227-2916

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:34 pm, Mar 05, 2024

**From:** Dawn <[dawn777t@gmail.com](mailto:dawn777t@gmail.com)>  
**Sent:** Tuesday, March 5, 2024 10:23 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** protest to PUD 1983

You don't often get email from [dawn777t@gmail.com](mailto:dawn777t@gmail.com). [Learn why this is important](#)

Dear Ms. Simpson,

I, Dawn Taylor, hereby protest PUD 1983 application by Mustang Creek Crossing LLC to rezone 810 S. John Kilpatrick Turnpike. I am a homeowner that is located about 3,000 feet from this site. There will be problems if this is approved.

The most serious problem is the noise pollution that it will create for residences in a large area around this site. I understand that they have proposed several measures to try to reduce the noise levels. While these may help the higher frequency noise, they will have little to no effect on the lower frequency bass sounds. These sounds are omnidirectional and travel further than the higher frequencies. Since the venue is outside, there are several unknown factors such as wind and humidity that can also change the distance in which these lower sounds can travel.

I am concerned about the impact these low frequency sounds will have on everyone but especially concerned on those who are most vulnerable, including veterans with PTSD, children (especially those with autism or sensory issues), pets, and local wildlife (there is a nearby eagle nest).

The second concern I have is the lack of parking for this venue. While the venue advertises up to 12,500 seats, the proposed parking lot can only accommodate less than 4,000 vehicles. Even if there were two people per vehicle, this still leaves 2,500 vehicles with no place to park. Many might park in nearby elementary and/or middle school parking lots (which can create another whole mess of problems). What happens on a Friday night when the middle school has a football game or other night time activity? The closest alternative parking would really be in residential neighborhoods. Not only would this cost additional funds to the city for repair and upkeep of the city streets, it could potentially impede emergency vehicles from getting through to those in need.

Perhaps a better site would be in the entertainment district. There are many large buildings to help in the absorption of the outdoor sounds. Also, additional parking is already available for possible overflow from event parking.

I am the homeowner of property at 10408 Leicester Dr, Yukon, OK (this is inside OKC limits). I ask you to vote against this PUD in its current form.

Sincerely,

Dawn Taylor

(405)227-2916

**From:** Gay Teter <[teterp1@hotmail.com](mailto:teterp1@hotmail.com)>  
**Sent:** Monday, March 25, 2024 12:49 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

You don't often get email from [teterp1@hotmail.com](mailto:teterp1@hotmail.com). [Learn why this is important](#)

I am a resident of Westbury South and I own rental property in Westbury North. I am concerned about the noise pollution depreciating the value of my property. Please do not rezone.

Patricia Teter



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 8:04 am, Mar 05, 2024*

**From:** [celeste tindall](#)  
**To:** [City Clerk Email](#)  
**Subject:** PROTEST PUD-1983  
**Date:** Monday, March 4, 2024 7:51:06 PM

You don't often get email from celestetindall@gmail.com. [Learn why this is important](#)

I, Celeste Tindall, per council women Barbara Peck (Ward 3), am submitting my objection to PUD-1983.

I herby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

The building of the amphitheater will cause a huge amount of more traffic to an already busy area. There are several houses and apartments that exist near Sara RD and SW 15<sup>th</sup> meaning that there will be several children and working adults that will be impacted by high amounts of bass and loud music. This can affect children that go to school and adults that have to go to work early in the morning.

I live on Mustang Road which is near where the amphitheater is planning to be built. On this road, there is already a high number of car collisions that occur every year. I fear that the traffic that the amphitheater will bring will cause more collisions especially if people are leaving the amphitheater intoxicated.

My husband and I have moved into our first house to get peace and quiet that we could not get living in an apartment. This amphitheater will ruin that with the loud noises that will be produced. I fear that everyone that owns a house in and near the amphitheater will have their property value go down due to the amount of noise and road congestion that will be produced.

Celeste Tindall

405-550-3049

11505 SW 26<sup>TH</sup> ST

Yukon, OK 73099

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:05 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: PROTEST to PUD 1983, sunset amphitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 1:32 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: PROTEST to PUD 1983, sunset amphitheater

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**From:** dryt trhyt <[diemthuytran\\_vn@yahoo.com](mailto:diemthuytran_vn@yahoo.com)>  
**Sent:** Friday, March 29, 2024 1:28 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PROTEST to PUD 1983, sunset amphitheater

You don't often get email from [diemthuytran\\_vn@yahoo.com](mailto:diemthuytran_vn@yahoo.com). [Learn why this is important](#)

**To:** Oklahoma City Council and Mayor  
**Subject:** Protest PUD 1983, Sunset Amphitheater

I am writing in PROTEST to PUD 1983 at 810 South John Kilpatrick Turnpike. There will be problems if this is approved.

1. The noise from the 12,000 seat amphitheater concerts will be very loud to the surrounding neighborhoods.
2. Here is an article called "East Nashville residents fume over noisy Beck concert at Ascend Amphitheater."

Complaints like this are typical around amphitheaters.

<https://www.tennessean.com/story/news/2018/05/07/east-nashville-residents-complain-overnoisy-beck-concert-ascend-amphitheater/586252002/>

3. In the article above: Live Nation said, "at no time during the Sunday night Beck show did decibel levels eclipse the acceptable level that Metro Parks and Live Nation have agreed for shows at Ascend." The concert provider proclaimed compliance, but their self-regulation of noise level did not protect the residents. Please do not repeat the same mistake. OKC residents deserve better. Please protect OKC residents from noise pollution.

4. This location for this amphitheater is way too close to the two schools: Mustang North Middle School and Mustang Creek Elementary. Thousands of kids will be adversely impacted by this developement.

We are the homeowners of property at 2100 Pine Creek Ave, Yukon, OK 73099. We ask you to vote against this PUD in its current form.

Sincerely,  
Vicky Tran

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 4:40 pm, Mar 22, 2024*

**From:** Gloria Trotter <[gloria\\_trotter@sbcglobal.net](mailto:gloria_trotter@sbcglobal.net)>

**Sent:** Friday, March 22, 2024 3:13 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [gloria\\_trotter@sbcglobal.net](mailto:gloria_trotter@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

I Don Willis Trotter hereby Protest PUD-1983, by Mustang Creek Crossing, LLC to Rezone 810 S. John Kilpatrick Turnpike. Please, would you want all the: noise, the increase traffic and lots of people drinking in your neighborhood. I am also concerned for our Children's Safety.

I am the home owner of (913 Exter Circle) in Westbury North, I ask you to Vote Against,Rezone for PUD-1983.

Very Concerned !!!

Don Willis Trotter

[Sent from AT&T Yahoo Mail for iPhone](#)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:10 pm, Feb 20, 2024

**From:** Gloria Trotter <[gloria\\_trotter@sbcglobal.net](mailto:gloria_trotter@sbcglobal.net)>

**Sent:** Tuesday, February 20, 2024 2:35 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Opposed to the Proposed Sunset Amphitheater.

You don't often get email from [gloria\\_trotter@sbcglobal.net](mailto:gloria_trotter@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

I Don W. Trotter live in Westbury North (913 Exter Circle), and oppose the proposed Sunset Amphitheater at Mustang Creek Crossing. Please ask yourself if You Would Want This Sunset Amphitheater in your (Neighborhood).

Very Concerned !!!

Don W. Trotter

[Sent from AT&T Yahoo Mail for iPhone](#)



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:59 am, Mar 21, 2024

**From:** B "Bbach2" Tschetter <[bonnietschetter@gmail.com](mailto:bonnietschetter@gmail.com)>

**Sent:** Thursday, March 21, 2024 7:48 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward1 <[ward1@okc.gov](mailto:ward1@okc.gov)>; Ward2 <[ward2@okc.gov](mailto:ward2@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; Ward4 <[ward4@okc.gov](mailto:ward4@okc.gov)>; Ward5 <[ward5@okc.gov](mailto:ward5@okc.gov)>; Ward6 <[ward6@okc.gov](mailto:ward6@okc.gov)>; Ward7 <[ward7@okc.gov](mailto:ward7@okc.gov)>; Ward8 <[ward8@okc.gov](mailto:ward8@okc.gov)>

**Subject:** Protest PUD-1983

Some people who received this message don't often get email from [bonnietschetter@gmail.com](mailto:bonnietschetter@gmail.com). [Learn why this is important](#)

**To:** Oklahoma City Council and Mayor

**Subject:** Protest PUD 1983, Sunset Amphitheater

I, Bonnie Tschetter, hereby protest PUD 1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike. There will be problems if this is approved.

1. I protest because this venue is surrounded by neighborhoods, apartments and schools. The noise alone coming from the concerts will be enough to rattle the windows of nearby homes, mine included. The noise of the traffic mixed with the noise of the concerts and concert goers will definitely impact the peace and tranquility of this area. The proposed curfews of 10:30 Sunday - Thursday, and 11:00 Friday and Saturday do not meet city code, which is 10:00. I am not against an amphitheater- just not one right here.

2. I am concerned that Mustang North Middle School and Mustang Creek Elementary will have to amend their schedules and activities for the amphitheater concerts. I have been told that sound checks begin at 2:00 the day of a concert, while students are still in school. I am concerned about the safety of the students as well so close to the amphitheater and those associated with it. And I am concerned about long term hearing loss due to noise pollution of the students who go to school here and who live in close proximity to the venue -

"Loud noise is particularly harmful to the inner ear (cochlea). A one-time exposure to extreme loud sound or listening to loud sounds for a long time can cause hearing loss. Loud noise can damage cells and membranes in the cochlea. Listening to loud noise for a long time can overwork hair cells in the ear, which can cause these cells to die. The hearing loss progresses as long as the exposure continues. Harmful effects might continue even after noise exposure

has stopped. Damage to the inner ear or auditory neural system is generally permanent.”[https://www.cdc.gov/nceh/hearing\\_loss/how\\_does\\_loud\\_noise\\_cause\\_hearing\\_loss.html#:~:text=Listening%20to%20loud%20noise%20for,neural%20system%20is%20generally%20permanent.](https://www.cdc.gov/nceh/hearing_loss/how_does_loud_noise_cause_hearing_loss.html#:~:text=Listening%20to%20loud%20noise%20for,neural%20system%20is%20generally%20permanent.)

3. The infrastructure in this area is greatly underdeveloped for such a large venue such as this. Everyone I talk to mentions the traffic issues first and foremost. It will most definitely impact our quality of life. People will not be able to get in or out of certain neighborhoods on concert nights. We are a multi generational area with lots of young people, but with those who have chosen to retire here as well. I would love to see this area developed commercially benefitting all. The amphitheater as proposed will not.

I am the homeowner of property at 2009 Edinburg Dr, Yukon, Ok.

OKC City Council, please vote NO on April 9th. I write this letter in protest of the rezoning PUD - 1983.

Sincerely,  
Bonnie Tschetter  
4055960675

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:51 pm, Mar 18, 2024

**From:** Glenda Tulp <[g.tulp@yahoo.com](mailto:g.tulp@yahoo.com)>  
**Sent:** Monday, March 18, 2024 11:58 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [g.tulp@yahoo.com](mailto:g.tulp@yahoo.com). [Learn why this is important](#)

I, Glenda M. Tulp, a resident of Ward 3, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. My private residence is in the Timber Creek addition just off 15<sup>th</sup> street and Mustang Road which is less than a mile from the site referenced above.

I am in protest of this application for the reasons listed below:

- 1) The extremely heavy traffic in this area is taxing the two-lane streets at present as Mustang Road is the only multiple lane street in the area. The added traffic caused by the venue would make it impossible to navigate our streets in a reasonable manner.
- 2) We have very minimal police/highway patrol presence in this area due to the multiple jurisdictions. Mustang Road seems to be a racetrack, especially on weekends and late nights for sport car enthusiasts and will only be compounded by the proposed venue.
- 3) Noise pollution is real! Ask any family that lives with a loved one suffering from Autism, PTSD, Alzheimer's, and other conditions that are bothered by loud, unrelenting noises. The low frequency bass vibration is noise pollution and cannot be controlled by the homeowners.
- 4) Negative impact on schools and churches in the area is a concern. The proposed sound checks will start while school is still in session, (2:00 pm) and with multiple public schools and churches within close proximity and the increased decibel level, 5 dB over city sound ordinance, there will be possible disruption of their activities. All school and church activities are not limited to day time activities.
- 5) Decreased property value due to degradation of the environment is most likely to happen. The quiet neighborhoods in this area will be no more. The question I would propose, "Would you want this in your neighborhood? Thank you for listening to the people that live in this area and hearing our concerns. Your consideration to stop this project is greatly appreciated.

Respectfully,

Glenda M Tulp  
11741 SW 24<sup>th</sup> Street  
Yukon, OK 73099  
580/571-4688

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:51 pm, Mar 18, 2024

**From:** John Tulp <[johntulp@yahoo.com](mailto:johntulp@yahoo.com)>  
**Sent:** Monday, March 18, 2024 12:50 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [johntulp@yahoo.com](mailto:johntulp@yahoo.com). [Learn why this is important](#)

Dear Ms Simpson,

I, John Peter Tulp, a resident of Ward 3, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. My private residence is in the Timber Creek addition just off 15<sup>th</sup> street and Mustang Road is less than a mile from the site referenced above.

I am protesting this application for the following reasons:

- 1) The existing heavy traffic in this area is already overloading the predominately two-lane streets as well as Mustang and Sara Roads. The high traffic added by the proposed venue would make it impossible to navigate our streets in a reasonable manner for hours before, during, and after all events.
- 2) Decreased public safety. We presently have minimal traffic enforcement in this area and many traffic accidents. The heavy traffic from the proposed venue will make the roads even more dangerous. Also, the influx of many nighttime strangers to this area will further compromise the safety of area residents.
- 3) Noise pollution will occur. Ask any family that lives with a loved one suffering from Autism, PTSD, Alzheimer's, and other conditions that are bothered by loud, unrelenting noises. The far-traveling low frequency bass vibrations will penetrate our residences and our lives for hours at a time.
- 4) Negative impact on schools and churches in the area. The proposed sound checks will start while school is still in session (2:00 pm). The multiple public schools and churches within 2 miles will have their activities disrupted by the proposed increased sound level of 5 dB over city sound ordinance. School and church activities are not limited to daytime activities.
- 5) Decreased property values due to degradation of the local environment will be caused by all the above points. The quiet, safe, and friendly neighborhoods that brings people to this area will be no more. The question I propose to you is, would you want this venue and all that comes with it in your neighborhood?



Thank you for listening to the people that live in this area and hearing our concerns. Your consideration to stop this project is greatly appreciated. Please vote No.

Respectfully,  
John Peter Tulp  
11741 SW 24<sup>th</sup> Street  
Yukon, OK 73099

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 3:43 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Lakin, Cynthia A; Welch, Sarah; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD - 1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 2:16 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD - 1983

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**From:** tct1972 <[tct1972@sbcglobal.net](mailto:tct1972@sbcglobal.net)>  
**Sent:** Wednesday, April 3, 2024 2:15 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD - 1983

You don't often get email from [tct1972@sbcglobal.net](mailto:tct1972@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

Sent from my Galaxy

To: Oklahoma City Council and Mayor:

RE: Protest PUD 1983, Sunset Amphitheater

I am writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. I am gravely concerned about the problems that will occur if this is PUD is approved.

First, my name is Tara Tyree and I live at 913 Periwinkle Drive. My house is without the 1-mile radius of the proposed Sunset Amphitheater. I built this house and have lived here for over 24 years. Second, I am listing the reasons why I am opposed to PUD 1983, Sunset Amphitheater.

1. Emergency Vehicles response time/inability to reach my house if needed. The traffic before and after will impede our area. We are already in an area on the outskirts of the Oklahoma City Police Department; this will make response times intolerable.
2. I work from home and work odd hours. I am usually in bed by 8:30 PM. I will not be able to rest adequately, especially because of the bass (low-frequency) noise that will be a part of these concerts. This will rattle our windows and make inside and outside our homes unlivable. Our rest time is during the weekend and with this amphitheater we will have no peaceful weeks for the majority of the year. Please protect us from this noise pollution.
3. I know you have heard from people who have children and are worried about this disrupting their lives/sleep/schedules, so I'm not going to repeat that here. However, have you thought about our animal family members? The noise (bass and higher frequencies) will put them in constant pain/terror for several hours at least three times a week for months. This is not fair to those of us who choose to see our pets as family. Please help me protect my family, human and animal alike.
4. The parking. I know in October the planning commission was told all parking would be on site. Now there is talk about parking at other areas and moving concert goers to the location by bus. This will not happen. I know with all that I am, so many people are going to park right across the street in our neighborhood. This will lead to people who have been drinking coming to our neighborhood after dark. Our neighborhood roads are already narrow. We will not be able to sustain all the parking that will overflow into our neighborhood.

I respectfully ask that you take all our reasons for opposition into account and vote NO against PUD 1983 at 810 South John Kilpatrick Turnpike. We voted for you to be our representatives. Please protect our peace and our sanity.

Sincerely,

Tara Tyree

913 Periwinkle Dr.

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 3:42 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD - 1983

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 2:29 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD - 1983

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**From:** tct1972 <[tct1972@sbcglobal.net](mailto:tct1972@sbcglobal.net)>  
**Sent:** Wednesday, April 3, 2024 2:18 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** FW: Protest PUD - 1983

You don't often get email from [tct1972@sbcglobal.net](mailto:tct1972@sbcglobal.net). [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

To: Oklahoma City Council and Mayor:

RE: Protest PUD 1983, Sunset Amphitheater

I am writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. I am gravely concerned about the problems that will occur if this is PUD is approved.



First, my name is Tara Tyree and I live at 913 Periwinkle Drive. My house is without the 1-mile radius of the proposed Sunset Amphitheater. I built this house and have lived here for over 24 years. Second, I am listing the reasons why I am opposed to PUD 1983, Sunset Amphitheater.

1. Emergency Vehicles response time/inability to reach my house if needed. The traffic before and after will impede our area. We are already in an area on the outskirts of the Oklahoma City Police Department; this will make response times intolerable.
2. I work from home and work odd hours. I am usually in bed by 8:30 PM. I will not be able to rest adequately, especially because of the bass (low-frequency) noise that will be a part of these concerts. This will rattle our windows and make inside and outside our homes unlivable. Our rest time is during the weekend and with this amphitheater we will have no peaceful weeks for the majority of the year. Please protect us from this noise pollution.
3. I know you have heard from people who have children and are worried about this disrupting their lives/sleep/schedules, so I'm not going to repeat that here. However, have you thought about our animal family members? The noise (bass and higher frequencies) will put them in constant pain/terror for several hours at least three times a week for months. This is not fair to those of us who choose to see our pets as family. Please help me protect my family, human and animal alike.
4. The parking. I know in October the planning commission was told all parking would be on site. Now there is talk about parking at other areas and moving concert goers to the location by bus. This will not happen. I know with all that I am, so many people are going to park right across the street in our neighborhood. This will lead to people who have been drinking coming to our neighborhood after dark. Our neighborhood roads are already narrow. We will not be able to sustain all the parking that will overflow into our neighborhood.

I respectfully ask that you take all our reasons for opposition into account and vote NO against PUD 1983 at 810 South John Kilpatrick Turnpike. We voted for you to be our representatives. Please protect our peace and our sanity.

Sincerely,

Tara Tyree

913 Periwinkle Dr.

## Johnson, Thad A

---

**From:** Hot Dog <hotdogokc@yahoo.com>  
**Sent:** Tuesday, April 2, 2024 5:19 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD 1983

You don't often get email from hotdogokc@yahoo.com. [Learn why this is important](#)

Amy Simpson,

First off, something is raising a red flag with Bob Mudd. He is the President and Chief Operating Officer of Notes Live which is the company that owns the Sunset Amphitheater.

Prior to him joining Notes Live in 2021, he came from an extensive line of work in which he founded orphanages in other countries. He also had foster care operations in the United States. He was the President of a company called Adventures in Missions for 15 years, a multi million dollar "non profit" missionary operation that sent hundreds of thousands of young high school aged Christian students to go do God's Work abroad. The mission trips cost upwards to \$16,000 per student that was raised by fundraising. After some online digging and hours of researching, I've come across some online threads where some of these missionary students are claiming their fundraising money was stolen by the leaders and directors of Adventures in Missions. Many of the students are claiming their experience was very "cult like". They said the leaders are "false prophets" and that they were deceived by them. Parents of some these missionary students joined in on these online threads where they shared their concerns. They said the leaders and directors of Adventures in Missions aren't who they claim to be and that the operation is corrupt. The deeper I dig, the creepier it gets.

My question is: How does a person go from running a Christian based missionary operation and being in ministry....to having orphanages.....to doing a 180 degree turn and is now selling \$500,000 fire pit suites for Sunset Amphitheater with direct ties to the music industry? Something doesn't add up here. And that brings me to my main concern about the amphitheater. They want to place it at the foot of 2 Mustang public schools??? The amphitheater has no business sharing the same space and facilities with children....PERIOD! I say facilities because they will pay Mustang Schools a large amount of money to use the school parking lot for their overflow parking just as they are going to do at their Colorado Springs location. They will be sharing the same space due to overlapping events that will take place at the Mustang Creek schools. This is UNACCEPTABLE, predatory and disgusting!!!

As far as noise goes, the location of the proposed site of the Sunset Amphitheater is absolutely too close to Westbury North, Westbury South and Westpointe housing additions. Our house backs up the the intersection of SW 15th & Sara Rd. The noise levels will be unbearable for us. I have three cats that won't enjoy concert nights either. They will be stressed out.

My boyfriend Bobby has lived here for 35 years. It saddens me to see him in distress with this proposed site infringing upon him. He will be 70 years old this year. Several years ago, we celebrated him paying off this home. He puts his heart and soul into his house and his yard work. The thought of us having to pack up and move due to these people preying upon us is heartbreaking. We don't deserve this.

Another concern is SAFETY. The gridlock traffic that the proposed Sunset Amphitheater will cause is going to be a nightmare. We live a mile and a half from Fire Station 33. We've had to use them several times due to Bobby having heart issues. Our concern is that gridlock traffic will prevent help from arriving in a quick manner. There are a lot of older people that live in Westbury and fire trucks and ambulances frequent this neighborhood quite often. Also, 2 housing additions will literally be trapped from coming or going due to gridlock traffic. They do not have any back exits out of their neighborhood....only the one off of Sara Rd.

As far as crime goes, we both have worked Bricktown for many years and know exactly what will happen: overflow parking in front of our house, people urinating in public or people's yards where children might be, beer cans and drug paraphernalia thrown on the ground, trash, honking, road rage, drunk driving, violent fights, stabbings, shootings, murders, rapes, drugs, SEX TRAFFICKING....it will be very stressful. The cops will not be there to protect us! We will be on our own fending for ourselves. Please vote NO and prevent this operation of Notes Live from destroying us, our neighborhood, and the children of this community.

To conclude, I, Gale VanCampen, hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

Thank you for your time and consideration,  
Gale VanCampen  
1605 Edinburg Drive  
Yukon, OK

## Johnson, Thad A

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**From:** JVH Marketing <jvhmarketing@yahoo.com>  
**Sent:** Saturday, March 30, 2024 11:49 AM  
**To:** City Clerk Email  
**Subject:** Sunset theater

You don't often get email from jvhmarketing@yahoo.com. [Learn why this is important](#)

It is redundant to send these letter as the OKC City Council you know that this  
Is a damage to property in the area it should go without say Noise, Traffic, litter  
All will impact the value and living experance in Westbury addition and the apartment north  
Of the theater. Please consider us and don't follow the path you followed on the golf course.  
We deserve better and our future is in your hands. Please vote NO on Sunset Theater.

Resident of Westbury for 30 years long time Yukon/OKC resident. NO, NO NO.  
James Van Horn  
10124 Thompson AV,  
Yukon, OK 73099  
405-826-4914



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 5:18 pm, Mar 20, 2024

**From:** YHS Alumni <[jvhmarketingok@gmail.com](mailto:jvhmarketingok@gmail.com)>

**Sent:** Wednesday, March 20, 2024 11:18 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Sunset Amphitheater opposition

You don't often get email from [jvhmarketingok@gmail.com](mailto:jvhmarketingok@gmail.com). [Learn why this is important](#)

To: Mayor Holt and City Council members,

I am adamantly apposed to the Amphitheater being proposed at S.W. 15<sup>th</sup> and Sara Rd.

Noise, Traffic, Litter I don't feel like there is any reason to go to any depth on these issues

They are obvious to you and all the area. The City Council should deny this request for

The betterment of our community. Not to mention the disruption of the School you must deny.

Alcohol can not be sold for consumption in close proximity of a school?

The residents and opponents

of this project should not have to retain an attorney to

Try and stop this project that will devalue our property.

The council allowed the removal of the golf course that devalued our property now this.

It does not look good, do the right thing. DENY

Regards,

Long time resident of Westbury of 30 plus years.

James Van Horn

10124 Thompson Av

Yukon, OK 73099

M-405-826-4914

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 11:16 am, Mar 07, 2024

**From:** Don H. Vaughn <[donvaughn1@cs.com](mailto:donvaughn1@cs.com)>

**Sent:** Thursday, March 7, 2024 10:01 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Rezoning Protest, PUD-1983

I (Don H. Vaughn) do herby ***adamantly*** protest PUD-1983, the application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

Mustang Creek Crossing's proposed "open air concert arena" presents many concerns for nearby residents, of which I am one. Those concerns include: Traffic problems, lack of proposed parking spaces, length of concert times, its nearness to an elementary school and middle school (particularly the middle school athletic practice fields), and many of these include code violations. But to this resident, by far the greatest concern is ***NOISE, NOISE, NOISE!!*** Can you image living just 2000 feet away from an open air concert?!?! And in particular, think of the sound of a Base Guitar!!!! No matter what suppressors are put in place, that base sound will prevail for miles.

I am sure you have driven up beside a vehicle with its radio on and had to hear the constant thump, thump, thump of the base. That noise lasted until you managed to get clear of the vehicle. ***NOW***—think of having to hear that thumping sound from 2pm (start of sound checks) till the concerts proposed ending limit of 11pm. It will drive us crazy!!!

This registered voter and area resident asks you to please, Please, PLEASE, vote against the rezoning of PUD-1983!!!

Thank you for your time and your consideration, Don

Don H. Vaughn  
9940 Sudbury Drive,  
Yukon, OK 73099  
(405) 760-0202  
[Donvaughn1@cs.com](mailto:Donvaughn1@cs.com)

[Sent from the all new AOL app for iOS](#)

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:56 am, Mar 04, 2024

**From:** Jacek Vernon <[jacekvernon20@gmail.com](mailto:jacekvernon20@gmail.com)>

**Sent:** Sunday, March 3, 2024 10:06 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>

**Subject:** PROTEST PUD-1983

Some people who received this message don't often get email from [jacekvernon20@gmail.com](mailto:jacekvernon20@gmail.com). [Learn why this is important](#)

Hello,

My family and I just recently moved from Ponca City to 10445 Birkenhead Rd in December. I must say, we are deeply concerned with the sunset amphitheater project. We chose to live in this neighborhood because it is quiet and outside of the city. Building an amphitheater this close to a neighborhood seems out of touch. Studies show that these amphitheaters consistently produce noise levels that exceed the city limits. I ask that you shut this project down, or find a spot that is more practical and away from neighborhoods. Not only are my family and I concerned about the noise level, but the traffic will be unbearable. Our neighborhood will be filled with cars parked alongside the road. Take a drive through the neighborhood and you will see that we are not alone in these concerns.

Thank you,  
Jace

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:21 pm, Mar 19, 2024*

**From:** [tvick7704@aol.com](mailto:tvick7704@aol.com) <[tvick7704@aol.com](mailto:tvick7704@aol.com)>

**Sent:** Tuesday, March 19, 2024 1:11 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Protest PUD-1983

You don't often get email from [tvick7704@aol.com](mailto:tvick7704@aol.com). [Learn why this is important](#)

Good Afternoon:

We, Tammie and Jeff Vickers, residing at 212 Greenfield Ct, Yukon, OK 73099 hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike. While we have no objection to additional development in this area such as retail, restaurants and the like, we whole heartedly believe that an outdoor amphitheater of this size is completely inappropriate use of this property, due to the noise level and traffic problems it would bring to these beautiful neighborhoods.

Please consider the surrounding neighborhoods and their rights to quiet and peaceful existence as well as preserve the value of the homes in this area. Furthermore, the proposed amphitheater location is so close to the schools for this community that it seems to us that additional traffic and people unknown to the community would also cause a safety concern for the children in these schools.

Respectfully,

Tammie and Jeff Vickers

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 3:43 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983 Sunset Amphitheatre

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Wednesday, April 3, 2024 2:24 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983 Sunset Amphitheatre

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**From:** RJ Vinyard <[rj.vinyard@cox.net](mailto:rj.vinyard@cox.net)>  
**Sent:** Wednesday, April 3, 2024 2:23 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983 Sunset Amphitheatre

You don't often get email from [rj.vinyard@cox.net](mailto:rj.vinyard@cox.net). [Learn why this is important](#)

I am the homeowner of the property listed below and I want to make it clear that I protest PUD-1983, application by Mustang Creek Crossing, LLC in regards to re-zoning 810 South John Kilpatrick Turnpike. I'm, 79 years of age and my health is on the decline, last year I've been dealing with auditory hallucinations, memory loss and anxiety, the latter of which I've dealt with the majority of my life. I fear that the stress of dealing with the noise pollution and the party goers will be too much for me to deal with.

I also do not believe that such a place should be built so close to two schools. I don't want the noise or the possible violence to affect the children learning there. I taught school for 30 years and worked closely with special needs children, who will be very vulnerable to the disruption caused by the noise

Once again, I protest PUD-1983

Sincerely,

Rhonda Jean Vinyard

405-324-2245

10329 Birkenhead Road

Yukon, Ok. 7099



**From:** Merilee von Feldt <[merileevf@yahoo.com](mailto:merileevf@yahoo.com)>  
**Sent:** Thursday, March 7, 2024 11:54 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:28 am, Mar 08, 2024

You don't often get email from [merileevf@yahoo.com](mailto:merileevf@yahoo.com). [Learn why this is important](#)

I would like to register my protest to PUD-1983 for the proposed Sunset Amphitheater to be built so close to long standing neighborhoods. I live at 2101 Bonnycastle Lane, which is in the Westbury South neighborhood, and have lived here almost 34 years. It is located at the SE corner area of SW 15th Street and Sara Road in Ward 3. We are in the Oklahoma City limits, Canadian County, Mustang Schools and have a Yukon mailing address. We are less than a mile from the proposed amphitheater.

My major concerns with this proposed Notes Live 12,500 seat outdoor amphitheater are two fold.

First is the noise that will be generated from the concerts and other events. No matter what is promised as far as noise control by limiting hours and sound direction, etc., once this is built, there is nothing that can or will be done if the noise levels, limited hours, etc. are not complied with per the agreements. No one is going to tear it down. They may be apologetic and even willing to pay fines, but that won't stop them from continuing or help our neighborhoods who will be suffering from their noise pollution. Even if the concerts do end by 10:30-11:00, per the agreement, it will be almost another hour to empty the parking lots, which will be accompanied with loud concert attendees, both inside and outside of their cars. The offensive language used in most concerts and songs are not something I want to have to listen to either. The low level bass will be felt in addition to being heard. Have you had a car pull up behind or next to you with their bass booming? Even with my windows and their windows closed, it is unpleasant. Now imagine this for the proposed 85 concerts that go on for hours being close to your home. They have also said fireworks will be going off with the concerts, which will be another noisy disruption. I am concerned about the many veterans who live in our neighborhood. I have two sons who are veterans and both suffer from PTSD. Even though they no longer live in OK I know fireworks can be a trigger for them.

My second major concern is the entrance/exit points. Three of the five are located on the very narrow two lane Sara Road that is directly along the west side of the neighborhood. Sara Road is not even on the list of future improvements to be widened and even if it was, it would be years before that happened. In addition to the traffic noise, the cars backed up to get in or out will make very long lines.

I am also concerned that concert attendees will park or be driving through our neighborhoods. The promoters have mentioned putting signs at the entrances to the neighborhoods, and that

cars will be fined if they park in the neighborhood. Who is going to enforce that and issue fines? I'm sure people attending the concerts will be happy to pay the fine just to have a place to park. And what about visitors or residents in the neighborhood who park on the street that aren't going to the venue? Will they be fined since there won't be any way to tell who is going to the concerts or who is legitimately in the neighborhood? They suggest that about a third of the people will arrive/leave using a ride share vehicle. Where will those vehicles wait? I'm concerned that most of them will be in the neighborhoods nearby.

What about emergency vehicles that need to get in and out of the neighborhoods? How will they get through the congestion? The promoters say they will hire off duty police to help, but there is no guarantee that will happen and the Oklahoma Police have said they don't have any plans to help with traffic control.

The other two entrance/exit points are on 15th Street. One will run along the east side of elementary and middle schools. The one on Mustang Rd. will through a drainage ditch that the promoters are calling a tunnel under the turnpike. What about the drainage when the "tunnel" is full of cars?

ALL entrance/exits should be on Mustang Road since there is direct access to I-40 and the Kilpatrick Turnpike. This venue should be built away from neighborhoods. The promoters are touting how home values will increase and the new jobs and tax revenue will benefit the city. I don't believe my house value will go up and I am pretty sure it will go down. It's one thing to build houses around a venue like this that is already established and people can decide if they want to live next to it or not. It's a completely different thing to force it upon people who have lived in these established neighborhoods for many years.

I am not opposed to retail businesses being built in this area. We hear traffic noise from I-40 and can even hear trains a couple miles away. But a 12,500 seat amphitheater is completely different both in terms of traffic and noise levels. One of the members of the Planning Commission said at their meeting that this is a classic case of a good thing but "not in my back yard". But he approved it anyway. I'm guessing this area is not his backyard. I have no doubt the city is happy about the thought of new jobs and added tax revenue. However, I hope this does not override common sense and concern for the taxpayers who live in this area. This is the absolute wrong location for this venue to be built.

Thank you very much for your service to our community. I appreciate the time you spend helping the citizens you serve.

Sincerely,

Merilee Vonfeldt

2101 Bonnycastle Lane

Yukon, OK 73099

## Johnson, Thad A

---

**From:** Patricia Waken <pchristmas18@yahoo.com>  
**Sent:** Friday, December 8, 2023 7:55 AM  
**To:** DS, Subdivision and Zoning  
**Subject:** Case # PUD-1983

You don't often get email from pchristmas18@yahoo.com. [Learn why this is important](#)

Please re-zone Case #PUD-1983.

Big reason too close to existing neighborhoods. My home is .5 miles from the area.

Thank you,

Pat Waken  
Westbury North neighborhood


**From:** Patricia Waken <[pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com)>

**Sent:** Wednesday, February 21, 2024 8:06 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** "Protest PUD-1983" Sunset Amphitheater Mustang Creek Crossing

2024 FEB 21 AM 8:06  
OKLAHOMA CITY CLERK

 You don't often get email from [pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com). [Learn why this is important](#)

I Pat Waken hereby protest PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike.

Is this Noise Pollution going to be in your backyard along with the thousands of cars driving up and down a two-lane street as long as the concerts are going on. We will not be able to get in and out of our neighborhood. Please hear us out.

Huge complaint: NOISE POLLUTION

What is it like to go to a concert to hear the loud noises?

Highly likely Going to a concert without ear protection can cause damage or not be very good for the ears, but this will recover. After attending a concert or exposure to loud noises (neighborhood), your eardrums will feel painful, and you'll feel 'clogged'. This is because the cells in your ear are very sensitive; exposure to loud music at a concert will cause damage.

Why do your ears feel clogged after a concert?

I found any analogy in reference to Why do your ears feel clogged after a concert. If you were to go underwater deep enough until it goes into your nose, mouth, and even your lungs – of course, you'd have the sensation of having water in them. Once you come up from underwater, the bubbles of air escape out of your mouth because the water is making it look like it's foggy. This is very much how your ear drums are when exposed to loud noises. There is pressure from this that has caused damage and only way it will get repaired is by using more cells, which take time depending on the age of the person and how frequently you are exposed to loud noises.

How long your hearing ability returns depends on how much you have been affected and the frequency you experience these symptoms. One concert you may be able to hear again at 100% and there are cases to where people have reported that their hearing hasn't returned after two weeks. Sunset Amphitheater plans maybe just be one concert in a week and it can take around 1-2 months to recover if you are older. Concert goers can choose for themselves to attend these concerts and Westbury North and South Neighborhood and other neighborhoods in the 15-mile radius cannot avoid the noise pollution day after day, month after month. How would you like to have continuous noise pollution in your backyard?

Former U.S. Surgeon General William H. Stewart said, "Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere."



The Centers for Disease Control and Prevention states that noise pollution is "an increasing public health problem." At the recent World Health Organization Ministerial Conference, the Environmental Burden of Disease project declared noise the No. 2 threat to public health, after air pollution.

Intrusive noise can lead to cardiovascular disease, sleep disruption, reduced productivity, impaired teaching and learning, absenteeism, increased drug use and accidents. Noise can destroy the enjoyment of one's property and leisure time. It adversely affects general health and well-being and increases anti-social behavior. Future generations are harmed by degraded home, social and learning environments, with corresponding economic losses.

Scientific warnings about the harms of noise are well known. It's impossible to have such a venue without damaging the lives of thousands of people nearby. This information came from Amphitheater would cause neighborhood noise pollution Karen Orr Special to The Sun Published Oct 22, 2017.

I am asking for a NO vote on **April 9th** on behalf of your constituents' health, well-being and safety. As mentioned, the hazardous effects of this venue close to homes will impact thousands of lives, not once, not 10 times, but 50-60 times a year.

The neighborhood and I are aware that millions of dollars in revenue will come through this venue, but at the expense of Oklahomans. Time to think about the families and their homes that will suffer unnecessary pain and heartache.

Thank you for your consideration,

Pat Waken  
1020 Westbury Terrace  
Yukon, Ok 73099  
405-324-6079

Sent from Mail for Windows

**Subject:** FW: "Protest PUD-1983" Sunset Amphitheater Mustang Creek Crossing

**From:** Patricia Waken <pchristmas18@yahoo.com>

**Sent:** Friday, February 23, 2024 7:04 PM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** "Protest PUD-1983" Sunset Amphitheater Mustang Creek Crossing

You don't often get email from pchristmas18@yahoo.com. [Learn why this is important](#)

*I Pat Waken hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.*

*There are plans to have 12,500 seats with only 3500 parking spaces. I read they expect most of the concert goers to Uber in. One concern is we will have cars parking in our neighborhood causing dangerous conditions for pedestrians. Our neighborhood doesn't have sidewalks and many families walk and bike with their kids through the streets. This is dangerous for concert goers and our neighbors. Also, there are currently no other retail businesses in this area for cars to park. This will cause a line of cars down SW 15th street causing a street closure as it is currently two-lane road. This street becomes blocked every morning and afternoon with parents dropping children off at the elementary school. I know there is a plan for widening SW 15th street between Sara Road and Mustang Road and it is behind schedule as they are still finishing Sara Rd south of SW 15th Street. There is no current plan for widening Sara Rd north of SW 15th Street, which is a narrow two-lane road. Huge concern for how Will Emergency vehicles get through all this. Currently the only planned route out of the amphitheater would take cars to SW15th and or Sara Road. Sara Road does not have an off or on ramp to I-40 for the traffic. SW15th traveling further east will take traffic to Morgan Road which is also a congested area. Currently there was a request to the city to get SW15th resurfaced or continue to get patched SW15th from Morgan Road to Sara Road was not included on the last bond issue (2017). That stretch is on the Councilwoman's unfunded list for consideration on the next bond issue. (TBD). When I moved out here in 1999 the speed was 25mph now 45 mph (residential street) and truckers were not to take SW15th but to go north on Morgan Road where the 4 truck stops area is. Now truckers travel SW15th to get to the Turnpike. Not sure if traffic will go thru the Westbury North neighborhood and this is not a good idea, but these streets need resurfacing too. Per Councilwoman's office the streets within Westbury North were not included in the last bond issue either. Westbury North's streets have been on the Councilwoman's unfunded list since 7/26/2022. Do not need any more traffic going through the neighborhood. Our area will be greatly affected and definitely cannot handle that influx of traffic and the potential strain on our grid.*

*Another concern coming from the neighborhood is having adequate noise control. Very likely we would be hearing annoying and inescapable low-frequency impulsive bass/subwoofer noise in our homes each time the Amphitheater is opened to the public. "The World Health Organization defines noise pollution as noise that "seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time. We do get noise from I-40 depending which way the wind blows. Would any of you like to have an Amphitheater less than a mile away in your backyard?"*

*As a resident of Westbury North neighborhood for over 23 years just east of the proposed Sunset Amphitheater I am not in favor of the project in the location and urge you to help protect existing individual property owners, school property, their peace of mind, their health in this nearby quiet community to carry out our daily lives for years to help us get a No vote April 9<sup>th</sup> from the City Councilmembers.*

*Thank you,*

*Pat Waken  
1020 Westbury Terrace  
Yukon, Oklahoma 73099  
405-324-6079*

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 4:27 pm, Feb 29, 2024*

From: Patricia Waken <[pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com)>

Sent: Thursday, February 29, 2024 3:44 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Homeowners worry about possible noise, traffic from west OKC amphitheater development

You don't often get email from [pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com). [Learn why this is important](#)

I thought you would be interested in this story I found on MSN: Homeowners worry about possible noise, traffic from west OKC amphitheater development -

<https://www.msn.com/en-us/video/lifestyle/homeowners-worry-about-possible-noise-traffic-from-west-okc-amphitheater-development/vi-BB1j4VTG?ocid=socialshare>

Sent from [Mail](#) for Windows

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:46 pm, Mar 07, 2024

**From:** Patricia Waken <[pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com)>  
**Sent:** Thursday, March 7, 2024 2:42 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** "Protest PUD-1983" Sunset Amphitheater Mustang Creek Crossing

You don't often get email from [pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com). [Learn why this is important](#)

I Pat Waken hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

There are plans to have 12,500 seats with only 3500 parking spaces. Where are you and the concert goers going to park with only that many parking spaces? Sure, many will want to park in the close neighborhood and cross over to the venue. My concern is we will have cars parking in our neighborhood causing dangerous conditions for pedestrians on and off Sara Road. Sounds like there needs to be 6500 parking spaces and not 3500.

Currently we experience blocked and backup traffic in the mornings dropping off children and, in the afternoon, picking the children up from the two schools and then after that we have neighbors traveling home from work on SW 15th and up and down Sara Road. Adding an additional 5,000 concert goers' cars will cause a line of cars down SW 15th street causing a street closure as it is currently two-lane road. There is a plan for widening SW 15th street between Sara Road and Mustang Road and it is behind schedule as they are still finishing Sara Rd south of SW 15th Street. There is no current plan for widening Sara Rd north of SW 15th Street, which is a narrow two-lane road. And there is no on and off ramps at Sara Road to the Interstate. Huge concern for emergency response vehicles, fire and ambulance to be on the roads and in the neighborhoods. If fire trucks cannot get to us and ambulance cannot reach us, the thought is horrific. We will be blocked in and those outside our neighborhood will be blocked out. Those with outside employment the same, they won't be able to get to work or return home until well after midnight. In big events traffic could start at noon for evening concerts. It seems that the neighborhood will have to live around the hours of the venue. Can't leave because no telling when the traffic blocks us in or out of our neighborhood.

Another concern is to have an amphitheater off the interstates where the noise of the traffic might interfere with performances and if not properly designed an amphitheater close to the road pose safety risks during ingress/egress. Plus, the air quality pollution from vehicles may affect air quality in the vicinity. Ultimately, proper planning, design and safety measures are crucial to mitigate risks and maximize the benefits of having



an amphitheater near an interstate and so very important already established neighborhoods. I do believe these two factors need to be reconsidered to protect all neighborhoods and drivers.

The proximity to two schools Mustang Creek Elementary and Mustang North Middle School also gives concerns. Has Notes Live communicated with the schools about scheduling around school hours or functions? Not only for sound but also traffic? There are soccer and baseball fields just south of the schools that can get very busy. There is United Methodist Church of the Good Shepherd across the street from the two schools with concerns too with their church activities.

The neighborhoods and I are well aware of the millions of dollars that will come through but at the expense of Oklahomans. Our lives will be turned upside down and our homes will not increase in value. Time to think about families and their homes that will suffer unnecessary pain and heartache. And so far, I see there is more concern with profit than the investments we ourselves have made into our homes. So as a resident of Westbury North neighborhood for over 23 years just east of the proposed Sunset Amphitheater and retired I ask that the project be rezoned and urge you all to help protect existing individual property owners, their peace of mind, their health in this quiet community to carry out their daily lives for years to come and vote NO April 9th. My question to you all "Would you like this Amphitheater in your Backyard?"  
Sincerely,

Pat Waken  
1020 Westbury Terrace  
Yukon, Ok 73099  
405-324-6079

**From:** Patricia Waken <[pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com)>  
**Sent:** Thursday, March 21, 2024 12:56 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** PUD-1983 Sunset Amphitheater

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:15 pm, Mar 21, 2024*

You don't often get email from [pchristmas18@yahoo.com](mailto:pchristmas18@yahoo.com). [Learn why this is important](#)

Amy Simpson,

I Pat Waken hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I spoke of my concerns earlier about traffic pollution, limited parking, noise pollution and children's education to the school board and now big concern concerts attract drugs and alcohol. These harmful substances could be at the back area of these two schools. Marijuana smoke could affect students on school grounds while practicing football or any after school activity. Very aware of the millions of dollars that will come through but at the expense of 3,868 residential homes in a one-mile radius and more homes in a 2-3-mile radius to be affected as well. Our lives will be turned upside down and our homes will not increase in value. Time to think about families and their homes that will suffer unnecessary pain and heartache. And so far, I see there is more concern with profit than the investments we ourselves have made into our homes. So as a resident of Westbury North neighborhood for over 23 years just east of the proposed Sunset Amphitheater and retired I ask that the project be rezoned and urge you all to help protect existing individual property owners, their peace of mind, their health in this quiet community to carry out their daily lives for years to come and vote NO April 9th.

Sincerely,

Pat Waken  
1020 Westbury Ter.  
Yukon, Ok 73099  
405-324-6079

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 8:38 am, Mar 07, 2024*

**From:** City of OKC <[info@okc.gov](mailto:info@okc.gov)>

**Sent:** Thursday, March 7, 2024 12:36 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** [howardbetty5@cox.net](mailto:howardbetty5@cox.net)

Message submitted from the <City of OKC> website.

**Site Visitor Name:** howard warden

**Site Visitor Email:** [howardbetty5@cox.net](mailto:howardbetty5@cox.net)

We have lived here for over 35 years, my family as well as hundreds of my friends and neighbors have contacted our council woman in ward 3, Barbara Peck and expressed concerns because of the location of 2 schools the traffic concerns we have now and the increase it will bring, also we already have noise from I40 and the turnpike this project will definitely multiply that many times over!! Please vote against this location for the Amphitheater project!!

**Hurst, Paula J****Subject:** FW: Protest PUD-1983**From:** Ruth Warner <[ruthwarner@protonmail.com](mailto:ruthwarner@protonmail.com)>**Sent:** Sunday, February 25, 2024 10:22 AM**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>**Subject:** Protest PUD-1983

You don't often get email from [ruthwarner@protonmail.com](mailto:ruthwarner@protonmail.com). [Learn why this is important](#)

I, Ruth Warner, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

I understand this zoning change is for the construction of a major amphitheater.

Please consider our families, our community, our neighborhood, and most of all our children during your vote. Do not forget us in your decision.

The current plans need consideration and work. The proposed locale is far less than ideal. This is a highly residential area. The amphitheater may be a great thing for Yukon, but the proposed placement for it would be harmful to all of us who live close to it.

How will increased traffic benefit our businesses if the people are coming to an area with only homes and a school?

How is this safe for the school nearby? The traffic is already phenomenal just for school pickup. How will adding up to 3500 vehicles to this area help that?

How will I manage to put my small child to sleep while just down the block there is a party with 12,500 people going on?

This does not enrich my family's life. Home should be a place of peace, quiet, and rest. How is this possible with a mass of 12,500 exited people just down the road?

Small children still go outside to play here. How can this be safe right next to roads that are proposed to cart in 12,500 people?

Thank you.

Sincerely,

Ruth Warner  
10628 SW 23rd PI  
Yukon, OK 73099

(469) 388-8715

Sent with [Proton Mail](#) secure email.

## Johnson, Thad A

---

**From:** Jones, Sharon D on behalf of City Clerk Email  
**Sent:** Tuesday, April 2, 2024 11:06 AM  
**To:** Smiley, Dena L  
**Subject:** FW: Protest PUD-1983 - Sunset Amphitheater

---

**From:** Anita Watson <anitawatson59@yahoo.com>  
**Sent:** Tuesday, April 2, 2024 11:04 AM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** Fwd: Protest PUD-1983 - Sunset Amphitheater

You don't often get email from [anitawatson59@yahoo.com](mailto:anitawatson59@yahoo.com). [Learn why this is important](#)

Anita Watson

Begin forwarded message:

I, Anita Watson, owner of 1213 Edinburg Drive, Yukon, Ok. 73099, hereby protest the proposed PUD-1983 by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike, Oklahoma City.

I do not believe the proposed site is suitable for a venue such as this because this property is located in the middle of a residential area with thousands of homes that will be impacted by the noise and vibration that simply cannot/won't be controlled because of they type of venue that it is.

Before casting your vote, please consider whether you would want this to be in your backyard. None of the thousands who purchased homes in this area signed up for a nuisance such as this to be approved in their neighborhood.

Respectfully,

**Anita Watson**





## Johnson, Thad A

---

**From:** Jones, Sharon D on behalf of City Clerk Email  
**Sent:** Tuesday, April 2, 2024 11:10 AM  
**To:** Smiley, Dena L  
**Subject:** FW: Protest PUD-1983 - Sunset Amphitheater

---

**From:** Anita Watson <[anitawatson59@yahoo.com](mailto:anitawatson59@yahoo.com)>  
**Sent:** Tuesday, April 2, 2024 11:06 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Fwd: Protest PUD-1983 - Sunset Amphitheater

You don't often get email from [anitawatson59@yahoo.com](mailto:anitawatson59@yahoo.com). [Learn why this is important](#)

To Whom it May Concern,

I, Lloyd Watson, owner of 1213 Edinburg Drive, Yukon, Ok. 73099, hereby protest the proposed PUD-1983 by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike, Oklahoma City.

I see many issues with this proposal. The main one is the amount of noise that our homes will be subjected to 2-4 days per week from "spring to October" of each year. This property is located in the middle of a residential area with thousands of homes in the surrounding area.

I also see that the plan calls for three entrance/exits on to South Sara Road which is a two-lane road with no interstate access. I have seen no plans to widen Sara Road north to Reno Avenue.

Save our quiet neighborhoods and vote NO to rezoning for PUD-1983.

Respectfully,

**Lloyd Watson**

## Johnson, Thad A

---

**From:** robert watson <robertwatson1990@gmail.com>  
**Sent:** Wednesday, April 3, 2024 12:20 PM  
**To:** City Clerk Email  
**Subject:** protest PUD-1983

You don't often get email from robertwatson1990@gmail.com. [Learn why this is important](#)

I hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

- A problem I have with this is the disturbance it will cause to our community. This community is full of children that will be kept up due to the noise. This will cause negative effects far beyond lack of sleep.
- Another issue that I have is the influx of people to the area, we do not have the infrastructure to support such a large venue. There are multiple safety concerns such as restrictions to emergency vehicles as the roads are not capable of supporting the traffic flow that will be caused by a large venue. The concerns of drivers trying to "cut through" the neighborhood after the shows to avoid traffic. This is introducing the potential of large amounts of people using out neighborhood streets as Sara Rd is not going to allow flow of traffic.
- This venue is proposed to be built backing up against the property of two schools. We have to stop and consider not only the traffic coming into the area but the disorderly conduct that often comes with concerts. This poses concerns with school property and homeowners property. We have to consider the consequences as much if not more than the benefits that a venue may bring.

Sincerely,  
Robert Watson  
9924 fairfax terr  
Yukon OK 73099.

**Hurst, Paula J****Subject:** FW: Protest PUD 1983 Sunset Amphitheater**From:** Austin Webster <[austinwebster003@gmail.com](mailto:austinwebster003@gmail.com)>**Sent:** Sunday, February 25, 2024 6:06 PM**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>**Subject:** Protest PUD 1983 Sunset Amphitheater

You don't often get email from [austinwebster003@gmail.com](mailto:austinwebster003@gmail.com). [Learn why this is important](#)

To the City Clerk,

I am writing in protest to PUD 1983 at 810 S John Kilpatrick Turnpike. I feel there will be many problems if this is approved.

My biggest concern is about the noise from the amphitheater. I have looked on google at other similar amphitheaters across the country. They have received multiple noise and vibration complaints from as far as 4 miles away! Just one example is Round Rock, Tx. They have received such complaints, even from people the stage faced away from. The complaints come from all directions in a radius around the amphitheater. [Kvue.com>article>news>local>round-rock-amphitheater](https://www.kvue.com/article/news/local/round-rock-amphitheater). There are many other articles like this.

I am concerned for quiet in my home. I am concerned about quiet if I want to be in my yard. I am concerned about my autistic son & how the noise will affect him. I am concerned for my pets and how the noise will affect them.

ASHA – American Speech Language Hearing Association says that extremely loud noise is dangerous to hearing & can cause medical issues such as: high blood pressure, faster heart rate, upset stomach, problems sleeping, and damage to unborn children.

The noise is the biggest concern but I believe there would be other problems as well. I don't think this kind of venue belongs near any homes and certainly not 1200 feet from 2 schools. Please consider the people living in the area. Please consider the 2 schools so near and how the children will be affected. Please don't make this only about the money.

I am a resident of the property at 10129 Glasgow Terrace, Yukon OK 73099. I live in Westbury North Neighborhood. I am asking you to vote AGAINST this PUD in its current form.

Sincerely,

Austin Webster

**Hurst, Paula J****Subject:** FW: Protest PUD 1983, Sunset Amphitheater**From:** Mark Webster <mtwebster426@gmail.com>**Sent:** Sunday, February 25, 2024 6:01 PM**To:** City Clerk Email <CityClerk@okc.gov>**Subject:** Protest PUD 1983, Sunset Amphitheater

You don't often get email from [mtwebster426@gmail.com](mailto:mtwebster426@gmail.com). [Learn why this is important](#)

To the City Clerk,

I am writing in protest to PUD 1983 at 810 S John Kilpatrick Turnpike. I feel there will be many problems if this is approved.

My biggest concern is about the noise from the amphitheater. I have looked on google at other similar amphitheaters across the country. They have received multiple noise and vibration complaints from as far as 4 miles away! Just one example is Round Rock, Tx. They have received such complaints, even from people the stage faced away from. The complaints come from all directions in a radius around the amphitheater. [Kvue.com>article>news>local>round-rock-amphitheater](https://www.kvue.com/article/news/local/round-rock-amphitheater). There are many other articles like this.

I am concerned for quiet in my home. I am concerned about quiet if I want to be in my yard. I am concerned about my autistic son & how the noise will affect him. I am concerned for my pets and how the noise will affect them.

ASHA – American Speech Language Hearing Association says that extremely loud noise is dangerous to hearing & can cause medical issues such as: high blood pressure, faster heart rate, upset stomach, problems sleeping, and damage to unborn children.

The noise is the biggest concern but I believe there would be other problems as well. I don't think this kind of venue belongs near any homes and certainly not 1200 feet from 2 schools. Please consider the people living in the area. Please consider the 2 schools so near and how the children will be affected. Please don't make this only about the money.

I am the homeowner of the property at 10129 Glasgow Terrace, Yukon OK 73099. I live in Westbury North Neighborhood. I am asking you to vote AGAINST this PUD in its current form.

Sincerely,

Cathy Webster



**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 10:00 am, Mar 25, 2024*

-----Original Message-----

From: Heather Wells <hwells777@yahoo.com>

Sent: Saturday, March 23, 2024 6:35 PM

To: City Clerk Email <CityClerk@okc.gov>

Subject: Protest PUD-1983

[You don't often get email from [hwells777@yahoo.com](mailto:hwells777@yahoo.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

To whom it may concern,

I am in protest of PUD-1983. The Sunset Amphitheater would be a detriment to our community. The noise pollution alone is enough to stop this project. The infrastructure is not appropriate to handle such a massive project. There is already so much traffic in the area. It's just going to get worse. I would like to be able to enjoy my home, but with the bass Thumping during concerts that won't happen.

I feel for my neighbors who have PTSD and for all the animals. There will be so much chaos to be endured. I have owned my home for over 22 years. I have seen tremendous growth in the area and I know growth and change happens in communities but it shouldn't happen at the cost of my community.

We are not the rich elite that the amphitheater is aimed at with the \$250,000 private fire pit suites, but we are the hard working middle class who deserve to enjoy what we have worked so hard for. Maybe put the amphitheater close to people who are buying the fire pit suites. Let them enjoy the noise pollution and traffic in their neighborhood.

What about the two schools that will be right by the amphitheater? I'm glad my daughter is in high school and won't be affected by the sound checks happening during the school day.

Please think twice before approving PUD-1983. Not in my backyard!!

Sincerely,

Heather Wells

Homeowner at: 11128 SW 6th St.

Yukon, OK 73099

405 317 5293

Sent from my iPhone

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

**From:** Lynne Wheeler <ilovequilts63@gmail.com>

**Sent:** Monday, March 25, 2024 11:38 AM

**To:** City Clerk Email <CityClerk@okc.gov>

**Subject:** Sunset Theater

You don't often get email from [ilovequilts63@gmail.com](mailto:ilovequilts63@gmail.com). [Learn why this is important](#)

Dear City Council

I am sure you have heard from several people in the Yukon & Mustang area. I would like to add my voice of concern to the proposed building of the Sunset Amphitheater. One of the many reasons that my husband and I have lived in the area for the last 37 years is because it is quiet and away from all the traffic of the big city. As this area has grown, the traffic has gotten worse especially on the main roads such as Sara and Mustang Road. If the amphitheater is built, this will only make the already congested traffic even worse than it is now. The roads that we currently have can not handle the extra traffic. The amphitheater will likely bring more crime to this quiet area as well.

The noise that it will bring is also of major concern. Just yesterday, someone was blaring their base in their car somewhere in the area (we were unable to find them) and it shook our house at the core and was very disturbing. To have an entire concert for several hours making that type of noise is not acceptable to this area that is filled with families. To also build this by a school is not acceptable. Even though the concerts would not be during school hours, the bands normally have to have a time of testing sound before the concert which could be during school hours and would be very disruptive.

Please vote "no" and voice your constituents concerns about building this amphitheater in the proposed site.

Thank you for listening to a concerned citizen,

Lynne Wheeler  
700 Westridge Drive  
Yukon, OK

## Johnson, Thad A

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**From:** Fulton, Boyd on behalf of Ward3  
**Sent:** Thursday, November 9, 2023 9:39 AM  
**To:** Tim White  
**Cc:** DS, Subdivision and Zoning  
**Subject:** RE: timleah@sbcglobal.net

Hello Tim,

Thank you for reaching out to Councilwoman Peck's office. Your email/comments have been forwarded to her. Just as an FYI, we're not sure where this misinformation has come from, but this proposed rezoning will definitely not be heard today at Planning Commission. Our office has not received the official date, but this proposed rezoning is tentatively scheduled to be heard at the December 14<sup>th</sup> Planning Commission, at the earliest. We have cc'd the Subdivision and Zoning office on here, so your protest can be submitted.

Thanks again –

### Boyd Fulton

Special Assistant to the Council

City Council Office



The City of  
**OKLAHOMA CITY**

[boyd.fulton@okc.gov](mailto:boyd.fulton@okc.gov) | 405-297-2402 | City Hall – 200 N. Walker Ave, 3rd Fl | Oklahoma City, OK 73102 | <http://www.okc.gov/>

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**From:** City of OKC <info@okc.gov>  
**Sent:** Wednesday, November 8, 2023 9:29 PM  
**To:** Ward3 <ward3@okc.gov>  
**Subject:** timleah@sbcglobal.net

Message submitted from the <City of OKC> website.

**Site Visitor Name:** Tim White

**Site Visitor Email:** [timleah@sbcglobal.net](mailto:timleah@sbcglobal.net)

Good Morning,

I wanted to e-mail and express my complete opposition to the Sunset Ampitheatre going in at Yukon Mustang Creek area. I live in the Westbury north and we have purchased a home here to retire. This music venue should not be allowed in this residential area. I went to that meeting where Notes Live gave their little explanation of what they are planning, and we were not able to give any feedback. Just because Carol Hefner owns that property does not give her a blank check from the city to run the residents of this area over because of the monetary gain to the city. They should pick a better location that is not nestled in a residential are. Crime will go up noise and traffic will be a problem and the value of my property will go down. This just is not right. Someone should listen to the people of the area who live here. I have tried to e-mail Mr. Meeks on the planning commission but I just discovered that this re-zoning was going to be tomorrow. I do not know his e-mail address. I am absolutely OPPOSED.

Respectfully

Tim White

10117 Banff Way  
Yukon OK 73099  
405-618-0819

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 2:18 pm, Mar 25, 2024*

From: Julie Whittaker <[dwhitt2038@gmail.com](mailto:dwhitt2038@gmail.com)>

Sent: Monday, March 25, 2024 1:59 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Protest to PUD 1983

[You don't often get email from [dwhitt2038@gmail.com](mailto:dwhitt2038@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I Julie Whittaker hereby protest PUD 1983 application by Mustang Creek Crossing LLC to rezone 810 S. Kirkpatrick Turnpike.

2016 Norwich Pl., Yukon, OK 73099. 405-831-7286.

Reasons for my complaint.

Noise pollution, blowing dust, and debris, parking.



**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 2:46 pm, Feb 23, 2024

**From:** Marvin Wier <[marvinwier@hotmail.com](mailto:marvinwier@hotmail.com)>

**Sent:** Friday, February 23, 2024 10:08 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Proposed Sunset Amphitheater in Mustang Creek Crossing

You don't often get email from [marvinwier@hotmail.com](mailto:marvinwier@hotmail.com). [Learn why this is important](#)

Dear Ms Simpson ,

I am a very concerned resident living next to where the proposed Sunset Ampitheater in Mustang Creek Crossing will be located. There are several issues with that should be considered before approval of this project:

There is a very large number of school aged children that will be affected by the noise after 8:30 pm on school nights in the surrounding neighborhoods.

Sound checks starting at 2pm on school days will disrupt the classrooms of the adjoining schools.

The streets that will be used to process the heavy traffic for this amphitheater cannot effectively handle the vehicles.

There is proposed 3 entrances/exits to be on Sara Road which is only two lanes across.

Also the traffic using the single entrance/exit on Sw15th street will be backed up heading west (to the major thoroughfare of Mustang Road) due to the narrowing of traffic on a two lane bridge.

Oklahoma City currently does a inadequate job of maintaining the surfaces of both Sara Road and Sw15th Street in that affected area.

The presence of such facility will decrease the property values of the homes surrounding that venue.

I hope (and pray) that you will vote NO on approving that amphitheater!

Sincerely,

Marvin Wier

10424 Leicester Drive

Yukon, Oklahoma

405-708-1720

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 3:55 pm, Mar 06, 2024

**From:** Marvin Wier <[marvinwier@hotmail.com](mailto:marvinwier@hotmail.com)>

**Sent:** Wednesday, March 6, 2024 3:36 PM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Proposed Sunset Amphitheater in Mustang Creek Crossing

You don't often get email from [marvinwier@hotmail.com](mailto:marvinwier@hotmail.com). [Learn why this is important](#)

Dear Ms Simpson ,

I legally protest the proposed Sunset Ampitheater in Mustang Creek Crossing. There are several issues with that should strongly be considered before approval of this project:

There is a very large number of school aged children that will be affected by the noise after 8:30 pm on school nights in the surrounding neighborhoods.

Sound checks starting at 2pm on school days will disrupt the classrooms of the adjoining schools.

The streets that will be used to process the heavy traffic for this amphitheater cannot effectively handle the vehicles.

There is proposed 3 entrances/exits to be on Sara Road which is only two lanes across.

Also the traffic using the single entrance/exit on Sw15th street will be backed up heading west (to the major thoroughfare of Mustang Road) due to the narrowing of traffic on a two lane bridge.

Oklahoma City currently does a inadequate job of maintaining the surfaces of both Sara Road and Sw15th Street in that affected area.

The presence of such facility will decrease the property values of the homes surrounding that venue.

I strongly request (and pray) that you will vote NO on approving that amphitheater!

Sincerely,

Marvin Wier

10424 Leicester Drive

Yukon, Oklahoma

405-708-1720

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:58 am, Mar 25, 2024*

**From:** Marvin Wier <[marvinwier@hotmail.com](mailto:marvinwier@hotmail.com)>  
**Sent:** Monday, March 25, 2024 8:17 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [marvinwier@hotmail.com](mailto:marvinwier@hotmail.com). [Learn why this is important](#)

I, Marvin Wier from Ward 3, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike (Sunset Ampitheater).

There are several items that should be considered before approval this project:

A very large number of school aged children that will be affected by the noise after 8:30 pm on school nights in the surrounding neighborhoods.

Sound checks starting at 2pm on school days will disrupt the classrooms of the adjoining schools.

The streets that will be used to process the heavy traffic for this amphitheater cannot effectively handle the vehicles.

There is proposed 3 entrances/exits to be on Sara Road which is only two lanes across.

Also the traffic using the single entrance/exit on Sw15th street will be backed up heading west (to the major thoroughfare of Mustang Road) due to the narrowing of traffic on a two lane bridge.



Oklahoma City currently does a inadequate job of maintaining the surfaces of both Sara Road and Sw15th Street in that affected area.

The presence of such facility will decrease the property values of the homes surrounding that venue.

I hope (and pray) that you will vote NO on approving that amphitheater!

Sincerely,

Marvin Wier

10424 Leicester Drive

Yukon, Oklahoma

405-708-1720

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Monday, April 1, 2024 9:05 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Hurst, Paula J; Davis, Benjamin E  
**Subject:** FW: Protest of Sunset Amphitheater

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



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**From:** Jones, Sharon D <sharon.jones@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Friday, March 29, 2024 1:19 PM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest of Sunset Amphitheater

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**From:** Michael Wilder <[mike.wilder@all-american-notary.com](mailto:mike.wilder@all-american-notary.com)>  
**Sent:** Friday, March 29, 2024 1:18 PM  
**To:** The Mayor <[mayor@okc.gov](mailto:mayor@okc.gov)>; Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; Freeman, Craig A <[craig.freeman@okc.gov](mailto:craig.freeman@okc.gov)>  
**Subject:** Protest of Sunset Amphitheater

You don't often get email from [mike.wilder@all-american-notary.com](mailto:mike.wilder@all-american-notary.com). [Learn why this is important](#)

Dear sirs and madams,

As a local resident and small business owner, I am writing in solidarity with others in protest of the proposed location for the Sunset Amphitheatre. Let me be clear. I am **not** opposed to the amphitheatre itself. Just the currently proposed location.

We all know perfectly well that you can't put ten pounds of dirt in a five pound sack but that is the equivalent to what will happen with an influx of that many people and vehicles to that particular piece of property.

Sara Rd. and 15th St. (an area already long under construction and much to the dismay of locals at Rush Hours especially) will need to be widened even farther, leading to even worse issues than the currently existing and unpleasant ones and this is just the tip of the iceberg. As I understand it, the amphitheater alone (not including the other tenants proposed but they'll be affected as well) will hold 12,500 people but there is only going to be parking for 3,500 cars. I (and many others) believe that this is a gross underestimate and that the overflow of vehicles will be forced to spill into other places and human nature being what it is, this will include the already congested Sara Rd. and 15th Street, and/ or the other tenants' parking spaces.

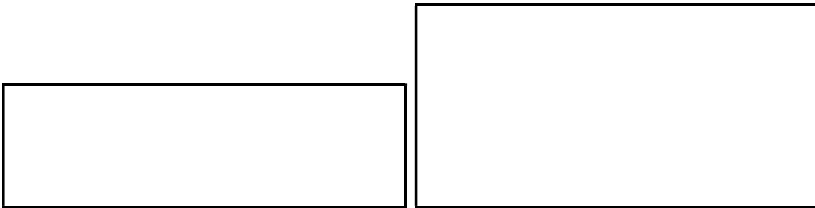
Which leads me to Mustang Rd. What a nightmare it already is and you want to bring in that many more people/cars to the area!? You folks must not even live or travel around here if you actually think that this is a good spot for this. And I'm sure that I'm missing other aspects of just this issue and I haven't even gotten to the noise concerns.

So my family and I (and our neighbors,) having worked hard to afford to buy a house and the whole deal, are trying to relax and enjoy our little slice of paradise but will now be exposed to an event bringing 12,500 screaming fans and all the bad that goes with them to our backyard!? I think not. You don't get to tax us and then make the area virtually unlivable with something like this too. This is just not right.

Like I said in the beginning, I'm opposed to the currently proposed location. Not the project itself. Find a better place to build it, such as the piece of property being rumored to exist a short distance away up the turnpike, and I believe that it will bring jobs and even more economic growth to our area, but in a smart way that allows us ALL to enjoy the fruits of it without all of the very negative impacts the currently proposed location will bring.

Thank you for your time and consideration and see you at the next council meeting!

At your service,  
Mike Wilder-[Notary Public/ CNSA](#)  
CEO [All-American Notary Services](#)  
[mike.wilder@all-american-notary.com](mailto:mike.wilder@all-american-notary.com)  
301 Pointe Parkway Blvd #711  
Yukon, OK 73099  
(405) 723-1666



[National Notary Association Profile](#)   [Notary Rotary](#)   [Notary Cafe](#)   [Linked In](#)

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## Johnson, Thad A

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**From:** Midge Williams <midge\_w@hotmail.com>  
**Sent:** Saturday, March 30, 2024 11:08 AM  
**To:** City Clerk Email  
**Subject:** "Protest PUD-1983"

You don't often get email from midge\_w@hotmail.com. [Learn why this is important](#)

I, Midge Williams, hereby protest PUD-1983 application by Mustang Creek crossing LLC to rezone 810 South John Kilpatrick Turnpike" I ask you to protect our neighborhoods and families from the nuisance this venue will cause. There are several housing developments in that area, 2 Schools which back up to the proposed Ampitheater (which will potentially put the children in danger) and an unbelievable amount of traffic in the roads surrounding the proposed project. PLEASE DENY this rezoning.

**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 9:59 am, Mar 25, 2024*

**From:** Melanie Willoughby <mws12@hotmail.com>  
**Sent:** Sunday, March 24, 2024 10:11 AM  
**To:** City Clerk Email <CityClerk@okc.gov>  
**Subject:** PROTEST PUD-1983 , SUNSET AMPHITHEATER

You don't often get email from [mws12@hotmail.com](mailto:mws12@hotmail.com). [Learn why this is important](#)

To: Oklahoma City Clerk, City Council and Mayor

Subject: Protest PUD-1983, Sunset Amphitheater

I hereby protest PUD-1983 application by Mustang Creek Crossings, LLC to rezone 810 South John Kilpatrick Turnpike.

1. One problem I have is it will be too close to the schools. This will disrupt my grandchild's learning ability since he is already on an Independent Education Program (IEP) that requires special needs for him to be successful in the classroom. Please vote no to protect him against the sound checks during school hours and decibel levels over city code.

2. Second problem I have is the vibrations affecting my house and peace. I am on a fixed income raising my two grandchildren with developmental disabilities and ADHD. It is not an option to move due to my age, retirement status and current state of the economy. Please vote no to protect my investment and mental health.

I am the homeowner of property at 1608 Selborne Place, Yukon, OK, 73099 and ask you to deny the rezoning of this PUD.

Respectfully,  
Melanie Willoughby  
405-761-9951



## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:57 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest PUD 1983, Sunset Amphitheater

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**From:** [JOESWB@AOL.COM](mailto:JOESWB@AOL.COM) <[joeswb@aol.com](mailto:joeswb@aol.com)>  
**Sent:** Tuesday, March 26, 2024 11:10 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Fw: Protest PUD 1983, Sunset Amphitheater

You don't often get email from [joeswb@aol.com](mailto:joeswb@aol.com). [Learn why this is important](#)

I hereby protest PUD-1983 application by Mustang Creek Crossing, LLC to rezone 810 South John Kilpatrick Turnpike.

Points of my concerns...

1) Too much noise, too close to many homes in adjacent neighborhoods, akin to the loud music emanating from automobiles in traffic situations...but for 3-4 hours straight!...close to midnight upsetting babies, pets and folks who moved to this area for the quiet surroundings we deserve.

2) Potential/real parking problems with only 3,000 parking spots for seating capacity of 12,000....where will they park...guess where?...local streets! This make for strangers all over the neighborhood, leading to potential crime, trash and general rowdiness.

Again things we did not seek when moving into this area!

3) Slowed emergency response to area due to undersized streets full of parked cars as well as increased traffic jams in an already overcrowded street system. This also applies to traffic from 2 large public schools on the same grounds (mere yards away) from the amphitheater. After school activities will be impacted as well.

I am the home owner at 10041 Leeds Drive and ask that you deny the rezoning of this PUD.

Regards,

Joe and Sally Wilson  
10041 Leeds Drive  
Yukon, OK 73099  
405-627-2915

## Johnson, Thad A

---

**From:** Steve & Bonnie Winter <stevenbonniew@sbcglobal.net>  
**Sent:** Tuesday, April 2, 2024 11:51 PM  
**To:** City Clerk Email  
**Subject:** Protest PUD 1983, Sunset Amphitheater

You don't often get email from stevenbonniew@sbcglobal.net. [Learn why this is important](#)

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field..

Dear Amy K Simpson,

We have owned our home in Westbury, at 2104 Bentham Way, Yukon, Oklahoma, since 1980. We are writing in protest to PUD 1983 at 810 South John Kilpatrick Turnpike. Rezoning this area to allow the proposed amphitheater will negatively impact the quality of life in our community. We chose to live in this location to be away from the city with its noise and congestion. There are several reasons we strongly oppose this rezoning to allow the amphitheater project to proceed. They are real life consequences of someone's seeking financial gain at the expense of families living nearby.

1. Having taught school in Mustang for fourteen years, I know noise from the Amphitheatre sound checks as currently proposed (as early as 2:00 PM) will distract the Creek Elementary and Mustang North Middle School students during their afternoon classes. Afternoon and evening activities such as tutoring sessions, practices, parent meetings, recitals, and outdoor matches or games, will also be adversely affected by noise and traffic associated with an amphitheater.
2. There are many families with young children in this neighborhood whose sleep will be disrupted by the noise from the amphitheater that can last until 11:00 PM. Adults whose morning schedules require an early bedtime will also have their sleep disturbed.
3. My husband and other combat veterans in the surrounding neighborhoods are adversely affected by loud noises, whether it is Fourth of July fireworks, cars equipped with boom boxes or a car backfiring. Booming noises associated with amphitheaters can be profoundly distressing for combat veterans with Post Traumatic Stress Disorder (PTSD), triggering memories, avoidance behaviors, and exacerbating their symptoms. It can cause flashbacks, nightmares and severe anxiety, as well as uncontrollable thoughts about combat experiences. They may have difficulty sleeping or concentrating which can make it difficult to function in daily life and can lead to anxiety, depression and suicidal thoughts. For those who do not already have PTSD it can cause late onset PTSD. It would be wrong to intentionally torment our combat veterans by bringing into our otherwise quiet neighborhoods the types of booming noises associated with an amphitheater which often includes pyrotechnics. Our veterans deserve better!
4. Ms. Hefner has assured residents that noise from the amphitheater would not be a problem, but she has not offered evidence to validate her claims. To the contrary, a letter to the editor at [evanstonroundtable.com](http://evanstonroundtable.com) reports from other communities where residents were given the same promises only to discover they had been deceived. Residents in Virginia Beach, Palo Alto, Costa Mesa, Austin, Jacksonville, Nashville, and Gainesville

have complained that artists brought their own sound equipment with noise levels that the design of the amphitheaters did not control. Even inside their homes residents were disturbed by noise from the music and concert goers. Residents were disturbed by the thumping of the bass and percussion instruments. They were not able to enjoy their own patios because of noise from concerts from the nearby amphitheater. These are consequences of living near an outdoor amphitheater.

We ask you to seriously consider the consequences of allowing an amphitheater next to our neighborhood and to please vote against the PUD in its current form.

Sincerely,  
Steve and Bonnie Winter

**From:** [stanton witter](#)  
**To:** [City Clerk Email](#)  
**Subject:** PROTEST PUD 1983, Sunset Amphitheater  
**Date:** Monday, March 4, 2024 5:00:43 PM

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**RECEIVED**

*By The City of Oklahoma City Office of the City Clerk at 8:05 am, Mar 05, 2024*

[You don't often get email from ifxeyes@yahoo.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I, Mahona Witter, hereby PROTEST PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike. The problems this will create for the thousands of tax paying residents in this area, if approved, cannot be overstated!

1. The sound pollution, both audible and physical (low frequency that travels through the ground) will be intolerable. Bedtimes will be greatly hindered. Veterans in the area with PTSD will suffer. Even our dogs and other pets will be affected, as will the wildlife that has always lived in the proposed building site. The peace and sanctity of our homes and yards will be taken from us!
2. We residents will be landlocked for hours on event nights due to traffic coming at us from every direction. What about emergency vehicle access to our homes? Average 3 events per week for 6 months, not counting their intended use for graduations and other events, will cause havoc.
3. There are plenty of other places this could be built; to the East of John Kilpatrick Turnpike and North of N.W. 39th (Old Highway 66) there is plenty of bare land. Also just West of Garth Brooks Blvd. North of Highway 66) I am the homeowner of property at 10222 Bonnycastle Dr., Yukon, OK, 73099 in Westbury South. I ask that you

Sent from my iPad

## Johnson, Thad A

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**From:** Smiley, Dena L  
**Sent:** Wednesday, April 3, 2024 3:45 PM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983

-----Original Message-----

From: Jones, Sharon D <sharon.jones@okc.gov> On Behalf Of City Clerk Email  
Sent: Wednesday, April 3, 2024 12:44 PM  
To: Smiley, Dena L <dena.smiley@okc.gov>  
Subject: FW: Protest PUD-1983

-----Original Message-----

From: Casey Witvoet <casey.witvoet@yahoo.com>  
Sent: Wednesday, April 3, 2024 12:41 PM  
To: City Clerk Email <CityClerk@okc.gov>; City Clerk Email <CityClerk@okc.gov>  
Subject: Protest PUD-1983

[You don't often get email from casey.witvoet@yahoo.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

To whom it may concern,

We are writing to protest the PUD-1983 to rezone the property located at 810 S John Kilpatrick. We were legally notified about the rezoning on February 14th by the Oklahoma City Clerk. We have lived in our home for 13 years and we do not want an outdoor amphitheater literally across the street, 350 feet from our residence! We petition all members of the City Council and the Mayor of Oklahoma City to vote NO on April 9th, 2024. If any on the council are still undecided, we hope that these facts will inspire you to stand with our community!

This rezoning, if passed, would allow Notes Live to come into our community and fundamentally change it forever. There are many reasons why we are against this rezoning, but the most important reason is that if passed the quality of life for thousands of Oklahomans that live within a one to five plus mile radius will be forever changed. City codes and ordinances are put into place to keep people in their communities safe and set a standard of quality that must be upheld. What good are laws if everyone is not required to follow them? Giving special concessions for certain businesses is a slippery slope that should never be allowed! This leaves us questioning why so many concessions have been made for Notes Live that would not have been made for any other business? If approved, they will be allowed to break our city codes and ordinances that were put into place to protect the people who live here. They will be able to break the city sound ordinance to allow the noise level to be equivalent to a freight train running on the tracks without the horn as stated in the Planning Commission Meeting on January 11, 2024. How will we be able to hear the tornado sirens being tested on Saturdays when they are having concerts during the noon tests? Better yet how will our community be able to hear a tornado siren warning of an approaching storm with this level of noise for hours on end. Keep in mind the warning of



storms with the potential to produce a tornado go off way before we even get a drop of rain. This could potentially put thousands of people in our community at risk and many people could be harmed by not being able to hear the tornado sirens to take shelter.

As a parent I am very concerned that sound checks will start at 2 pm while school is still in session! School is not dismissed for the Elementary school until 2:50 pm for bus riders. The Middle school dismisses at 3:35 pm but buses run until 5:30 pm in our neighborhood. Some Middle Schoolers walk to and from school and many parents are concerned about their child's safety if people camp out like they did at the Paycom Center for the recent Drake concert. These children need to be taken into consideration because many children need a quiet and safe environment to be able to learn and not the noise of a concert venue warming up hundreds of feet from the back of the school. Many children who attend these schools have sensory issues, ADHD and other health problems. How will this affect them?

Allowing Notes Live the ability to start at 8 am until 10:30 pm during the week and 11 pm on weekends, which is around 15 hours of constant noise, is unacceptable! Many parents put their children to bed before 9 pm and will not be able to do so with the noise and their homes vibrating. How will our community be able to live in peace in our homes? I feel we are being discriminated against because we are a middle-class community and if you vote yes, the very laws that were put into place to protect our quiet community will be taken from us to accommodate a million-dollar company at the expense of the Oklahoma people living in Ward 3.

Active shooters target outdoor concert venues like the one in Las Vegas in 2017. Many people were killed and injured. Not to mention that amphitheaters have a hard time vetting employees since many people travel with bands so you do not know who will be working directly behind the schools while children are on the premises and on the playgrounds. When you put things behind homes and schools' careful consideration needs to be taken!

Another concession given to Notes Live is that they are not required to purchase seven more acres of land to provide adequate parking. They were given permission by the Planning Commission to only have 3,600 parking spaces for 12,500 people, plus the people who will be employed by them. This means that thousands of people will be looking for parking at the two public schools and our neighborhood. If the school is having an after-school sport event this could put children in danger of child predators trying to find parking at the school or in our neighborhoods. This will also mean that intoxicated people leaving the events will be coming into our community after 10:30 pm on weeknights trying to find their cars and being loud and disrupting our quiet neighborhood!

Notes Live has said that they will have sound monitoring stations at the corners of the property but there is no one specified in the current PUD on who would be monitoring them except that they are policing themselves. When the Planning Commission asked Notes Live how they would handle the influx of noise nuisance complaints they said their plan was to overwhelm the local police department until they created a special unit to handle the call volume. Do you think that we should allow this approach to overwhelm our local police departments instead of this company doing the right thing and hiring a third party to make them stay within the boundaries of our Oklahoma laws? I also want to bring to your attention that this location is between Mustang, Yukon and the Portland OKC police departments, so it is likely that all three police stations will be overwhelmed with noise complaints from an outdoor venue of this size.

Even if the best mitigation is used to direct the sound to the north you cannot control the sound of 12,500 people screaming, especially with the strong winds we have in Oklahoma. This venue will disrupt everyone who lives within miles of it! We are not against an outdoor amphitheater, but it does not belong behind schools or homes! The way this PUD-1983 has been written and amended puts the Oklahoma people in our community at risk for having our streets overcrowded, property values to plummet, school learning and test scores to decline, health and the wellbeing of people to decline and our quality of life to erode away very quickly! We ask you as

homeowners of North Westbury to do what is right for the people who have invested all that they have to live in a quiet and peaceful community.

Sincerely,  
Albert and Casey Witvoet  
Homeowners at 1209 Edinburg Drive, Yukon, Oklahoma

**Hurst, Paula J**

---

**Subject:** FW: PUD 1983, Sunset Amphitheater  
**Attachments:** PUD-1983 Exhibit G - Traffic Study.pdf

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 1:06 pm, Feb 12, 2024

-----Original Message-----

From: Casey Witvoet <[casey.witvoet@yahoo.com](mailto:casey.witvoet@yahoo.com)>  
Sent: Monday, February 12, 2024 12:16 PM  
To: Ward3 <[ward3@okc.gov](mailto:ward3@okc.gov)>  
Subject: PUD 1983, Sunset Amphitheater

[You don't often get email from [casey.witvoet@yahoo.com](mailto:casey.witvoet@yahoo.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Dear Oklahoma City Council,

I am writing you to protest the PUD-1983 application by Mustang Creek Crossing to rezone 810 South John Kilpatrick Turnpike. The reasons I am protesting are as follows:

#1 Noise Pollution- The Centers for Disease Control and Prevention states that noise pollution is "an increasing public health problem." At the recent World Health Organization Ministerial Conference, the Environmental Burden of Disease project declared noise the No. 2 threat to public health, after air pollution. As stated in this article [https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.gainesville.com%2Fstory%2Fopinion%2Fcolumns%2Fmore-voices%2F2017%2F10%2F22%2Fkaren-orr-amphitheater-would-cause-neighborhood-noise-pollution%2F18182822007%2F%3Ffbclid%3DIwAR1Exe\\_rIGeCWUfydf9y6fXvrieVcsM-RTRUrwggWeJnm1bLVvOnC5atolY&data=05%7C02%7Cbarbara.peck%40okc.gov%7Cea5f986847d74b5e3dbc08dc2bf91219%7C837e0d97dd9d4d0097e688f05a32ee59%7C0%7C0%7C638433595989922448%7CUnknown%7CTWFpbGZsb3d8eyJWljoIMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C0%7C%7C%7C&sdata=EX6%2FmEtXNc7Bi%2Fbl%2FZDLmVI2vL4Q4bJ8Dx21Jxv4cB0%3D&reserved=0](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.gainesville.com%2Fstory%2Fopinion%2Fcolumns%2Fmore-voices%2F2017%2F10%2F22%2Fkaren-orr-amphitheater-would-cause-neighborhood-noise-pollution%2F18182822007%2F%3Ffbclid%3DIwAR1Exe_rIGeCWUfydf9y6fXvrieVcsM-RTRUrwggWeJnm1bLVvOnC5atolY&data=05%7C02%7Cbarbara.peck%40okc.gov%7Cea5f986847d74b5e3dbc08dc2bf91219%7C837e0d97dd9d4d0097e688f05a32ee59%7C0%7C0%7C638433595989922448%7CUnknown%7CTWFpbGZsb3d8eyJWljoIMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C0%7C%7C%7C&sdata=EX6%2FmEtXNc7Bi%2Fbl%2FZDLmVI2vL4Q4bJ8Dx21Jxv4cB0%3D&reserved=0)

#2 Vibrations felt inside my home- This amphitheater will be visible from my backyard since my back fence faces Sara Road and the proposed land. According to Round Rock Community Impact Reports "one resident said his family could not hear the music coming from the show, but they could feel it. He said the vibrations, which traveled approximately four miles to his subdivision, prevented his child from sleeping." in this article <https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.kvue.com%2Farticle%2Fnews%2Flocal%2FRound-rock-amp-noise-complaints%2F269-9f91ea1f-31c5-486b-a4be-cf7c6e189b6c%3Ffbclid%3DIwAR1DBU-lhEWib-csNbNXWVdRNjhXhO-xXgT2zl11jl7ynY0ms1-DHFcGf1I&data=05%7C02%7Cbarbara.peck%40okc.gov%7Cea5f986847d74b5e3dbc08dc2bf91219%7C837e0d97dd9d4d0097e688f05a32ee59%7C0%7C0%7C638433595989928997%7CUnknown%7CTWFpbGZsb3d8eyJWljoIMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C0%7C%7C%7C&sdata=qdWY8K9nJLXM2qnGxCtX738feyLTv3FEInVo%2Fgdh8OA%3D&reserved=0>

#3 Light Pollution coming into my home at night from cars leaving the event due to three exits being on Sara Road which is a two-lane road that my backyard faces according to the PUD-1983 Exhibit G Traffic Study.

We are a family that lives off of one income and we cannot afford to relocate if this is passed. Our lives will be forever changed for the WORSE, so I plead with you to vote against this PUD and put the residents of North Westbury and all surrounding residents within a four-mile radius FIRST because no one would be happy with this being in their backyard.

Sincerely,

Albert and Casey Witvoet

Homeowners of 1209 Edinburg Dr, Yukon, OK 73099

# Traffic Impact Study

## Sunset Amphitheater at Mustang Creek

December 2023

*FOR SUBMITTAL TO:*

City of Oklahoma City, Oklahoma

*PREPARED FOR:*

Notes Live

**PREPARED BY:**

4727 Gaillardia Parkway, Suite 250  
Oklahoma City, OK 73142  
405-241-5423

**Kimley»Horn**







## Traffic Impact Study

### Sunset Amphitheater at Mustang Creek

FOR SUBMITTAL TO:

CITY OF OKLAHOMA CITY, OKLAHOMA

PREPARED FOR:

NOTES LIVE

PREPARED BY:



Oklahoma Firm Registration Number 2740

4727 Gaillardia Parkway, Suite 250  
Oklahoma City, OK 73142  
(405) 241-5423  
Contact: Luke Schmidt, P.E., PTOE



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Appendix C:	<i>Synchro</i> Report

## 1.0 Executive Summary

### 1.1 PROJECT SUMMARY

This traffic study evaluated the anticipated traffic impacts associated with the *Sunset Amphitheater at Mustang Creek* development, which is expected to be completed in 2025 (referred to herein as build-out year). As currently envisioned, the development will consist of an approximate 12,500-seat amphitheater. The approximate 51-acre site is located east of the John Kilpatrick Turnpike and west of S Sara Road at SW 15<sup>th</sup> Street in the City of Oklahoma City, Oklahoma.

The following scenarios were considered in this analysis:

- Existing 2023 Conditions
- Projected 2025 No-Build Conditions
- Projected 2025 Build Conditions

The study network for this analysis includes the following intersections:

1. Reno Avenue at S Sara Road
2. Reno Avenue at S Morgan Road
3. Interstate 40 at S Morgan Road
4. SW 15<sup>th</sup> Street at S Morgan Road
5. SW 15<sup>th</sup> Street at S Sara Road
6. Southernmost Amphitheater Driveway to S Sara Road (Driveway B)
7. Middle Amphitheater Driveway to S Sara Road (Driveway C)
8. Northernmost Amphitheater Driveway to S Sara Road (Driveway D)
9. South Driveway to SW 15<sup>th</sup> Street (Driveway A)
10. SW 15<sup>th</sup> Street at John Kilpatrick Turnpike
11. S Mustang Road at SW 11<sup>th</sup> Street



**Figure 1: Traffic Count Locations**

**Figure 1** shows the locations that traffic counts were taken.

The proposed development will be served by five driveways – three (3) three-legged, unsignalized driveways along S Sara Road (Driveway B-D), one (1) three-legged, unsignalized driveway along SW 15<sup>th</sup> Street (Driveway A), and one private connecting to Courty Boulevard to the interior (Driveway E).

## 1.2 EVALUATION

Traffic conditions for the amphitheater site were analyzed to better understand how traffic generated by an event will impact the surrounding roadway network. Modeling the roadway capacity, identifying strategies on vehicle entry and exit to and from the site, and forecasting travel patterns of parking and rideshare vehicles were key factors to forecast the traffic impact of this amphitheater development for the build out year.

## 1.3 RECOMMENDATIONS

Per the findings of this study, recommendations for on-site and off-site traffic operations for events include:

### Event Management Recommendations:

- Parking Information Guide and Access Signage
- On-Site Traffic Control
- Event Day Police Control at Driveways
- Event Day Police-Controlled Intersections
- Multi-Directional Lanes

### Infrastructure Improvement Recommendations:

- Revised Signal Timing Plans
- Upgraded Lane Configurations – John Kilpatrick Turnpike (Northbound On-Ramp)



## 2.0 INTRODUCTION

This Traffic Impact Study evaluated the anticipated traffic associated with the *Sunset Amphitheater at Mustang Creek* development, which is expected to be completed in 2025 (referred to herein as build-out year). As currently envisioned, the development will consist of an approximate 12,500-seat amphitheater. The approximate 51-acre site is located east of the John Kilpatrick Turnpike and west of S Sara Road at SW 15<sup>th</sup> Street in the City of Oklahoma City, Oklahoma.

The following scenarios were considered in this analysis:

- Existing 2023 – No-Build Conditions
- Forecasted 2025 - No-Build Conditions
- Forecasted 2025 - Build Conditions

The study network for this analysis includes the following intersections:

1. Reno Avenue at S Sara Road
2. Reno Avenue at S Morgan Road
3. Interstate 40 at S Morgan Road
4. SW 15<sup>th</sup> Street at S Morgan Road
5. SW 15<sup>th</sup> Street at S Sara Road
6. Southernmost Amphitheater Driveway to S Sara Road (Driveway B)
7. Middle Amphitheater Driveway to S Sara Road (Driveway C)
8. Northernmost Amphitheater Driveway to S Sara Road (Driveway D)
9. South Driveway to SW 15<sup>th</sup> Street (Driveway A)
10. SW 15<sup>th</sup> Street at John Kilpatrick Turnpike
11. S Mustang Road at SW 11<sup>th</sup> Street

The proposed development will be served by access points – three (3) three-legged, unsignalized driveways along S Sara Road (Driveway B-D), one (1) three-legged, unsignalized driveway along SW 15<sup>th</sup> Street (Driveway C), and one private connection to Courty Boulevard to the west (Driveway E). **Figure 2** provides a location map of the project site. **Figure 3** provide an aerial image of the project site. A site plan is also included in **Appendix A**.

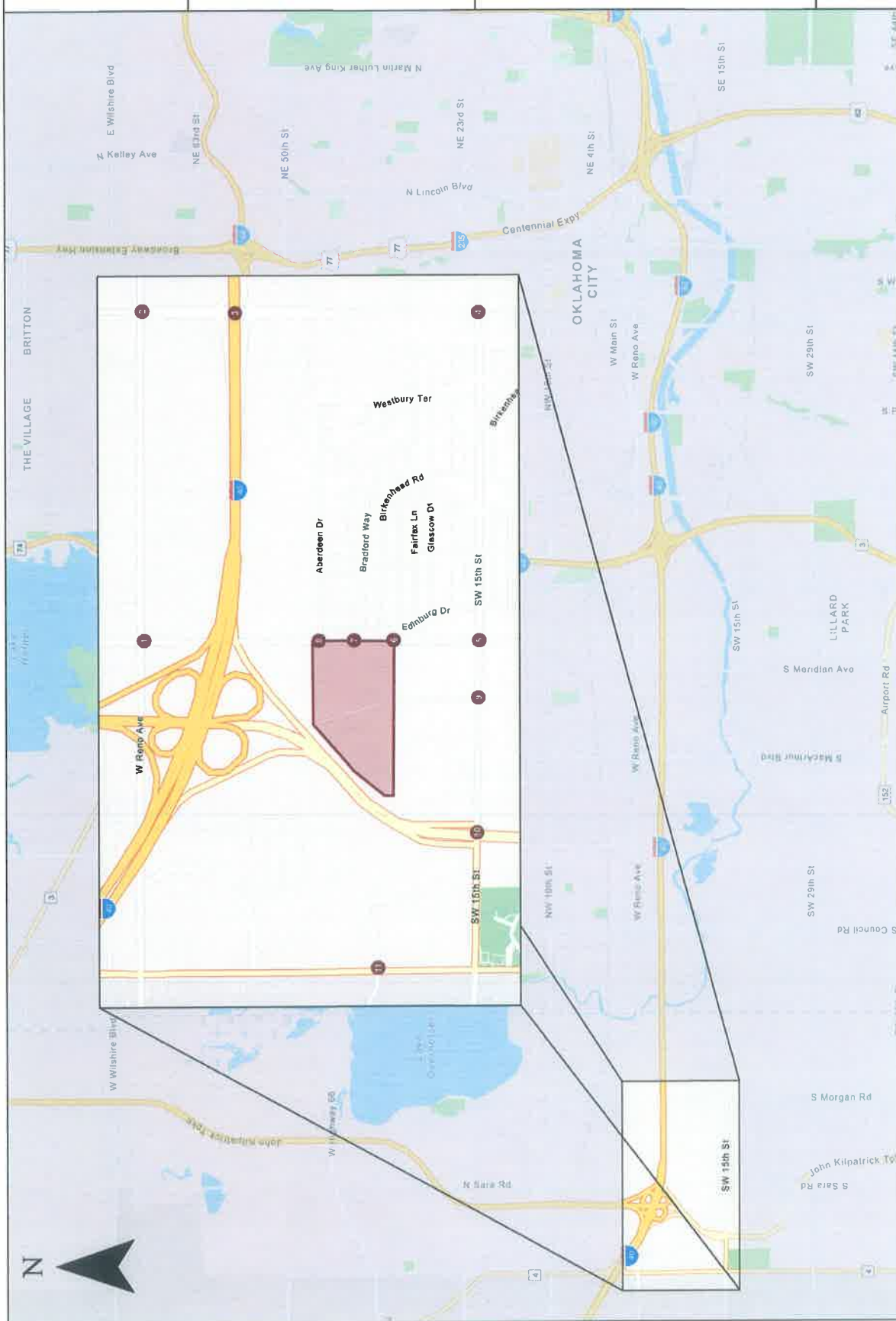


Figure 3

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Sunset Amphitheater at Mustang Creek  
Traffic Impact Study

Site Aerial





## 3.0 EXISTING CONDITIONS

### 3.1 VEHICULAR NETWORKS

Characteristics for the roadways within the study are summarized in **Table 1** below.

Roadway	Number of Lanes	Posted Speed Limit (MPH)	Road Classification	AADT
SW 15th Street	4	45	Local Road	9,000
S Sara Avenue	2	40	Urban Collector	5,600
S Mustang Road	4	45	Highway Principal Arterial	19,400
S Morgan Road	4 + TWLTL	40	Urban Minor Arterial	13,500
Reno Avenue	4	45	Principal Arterial	9,400

The existing intersection geometry is illustrated in **Figure 4**. SW 15<sup>th</sup> Street is currently under design and is anticipated to be widened. Construction is anticipated the summer of 2024.

### 3.2 VEHICULAR VOLUMES

Vehicle peak hour turning movement counts (TMCs) were collected by CJ Hensch & Associates on Thursday, November 2, 2023, for eight (8) of the study intersections listed below. These intersections were observed on evening weekdays to determine the volume counts for the ingress and egress times for the amphitheater. The amphitheater is anticipated to have the peak ingress from 5:30-6:30 PM and peak egress from 9:30-10:30 PM, these times were used to compare against existing traffic to better understand the impact of event traffic on the surrounding intersections. The evaluated ingress/egress times and peak hours for the study intersections are shown in **Table 2**. The existing 2023 traffic volumes are shown in **Figure 5**. The complete traffic count data is provided in **Appendix B**.

Intersection	Count Type	PM Peak	Ingress Hours	Egress Hours
1. Reno Avenue at Sara Road	Miovision TMC	4:45 - 5:45 PM	5:30 - 6:30 PM	9:30 - 10:30 PM
2. Reno Avenue at Morgan Road	Miovision TMC	3:30 - 4:30 PM	5:30 - 6:30 PM	9:30 - 10:30 PM
3. Morgan Street at I-40	Miovision TMC	4:45 - 5:45 PM	5:30 - 6:30 PM	9:30 - 10:30 PM
4. 15th Street at Morgan Street	Miovision TMC	5:00 - 6:00 PM	5:30 - 6:30 PM	9:30 - 10:30 PM
5. 15th Street at Sara Road	Miovision TMC	4:45 - 5:45 PM	5:30 - 6:30 PM	9:30 - 10:30 PM
6. Driveway B	Projected Traffic Volumes	-	5:30 - 6:30 PM	9:30 - 10:30 PM
7. Driveway C	Projected Traffic Volumes	-	5:30 - 6:30 PM	9:30 - 10:30 PM
8. Driveway D	Projected Traffic Volumes	-	5:30 - 6:30 PM	9:30 - 10:30 PM
9. Driveway A	Projected Traffic Volumes	-	5:30 - 6:30 PM	9:30 - 10:30 PM
10A. 15th Street at JKT SBFR	Miovision TMC	4:45 - 5:45 PM	5:30 - 6:30 PM	9:30 - 10:30 PM
10B. 15th Street at JKT NBFR	Miovision TMC	4:45 - 5:45 PM	5:30 - 6:30 PM	9:30 - 10:30 PM
11. Mustang Road at SW 11th Street	Miovision TMC	4:45 - 5:45 PM	5:30 - 6:30 PM	9:30 - 10:30 PM

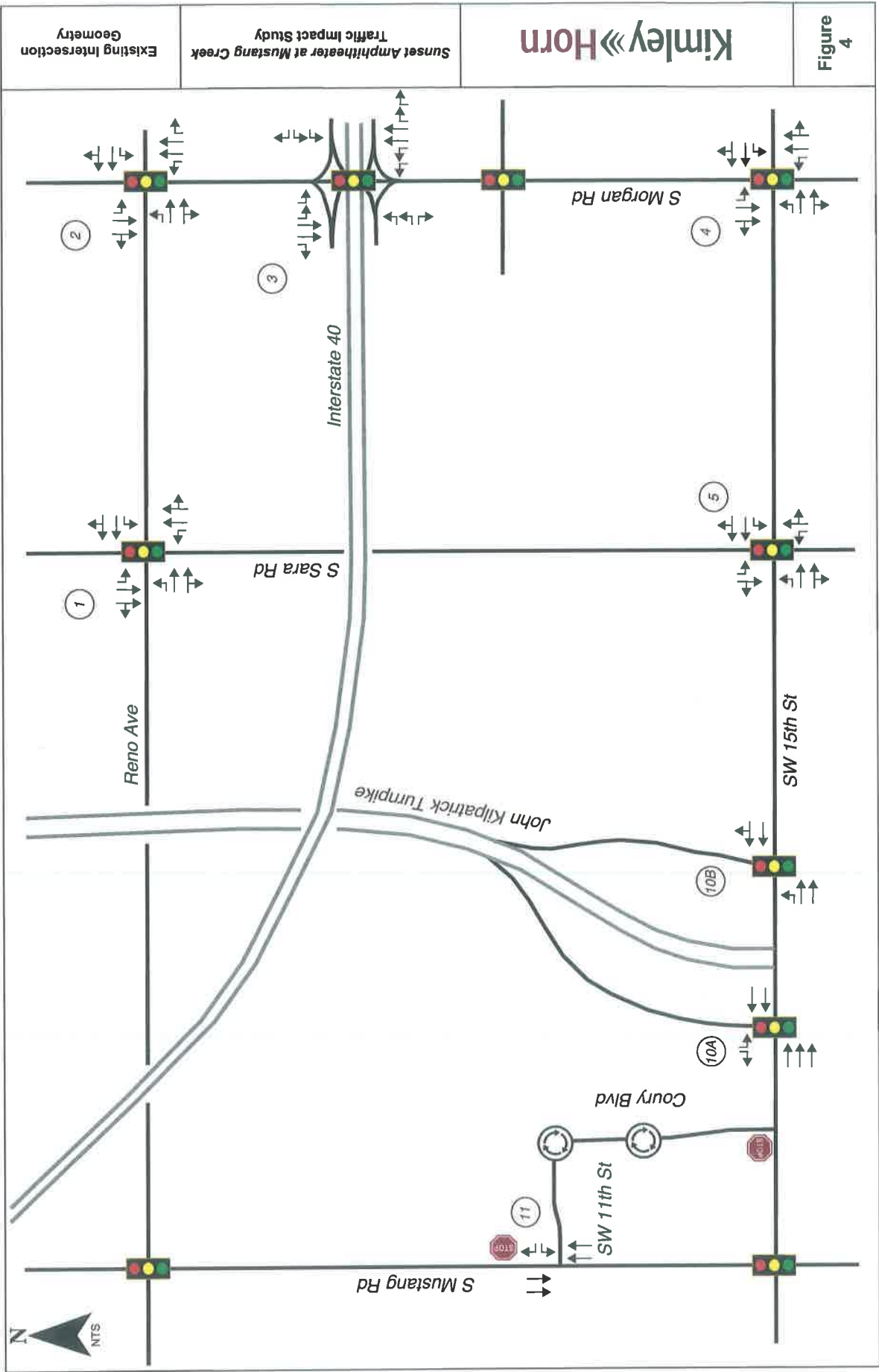


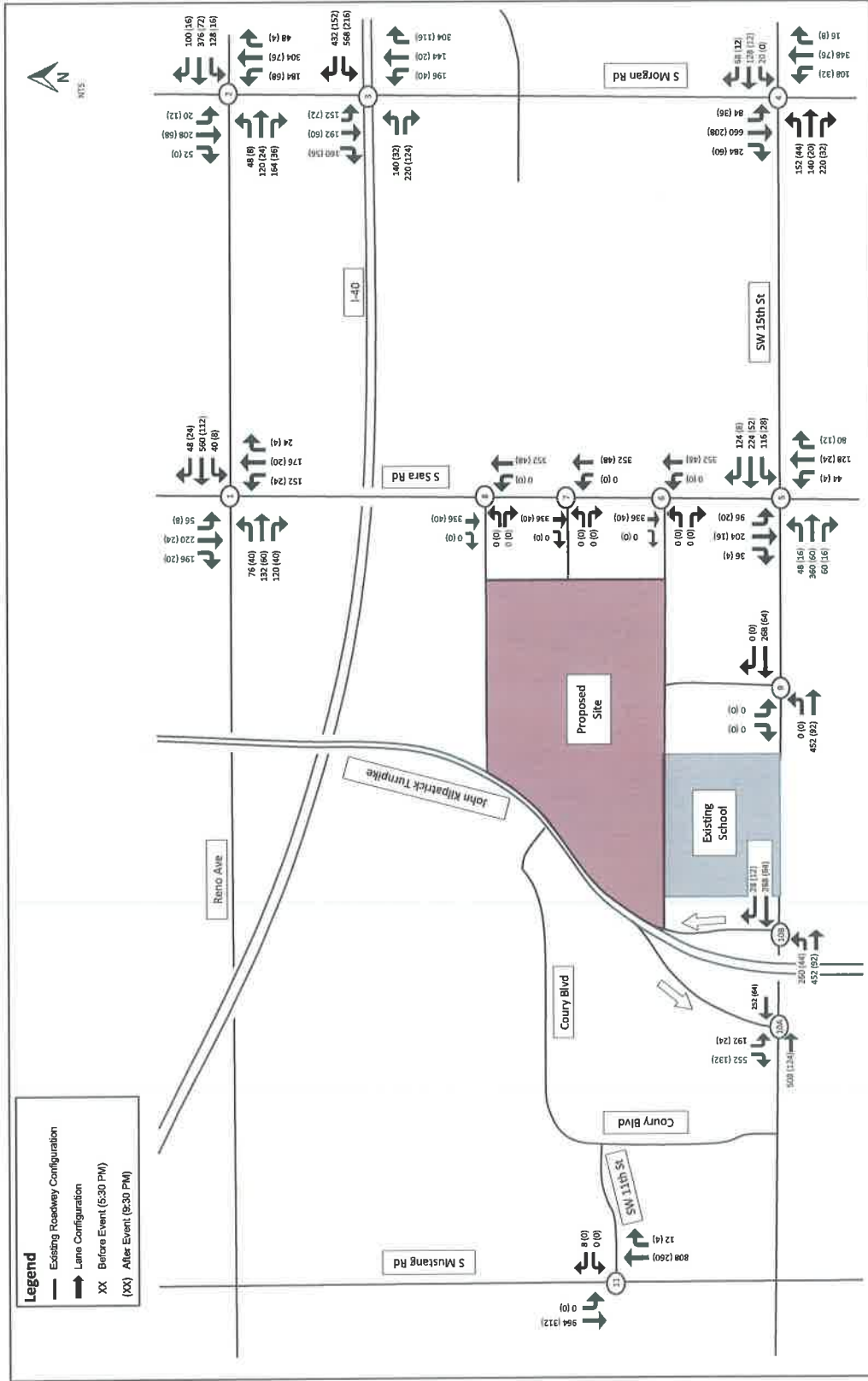
Figure 4

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Sunset Amphitheater at Mustang Creek  
Traffic Impact Study

Existing Intersection  
Geometry





**Figure 5**

**2023 Existing Traffic Volumes**  
Collected 11/9/2023

**Sunset Amphitheater at Mustang Creek**  
Traffic Impact Study

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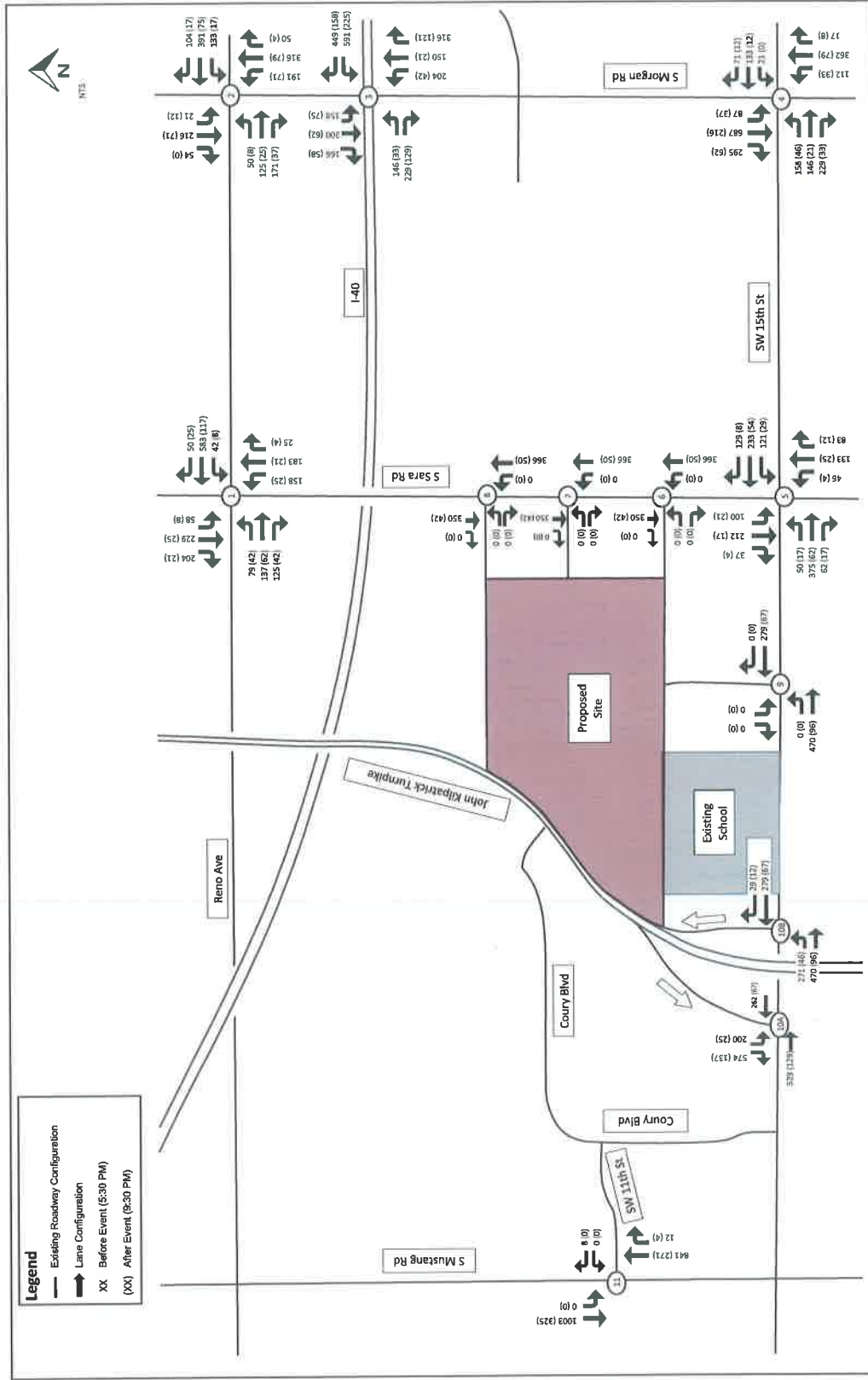
## 4.0 NO-BUILD CONDITIONS

Background traffic is defined as expected traffic on the roadway in future year(s) absent the construction, opening, and operation of the proposed project. Background traffic can include a base growth rate based on historical count data, as well as population growth data and estimates.

Upgraded roadways in the surrounding area will also factor to the roadway capacity. A segment near the site on SW 15<sup>th</sup> Street is will be widened to four lanes, with construction anticipated starting Summer 2024. This roadway improvement could provide increased traffic capacity between S Sara Road and S Mustang Road. The average annual daily traffic (AADT) for the surrounding roadway network is seen in **Table 3**. Even in no-build conditions, annual traffic has been historically growing at approximately 2.0%. To account for this background traffic, the Existing 2023 traffic volumes and existing 2023 AADT were increased by 2.0% per year for two years to account for the expected background growth through the year 2025.

Table 3: Average Annual Daily Traffic		
Roadway	Road Classification	Existing AADT
SW 15th Street	Local Road	9,000
S Sara Avenue	Urban Collector	5,600
S Mustang Road	Highway Principal Arterial	19,400
S Morgan Road	Urban Minor Arterial	13,500
Reno Avenue	Principal Arterial	9,400

**Figure 5** illustrate the Projected 2025 No-Build traffic volumes which includes the existing roadway network, with the 2023 base year traffic grown to the future 2025 year.



## Figure 6

## 2025 No-Build Traffic Volumes

# Sunset Amphitheater at Mustang Creek Traffic Impact Study

**Kimley»»Horn**

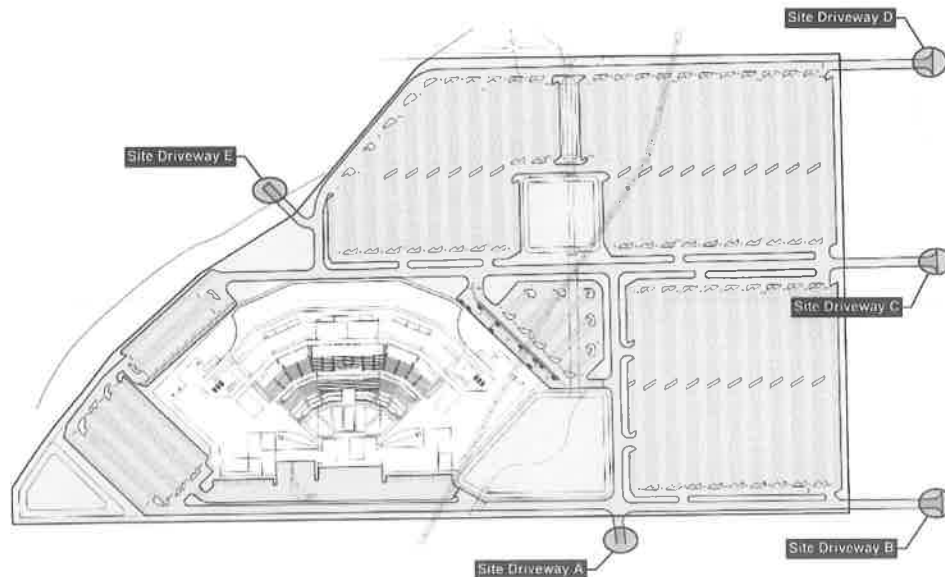
ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. DATE 08-11-2010 BY 60322 UCBAW/STP

## 5.0 BUILD CONDITIONS

### 5.1 SITE ACCESS AND CIRCULATION

Access to the proposed site will be provided through five access points. A brief description of the site access is as follows:

- Site Driveway A (to the south)
  - Proposed full access three-legged, unsignalized driveway along SW 15<sup>th</sup> Street, directly south of the amphitheater site. This driveway provides access to the interior of the site.
- Site Driveway B, C, and D (to the east)
  - Three (3) proposed full access three-legged, unsignalized driveways along S Sara Road, along the east boundary of the site. These three (3) driveways create the southern, middle, and northern most internal circulatory roadways entering on the east side of the site.
- Site Driveway E (to the west)
  - Proposed private driveway connecting Coury Boulevard to the interior circulating roadways via an existing underpass below John Kilpatrick Turnpike. Coury Boulevard then connects to SW 15<sup>th</sup> Street and N Mustang Road west of the existing John Kilpatrick Turnpike. This connection is located on the northwest corner of the site, directly north of the proposed amphitheater, and is anticipated to be used mainly for the VIP parking and egress.



**Figure 7: Site Driveway Location**

Refer to the site plan in **Appendix A** for a visual representation of vehicular access and circulation throughout the proposed development. **Figure 8** depicts the proposed site access driveways and anticipated roadway geometry.

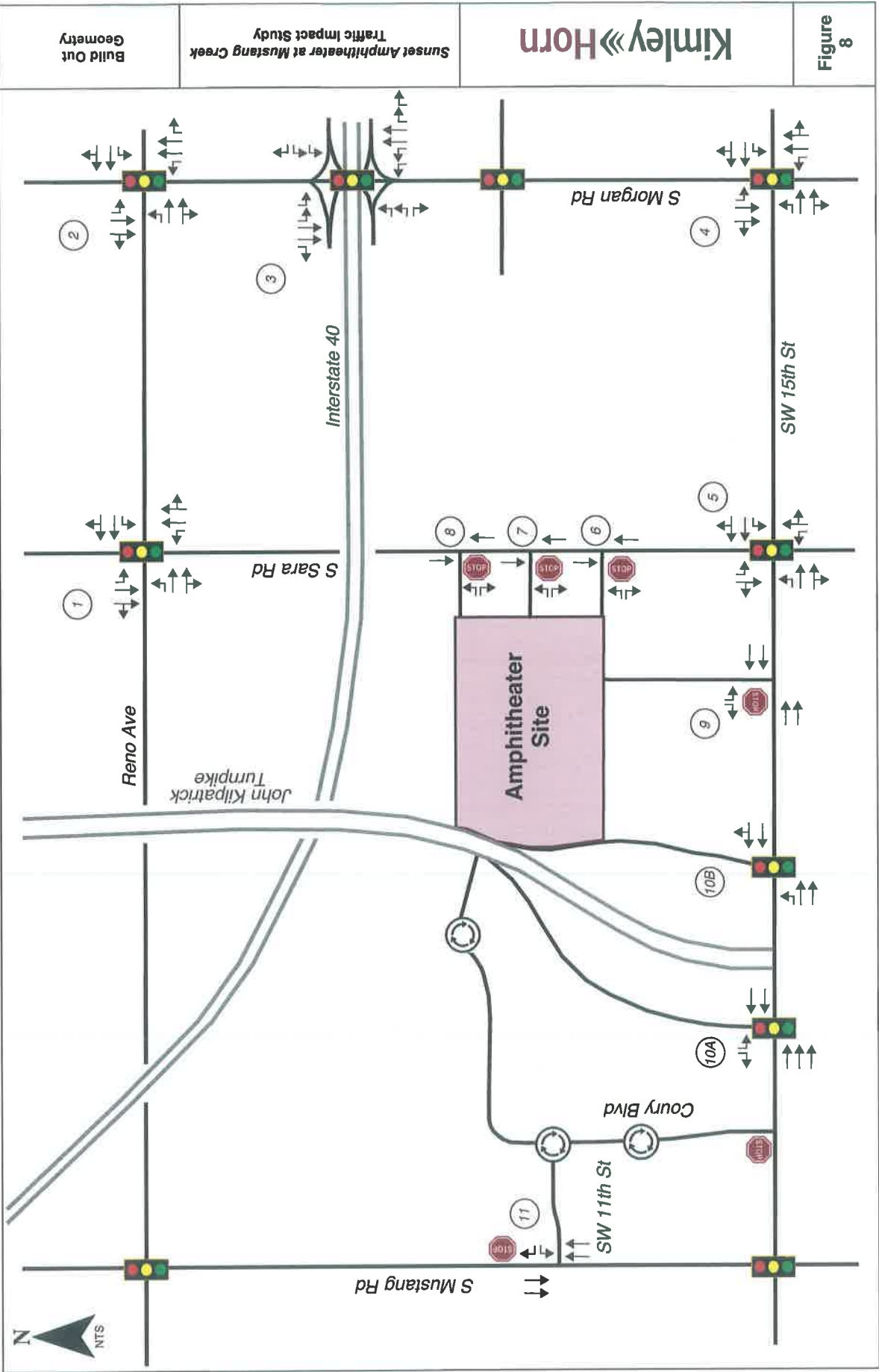


Figure 8

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Sunset Amphitheater at Mustang Creek  
Traffic Impact Study

Build Out  
Geometry



## 5.2 TRIP GENERATION

Traffic for the proposed development was calculated using site specific data and projections using engineering judgement. The following items were considered in the methodology for the trip generation calculations:

- Vehicle traffic divided into:
  - Parked vehicles (event attendees parking on site for the entire duration of the event – parked vehicles enter during the ingress period and exit during the egress period only)
  - Rideshare vehicle (vehicles drop off attendees and circulate to exit the site – rideshare vehicles will enter and exit during the same timeframe for both ingress and egress).
- Trip generation was projected for the following event scenarios:
  - Small Event
  - Medium Event
  - Max Event (Full capacity for the amphitheater)

**Table 4** summarizes the event ingress/egress distribution. **Table 5** summarizes the projected trip generation for each event scenario.

Time	Event Status	Parked		Rideshare	
		Ingress	Egress	Ingress	Egress
5:00 PM	-	25%	-	25%	25%
6:00 PM	Doors Open	60%	-	60%	60%
7:00 PM	Event Start	15%	-	15%	15%
8:00 PM	Event	-	-	-	-
9:00 PM	Event	-	15%	15%	15%
10:00 PM	Event End	-	75%	75%	75%
11:00 PM	-	-	10%	10%	10%

Time	Small Event		Medium Event		Max Event	
	Enter	Exit	Enter	Exit	Enter	Exit
5:00 PM	400	120	800	240	1250	375
6:00 PM	960	288	1920	576	3000	900
7:00 PM	243	72	486	144	759	225
8:00 PM	0	0	0	0	0	0
9:00 PM	72	240	144	480	225	750
10:00 PM	360	1200	720	2400	1125	3750
11:00 PM	48	160	96	320	150	500

The values in the table above represent anticipated trips per hour for each scenario. The max event scenario for the amphitheater site was analyzed in this study within the study area. The max event scenario is anticipated to be the least frequent event scenario to occur and is considered the worst-case traffic scenario associated with this development.

# Kimley»Horn

The [City of Oklahoma City Code of Ordinance](#) provides minimum parking ratios for different business and land uses. After considering the description of the three (3) types of spectator sports and entertainment land venues, the amphitheater aligns with the description provided in the Code or Ordinance with "Spectator Sports and Entertainment: High Impact". However, since this land use type requires director approval for parking, a comparable category would be "Participant Recreation and Entertainment Indoor (Theaters)". The parking required by the Zoning Ordinance is provided in **Table 6** below.

<b>Table 6: Oklahoma City Parking Requirements</b>			
<b>Land Use</b>	<b>Density</b>	<b>Parking Ratio</b>	<b>Required Parking</b>
Indoor Amusement (Amphitheater)	12,500 seats	1 space / 4 seats	3,125 spaces
<b>Total Required Parking</b>			<b>3,125 spaces</b>

The visitor base parking ratio were assuming 2.5 visitors per vehicle. The adjustment is based on rideshare data provided by AEG Presents showing approximately 35-45 percent of venue customers with similar demographics tend to use rideshare transportation to/from performance venues. Due to Oklahoma City's single occupancy vehicle personal driving preferences being higher than the national average, a more conservative rideshare rate of 30% was assumed. This adjusted model was applied to three scenarios: max event (sold out), medium event, and small event. The proposed parking supply on-site is approximately 3,600 parking spaces. **Table 7** below shows the site parking demand projections for the maximum, medium, and small events at the amphitheater.

<b>Table 7: Site Parking Demand Projections</b>							
<b>Scenario</b>	<b>Facility</b>	<b>Density</b>	<b>User</b>	<b>Base Ratio</b>	<b>Rideshare/ Dropoff/</b>	<b>Internal Capture</b>	<b>Parking Demand</b>
Max Event	Amphitheater	12,500 seats	Visitor	0.4	30%	0%	3500
	<b>Total Spaces</b>						<b>3,500</b>
Medium Event	Amphitheater	8,000 seats	Visitor	0.4	30%	0%	2240
	<b>Total Spaces</b>						<b>2,240</b>
Small Event	Amphitheater	4,000 seats	Visitor	0.4	30%	0%	1120
	<b>Total Spaces</b>						<b>1120</b>

The projected parking demand for a max event (sold out) is forecasted to be accommodated within the 3,600 spaces on-site. Off-site employee parking (through shared parking agreements) and walk or shuttle to site is a consideration.

**Table 8** below shows the service rate and curb capacity projections for a maximum, medium, and small event which determines the number of stalls and amount of linear feet needed for the rideshare zone(s). In general, rideshare drivers tend to dwell longer during pickup than drop-off because the rider(s) may not be ready to travel yet. The Uber and Lyft apps urge customers to come out to meet their driver immediately, and wait charges begin after 2-3 minutes of wait time. However, because of this inevitable wait time, we project an estimated 50 stalls needed to provide service to rideshare riders post-show during high event attendance conditions. The proposed rideshare zone for the site is located northeast of the proposed amphitheater. Rideshare drivers are proposed be directed to enter the site from the west via Coury Boulevard via SW 15th Street/S Mustang Road to circulate around the amphitheater and exit to the south. A site plan is provided in the attachments that includes mark-ups for access, parking, and rideshare indicating the location and recommendation for the rideshare zone(s).

<b>Table 8: Rideshare Service and Curb Capacity Projections</b>						
<b>PRE-SHOW</b>						
<b>Event Scenario</b>	<b>Visitors</b>	<b>Visitors/ Rideshare Vehicle</b>	<b>Rideshare Trips<sup>1</sup></b>	<b>Service Rate/Stall/Hour<sup>2</sup></b>	<b>Required Stalls</b>	<b>Linear Feet<sup>3</sup></b>
Max	12,500	2.5	1500	60	25	550
Medium	8,000	2.5	960	60	16	352
Small	4,000	2.5	480	60	6	132
<b>POST-SHOW</b>						
<b>Event Scenario</b>	<b>Visitors</b>	<b>Visitors/ Rideshare Vehicle</b>	<b>Rideshare Trips</b>	<b>Service Rate/Stall/Hour<sup>4</sup></b>	<b>Required Stalls</b>	<b>Linear Feet</b>
Max	12,500	2.5	1500	30	50	1100
Medium	8,000	2.5	960	30	32	704
Small	4,000	2.5	480	30	16	352

<sup>1</sup> Estimated trips based on assumption of 30 percent rideshare as shown in Table 5

<sup>2</sup> Assumed each stall can accommodate 1 drop-off per 1 minute

<sup>3</sup> Each stall measures 22 feet in length

<sup>4</sup> Assumed each stall can accommodate 1 pickup per 2 minutes

<sup>5</sup> Assumed show ending time of 10:00pm; some customers will leave up to 30 minutes early

## 5.3 TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution and assignment of new project trips was based on a review of land uses, population densities in the area, existing turning movement counts, and access to widely used routes, such as interstate and turnpikes. **Figures 9** provides the directional distribution and assignment of new project trips. **Figure 10** illustrates the assignment of projected trips from an event to the study network. The Projected 2025 Build peak hour volumes are shown in **Figure 11**, estimating the number of vehicles generated by the site.

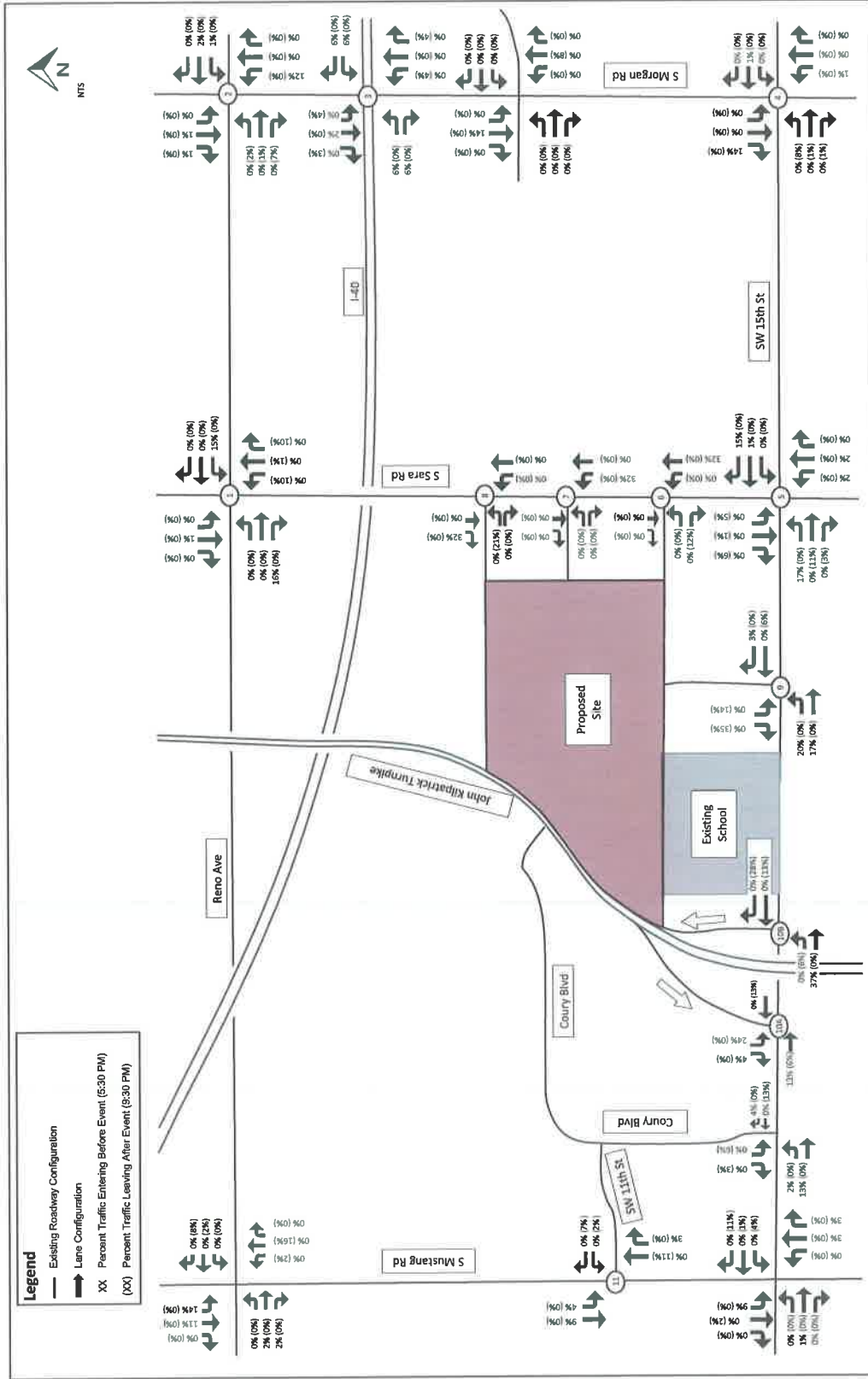
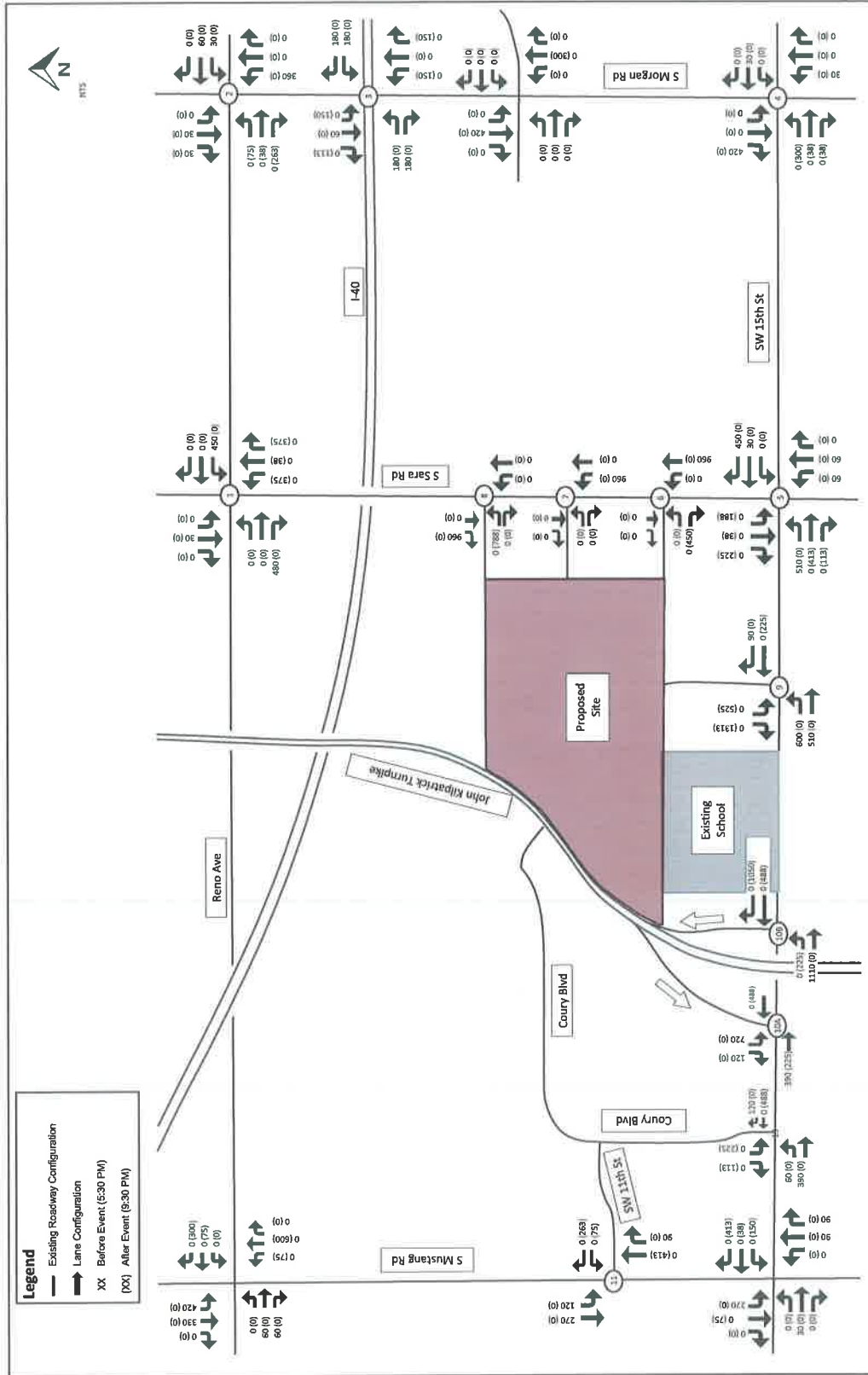


Figure 9

Traffic Distribution Entering and Exiting an Event

Sunset Amphitheater at Mustang Creek Traffic Impact Study

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**Figure 10**

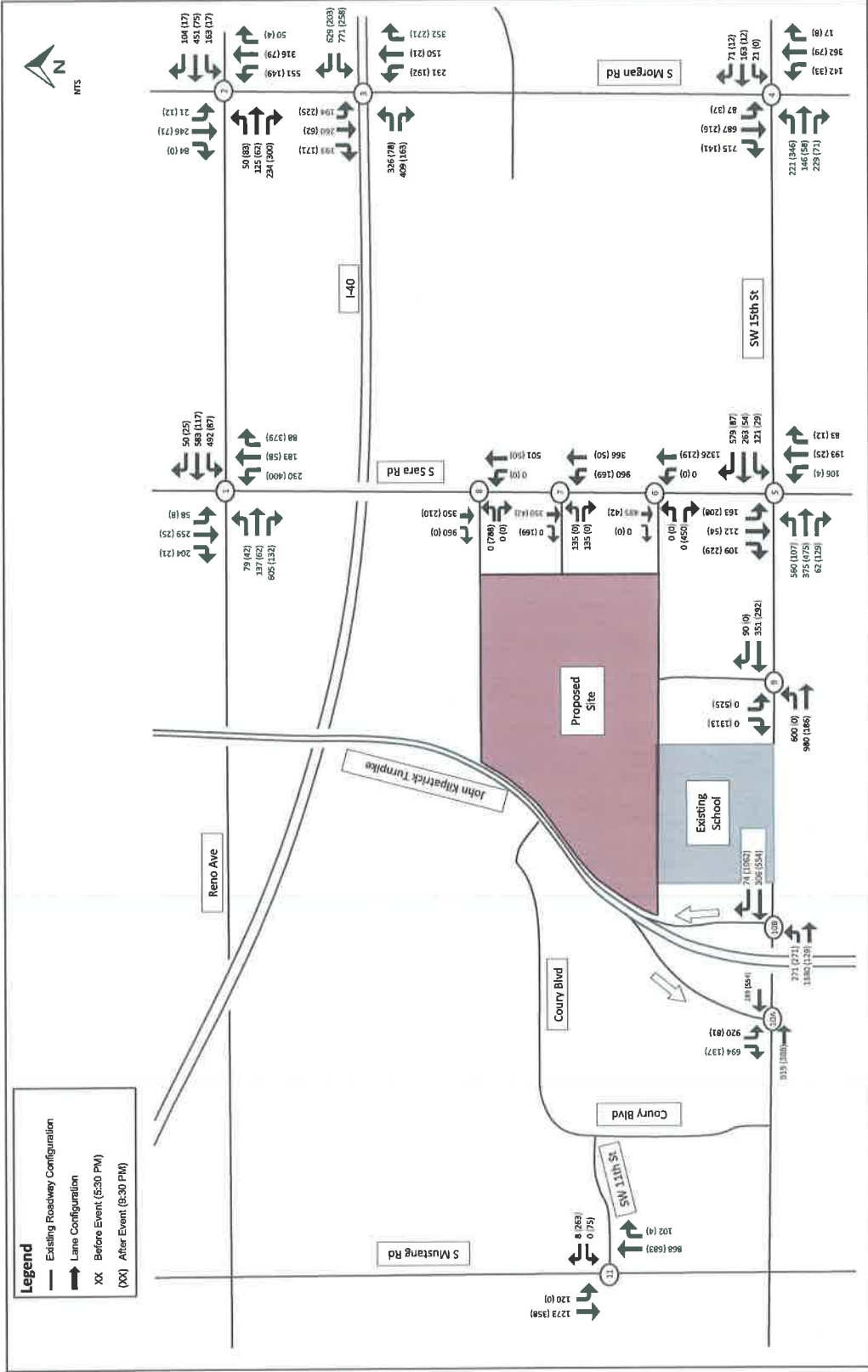
**Assignment of Projected Event Trips**

**Sunset Amphitheater at Mustang Creek  
Traffic Impact Study**

**Kimley»Horn**

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**Figure 11**

**2025 Forecasted Background + Site Traffic Volumes**

**Sunset Amphitheater at Mustang Creek Traffic Impact Study**

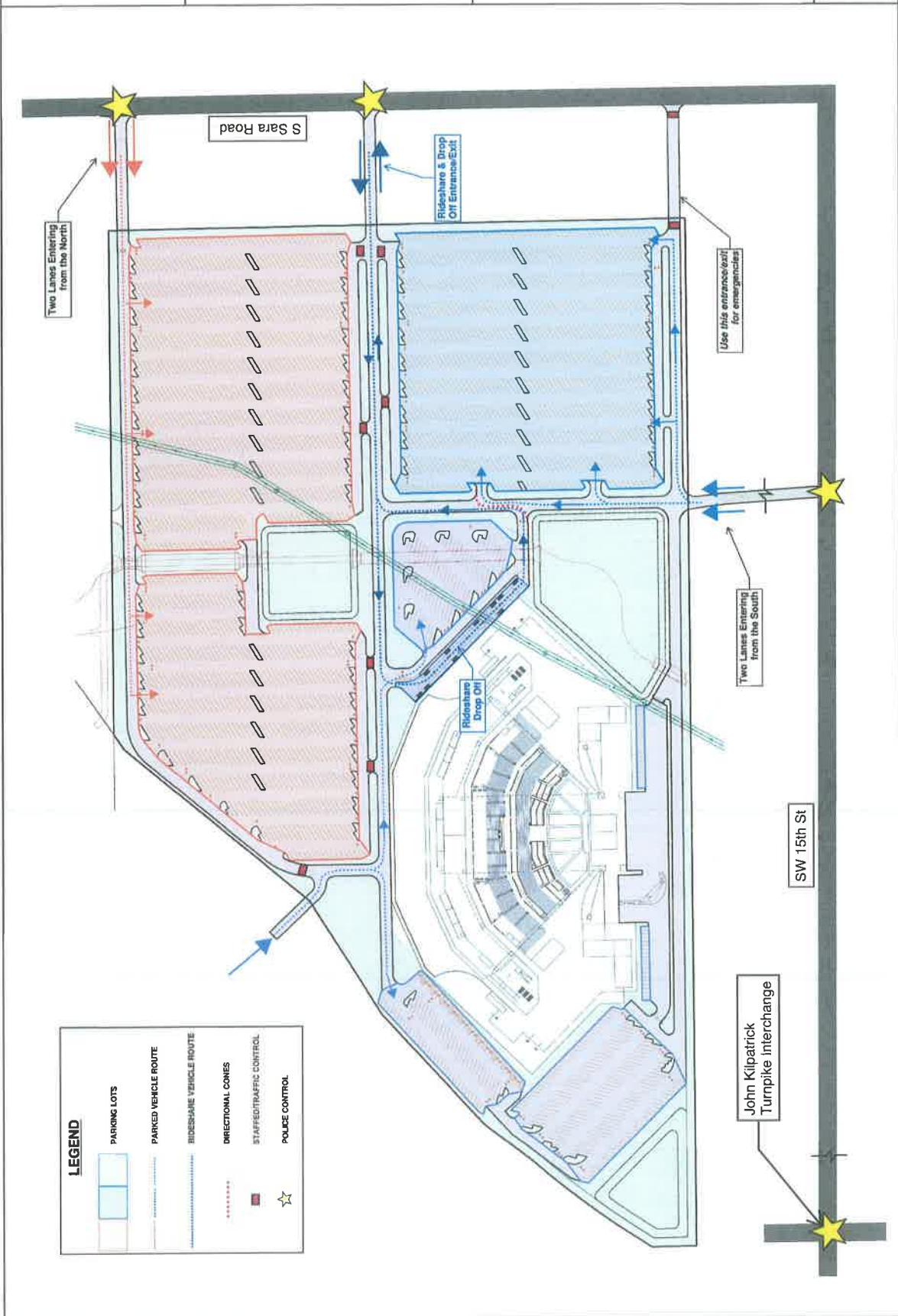
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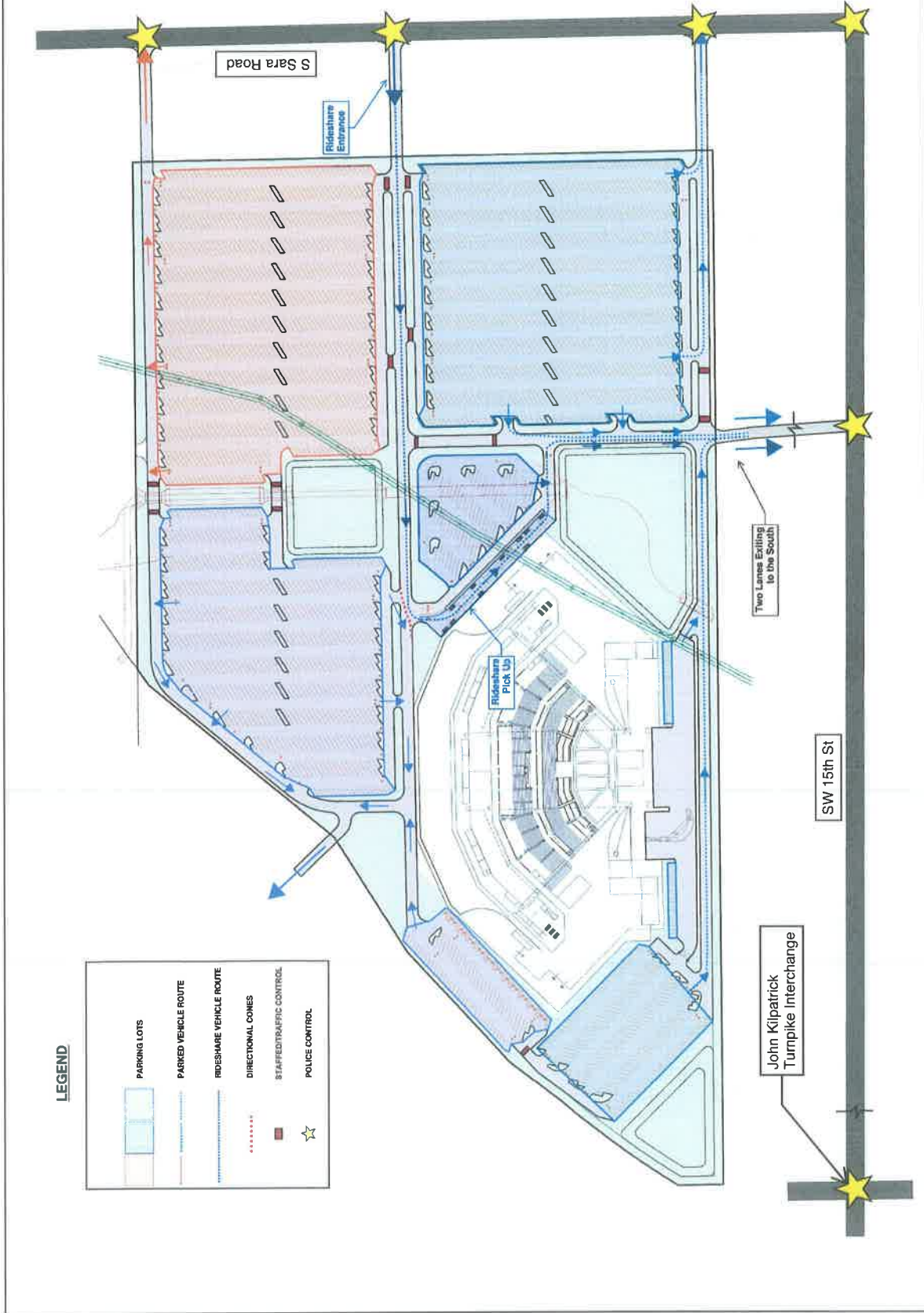
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## 5.4 PARKING ACCESS PLAN

An important component of the proposed development is controlling how vehicles enter and exit the amphitheater site during events to maximize traffic flow. A Traffic Management Plan reflects which parking lots are accessed by certain driveways as well as which exits certain parking lots will utilize after the event is finished. Traffic events vary, the figures below reflect an event utilizing the maximum number of anticipated vehicles. The figures below also depict appropriate locations where police control of driveways entering streets would be located during the peak ingress and egress times around events. Police control of driveways allows drivers to be directed in the appropriate direction so that congestion is reduced for all drivers attempting to the enter and exit the site. **Figure 12** depicts the on-site parking control for the ingress of both parking and rideshare vehicles. **Figure 13** depicts the on-site control for both parked and rideshare vehicles to exit the site, to reduce the amount of congestion that is generated.

Figure 12





## 6.0 CAPACITY ANALYSES

Level-of-service (LOS) determinations were made for the two PM hours previously described for the study network intersections using *Synchro™, Version 11*, utilizing the methodologies contained in the *Highway Capacity Manual, 6th Edition* to determine the operating characteristic of an intersections. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The *Highway Capacity Manual* defines six level of service, LOS A through LOS F, with A being the best and F the worst. A description of each of each operational state for both signalized and unsignalized intersections is presented in **Table 9**.

Levels-of-service for signalized and all-way stop controlled (AWSC) intersections are reported for the intersection as a whole. One or more movement sat an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

LOS	Average Control Delay (sec/veh)		Description
	Signalized	Unsignalized	
A	≤ 10	≤ 10	No delays at intersections with continuous flow traffic. Uncongested operations; high frequency of long gaps available for all left and right turning traffic; no observational queues.
B	> 10 and ≥ 20	> 10 and ≥ 15	
C	> 20 and ≥ 35	> 15 and ≥ 25	Moderate delays at intersections with satisfactory to good traffic flow. Light congestion; infrequent backups on critical approaches.
D	> 35 and ≥ 55	> 25 and ≥ 35	Increased probability of delays along every approach. Significant congestion on critical approaches, but intersection functional. No long-standing lines formed.
E	> 55 and ≥ 80	> 35 and ≥ 50	Heavy traffic flow condition. Heavy delays probable. No available gaps for cross-street traffic or main street turning traffic. Limit of stable flow.
F	>80	>50	Unstable traffic flow. Heavy congestion. Traffic moves in forced flow condition. Average delays greater than one minute highly probable. Total breakdown.



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Capacity analyses were performed for the two main ingress and egress hours for three scenarios (Existing 2023, Projected 2025 No-Build, and Projected 2025 Build traffic conditions). The results of the capacity analyses are summarized in **Table 10**. The *Synchro* analyses reports are included in **Appendix C**.

Table 10: Level of Service Summary LOS (Delay in Seconds)							
Intersection	Approach/ Movement	Existing 2023		Projected 2025 No-Build		Projected 2025 Build	
		PM Ingress Peak	PM Egress Peak	PM Ingress Peak	PM Egress Peak	PM Ingress Peak	PM Egress Peak
1. Reno Avenue at S Sara Road	Overall	C (28)	B (11)	C (29)	B (12)	E (69)	B (17)
2. Reno Avenue at S Morgan Road	Overall	C (26)	B (14)	C (27)	B (14)	D (49)	C (22)
3. I-40 at S Morgan Road	Overall	B (17)	B (11)	B (18)	B (11)	B (18)	B (16)
4. SW 15th Street at S Morgan Road	Overall	C (34)	C (23)	C (35)	C (23)	E (65)	D (38)
5. SW 15th Street at S Sara Road	Overall	C (25)	B (16)	C (25)	B (16)	E (69)	C (22)
10A. SW 15th Street at JKT SB Off Ramp	Overall	A (10)	A (5)	A (10)	A (5)	D (36)	A (7)
10B. SW 15th Street at JKT NB On Ramp	Overall	A (3)	A (1)	A (3)	A (1)	A (2)	B (13)
11. S Mustang Road at SW 11th Street	Overall	A (2)	A (1)	A (3)	A (1)	B (13)	C (19)

## 7.0 CONCLUSION

On-site traffic control and parking management can improve the efficiency and outcome of vehicles entering and exiting parking lots for events. At this amphitheater, event management techniques such as clear signage for lot parking, on-site staff to direct traffic, and police control at driveways exiting to public streets will improve the traffic flow during events. Event traffic can cause congestion on local road leading up and following events. Improvements such as updated signal timing plans, improved signage, event day police-controlled intersections for larger events, and upgraded lane configurations can help mitigate congestion. A site map of potential improvements is shown in **Figure 14**.

Potential improvements include the following:

### 7.1 EVENT MANAGEMENT RECOMMENDATIONS

- Parking Information Guide and Access Signage
  - Place clear signage and marking directing parking vehicles.
  - Have signage directing how rideshare drivers enter, drop off, and exit the site.
  - Information guides that can be distributed with ticket sales to better direct patrons into the site.
- On-Site Traffic Control
  - Have staff directing vehicles to the correct parking lots upon entering the site.
  - Provide clear direction to vehicles where to exit the site.
- Event Day Police Control at Driveways
  - Provide police control to direct traffic to enter at certain driveways and exits in certain directions on the public streets.
  - Police control can decrease congestion among drivers and reduces confusion on how to enter and exit the site, especially during egress when surrounding traffic is at its least.
- Event Day Police-Controlled Intersection
  - At intersections near the proposed site, police control can help mitigate congestion during large amphitheater events.
  - Intersections that could benefit from police control:
    - SW 15<sup>th</sup> Street at S Sara Road
    - John Kilpatrick Turnpike at SW 15<sup>th</sup> Street
- Multi-Directional Lanes
  - Transition driveways into and out of the site for dual lanes to increase traffic flow and decrease congestion.
  - Multilane Entry – Northernmost driveway at S Sara Avenue (Driveway D) and South driveway off SW 15<sup>th</sup> Street (Driveway A).
  - Multilane Exit – South driveway off SW 15<sup>th</sup> Street (Driveway A)

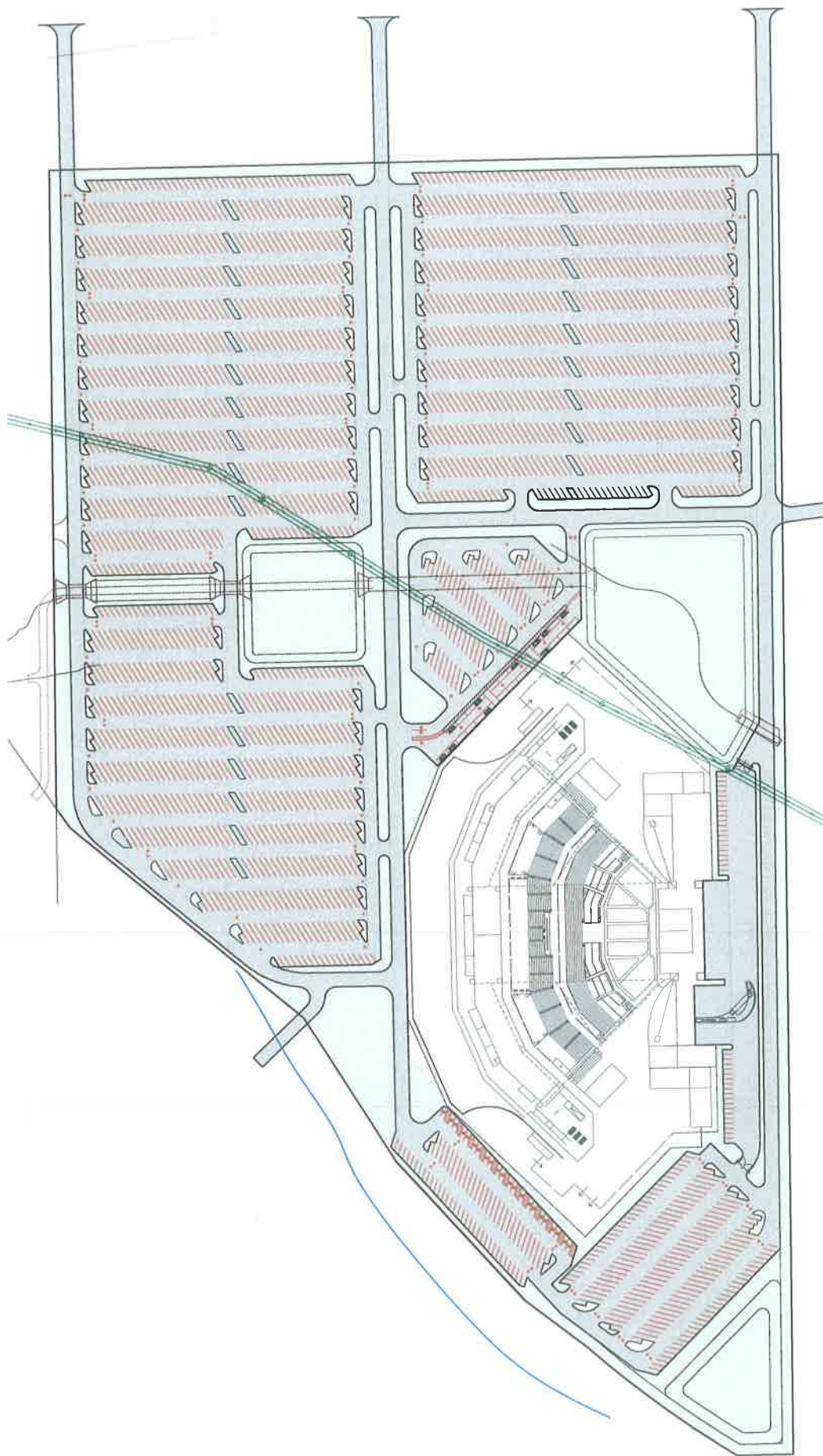
## 7.2 SURROUNDING INFRASTRUCTURE IMPROVEMENT RECOMMENDATIONS

- Revised Traffic Signal Timing Plans
  - Develop coordinated traffic signal timing plans at signalized intersections to increase level of service and reduce control delay around events.
  - Intersections that would benefit from revised timing plans:
    - SW 15<sup>th</sup> Street at S Morgan Road
    - SW 15<sup>th</sup> Street at S Sara Road
    - John Kilpatrick Turnpike at SW 15<sup>th</sup> Street
    - SW 15<sup>th</sup> Street at S Mustang Road
    - Reno Avenue at S Sara Road
- Upgraded Lane Configurations – John Kilpatrick Turnpike (Northbound On-Ramp)
  - Increasing the capacity for the northbound on-ramp of the John Kilpatrick Turnpike at SW 15<sup>th</sup> Street by adding a second tolling lane will help decrease congestion in the future. This increased capacity will help vehicles both at events and as vehicle traffic in this area increases in the future.



## **Appendix A: Site Plan**





## **Appendix B: Traffic Count Data**

# 1. Reno Avenue at Morgan Road - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128550, Location: 35.464342, -97.689054



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Morgan Road Southbound					Reno Avenue Westbound					Morgan Road Northbound					Reno Avenue Eastbound									
Time	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	Int				
2023-11-02 2:00PM	18	60	15	0	93	0	12	54	23	0	89	0	12	72	35	2	121	0	38	22	9	0	372		
2:15PM	10	47	8	0	65	0	8	43	28	0	79	0	17	62	51	0	130	0	32	28	12	0	346		
2:30PM	14	79	18	0	111	0	8	43	27	0	78	0	13	58	38	0	109	0	53	33	13	0	397		
2:45PM	7	66	10	0	83	0	16	45	24	0	85	0	30	72	40	0	142	0	35	28	10	0	383		
Hourly Total	49	252	51	0	352	0	44	185	102	0	331	0	72	264	164	2	502	0	158	111	44	0	1498		
3:00PM	11	105	7	0	123	0	9	45	33	0	87	0	22	69	30	0	121	0	36	24	9	0	400		
3:15PM	11	75	18	0	104	0	17	54	28	0	99	0	18	78	41	0	137	0	38	36	11	0	425		
3:30PM	10	61	14	0	85	0	28	54	25	0	107	0	29	78	56	0	163	0	89	53	38	0	535		
3:45PM	11	82	13	0	106	0	17	59	21	0	97	0	20	85	66	0	171	0	59	47	10	0	490		
Hourly Total	43	323	52	0	418	0	71	212	107	0	390	0	89	310	193	0	592	0	222	160	68	0	1850		
4:00PM	18	109	11	0	138	0	24	62	43	0	129	0	27	72	41	0	140	0	81	47	29	0	564		
4:15PM	10	95	22	0	127	0	20	80	27	0	127	0	18	85	41	0	144	0	34	28	10	0	470		
4:30PM	18	57	6	0	81	0	27	68	34	0	129	0	21	62	45	0	128	0	66	40	16	0	460		
4:45PM	19	71	8	0	98	0	26	74	43	0	143	0	20	62	45	0	127	0	62	39	7	0	476		
Hourly Total	65	332	47	0	444	0	97	284	147	0	528	0	86	281	172	0	539	0	243	154	62	0	1970		
5:00PM	22	108	9	0	139	0	36	94	50	1	181	0	23	87	41	0	151	0	65	43	11	0	590		
5:15PM	10	77	6	0	93	0	18	89	51	0	158	0	19	97	45	0	161	0	46	42	6	0	506		
5:30PM	13	52	5	0	70	0	25	94	32	0	151	0	12	76	46	0	134	0	41	30	12	0	438		
5:45PM	9	51	7	0	67	0	14	57	27	0	98	0	6	80	47	1	134	0	35	26	9	0	369		
Hourly Total	54	288	27	0	369	0	93	334	160	1	588	0	60	340	179	1	580	0	187	141	38	0	1903		
6:00PM	4	52	2	0	58	0	10	55	28	0	93	0	11	40	35	0	86	0	23	34	4	0	298		
6:15PM	4	42	11	0	57	0	7	50	13	0	70	0	15	50	31	0	96	0	31	24	9	0	287		
6:30PM	6	39	6	0	51	0	13	39	16	0	68	0	9	45	21	0	75	0	26	19	7	0	246		
6:45PM	9	42	8	0	59	0	8	30	13	0	51	0	3	40	15	0	58	0	21	17	4	0	210		
Hourly Total	23	175	27	0	225	0	38	174	70	0	282	0	38	175	102	0	315	0	101	94	24	0	1041		
7:00PM	6	27	4	0	37	0	9	38	19	0	66	0	6	47	22	0	75	0	23	13	5	0	219		
7:15PM	5	30	2	0	37	0	9	39	16	0	64	0	5	49	16	0	70	0	20	14	2	0	207		
7:30PM	1	18	2	0	21	0	5	24	6	0	35	0	3	39	17	0	59	0	8	18	6	0	147		
7:45PM	1	23	3	0	27	0	2	29	6	0	37	0	11	36	25	0	72	0	8	13	4	0	161		
Hourly Total	13	98	11	0	122	0	25	130	47	0	202	0	25	171	80	0	276	0	59	58	17	0	734		
8:00PM	2	21	6	0	29	0	4	14	5	0	23	0	4	37	17	0	58	0	9	9	3	0	131		
8:15PM	0	21	2	0	23	0	7	26	12	0	45	0	2	32	14	0	48	0	17	16	1	0	150		
8:30PM	4	11	3	0	18	0	5	21	4	0	30	0	2	28	23	0	53	0	8	8	1	0	118		
8:45PM	6	17	2	0	25	0	10	24	11	0	45	0	2	26	13	0	41	0	10	12	1	0	134		
Hourly Total	12	70	13	0	95	0	26	85	32	0	143	0	10	123	67	0	200	0	44	45	6	0	533		
9:00PM	3	17	2	0	22	0	10	26	8	0	44	0	2	28	25	0	55	0	15	14	5	0	155		
9:15PM	4	15	0	0	19	0	1	18	10	0	29	0	1	29	21	0	51	0	11	20	6	0	136		
9:30PM	0	17	3	0	20	0	4	18	4	0	26	0	1	19	17	0	37	0	9	6	2	0	100		
9:45PM	0	19	0	0	19	0	3	6	6	0	15	0	1	26	8	0	35	0	4	8	5	0	86		
Hourly Total	7	68	5	0	80	0	18	68	28	0	114	0	5	102	71	0	178	0	39	48	18	0	477		
10:00PM	0	11	0	0	11	0	4	7	0	0	11	0	1	27	10	0	38	0	10	7	2	0	79		
10:15PM	1	13	0	0	14	0	3	3	4	0	10	0	2	30	4	0	36	0	3	4	1	0	68		
10:30PM	1	13	0	0	14	0	7	6	4	0	17	0	0	29	8	0	37	0	6	10	5	0	89		
10:45PM	2	10	0	0	12	0	1	8	3	0	12	0	0	28	5	0	33	0	4	3	5	0	69		
Hourly Total	4	47	0	0	51	0	15	24	11	0	50	0	3	114	27	0	144	0	23	24	13	0	305		
11:00PM	2	27	7	0	36	0	2	5	3	0	10	0	3	23	10	0	36	0	10	3	1	0	96		
11:15PM	0	9	1	0	10	0	1	6	1	0	8	0	2	14	3	0	19	0	3	5	2	0	47		
11:30PM	0	18	2	0	20	0	3	7	1	0	11	0	0	9	5	0	14	0	3	3	1	0	52		
11:45PM	1	13	1	0	15	0	0	5	1	0	6	0	0	13	5	1	19	0	4	6	1	0	51		
Hourly Total	3	67	11	0	81	0	6	23	6	0	35	0	5	59	23	1	88	0	20	17	5	0	246		
Total	273	1720	244	0	2237	0	433	1519	710	1	2663	0	393	1939	1078	4	3414	0	1096	852	295	0	2243	1	10557
% Approach	12.2%	76.9%	10.9%	0%	-	-	16.3%	57.0%	26.7%	0%	-	-	11.5%	56.8%	31.6%	0.1%	-	-	48.9%	38.0%	13.2%	0%	-	-	
% Total	2.6%	16.3%	2.3%	0%	21.2%	-	4.1%	14.4%	6.7%	0%	25.2%	-	3.7%	18.4%	10.2%	0%	32.3%	-	10.4%	8.1%	2.8%	0%	21.2%	-	
Lights	266	1635	211	0	2112	-	416	1485	619	1	2521	-	327	1818	944	2	3091	-	962	827	285	0	2074	-	9798
% Lights	97.4%	95.1%	86.5%	0%	94.4%	-	96.1%	97.8%	87.2%	100%	94.7%	-	83.2%	93.8%	87.6%	50.0%	90.5%	-	87.8%	97.1%	96.6%	0%	92.5%	-	92.8%
Articulated Trucks	5	55	18	0	78	-	7	6	75	0	88	-	41	68	91	2	202	-	104	11	4	0	119	-	487
% Articulated Trucks	1.8%	3.2%	7.4%	0%	3.5%	-	1.6%	0.4%	10.6%	0%	3.3%	-	10.4%	3.5%	8.4%	50.0%	5.9%	-	9.5%	1.3%	1.4%	0%	5.3%	-	4.6%
Buses and Single-Unit Trucks	2	30	15	0	47	-	10	28	16	0	54	-	25	53	43	0	121	-	30	14	6	0	50	-	272

Leg Direction	Morgan Road Southbound						Reno Avenue Westbound						Morgan Road Northbound						Reno Avenue Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
% Buses and Single-Unit Trucks	0.7%	1.7%	6.1%	0%	2.1%	-	2.3%	1.8%	2.3%	0%	2.0%	-	6.4%	2.7%	4.0%	0%	3.5%	-	2.7%	1.6%	2.0%	0%	2.2%	-	2.6%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	1
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 100%

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Reno Avenue at Morgan Road - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

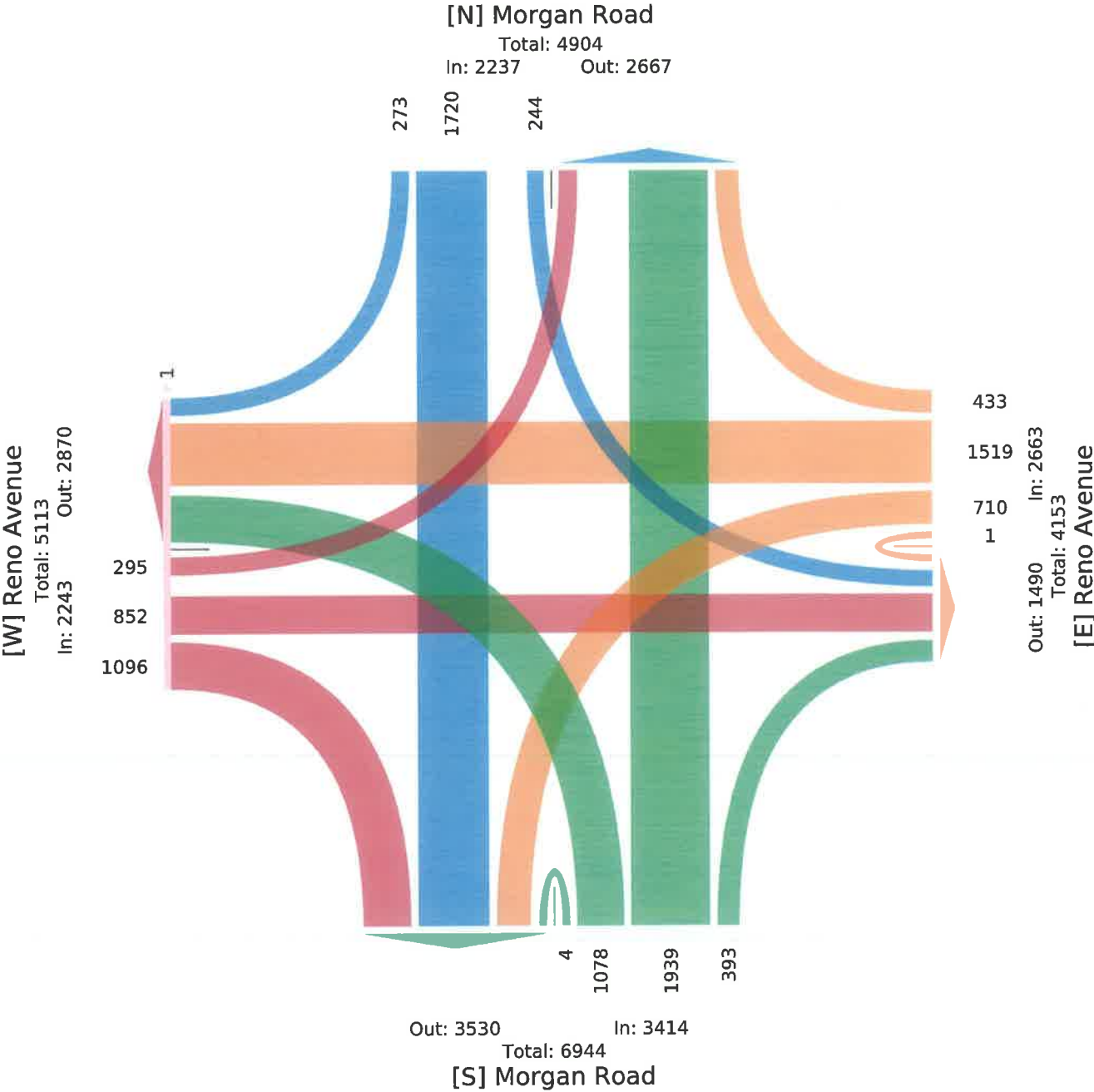
All Movements

ID: 1128550, Location: 35.464342, -97.689054



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# 1. Reno Avenue at Morgan Road - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 3:30PM - 4:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128550, Location: 35.464342, -97.689054



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Morgan Road Southbound						Reno Avenue Westbound						Morgan Road Northbound						Reno Avenue Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 3:30PM	10	61	14	0	85	0	28	54	25	0	107	0	29	78	56	0	163	0	89	53	38	0	180	0	535
3:45PM	11	82	13	0	106	0	17	59	21	0	97	0	20	85	66	0	171	0	59	47	10	0	116	0	490
4:00PM	18	109	11	0	138	0	24	62	43	0	129	0	27	72	41	0	140	0	81	47	29	0	157	0	564
4:15PM	10	95	22	0	127	0	20	80	27	0	127	0	18	85	41	0	144	0	34	28	10	0	72	0	470
<b>Total</b>	<b>49</b>	<b>347</b>	<b>60</b>	<b>0</b>	<b>456</b>	<b>0</b>	<b>89</b>	<b>255</b>	<b>116</b>	<b>0</b>	<b>460</b>	<b>0</b>	<b>94</b>	<b>320</b>	<b>204</b>	<b>0</b>	<b>618</b>	<b>0</b>	<b>263</b>	<b>175</b>	<b>87</b>	<b>0</b>	<b>525</b>	<b>0</b>	<b>2059</b>
<b>% Approach</b>	10.7%	76.1%	13.2%	0%	-	-	19.3%	55.4%	25.2%	0%	-	-	15.2%	51.8%	33.0%	0%	-	-	50.1%	33.3%	16.6%	0%	-	-	-
<b>% Total</b>	2.4%	16.9%	2.9%	0%	<b>22.1%</b>	-	4.3%	12.4%	5.6%	0%	<b>22.3%</b>	-	4.6%	15.5%	9.9%	0%	<b>30.0%</b>	-	12.8%	8.5%	4.2%	0%	<b>25.5%</b>	-	-
<b>PHF</b>	0.681	0.796	0.682	-	<b>0.826</b>	-	0.795	0.797	0.674	-	<b>0.891</b>	-	0.810	0.941	0.773	-	<b>0.904</b>	-	0.739	0.825	0.572	-	<b>0.729</b>	-	0.913
<b>Lights</b>	48	335	48	0	431	-	84	247	107	0	438	-	78	298	175	0	551	-	246	168	86	0	500	-	1920
<b>% Lights</b>	98.0%	96.5%	80.0%	0%	<b>94.5%</b>	-	94.4%	96.9%	92.2%	0%	<b>95.2%</b>	-	83.0%	93.1%	85.8%	0%	<b>89.2%</b>	-	93.5%	96.0%	98.9%	0%	<b>95.2%</b>	-	93.2%
<b>Articulated Trucks</b>	0	5	6	0	11	-	2	2	6	0	10	-	8	16	20	0	44	-	13	3	0	0	16	-	81
<b>% Articulated Trucks</b>	0%	1.4%	10.0%	0%	<b>2.4%</b>	-	2.2%	0.8%	5.2%	0%	<b>2.2%</b>	-	8.5%	5.0%	9.8%	0%	<b>7.1%</b>	-	4.9%	1.7%	0%	0%	<b>3.0%</b>	-	3.9%
<b>Buses and Single-Unit Trucks</b>	1	7	6	0	14	-	3	6	3	0	12	-	8	6	9	0	23	-	4	4	1	0	9	-	58
<b>% Buses and Single-Unit Trucks</b>	2.0%	2.0%	10.0%	0%	<b>3.1%</b>	-	3.4%	2.4%	2.6%	0%	<b>2.6%</b>	-	8.5%	1.9%	4.4%	0%	<b>3.7%</b>	-	1.5%	2.3%	1.1%	0%	<b>1.7%</b>	-	2.8%
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Reno Avenue at Morgan Road - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 3:30PM - 4:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

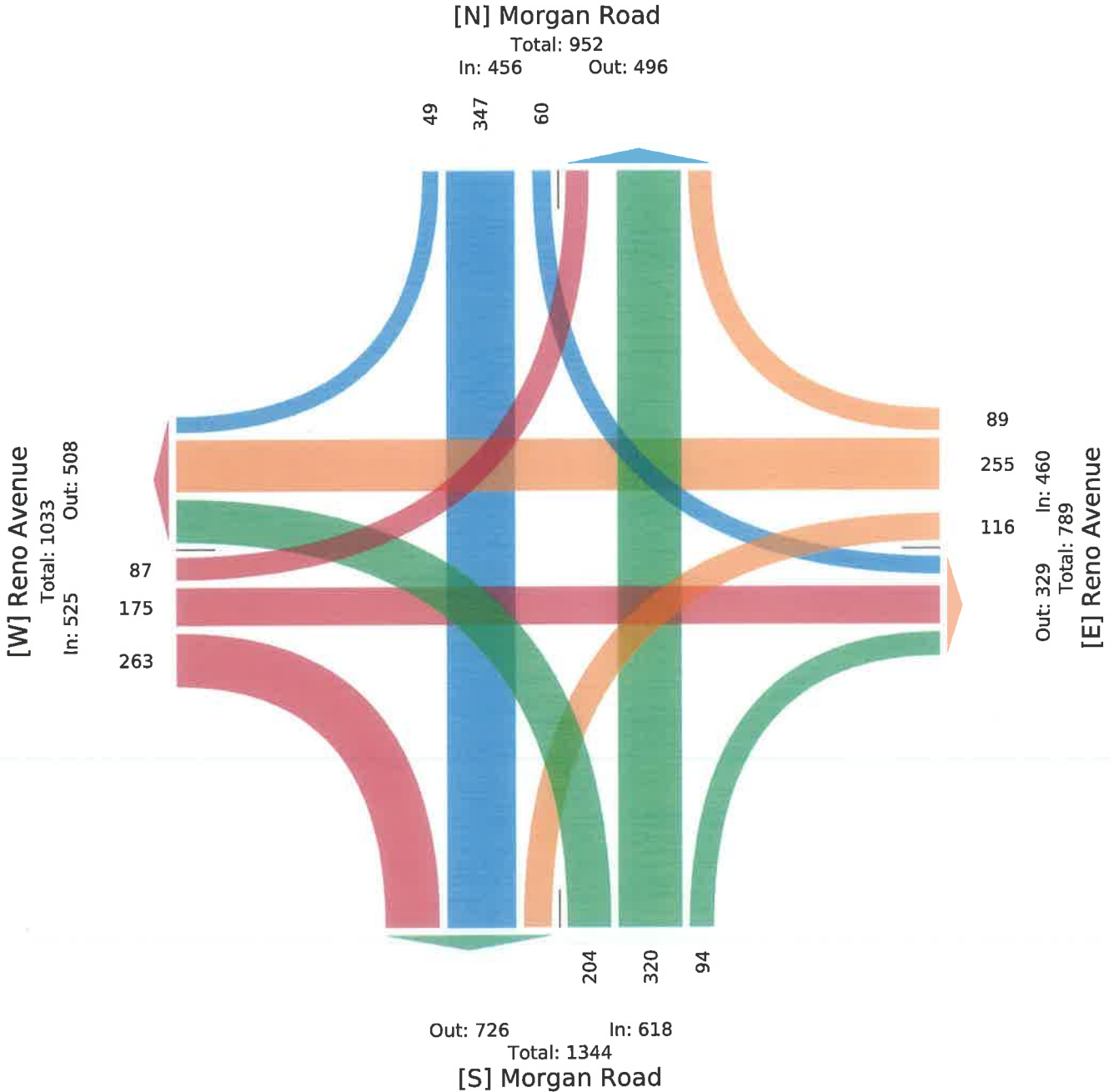
All Movements

ID: 1128550, Location: 35.464342, -97.689054



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



## 2. Reno Avenue at Sara Road - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128551, Location: 35.464331, -97.706851



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Sara Road Southbound						Reno Avenue Westbound						Sara Road Northbound						Reno Avenue Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 2:00PM	12	27	20	0	59	0	16	66	15	0	97	0	4	24	21	0	49	0	26	30	15	0	71	0	276
2:15PM	28	27	20	0	75	0	24	48	11	0	83	0	5	19	20	0	44	0	25	35	13	0	73	0	275
2:30PM	23	31	15	0	69	0	15	59	7	0	81	0	3	23	21	0	47	0	29	40	16	0	85	0	282
2:45PM	19	25	11	0	55	0	17	55	8	0	80	0	8	24	27	0	59	0	20	39	12	0	71	0	265
Hourly Total	82	110	66	0	258	0	72	228	41	0	341	0	20	90	89	0	199	0	100	144	56	0	300	0	1098
3:00PM	20	30	20	0	70	0	14	58	6	0	78	0	6	26	26	0	58	0	26	29	14	0	69	0	275
3:15PM	28	38	19	0	85	0	5	56	8	0	69	0	6	37	22	0	65	0	21	39	11	0	71	0	290
3:30PM	27	38	12	0	77	0	26	71	13	0	110	0	9	28	16	0	53	0	24	37	22	0	83	0	323
3:45PM	35	40	21	0	96	0	12	73	14	0	99	0	4	30	29	0	63	0	28	43	20	0	91	0	349
Hourly Total	110	146	72	0	328	0	57	258	41	0	356	0	25	121	93	0	239	0	99	148	67	0	314	0	1237
4:00PM	46	51	23	0	120	0	20	91	24	0	135	0	4	38	36	0	78	0	29	24	25	0	78	0	411
4:15PM	58	41	16	0	115	0	19	83	15	0	117	0	4	25	32	0	61	0	29	31	24	0	84	0	377
4:30PM	51	43	20	0	114	0	26	106	27	0	159	0	6	24	29	0	59	0	32	32	19	0	83	0	415
4:45PM	56	42	15	0	113	0	23	92	21	0	136	0	5	31	37	0	73	0	28	31	22	0	81	0	403
Hourly Total	211	177	74	0	462	0	88	372	87	0	547	0	19	118	134	0	271	0	118	118	90	0	326	0	1606
5:00PM	41	44	22	0	107	0	20	131	30	0	181	0	3	37	37	0	77	0	34	37	23	0	94	0	459
5:15PM	60	71	17	0	148	0	16	118	16	0	150	0	4	35	37	0	76	0	42	42	28	0	112	0	486
5:30PM	49	55	14	0	118	0	12	140	10	0	162	0	6	44	38	0	88	0	30	33	19	0	82	0	450
5:45PM	36	47	16	0	99	0	5	97	13	0	115	0	6	32	40	0	78	0	26	36	17	0	79	0	371
Hourly Total	186	217	69	0	472	0	53	486	69	0	608	0	19	148	152	0	319	0	132	148	87	0	367	0	1766
6:00PM	34	32	11	0	77	0	5	86	5	0	96	0	6	23	25	0	54	0	34	31	24	0	89	0	316
6:15PM	44	26	14	0	84	0	9	68	14	0	91	0	8	36	32	0	76	0	37	32	19	0	88	0	339
6:30PM	28	27	14	0	69	0	16	53	6	0	75	0	3	21	26	0	50	0	45	29	18	0	92	0	286
6:45PM	19	28	2	0	49	0	8	47	7	0	62	0	11	21	22	0	54	0	21	21	21	0	63	0	228
Hourly Total	125	113	41	0	279	0	38	254	32	0	324	0	28	101	105	0	234	0	137	113	82	0	332	0	1169
7:00PM	27	25	3	0	55	0	11	50	4	0	65	0	4	24	17	0	45	0	28	13	18	0	59	0	224
7:15PM	22	24	12	0	58	0	8	52	5	0	65	0	1	16	16	0	33	0	28	15	11	0	54	0	210
7:30PM	17	24	4	0	45	0	3	27	6	0	36	0	4	14	19	0	37	0	25	18	16	0	59	0	177
7:45PM	19	23	6	0	48	0	11	33	5	0	49	0	1	20	14	0	35	0	23	18	16	0	57	0	189
Hourly Total	85	96	25	0	206	0	33	162	20	0	215	0	10	74	66	0	150	0	104	64	61	0	229	0	800
8:00PM	16	5	3	0	24	0	2	23	7	0	32	0	5	12	10	0	27	0	15	10	11	0	36	0	119
8:15PM	14	14	7	0	35	0	4	20	4	0	28	0	4	8	13	0	25	0	23	17	19	0	59	0	147
8:30PM	17	15	5	0	37	0	6	36	2	0	44	0	2	11	11	0	24	0	15	10	11	0	36	0	141
8:45PM	9	10	5	0	24	0	5	35	3	0	43	0	2	7	11	0	20	0	20	13	13	0	46	0	133
Hourly Total	56	44	20	0	120	0	17	114	16	0	147	0	13	38	45	0	96	0	73	50	54	0	177	0	540
9:00PM	8	7	5	0	20	0	5	32	2	0	39	0	1	7	14	0	22	0	12	15	4	0	31	0	112
9:15PM	11	8	4	0	23	0	7	31	4	0	42	0	4	8	8	0	20	0	16	22	7	0	45	0	130
9:30PM	6	5	2	0	13	0	6	28	2	0	36	0	1	5	6	0	12	0	10	15	10	0	35	0	96
9:45PM	14	10	3	0	27	0	2	10	0	0	12	0	0	3	5	0	8	0	7	12	10	0	29	0	76
Hourly Total	39	30	14	0	83	0	20	101	8	0	129	0	6	23	33	0	62	0	45	64	31	0	140	0	414
10:00PM	4	4	4	0	12	0	1	12	3	0	16	0	2	6	8	0	16	0	8	10	6	0	24	0	68
10:15PM	8	8	1	0	17	0	0	4	0	0	4	0	0	6	5	0	11	0	7	4	12	0	23	0	55
10:30PM	4	2	3	0	9	0	0	14	0	0	14	0	1	7	1	0	9	0	10	14	4	0	28	0	60
10:45PM	6	1	1	0	8	0	2	10	1	0	13	0	1	1	2	0	4	0	4	9	3	0	16	0	41
Hourly Total	22	15	9	0	46	0	3	40	4	0	47	0	4	20	16	0	40	0	29	37	25	0	91	0	224
11:00PM	8	6	9	0	23	0	1	7	1	0	9	0	0	4	0	0	4	0	3	6	1	0	10	0	46
11:15PM	2	2	1	0	5	0	1	9	1	0	11	0	0	2	2	0	4	0	3	5	0	0	8	0	28
11:30PM	1	4	1	0	6	0	0	6	2	0	8	0	1	3	3	0	7	0	2	9	2	0	13	0	34
11:45PM	5	1	4	0	10	0	0	12	0	0	12	0	0	2	2	0	4	0	1	4	5	0	10	0	36
Hourly Total	16	13	15	0	44	0	2	34	4	0	40	0	1	11	7	0	19	0	9	24	8	0	41	0	144
Total	932	961	405	0	2298	0	383	2049	322	0	2754	0	145	744	740	0	1629	0	846	910	561	0	2317	0	8998
% Approach	40.6%	41.8%	17.6%	0%	-	-	13.9%	74.4%	11.7%	0%	-	-	8.9%	45.7%	45.4%	0%	-	-	36.5%	39.3%	24.2%	0%	-	-	-
% Total	10.4%	10.7%	4.5%	0%	25.5%	-	4.3%	22.8%	3.6%	0%	30.6%	-	1.6%	8.3%	8.2%	0%	18.1%	-	9.4%	10.1%	6.2%	0%	25.8%	-	-
Lights	922	937	340	0	2199	-	331	2033	316	0	2680	-	142	718	736	0	1596	-	840	888	553	0	2281	-	8756
% Lights	98.9%	97.5%	84.0%	0%	95.7%	-	86.4%	99.2%	98.1%	0%	97.3%	-	97.9%	96.5%	99.5%	0%	98.0%	-	99.3%	97.6%	98.6%	0%	98.4%	-	97.3%
Articulated Trucks	5	12	51	0	68	-	29	7	2	0	38	-	1	8	0	0	9	-	0	12	7	0	19	-	134

Leg Direction	Sara Road Southbound						Reno Avenue Westbound						Sara Road Northbound						Reno Avenue Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
% Articulated Trucks	0.5%	1.2%	12.6%	0%	3.0%	-	7.6%	0.3%	0.6%	0%	1.4%	-	0.7%	1.1%	0%	0%	0.6%	-	0%	1.3%	1.2%	0%	0.8%	-	1.5%
Buses and Single-Unit Trucks	5	12	14	0	31	-	23	9	4	0	36	-	2	18	4	0	24	-	6	10	1	0	17	-	108
% Buses and Single-Unit Trucks	0.5%	1.2%	3.5%	0%	1.3%	-	6.0%	0.4%	1.2%	0%	1.3%	-	1.4%	2.4%	0.5%	0%	1.5%	-	0.7%	1.1%	0.2%	0%	0.7%	-	1.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2. Reno Avenue at Sara Road - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

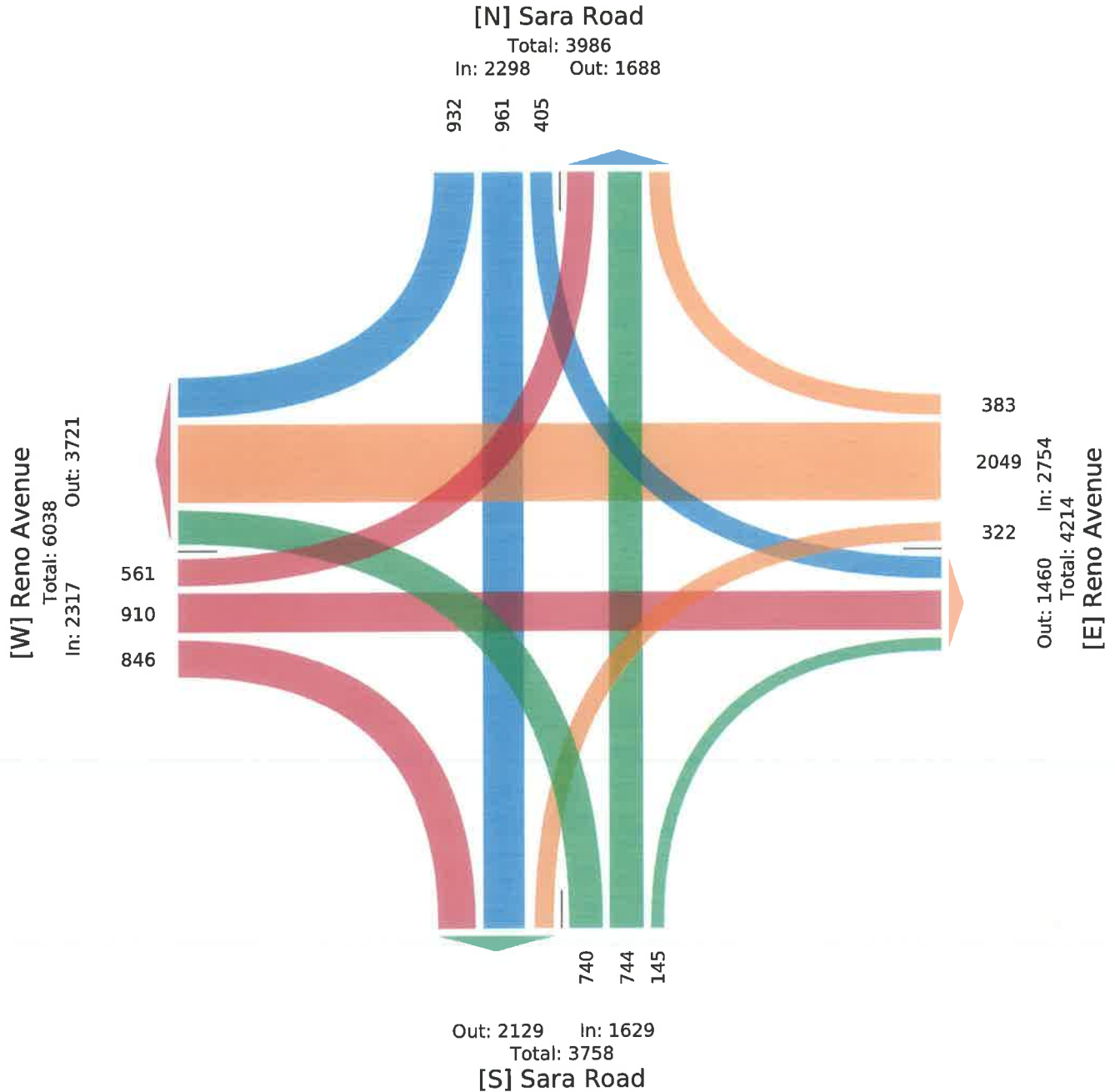
ID: 1128551, Location: 35.464331, -97.706851



Provided by: C. J. Hensch & Associates

Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





## 2. Reno Avenue at Sara Road - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128551, Location: 35.464331, -97.706851



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Sara Road Southbound						Reno Avenue Westbound						Sara Road Northbound						Reno Avenue Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 4:45PM	56	42	15	0	113	0	23	92	21	0	136	0	5	31	37	0	73	0	28	31	22	0	81	0	403
5:00PM	41	44	22	0	107	0	20	131	30	0	181	0	3	37	37	0	77	0	34	37	23	0	94	0	459
5:15PM	60	71	17	0	148	0	16	118	16	0	150	0	4	35	37	0	76	0	42	42	28	0	112	0	486
5:30PM	49	55	14	0	118	0	12	140	10	0	162	0	6	44	38	0	88	0	30	33	19	0	82	0	450
<b>Total</b>	206	212	68	0	486	0	71	481	77	0	629	0	18	147	149	0	314	0	134	143	92	0	369	0	1798
<b>% Approach</b>	42.4%	43.6%	14.0%	0%	-	-	11.3%	76.5%	12.2%	0%	-	-	5.7%	46.8%	47.5%	0%	-	-	36.3%	38.8%	24.9%	0%	-	-	-
<b>% Total</b>	11.5%	11.8%	3.8%	0%	27.0%	-	3.9%	26.8%	4.3%	0%	35.0%	-	1.0%	8.2%	8.3%	0%	17.5%	-	7.5%	8.0%	5.1%	0%	20.5%	-	-
<b>PHF</b>	0.858	0.746	0.773	-	0.821	-	0.772	0.859	0.642	-	0.869	-	0.750	0.835	0.980	-	0.892	-	0.798	0.851	0.821	-	0.824	-	0.925
<b>Lights</b>	205	209	63	0	477	-	64	481	75	0	620	-	18	143	149	0	310	-	134	140	92	0	366	-	1773
<b>% Lights</b>	99.5%	98.6%	92.6%	0%	98.1%	-	90.1%	100%	97.4%	0%	98.6%	-	100%	97.3%	100%	0%	98.7%	-	100%	97.9%	100%	0%	99.2%	-	98.6%
<b>Articulated Trucks</b>	1	0	4	0	5	-	3	0	1	0	4	-	0	0	0	0	0	-	0	1	0	0	1	-	10
<b>% Articulated Trucks</b>	0.5%	0%	5.9%	0%	1.0%	-	4.2%	0%	1.3%	0%	0.6%	-	0%	0%	0%	0%	0%	-	0%	0.7%	0%	0%	0.3%	-	0.6%
<b>Buses and Single-Unit Trucks</b>	0	3	1	0	4	-	4	0	1	0	5	-	0	4	0	0	4	-	0	2	0	0	2	-	15
<b>% Buses and Single-Unit Trucks</b>	0%	1.4%	1.5%	0%	0.8%	-	5.6%	0%	1.3%	0%	0.8%	-	0%	2.7%	0%	0%	1.3%	-	0%	1.4%	0%	0%	0.5%	-	0.8%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

## 2. Reno Avenue at Sara Road - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

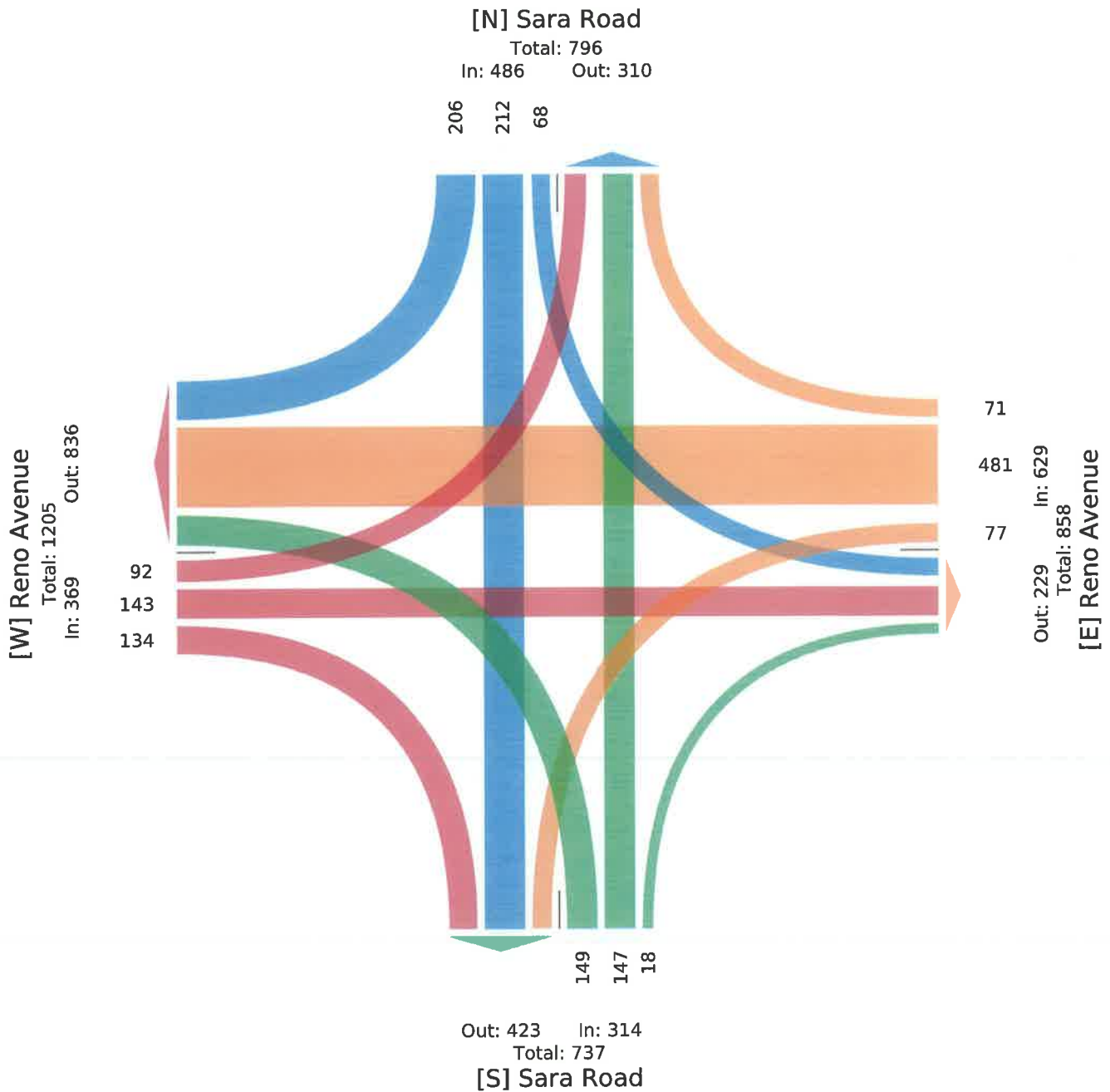
All Movements

ID: 1128551, Location: 35.464331, -97.706851



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



### 3. Mustang Road at SW 11th Street - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128552, Location: 35.454129, -97.724691



Provided by: C. J. Hensch & Associates  
Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Mustang Road Southbound					SW 11th Street Westbound					Mustang Road Northbound					SW 11th Street Eastbound									
Time	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	Int				
2023-11-02 2:00PM	6	152	0	0	158	0	0	0	0	0	0	157	6	0	163	0	11	0	3	0	14	0	335		
2:15PM	10	163	0	0	173	0	0	0	0	0	0	182	14	0	196	0	8	0	8	0	16	0	385		
2:30PM	4	167	0	0	171	0	1	0	0	1	0	185	15	0	201	0	7	0	8	0	15	0	388		
2:45PM	8	169	0	0	177	0	1	0	0	1	1	209	14	0	223	0	8	0	4	0	12	0	413		
Hourly Total	28	651	0	0	679	0	2	0	0	2	1	733	49	0	783	0	34	0	23	0	57	0	1521		
3:00PM	11	175	0	0	186	0	0	0	0	0	0	173	11	0	185	0	15	0	6	0	21	0	392		
3:15PM	10	189	0	0	199	0	0	0	0	0	1	203	17	0	220	0	13	0	6	0	19	0	438		
3:30PM	14	183	1	0	198	0	2	0	0	2	0	204	19	0	223	0	7	0	6	0	13	0	436		
3:45PM	23	200	0	0	223	0	0	0	0	0	0	202	23	0	225	0	11	0	8	0	19	0	467		
Hourly Total	58	747	1	0	806	0	2	0	0	2	1	782	70	0	853	0	46	0	26	0	72	0	1733		
4:00PM	9	183	1	0	193	0	1	0	0	1	1	196	22	0	219	0	4	0	6	0	10	0	423		
4:15PM	19	203	0	0	222	0	0	0	0	0	1	189	6	0	195	0	13	0	12	0	25	0	442		
4:30PM	18	229	1	0	248	0	1	0	0	1	1	169	23	0	192	0	16	0	4	0	20	0	461		
4:45PM	18	235	0	0	253	0	0	0	0	0	0	209	16	0	225	0	19	0	7	0	26	0	504		
Hourly Total	64	850	2	0	916	0	2	0	0	2	3	763	67	0	831	0	52	0	29	0	81	0	1830		
5:00PM	22	253	1	0	276	0	2	0	0	2	1	208	21	0	230	0	13	0	6	0	19	0	527		
5:15PM	18	246	0	0	264	0	1	1	0	2	0	235	22	0	257	0	18	0	11	0	29	0	552		
5:30PM	18	241	0	0	259	0	2	0	0	2	0	3	202	13	0	218	0	11	0	3	0	14	0	493	
5:45PM	14	245	0	0	259	0	1	0	0	1	1	188	20	0	209	0	13	0	8	0	21	0	490		
Hourly Total	72	985	1	0	1058	0	6	1	0	7	2	5	833	76	0	914	0	55	0	28	0	83	0	2062	
6:00PM	11	223	1	0	235	0	1	1	0	2	1	188	12	0	201	0	13	0	6	0	19	0	457		
6:15PM	16	207	0	0	223	0	0	0	0	0	0	213	21	0	234	0	10	0	8	1	19	0	476		
6:30PM	15	236	0	0	251	0	0	0	0	0	0	177	6	0	183	0	8	0	4	0	12	0	446		
6:45PM	12	178	0	0	190	0	0	0	0	0	0	174	7	0	181	0	11	0	5	0	16	0	387		
Hourly Total	54	844	1	0	899	0	1	1	0	2	1	1	752	46	0	799	0	42	0	23	1	66	0	1766	
7:00PM	8	156	0	0	164	0	0	0	0	0	0	150	10	0	160	0	7	0	5	0	12	0	336		
7:15PM	14	141	0	0	155	0	0	0	0	0	0	169	8	0	178	0	4	0	6	0	10	0	343		
7:30PM	9	143	0	0	152	0	0	0	0	0	1	126	7	0	133	0	6	0	7	0	13	0	298		
7:45PM	10	123	0	0	133	0	0	1	0	1	0	136	5	0	141	0	6	0	8	0	14	0	289		
Hourly Total	41	563	0	0	604	0	0	1	0	1	1	1	581	30	0	612	0	23	0	26	0	49	0	1266	
8:00PM	13	132	0	0	145	0	0	0	0	0	0	125	9	0	134	0	3	0	2	0	5	0	284		
8:15PM	7	117	0	0	124	0	0	0	0	0	0	99	9	0	108	0	7	0	7	0	14	0	246		
8:30PM	9	112	0	0	121	0	0	0	0	0	0	100	4	0	104	0	6	0	3	0	9	0	234		
8:45PM	8	83	0	0	91	0	1	0	0	1	0	86	8	0	94	0	7	0	3	0	10	0	196		
Hourly Total	37	444	0	0	481	0	1	0	0	1	0	0	410	30	0	440	0	23	0	15	0	38	0	960	
9:00PM	8	107	0	0	115	0	0	0	0	0	0	71	4	0	75	0	5	0	4	0	9	0	199		
9:15PM	10	80	0	0	90	0	0	0	0	0	0	90	4	0	94	0	6	0	4	0	10	0	194		
9:30PM	10	78	0	0	88	0	0	0	0	0	0	65	6	0	72	0	4	0	1	0	5	0	165		
9:45PM	4	63	0	0	67	0	0	0	0	0	0	51	2	0	53	0	3	0	5	0	8	0	128		
Hourly Total	32	328	0	0	360	0	0	0	0	0	0	1	277	16	0	294	0	18	0	14	0	32	0	686	
10:00PM	6	58	0	0	64	0	0	0	0	0	0	44	4	0	48	0	6	0	2	0	8	0	120		
10:15PM	6	45	0	0	51	0	0	0	0	0	0	51	3	0	54	0	2	0	5	0	7	0	112		
10:30PM	5	35	0	0	40	0	0	0	0	0	0	34	3	0	37	0	1	0	4	0	5	0	82		
10:45PM	1	33	0	0	34	0	0	0	0	0	0	27	1	0	28	0	1	0	5	0	6	0	68		
Hourly Total	18	171	0	0	189	0	0	0	0	0	0	0	156	11	0	167	0	10	0	16	0	26	0	382	
11:00PM	4	29	0	0	33	0	0	0	0	0	0	1	29	2	0	32	0	1	0	0	0	1	0	66	
11:15PM	3	21	0	0	24	0	0	0	0	0	0	23	5	0	28	0	2	0	3	0	5	0	57		
11:30PM	0	19	0	0	19	0	0	0	0	0	0	21	1	0	22	0	0	0	1	0	1	0	42		
11:45PM	3	24	0	0	27	0	1	0	0	1	0	18	0	0	18	0	0	0	1	0	1	0	47		
Hourly Total	10	93	0	0	103	0	1	0	0	1	0	1	91	8	0	100	0	3	0	5	0	8	0	212	
Total	414	5676	5	0	6095	0	15	3	0	18	9	12	5378	403	0	5793	0	306	0	205	1	512	0	12418	
% Approach	6.8%	93.1%	0.1%	0%	-	-	83.3%	16.7%	0%	0%	-	0.2%	92.8%	7.0%	0%	-	-	59.8%	0%	40.0%	0.2%	-	-	-	
% Total	3.3%	45.7%	0%	0%	49.1%	-	0.1%	0%	0%	0.1%	-	0.1%	43.3%	3.2%	0%	46.7%	-	2.5%	0%	1.7%	0%	4.1%	-	-	
Lights	412	5641	5	0	6058	-	15	3	0	18	-	12	5323	398	0	5733	-	300	0	204	1	505	-	12314	
% Lights	99.5%	99.4%	100%	0%	99.4%	-	100%	100%	0%	0%	100%	-	100%	99.0%	98.8%	0%	99.0%	-	98.0%	0%	99.5%	100%	98.6%	-	99.2%

Leg Direction	Mustang Road Southbound						SW 11th Street Westbound						Mustang Road Northbound						SW 11th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
Articulated Trucks	0	8	0	0	8	-	0	0	0	0	0	-	0	12	1	0	13	-	0	0	0	0	0	-	21
% Articulated Trucks	0%	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0%	0.2%	0.2%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0.2%
Buses and Single-Unit Trucks	2	27	0	0	29	-	0	0	0	0	0	-	0	43	4	0	47	-	6	0	1	0	7	-	83
% Buses and Single-Unit Trucks	0.5%	0.5%	0%	0%	0.5%	-	0%	0%	0%	0%	0%	-	0%	0.8%	1.0%	0%	0.8%	-	2.0%	0%	0.5%	0%	1.4%	-	0.7%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	- 77.8%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	- 22.2%	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

### 3. Mustang Road at SW 11th Street - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

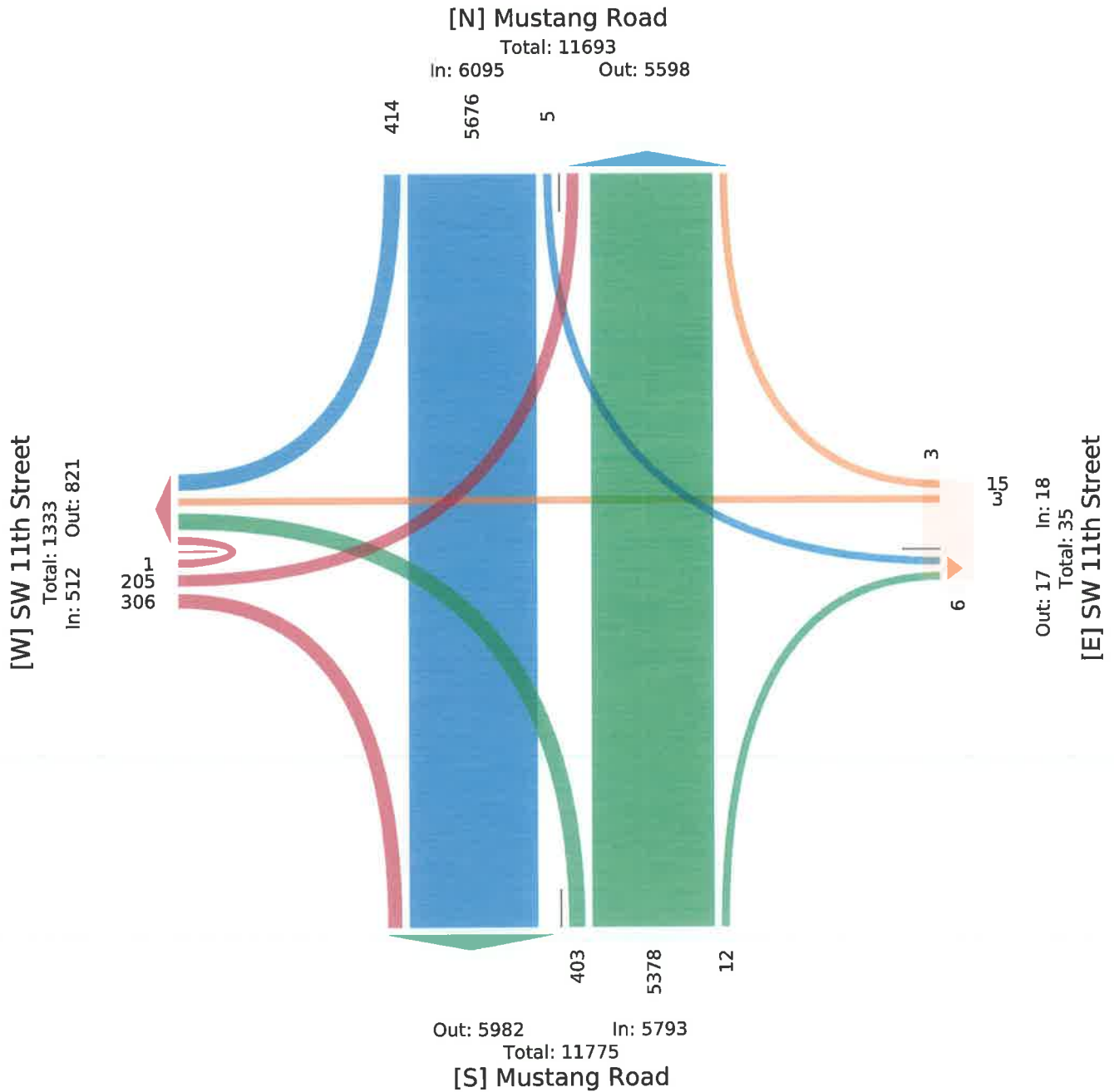
All Movements

ID: 1128552, Location: 35.454129, -97.724691



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





### 3. Mustang Road at SW 11th Street - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128552, Location: 35.454129, -97.724691



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Mustang Road Southbound						SW 11th Street Westbound						Mustang Road Northbound						SW 11th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 4:45PM	18	235	0	0	253	0	0	0	0	0	0	0	0	209	16	0	225	0	19	0	7	0	26	0	504
5:00PM	22	253	1	0	276	0	2	0	0	0	2	1	1	208	21	0	230	0	13	0	6	0	19	0	527
5:15PM	18	246	0	0	264	0	1	1	0	0	2	0	0	235	22	0	257	0	18	0	11	0	29	0	552
5:30PM	18	241	0	0	259	0	2	0	0	0	2	0	3	202	13	0	218	0	11	0	3	0	14	0	493
<b>Total</b>	76	975	1	0	1052	0	5	1	0	0	6	1	4	854	72	0	930	0	61	0	27	0	88	0	2076
<b>% Approach</b>	7.2%	92.7%	0.1%	0%	-	-	83.3%	16.7%	0%	0%	-	-	0.4%	91.8%	7.7%	0%	-	-	69.3%	0%	30.7%	0%	-	-	-
<b>% Total</b>	3.7%	47.0%	0%	0%	50.7%	-	0.2%	0%	0%	0%	0.3%	-	0.2%	41.1%	3.5%	0%	44.8%	-	2.9%	0%	1.3%	0%	4.2%	-	-
<b>PHF</b>	0.864	0.963	0.250	-	0.953	-	0.625	0.250	-	-	0.750	-	0.333	0.909	0.818	-	0.905	-	0.803	-	0.614	-	0.759	-	0.940
<b>Lights</b>	76	972	1	0	1049	-	5	1	0	0	6	-	4	849	70	0	923	-	61	0	27	0	88	-	2066
<b>% Lights</b>	100%	99.7%	100%	0%	99.7%	-	100%	100%	0%	0%	100%	-	100%	99.4%	97.2%	0%	99.2%	-	100%	0%	100%	0%	100%	-	99.5%
<b>Articulated Trucks</b>	0	2	0	0	2	-	0	0	0	0	0	-	0	2	1	0	3	-	0	0	0	0	0	-	5
<b>% Articulated Trucks</b>	0%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0.2%	1.4%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	1	0	0	1	-	0	0	0	0	0	-	0	3	1	0	4	-	0	0	0	0	0	-	5
<b>% Buses and Single-Unit Trucks</b>	0%	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0%	0.4%	1.4%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0.2%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-

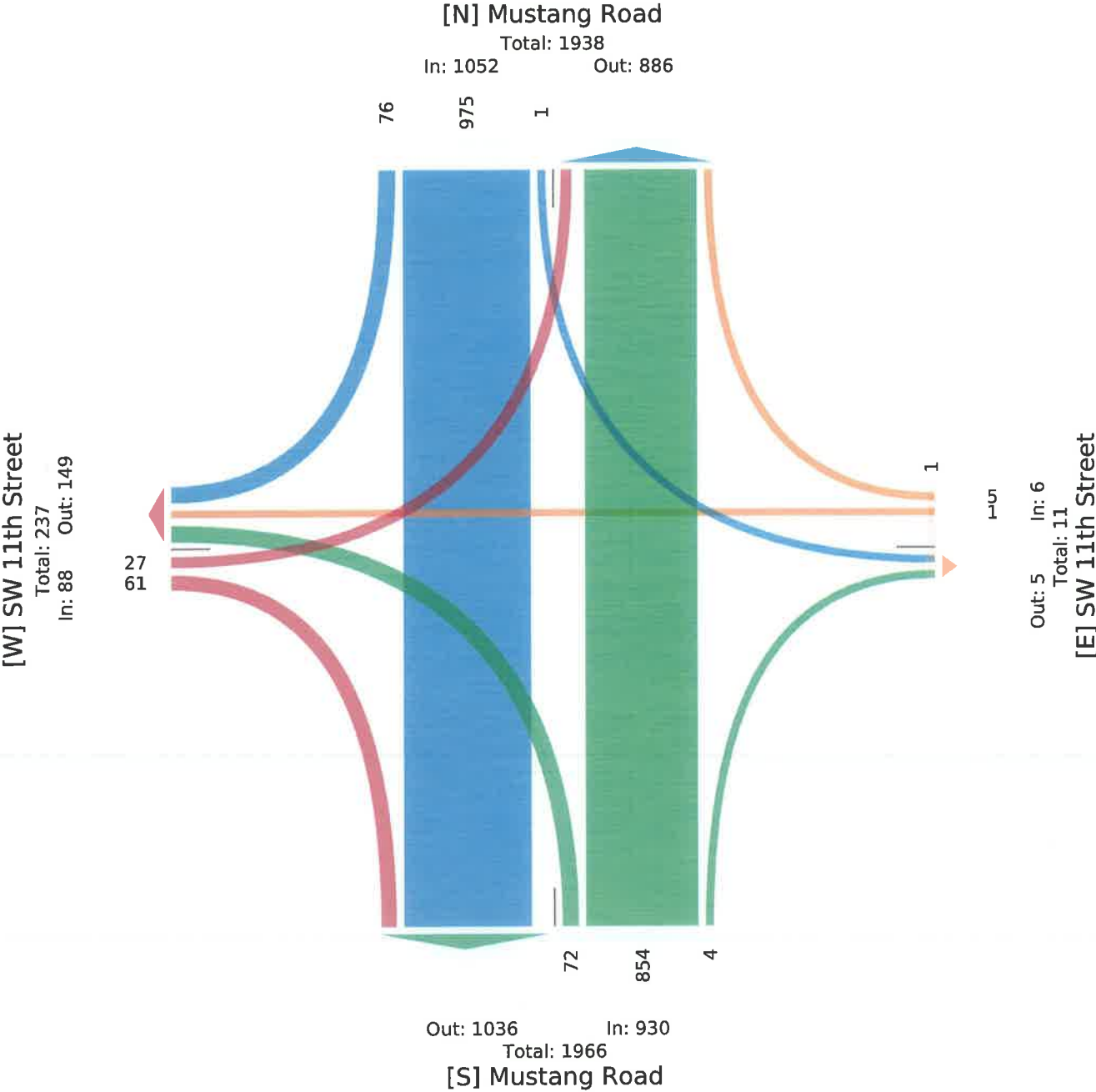
\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. Mustang Road at SW 11th Street - TMC

Thu Nov 2, 2023  
PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour  
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)  
All Movements  
ID: 1128552, Location: 35.454129, -97.724691



Provided by: C. J. Hensch & Associates  
Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



#### 4. 15th Street at JKT SBFR - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128553, Location: 35.449766, -97.717931



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	JKT SBFR Southbound					15th Street Westbound					15th Street Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2023-11-02 2:00PM	52	15	0	67	0	0	47	0	47	0	98	0	0	98	0	212
2:15PM	74	15	0	89	0	0	42	1	43	0	97	0	0	97	0	229
2:30PM	67	9	0	76	0	0	88	0	88	0	89	0	0	89	0	253
2:45PM	67	6	0	73	0	0	92	0	92	0	103	0	0	103	0	268
Hourly Total	260	45	0	305	0	0	269	1	270	0	387	0	0	387	0	962
3:00PM	68	13	0	81	0	0	57	0	57	0	92	0	0	92	0	230
3:15PM	79	28	0	107	0	0	49	0	49	0	117	0	0	117	0	273
3:30PM	102	15	0	117	0	0	82	0	82	0	92	0	0	92	0	291
3:45PM	103	12	0	115	0	0	85	0	85	0	105	0	0	105	0	305
Hourly Total	352	68	0	420	0	0	273	0	273	0	406	0	0	406	0	1099
4:00PM	101	21	0	122	0	0	64	0	64	0	97	0	0	97	0	283
4:15PM	144	34	0	178	0	1	59	1	61	0	103	0	0	103	0	342
4:30PM	132	18	0	150	0	0	54	0	54	0	132	0	0	132	0	336
4:45PM	152	49	0	201	0	1	65	0	66	0	115	0	0	115	0	382
Hourly Total	529	122	0	651	0	2	242	1	245	0	447	0	0	447	0	1343
5:00PM	146	32	0	178	0	0	68	0	68	0	120	0	0	120	0	366
5:15PM	164	42	0	206	0	0	80	0	80	0	111	1	0	112	0	398
5:30PM	138	48	0	186	0	1	63	0	64	0	127	2	0	129	0	379
5:45PM	119	26	0	145	0	0	61	0	61	0	88	1	0	89	0	295
Hourly Total	567	148	0	715	0	1	272	0	273	0	446	4	0	450	0	1438
6:00PM	105	22	0	127	0	0	63	0	63	0	108	0	0	108	0	298
6:15PM	96	18	0	114	0	0	68	0	68	0	106	0	0	106	0	288
6:30PM	82	12	0	94	0	0	43	0	43	0	112	0	0	112	0	249
6:45PM	74	18	0	92	0	0	36	0	36	0	101	0	0	101	0	229
Hourly Total	357	70	0	427	0	0	210	0	210	0	427	0	0	427	0	1064
7:00PM	59	9	0	68	0	0	56	0	56	0	96	0	0	96	0	220
7:15PM	69	19	0	88	0	0	39	0	39	0	70	0	0	70	0	197
7:30PM	52	11	0	63	0	0	37	0	37	0	58	0	0	58	0	158
7:45PM	62	10	0	72	0	0	28	0	28	0	63	0	0	63	0	163
Hourly Total	242	49	0	291	0	0	160	0	160	0	287	0	0	287	0	738
8:00PM	59	11	0	70	0	0	41	0	41	0	63	0	0	63	0	174
8:15PM	56	16	0	72	0	0	28	0	28	0	66	0	0	66	0	166
8:30PM	48	8	0	56	0	0	32	0	32	0	37	0	0	37	0	125
8:45PM	43	13	0	56	0	0	17	0	17	0	46	0	0	46	0	119
Hourly Total	206	48	0	254	0	0	118	0	118	0	212	0	0	212	0	584
9:00PM	44	11	0	55	0	0	16	0	16	0	44	0	0	44	0	115
9:15PM	43	10	0	53	0	0	18	0	18	0	38	0	0	38	0	109
9:30PM	33	6	0	39	0	0	16	0	16	0	31	0	0	31	0	86
9:45PM	27	8	0	35	0	0	14	0	14	0	26	0	0	26	0	75
Hourly Total	147	35	0	182	0	0	64	0	64	0	139	0	0	139	0	385
10:00PM	30	8	0	38	0	0	14	0	14	0	24	0	0	24	0	76
10:15PM	29	6	0	35	0	0	9	0	9	0	29	0	0	29	0	73
10:30PM	24	1	0	25	0	0	6	0	6	0	16	0	0	16	0	47
10:45PM	17	5	0	22	0	0	5	0	5	0	17	0	0	17	0	44
Hourly Total	100	20	0	120	0	0	34	0	34	0	86	0	0	86	0	240
11:00PM	18	1	0	19	0	0	8	0	8	0	12	0	0	12	0	39
11:15PM	12	2	0	14	0	0	7	0	7	0	9	0	0	9	0	30
11:30PM	9	1	0	10	0	0	7	0	7	0	13	0	0	13	0	30
11:45PM	9	5	0	14	0	0	3	0	3	0	5	0	0	5	0	22
Hourly Total	48	9	0	57	0	0	25	0	25	0	39	0	0	39	0	121
Total	2808	614	0	3422	0	3	1667	2	1672	0	2876	4	0	2880	0	7974
% Approach	82.1%	17.9%	0%	-	-	0.2%	99.7%	0.1%	-	-	99.9%	0.1%	0%	-	-	-

Leg Direction	JKT SBFR Southbound					15th Street Westbound					15th Street Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
<b>% Total</b>	35.2%	7.7%	0%	<b>42.9%</b>	-	0%	20.9%	0%	<b>21.0%</b>	-	36.1%	0.1%	0%	<b>36.1%</b>	-	-
<b>Lights</b>	2786	605	0	<b>3391</b>	-	3	1630	2	<b>1635</b>	-	2824	4	0	<b>2828</b>	-	7854
<b>% Lights</b>	99.2%	98.5%	0%	<b>99.1%</b>	-	100%	97.8%	100%	<b>97.8%</b>	-	98.2%	100%	0%	<b>98.2%</b>	-	98.5%
<b>Articulated Trucks</b>	0	8	0	<b>8</b>	-	0	3	0	<b>3</b>	-	5	0	0	<b>5</b>	-	16
<b>% Articulated Trucks</b>	0%	1.3%	0%	<b>0.2%</b>	-	0%	0.2%	0%	<b>0.2%</b>	-	0.2%	0%	0%	<b>0.2%</b>	-	0.2%
<b>Buses and Single-Unit Trucks</b>	22	1	0	<b>23</b>	-	0	34	0	<b>34</b>	-	47	0	0	<b>47</b>	-	104
<b>% Buses and Single-Unit Trucks</b>	0.8%	0.2%	0%	<b>0.7%</b>	-	0%	2.0%	0%	<b>2.0%</b>	-	1.6%	0%	0%	<b>1.6%</b>	-	1.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

#### 4. 15th Street at JKT SBFR - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

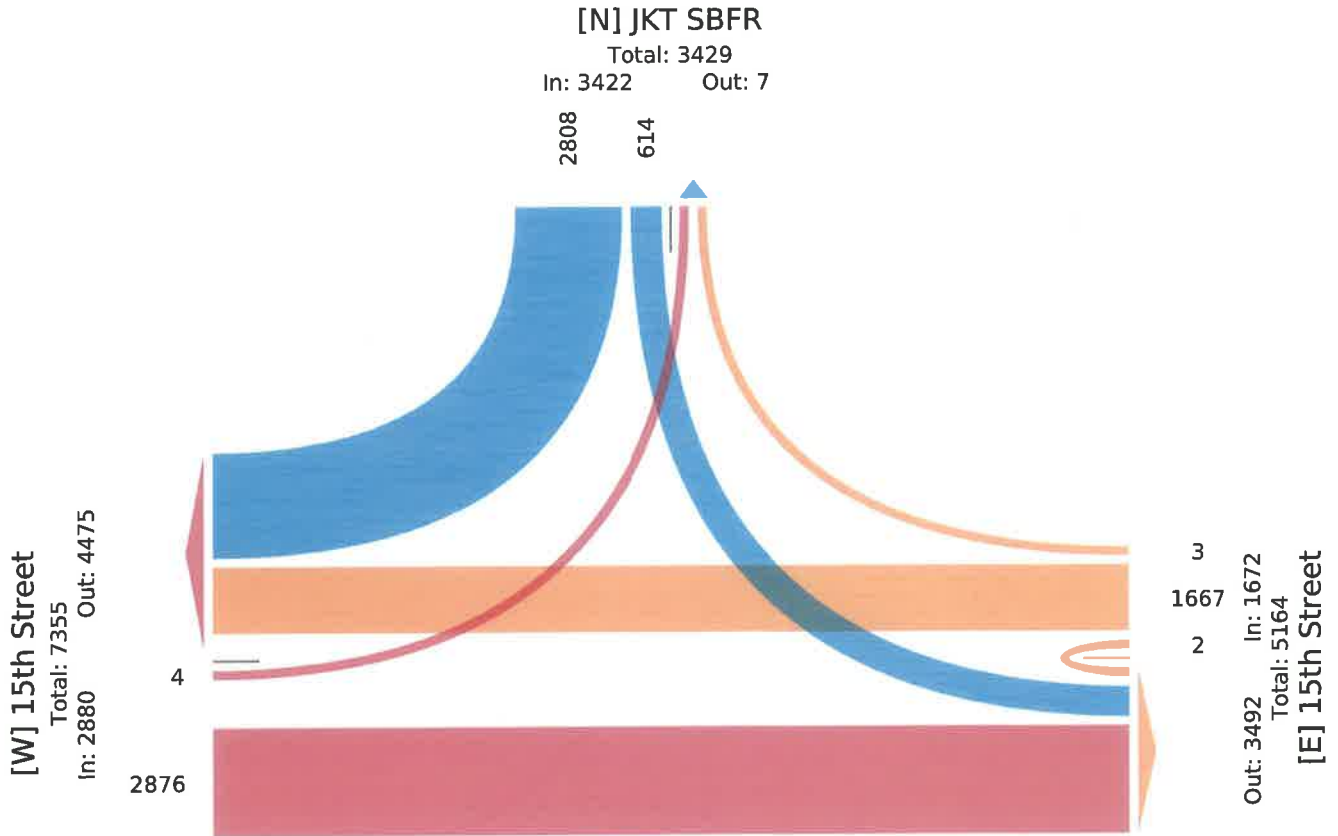
All Movements

ID: 1128553, Location: 35.449766, -97.717931



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





#### 4. 15th Street at JKT SBFR - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128553, Location: 35.449766, -97.717931



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	JKT SBFR Southbound					15th Street Westbound					15th Street Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2023-11-02 4:45PM	152	49	0	201	0	1	65	0	66	0	115	0	0	115	0	362
5:00PM	146	32	0	178	0	0	68	0	68	0	120	0	0	120	0	366
5:15PM	164	42	0	206	0	0	80	0	80	0	111	1	0	112	0	398
5:30PM	138	48	0	186	0	1	63	0	64	0	127	2	0	129	0	379
<b>Total</b>	<b>600</b>	<b>171</b>	<b>0</b>	<b>771</b>	<b>0</b>	<b>2</b>	<b>276</b>	<b>0</b>	<b>278</b>	<b>0</b>	<b>473</b>	<b>3</b>	<b>0</b>	<b>476</b>	<b>0</b>	<b>1525</b>
<b>% Approach</b>	77.8%	22.2%	0%	-	-	0.7%	99.3%	0%	-	-	99.4%	0.6%	0%	-	-	-
<b>% Total</b>	39.3%	11.2%	0%	50.6%	-	0.1%	18.1%	0%	18.2%	-	31.0%	0.2%	0%	31.2%	-	-
<b>PHF</b>	0.915	0.872	-	0.936	-	0.500	0.863	-	0.869	-	0.931	0.375	-	0.922	-	0.958
<b>Lights</b>	595	168	0	763	-	2	275	0	277	-	470	3	0	473	-	1513
<b>% Lights</b>	99.2%	98.2%	0%	99.0%	-	100%	99.6%	0%	99.6%	-	99.4%	100%	0%	99.4%	-	99.2%
<b>Articulated Trucks</b>	0	2	0	2	-	0	0	0	0	-	0	0	0	0	-	2
<b>% Articulated Trucks</b>	0%	1.2%	0%	0.3%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	5	1	0	6	-	0	1	0	1	-	3	0	0	3	-	10
<b>% Buses and Single-Unit Trucks</b>	0.8%	0.6%	0%	0.8%	-	0%	0.4%	0%	0.4%	-	0.6%	0%	0%	0.6%	-	0.7%
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

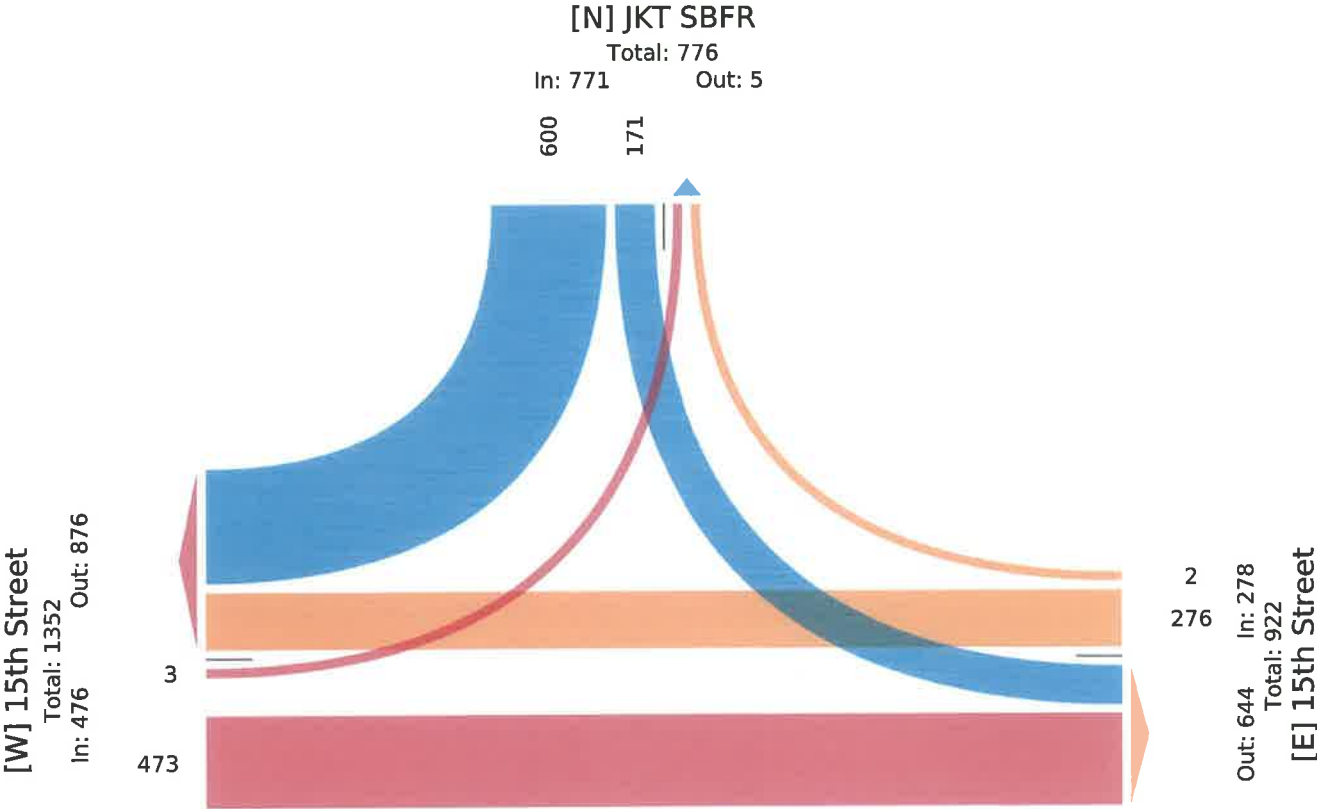
\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

4. 15th Street at JKT SBFR - TMC

Thu Nov 2, 2023  
PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour  
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)  
All Movements  
ID: 1128553, Location: 35.449766, -97.717931



Provided by: C. J. Hensch & Associates  
Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# 5. 15th Street at JKT NBFR - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128554, Location: 35.449767, -97.716844



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	JKT NBFR Southbound						15th Street Westbound					15th Street Eastbound						
Time	R	L	U	App	Ped*		R	T	U	App	Ped*		T	L	U	App	Ped*	Int
2023-11-02 2:00PM	0	0	0	0	0		9	49	0	58	0		69	49	0	118	0	176
2:15PM	0	0	0	0	0		3	43	0	46	0		63	47	0	110	0	156
2:30PM	0	0	0	0	0		3	83	0	86	0		52	54	0	106	0	192
2:45PM	0	0	0	0	0		6	97	0	103	0		63	44	0	107	0	210
Hourly Total	0	0	0	0	0		21	272	0	293	0		247	194	0	441	0	734
3:00PM	0	0	0	0	0		3	56	0	59	0		59	50	0	109	0	168
3:15PM	0	0	0	0	0		3	50	0	53	0		92	61	0	153	0	206
3:30PM	0	0	0	0	0		8	84	0	92	0		64	52	0	116	0	208
3:45PM	0	0	0	0	0		7	84	0	91	0		67	53	0	120	0	211
Hourly Total	0	0	0	0	0		21	274	0	295	0		282	216	0	498	0	793
4:00PM	0	0	0	0	0		4	65	0	69	0		72	46	0	118	0	187
4:15PM	0	0	0	0	0		5	59	0	64	0		78	64	0	142	0	206
4:30PM	0	0	0	0	0		7	50	0	57	0		76	70	0	146	0	203
4:45PM	0	0	0	0	0		5	65	0	70	0		100	66	0	166	0	236
Hourly Total	0	0	0	0	0		21	239	0	260	0		326	246	0	572	0	832
5:00PM	0	0	0	0	0		13	71	0	84	0		86	65	0	151	0	235
5:15PM	0	0	0	0	0		12	75	0	87	0		84	82	0	166	0	253
5:30PM	0	0	0	0	0		7	67	0	74	0		113	65	0	178	0	252
5:45PM	0	0	0	0	0		7	58	0	65	0		71	53	0	124	0	189
Hourly Total	0	0	0	0	0		39	271	0	310	0		354	265	0	619	0	929
6:00PM	0	0	0	0	0		13	66	0	79	0		80	62	0	142	0	221
6:15PM	0	0	0	0	0		9	67	0	76	0		77	48	0	125	0	201
6:30PM	0	0	0	0	0		12	44	0	56	0		65	64	0	129	0	185
6:45PM	0	0	0	0	0		4	37	0	41	0		87	37	0	124	0	165
Hourly Total	0	0	0	0	0		38	214	0	252	0		309	211	0	520	0	772
7:00PM	0	0	0	0	0		2	57	0	59	0		69	40	0	109	0	168
7:15PM	0	0	0	0	0		7	41	0	48	0		61	38	0	99	0	147
7:30PM	0	0	0	0	0		1	38	0	39	0		44	30	0	74	0	113
7:45PM	0	0	0	0	0		3	27	0	30	0		54	22	0	76	0	106
Hourly Total	0	0	0	0	0		13	163	0	176	0		228	130	0	358	0	534
8:00PM	0	0	0	0	0		2	40	0	42	0		45	28	0	73	0	115
8:15PM	0	0	0	0	0		3	32	0	35	0		50	30	0	80	0	115
8:30PM	0	0	0	0	0		2	32	0	34	0		27	20	0	47	0	81
8:45PM	0	0	0	0	0		4	17	0	21	0		44	14	0	58	0	79
Hourly Total	0	0	0	0	0		11	121	0	132	0		166	92	0	258	0	390
9:00PM	0	0	0	0	0		6	16	0	22	0		32	20	0	52	0	74
9:15PM	0	0	0	0	0		2	18	0	20	0		32	24	0	56	0	76
9:30PM	0	0	0	0	0		3	16	0	19	0		23	11	0	34	0	53
9:45PM	0	0	0	0	0		0	12	0	12	0		27	11	0	38	0	50
Hourly Total	0	0	0	0	0		11	62	0	73	0		114	66	0	180	0	253
10:00PM	0	0	0	0	0		4	15	0	19	0		21	11	0	32	0	51
10:15PM	0	0	0	0	0		1	10	0	11	0		23	13	0	36	0	47
10:30PM	0	0	0	0	0		1	6	0	7	0		9	8	0	17	0	24
10:45PM	0	0	0	0	0		2	4	0	6	0		13	6	0	19	0	25
Hourly Total	0	0	0	0	0		8	35	0	43	0		66	38	0	104	0	147
11:00PM	0	0	0	0	0		0	8	0	8	0		9	5	0	14	0	22
11:15PM	0	0	0	0	0		0	7	0	7	0		6	5	0	11	0	18
11:30PM	0	0	0	0	0		0	7	0	7	0		10	4	0	14	0	21
11:45PM	0	0	0	0	0		0	3	0	3	0		6	5	0	11	0	14
Hourly Total	0	0	0	0	0		0	25	0	25	0		31	19	0	50	0	75
Total	0	0	0	0	0		183	1676	0	1859	0		2123	1477	0	3600	0	5459
% Approach	0%	0%	0%	-	-		9.8%	90.2%	0%	-	-		59.0%	41.0%	0%	-	-	-

Leg Direction	JKT NBFR Southbound						15th Street Westbound					15th Street Eastbound						
Time	R	L	U	App	Ped*		R	T	U	App	Ped*		T	L	U	App	Ped*	Int
% Total	0%	0%	0%	0%	-		3.4%	30.7%	0%	34.1%	-		38.9%	27.1%	0%	65.9%	-	-
Lights	0	0	0	0	-		180	1642	0	1822	-		2087	1453	0	3540	-	5362
% Lights	0%	0%	0%	-	-		98.4%	98.0%	0%	98.0%	-		98.3%	98.4%	0%	98.3%	-	98.2%
Articulated Trucks	0	0	0	0	-		1	4	0	5	-		5	7	0	12	-	17
% Articulated Trucks	0%	0%	0%	-	-		0.5%	0.2%	0%	0.3%	-		0.2%	0.5%	0%	0.3%	-	0.3%
Buses and Single-Unit Trucks	0	0	0	0	-		2	30	0	32	-		31	17	0	48	-	80
% Buses and Single-Unit Trucks	0%	0%	0%	-	-		1.1%	1.8%	0%	1.7%	-		1.5%	1.2%	0%	1.3%	-	1.5%
Pedestrians	-	-	-	-	0		-	-	-	-	0		-	-	-	-	0	
% Pedestrians	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0		-	-	-	-	0		-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5. 15th Street at JKT NBFR - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128554, Location: 35.449767, -97.716844

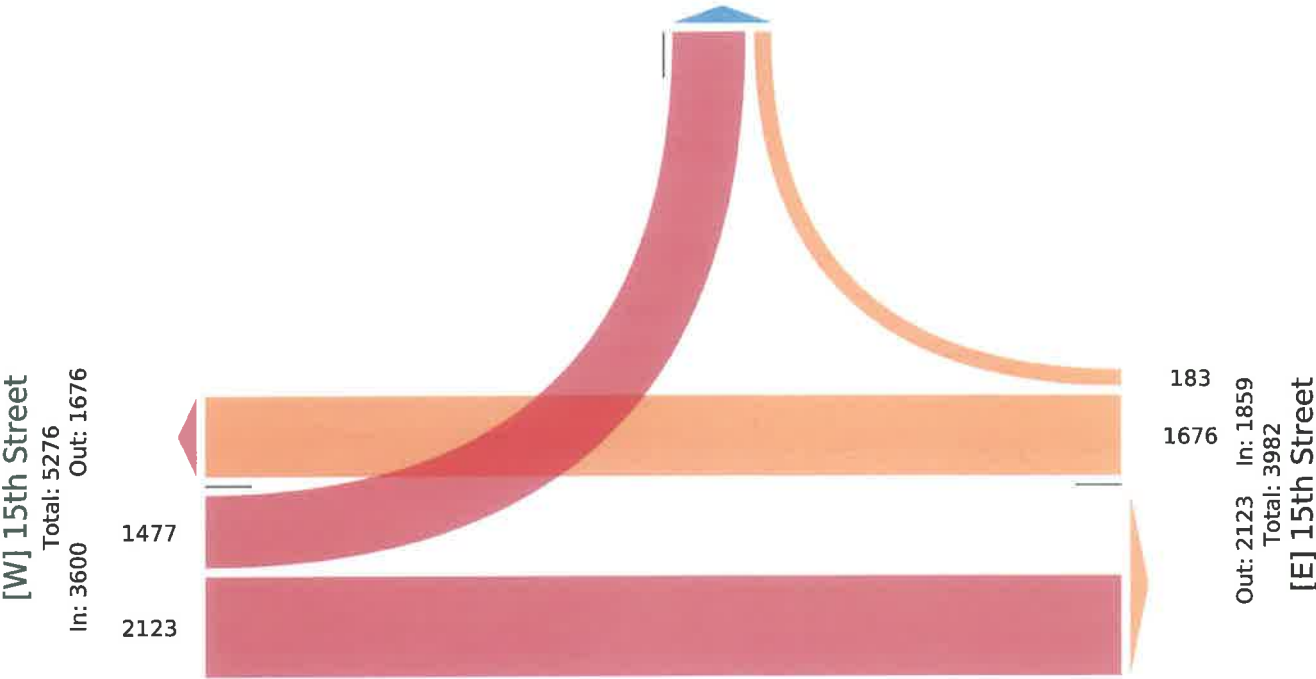


Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

[N] JKT NBFR

Total: 1660  
In: 0    Out: 1660





## 5. 15th Street at JKT NBFR - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128554, Location: 35.449767, -97.716844



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	JKT NBFR Southbound					15th Street Westbound					15th Street Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2023-11-02 4:45PM	0	0	0	0	0	5	65	0	70	0	100	66	0	166	0	236
5:00PM	0	0	0	0	0	13	71	0	84	0	86	65	0	151	0	235
5:15PM	0	0	0	0	0	12	75	0	87	0	84	82	0	166	0	253
5:30PM	0	0	0	0	0	7	67	0	74	0	113	65	0	178	0	252
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>278</b>	<b>0</b>	<b>315</b>	<b>0</b>	<b>383</b>	<b>278</b>	<b>0</b>	<b>661</b>	<b>0</b>	<b>976</b>
<b>% Approach</b>	0%	0%	0%	-	-	11.7%	88.3%	0%	-	-	57.9%	42.1%	0%	-	-	-
<b>% Total</b>	0%	0%	0%	<b>0%</b>	-	3.8%	28.5%	0%	<b>32.3%</b>	-	39.2%	28.5%	0%	<b>67.7%</b>	-	-
<b>PHF</b>	-	-	-	-	-	0.712	0.927	-	<b>0.905</b>	-	0.847	0.848	-	<b>0.928</b>	-	0.964
<b>Lights</b>	0	0	0	0	-	37	278	0	315	-	382	275	0	657	-	972
<b>% Lights</b>	0%	0%	0%	-	-	100%	100%	0%	<b>100%</b>	-	99.7%	98.9%	0%	<b>99.4%</b>	-	99.6%
<b>Articulated Trucks</b>	0	0	0	0	-	0	0	0	0	-	1	1	0	2	-	2
<b>% Articulated Trucks</b>	0%	0%	0%	-	-	0%	0%	0%	<b>0%</b>	-	0.3%	0.4%	0%	<b>0.3%</b>	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	0	0	0	-	0	2	0	2	-	2
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	-	-	0%	0%	0%	<b>0%</b>	-	0%	0.7%	0%	<b>0.3%</b>	-	0.2%
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

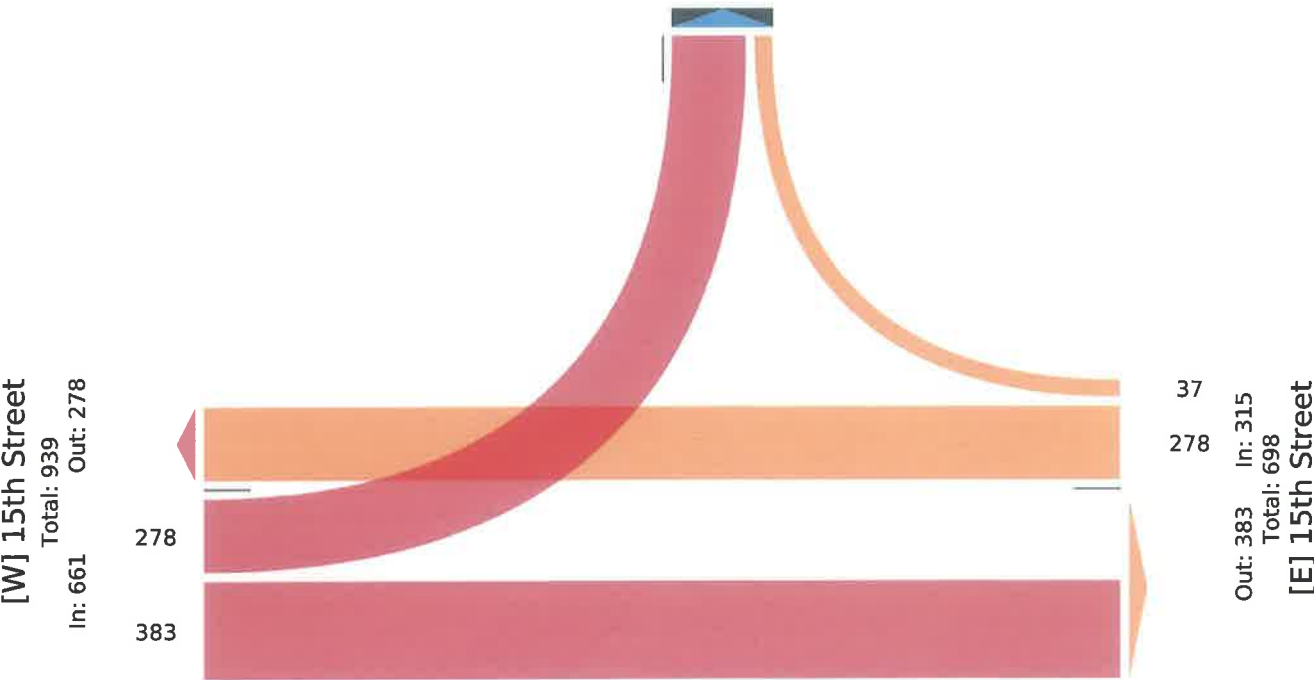
5. 15th Street at JKT NBFR - TMC

Thu Nov 2, 2023  
PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour  
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)  
All Movements  
ID: 1128554, Location: 35.449767, -97.716844



Provided by: C. J. Hensch & Associates  
Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

[N] JKT NBFR  
Total: 315  
In: 0      Out: 315



# 6. 15th street at Sara Road - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128555, Location: 35.449628, -97.706911



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Sara Road Southbound						15th Street Westbound						Sara Road Northbound						15th Street Eastbound						Int
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 2:00PM	19	22	15	0	56	0	9	38	8	0	55	0	6	19	10	0	35	0	13	46	7	0	66	0	212
2:15PM	5	20	14	0	39	0	15	31	18	0	64	0	16	18	6	0	40	0	15	46	4	0	65	0	208
2:30PM	22	22	19	0	63	0	14	65	12	0	91	0	18	23	3	0	44	0	16	41	6	0	63	0	261
2:45PM	3	23	12	0	38	0	8	39	18	0	65	0	21	28	8	0	57	0	10	52	9	0	71	0	231
Hourly Total	49	87	60	0	196	0	46	173	56	0	275	0	61	88	27	0	176	0	54	185	26	0	265	0	912
3:00PM	8	27	20	0	55	0	22	46	14	0	82	0	15	23	6	0	44	0	9	43	8	0	60	0	241
3:15PM	10	26	17	0	53	0	18	47	14	0	79	0	17	25	18	0	60	0	14	49	7	0	70	0	262
3:30PM	3	35	15	0	53	0	13	69	17	0	99	0	12	29	17	0	58	0	24	68	9	0	101	0	311
3:45PM	7	40	16	0	63	0	26	55	20	0	101	0	18	31	12	0	61	0	28	65	11	0	104	0	329
Hourly Total	28	128	68	0	224	0	79	217	65	0	361	0	62	108	53	0	223	0	75	225	35	0	335	0	1143
4:00PM	10	46	21	0	77	0	27	45	19	0	91	0	23	32	5	0	60	0	15	51	12	0	78	0	306
4:15PM	6	36	26	0	68	0	20	55	11	0	86	0	11	27	5	0	43	0	12	52	8	0	72	0	269
4:30PM	7	53	20	0	80	0	17	50	16	0	83	0	20	31	11	0	62	0	9	64	8	0	81	0	306
4:45PM	14	47	17	0	78	0	26	43	10	0	79	1	18	33	10	0	61	0	13	64	7	0	84	0	302
Hourly Total	37	182	84	0	303	0	90	193	56	0	339	1	72	123	31	0	226	0	49	231	35	0	315	0	1183
5:00PM	10	61	22	0	93	0	25	72	17	0	114	0	28	39	12	0	79	0	23	66	6	0	95	0	381
5:15PM	18	49	20	0	87	0	22	71	22	0	115	0	17	47	16	0	80	0	5	61	11	0	77	0	359
5:30PM	9	51	24	0	84	0	31	56	29	0	116	0	20	32	11	0	63	0	15	90	12	0	117	0	380
5:45PM	10	39	18	0	67	0	20	51	18	0	89	0	27	27	7	0	61	0	6	70	7	0	83	0	300
Hourly Total	47	200	84	0	331	0	98	250	86	0	434	0	92	145	46	0	283	0	49	287	36	0	372	0	1420
6:00PM	11	29	18	0	58	0	20	54	18	0	92	0	19	32	10	0	61	0	10	58	8	0	76	0	287
6:15PM	9	32	15	0	56	0	18	55	21	0	94	0	16	29	10	0	55	0	8	57	7	0	72	0	277
6:30PM	7	29	28	0	64	0	14	45	19	0	78	0	9	31	5	0	45	0	12	47	2	0	61	0	248
6:45PM	2	20	18	0	40	0	8	36	16	0	60	0	16	29	5	0	50	0	9	60	10	0	79	0	229
Hourly Total	29	110	79	0	218	0	60	190	74	0	324	0	60	121	30	0	211	0	39	222	27	0	288	0	1041
7:00PM	4	20	17	0	41	0	6	38	5	0	49	0	24	23	8	0	55	0	10	53	10	0	73	0	218
7:15PM	5	20	18	0	43	0	6	30	13	0	49	0	10	16	2	0	28	0	13	46	5	0	64	0	184
7:30PM	9	26	10	0	45	0	3	20	7	0	30	0	8	20	8	0	36	0	4	42	3	0	49	0	160
7:45PM	2	21	10	0	33	0	0	22	7	0	29	0	13	17	3	0	33	0	4	38	8	0	50	0	145
Hourly Total	20	87	55	0	162	0	15	110	32	0	157	0	55	76	21	0	152	0	31	179	26	0	236	0	707
8:00PM	4	7	10	0	21	0	3	32	8	0	43	0	6	18	2	0	26	0	13	31	6	0	50	0	140
8:15PM	3	14	9	0	26	0	7	26	5	0	38	0	10	13	1	0	24	0	7	37	6	0	50	0	138
8:30PM	7	11	12	0	30	0	6	15	5	0	26	0	8	12	5	0	25	0	2	25	4	0	31	0	112
8:45PM	3	11	9	0	23	0	8	13	4	0	25	0	5	9	3	0	17	0	7	28	7	0	42	0	107
Hourly Total	17	43	40	0	100	0	24	86	22	0	132	0	29	52	11	0	92	0	29	121	23	0	173	0	497
9:00PM	3	9	6	0	18	0	4	16	5	0	25	0	2	14	2	0	18	0	5	26	1	0	32	0	93
9:15PM	1	10	6	0	17	0	7	18	5	0	30	0	6	9	0	0	15	0	2	27	7	0	36	0	98
9:30PM	1	4	5	0	10	0	2	13	7	0	22	0	3	6	1	0	10	0	4	15	4	0	23	0	65
9:45PM	0	4	4	0	8	0	5	10	3	0	18	0	3	2	0	0	5	0	6	16	4	0	26	0	57
Hourly Total	5	27	21	0	53	0	18	57	20	0	95	0	14	31	3	0	48	0	17	84	16	0	117	0	313
10:00PM	0	5	4	0	9	0	5	18	2	0	25	0	2	7	0	0	9	0	4	13	2	0	19	0	62
10:15PM	3	4	4	0	11	0	1	7	2	0	10	0	7	5	0	0	12	0	1	23	1	0	25	0	58
10:30PM	0	2	4	0	6	0	2	6	0	0	8	0	1	5	1	0	7	0	1	8	0	0	9	0	30
10:45PM	0	2	0	0	2	0	2	4	2	0	8	0	2	2	2	0	6	0	1	10	3	0	14	0	30
Hourly Total	3	13	12	0	28	0	10	35	6	0	51	0	12	19	3	0	34	0	7	54	6	0	67	0	180
11:00PM	1	3	3	0	7	0	1	6	0	0	7	0	0	1	0	0	1	0	2	5	1	0	8	0	23
11:15PM	1	3	3	0	7	0	1	5	1	0	7	0	0	1	0	0	1	0	1	5	1	0	7	0	22
11:30PM	2	2	2	0	6	0	2	5	1	0	8	0	1	3	0	0	4	0	2	4	2	0	8	0	26
11:45PM	0	2	1	0	3	0	2	2	2	0	6	0	0	1	0	0	1	0	0	7	0	0	7	0	17
Hourly Total	4	10	9	0	23	0	6	18	4	0	28	0	1	6	0	0	7	0	5	21	4	0	30	0	88
Total	239	887	512	0	1638	0	446	1329	421	0	2196	1	458	769	225	0	1452	0	355	1609	234	0	2198	0	7484
% Approach	14.6%	54.2%	31.3%	0%	-	-	20.3%	60.5%	19.2%	0%	-	-	31.5%	53.0%	15.5%	0%	-	-	16.2%	73.2%	10.6%	0%	-	-	-
% Total	3.2%	11.9%	6.8%	0%	21.9%	-	6.0%	17.8%	5.6%	0%	29.3%	-	6.1%	10.3%	3.0%	0%	19.4%	-	4.7%	21.5%	3.1%	0%	29.4%	-	-
Lights	238	861	508	0	1607	-	444	1299	414	0	2157	-	454	744	220	0	1418	-	351	1583	229	0	2163	-	7345
% Lights	99.6%	97.1%	99.2%	0%	98.1%	-	99.6%	97.7%	98.3%	0%	98.2%	-	99.1%	96.7%	97.8%	0%	97.7%	-	98.9%	98.4%	97.9%	0%	98.4%	-	98.1%
Articulated Trucks	0	10	1	0	11	-	0	5	0	0	5	-	0	9	1	0	10	-	0	7	0	0	7	-	33
% Articulated Trucks	0%	1.1%	0.2%	0%	0.7%	-	0%	0.4%	0%	0%	0.2%	-	0%	1.2%	0.4%	0%	0.7%	-	0%	0.4%	0%	0%	0.3%	-	0.4%

Leg Direction	Sara Road Southbound						15th Street Westbound						Sara Road Northbound						15th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
Buses and Single-Unit Trucks	1	16	3	0	20	-	2	25	7	0	34	-	4	16	4	0	24	-	4	19	5	0	28	-	106
% Buses and Single-Unit Trucks	0.4%	1.8%	0.6%	0%	1.2%	-	0.4%	1.9%	1.7%	0%	1.5%	-	0.9%	2.1%	1.8%	0%	1.7%	-	1.1%	1.2%	2.1%	0%	1.3%	-	1.4%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

## 6. 15th street at Sara Road - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

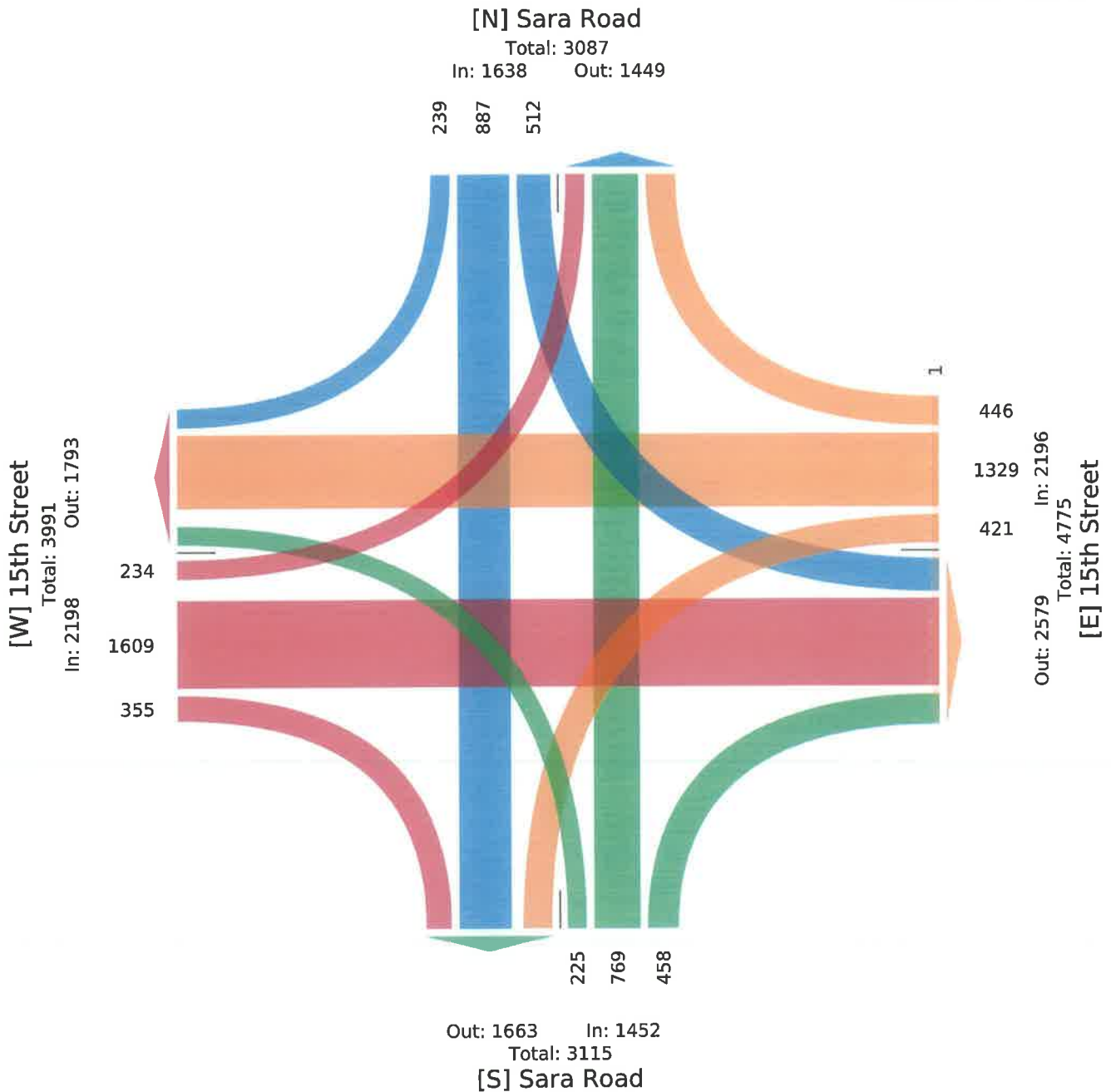
ID: 1128555, Location: 35.449628, -97.706911



Provided by: C. J. Hensch & Associates

Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





## 6. 15th street at Sara Road - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128555, Location: 35.449628, -97.706911



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Sara Road Southbound						15th Street Westbound						Sara Road Northbound						15th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 4:45PM	14	47	17	0	78	0	26	43	10	0	79	1	18	33	10	0	61	0	13	64	7	0	84	0	302
5:00PM	10	61	22	0	93	0	25	72	17	0	114	0	28	39	12	0	79	0	23	66	6	0	95	0	381
5:15PM	18	49	20	0	87	0	22	71	22	0	115	0	17	47	16	0	80	0	5	61	11	0	77	0	359
5:30PM	9	51	24	0	84	0	31	56	29	0	116	0	20	32	11	0	63	0	15	90	12	0	117	0	380
<b>Total</b>	51	208	83	0	342	0	104	242	78	0	424	1	83	151	49	0	283	0	56	281	36	0	373	0	1422
<b>% Approach</b>	14.9%	60.8%	24.3%	0%	-	-	24.5%	57.1%	18.4%	0%	-	-	29.3%	53.4%	17.3%	0%	-	-	15.0%	75.3%	9.7%	0%	-	-	-
<b>% Total</b>	3.6%	14.6%	5.8%	0%	24.1%	-	7.3%	17.0%	5.5%	0%	29.8%	-	5.8%	10.6%	3.4%	0%	19.9%	-	3.9%	19.8%	2.5%	0%	26.2%	-	-
<b>PHF</b>	0.708	0.852	0.865	-	0.919	-	0.839	0.840	0.672	-	0.914	-	0.741	0.803	0.766	-	0.884	-	0.609	0.781	0.750	-	0.797	-	0.933
<b>Lights</b>	51	203	83	0	337	-	104	242	78	0	424	-	83	149	49	0	281	-	56	279	36	0	371	-	1413
<b>% Lights</b>	100%	97.6%	100%	0%	98.5%	-	100%	100%	100%	0%	100%	-	100%	98.7%	100%	0%	99.3%	-	100%	99.3%	100%	0%	99.5%	-	99.4%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	2
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.7%	0%	0%	0.5%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	5	0	0	5	-	0	0	0	0	0	-	0	2	0	0	2	-	0	0	0	0	0	-	7
<b>% Buses and Single-Unit Trucks</b>	0%	2.4%	0%	0%	1.5%	-	0%	0%	0%	0%	0%	-	0%	1.3%	0%	0%	0.7%	-	0%	0%	0%	0%	0%	-	0.5%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	- 100%	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

6. 15th street at Sara Road - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 4:45PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

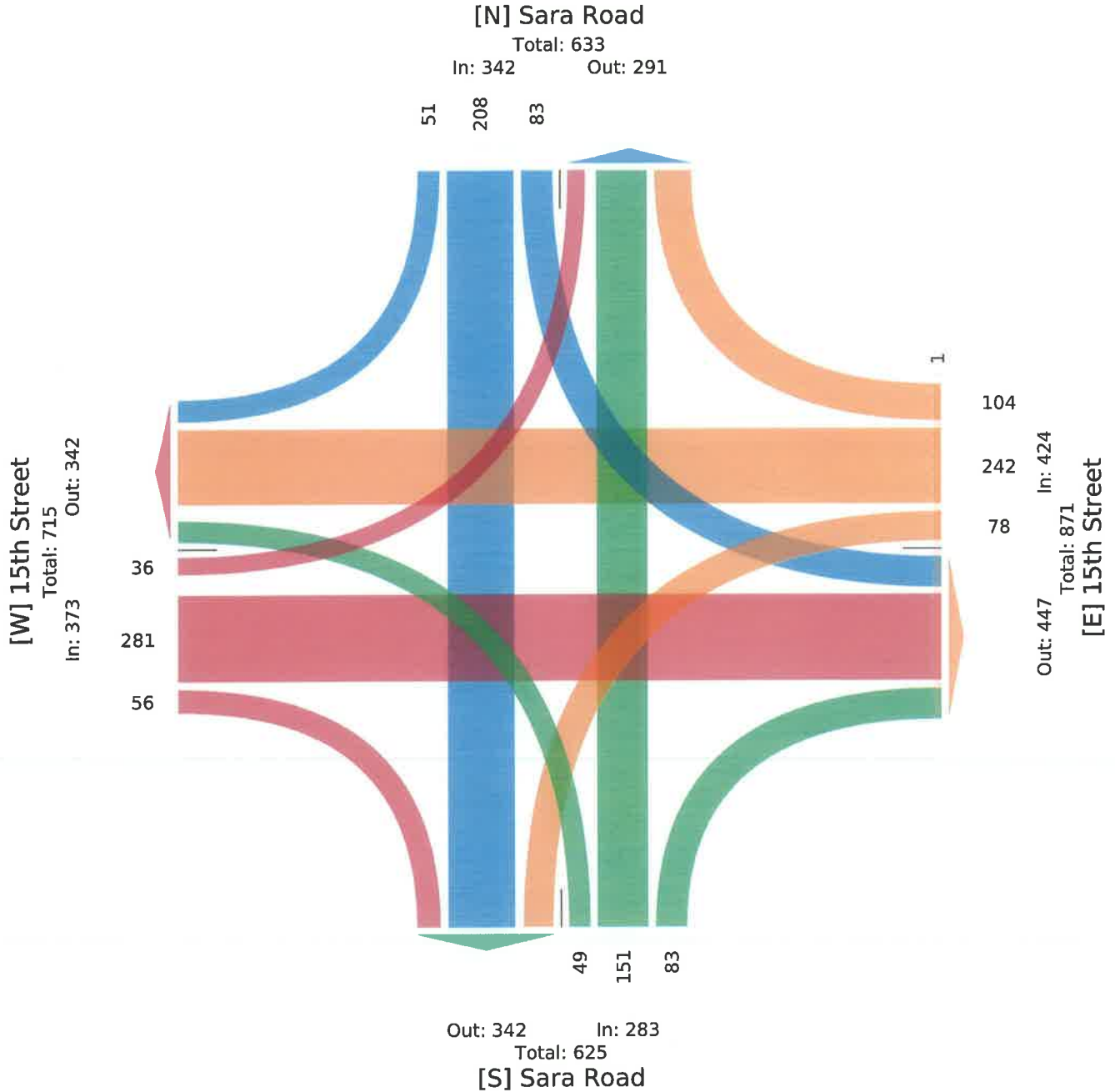
All Movements

ID: 1128555, Location: 35.449628, -97.706911



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# 7. 15th Street at Morgan Street - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128556, Location: 35.449646, -97.689248



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Morgan Road Southbound						15th Street Westbound						Morgan Road Northbound						15th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 2:00PM	34	73	14	0	121	0	21	16	1	0	38	0	4	56	23	0	83	0	25	24	26	0	75	0	317
2:15PM	38	64	19	0	121	0	14	11	4	0	29	0	4	68	22	0	94	1	21	15	31	0	67	0	311
2:30PM	36	79	24	0	139	0	18	22	3	0	43	0	6	86	23	0	115	2	20	25	25	0	70	0	367
2:45PM	40	84	11	1	136	0	18	15	6	0	39	0	8	77	31	0	116	0	22	16	31	0	69	0	360
Hourly Total	148	300	68	1	517	0	71	64	14	0	149	0	22	287	99	0	408	3	88	80	113	0	281	0	1355
3:00PM	35	76	13	0	124	0	23	33	5	0	61	0	6	79	37	0	122	0	22	28	25	0	75	0	382
3:15PM	43	101	22	0	166	0	16	27	8	0	51	0	7	72	32	0	111	0	30	15	29	0	74	0	402
3:30PM	43	107	23	0	173	1	27	43	4	0	74	0	6	67	31	0	104	0	43	22	20	0	85	0	436
3:45PM	49	131	25	0	205	0	17	29	8	0	54	0	2	83	34	0	119	0	35	36	16	0	87	0	465
Hourly Total	170	415	83	0	668	1	83	132	25	0	240	0	21	301	134	0	456	0	130	101	90	0	321	0	1685
4:00PM	38	118	17	0	173	0	45	42	15	0	102	0	16	67	37	0	120	0	31	19	32	0	82	0	477
4:15PM	43	149	25	0	217	0	17	28	5	0	50	0	7	71	27	0	105	0	34	23	26	0	83	0	455
4:30PM	57	121	14	0	192	1	26	30	7	0	63	0	6	94	31	0	131	0	31	27	27	0	85	0	471
4:45PM	53	133	25	0	211	1	27	33	10	0	70	0	7	76	37	0	120	0	45	27	29	0	101	0	502
Hourly Total	191	521	81	0	793	2	115	133	37	0	285	0	36	308	132	0	476	0	141	96	114	0	351	0	1905
5:00PM	59	148	29	0	236	0	46	51	14	0	111	0	5	78	33	0	116	0	38	30	23	0	91	0	554
5:15PM	58	138	25	0	221	0	31	53	12	0	96	0	8	84	43	0	135	0	43	36	28	0	107	0	559
5:30PM	71	165	21	0	257	0	17	32	5	0	54	0	4	87	27	0	118	0	55	35	38	0	128	0	557
5:45PM	58	136	20	0	214	0	15	42	7	0	64	0	1	102	29	0	132	0	37	35	24	0	96	0	506
Hourly Total	246	587	95	0	928	0	109	178	38	0	325	0	18	351	132	0	501	0	173	136	113	0	422	0	2176
6:00PM	47	115	19	0	181	0	7	32	4	0	43	0	2	81	33	0	116	0	27	22	29	0	78	0	418
6:15PM	42	105	16	0	163	0	14	33	4	0	51	0	4	61	29	0	94	0	17	19	20	0	56	0	364
6:30PM	41	84	13	0	138	0	13	19	5	0	37	0	1	76	20	0	97	0	33	25	28	0	86	0	358
6:45PM	43	86	10	0	139	0	13	18	8	0	39	0	2	63	19	0	84	0	27	18	31	0	76	0	338
Hourly Total	173	390	58	0	621	0	47	102	21	0	170	0	9	281	101	0	391	0	104	84	108	0	296	0	1478
7:00PM	39	93	11	0	143	0	15	22	1	0	38	0	2	55	21	0	78	1	28	22	25	0	75	0	334
7:15PM	41	88	9	0	138	0	13	8	1	0	22	0	2	43	21	0	66	0	28	20	22	0	70	0	296
7:30PM	30	72	15	0	117	1	7	13	8	0	28	0	2	49	19	0	70	0	21	12	15	0	48	0	263
7:45PM	21	89	8	0	118	0	5	11	3	0	19	0	0	38	17	0	55	0	18	11	13	0	42	0	234
Hourly Total	131	342	43	0	516	1	40	54	13	0	107	0	6	185	78	0	269	1	95	65	75	0	235	0	1127
8:00PM	27	58	17	0	102	0	8	12	5	0	25	0	5	37	16	0	58	0	14	13	4	0	31	0	216
8:15PM	28	90	9	0	127	0	3	14	2	0	19	0	4	24	17	0	45	0	22	10	6	0	38	0	229
8:30PM	19	61	15	0	95	0	6	7	5	0	18	0	2	24	11	0	37	0	14	9	13	0	36	0	186
8:45PM	19	54	12	0	85	0	5	6	4	0	15	0	4	29	12	0	45	0	15	7	13	0	35	0	180
Hourly Total	93	263	53	0	409	0	22	39	16	0	77	0	15	114	56	0	185	0	65	39	36	0	140	0	811
9:00PM	20	53	12	0	85	0	3	8	0	0	11	0	3	22	14	0	39	0	9	9	5	0	23	0	158
9:15PM	21	41	12	0	74	0	8	5	2	0	15	0	4	21	6	0	31	0	18	7	4	0	29	0	149
9:30PM	15	52	9	0	76	1	3	3	0	0	6	0	2	19	8	0	29	0	8	5	11	0	24	0	135
9:45PM	14	33	2	0	49	0	4	6	1	0	11	0	1	8	5	0	14	0	12	9	7	0	28	0	102
Hourly Total	70	179	35	0	284	1	18	22	3	0	43	0	10	70	33	0	113	0	47	30	27	0	104	0	544
10:00PM	12	38	3	0	53	0	4	11	0	0	15	0	0	21	5	0	26	0	7	5	5	0	17	2	111
10:15PM	10	20	4	0	34	0	0	2	0	0	2	0	0	15	3	0	18	0	11	5	9	0	25	0	79
10:30PM	10	19	5	0	34	0	2	6	1	0	9	0	0	9	0	0	9	0	7	6	4	0	17	0	69
10:45PM	4	9	6	0	19	0	1	2	1	0	4	0	1	6	4	0	11	0	6	1	7	0	14	0	48
Hourly Total	36	86	18	0	140	0	7	21	2	0	30	0	1	51	12	0	64	0	31	17	25	0	73	2	307
11:00PM	5	16	2	0	23	0	5	0	0	0	5	0	0	5	5	0	10	0	1	4	5	0	10	0	48
11:15PM	13	23	5	0	41	0	2	4	1	0	7	0	0	3	1	0	4	0	4	2	6	0	12	0	64
11:30PM	4	11	2	0	17	0	0	6	1	0	7	0	0	7	2	0	9	0	2	3	0	0	5	0	38
11:45PM	5	11	3	0	19	0	1	2	0	0	3	0	0	1	1	0	2	0	2	9	2	0	13	0	37
Hourly Total	27	61	12	0	100	0	8	12	2	0	22	0	0	16	9	0	25	0	9	18	13	0	40	0	187
Total	1285	3144	546	1	4976	5	520	757	171	0	1448	0	138	1964	786	0	2888	4	883	666	714	0	2263	2	11575
% Approach	25.8%	63.2%	11.0%	0%	-	-	35.9%	52.3%	11.8%	0%	-	-	4.8%	68.0%	27.2%	0%	-	-	39.0%	29.4%	31.6%	0%	-	-	-
% Total	11.1%	27.2%	4.7%	0%	43.0%	-	4.5%	6.5%	1.5%	0%	12.5%	-	1.2%	17.0%	6.8%	0%	25.0%	-	7.6%	5.8%	6.2%	0%	19.6%	-	-
Lights	1273	3108	499	1	4881	-	470	740	166	0	1376	-	123	1916	779	0	2818	-	869	648	706	0	2223	-	11298
% Lights	99.1%	98.9%	91.4%	100%	98.1%	-	90.4%	97.8%	97.1%	0%	95.0%	-	89.1%	97.6%	99.1%	0%	97.6%	-	98.4%	97.3%	98.9%	0%	98.2%	-	97.6%
Articulated Trucks	3	13	29	0	45	-	25	4	0	0	29	-	0	8	0	0	8	-	0	5	0	0	5	-	87
% Articulated Trucks	0.2%	0.4%	5.3%	0%	0.9%	-	4.8%	0.5%	0%	0%	2.0%	-	0%	0.4%	0%	0%	0.3%	-	0%	0.8%	0%	0%	0.2%	-	0.8%
Buses and Single-Unit Trucks	9	23	18	0	50	-	25	13	5	0	43	-	15	40	7	0	62	-	14	13	8	0	35	-	190

Leg Direction	Morgan Road Southbound							15th Street Westbound							Morgan Road Northbound							15th Street Eastbound							
Time	R	T	L	U	App	Ped*		R	T	L	U	App	Ped*		R	T	L	U	App	Ped*		R	T	L	U	App	Ped*	Int	
% Buses and Single-Unit Trucks	0.7%	0.7%	3.3%	0%	1.0%	-		4.8%	1.7%	2.9%	0%	3.0%	-		10.9%	2.0%	0.9%	0%	2.1%	-		1.6%	2.0%	1.1%	0%	1.5%	-	1.6%	
Pedestrians	-	-	-	-	-	5		-	-	-	-	-	0		-	-	-	-	-	4		-	-	-	-	-	2		
% Pedestrians	-	-	-	-	-	- 100%		-	-	-	-	-	- 100%		-	-	-	-	-	- 100%		-	-	-	-	-	- 100%	-	
Bicycles on Crosswalk	-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%	-	

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# 7. 15th Street at Morgan Street - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

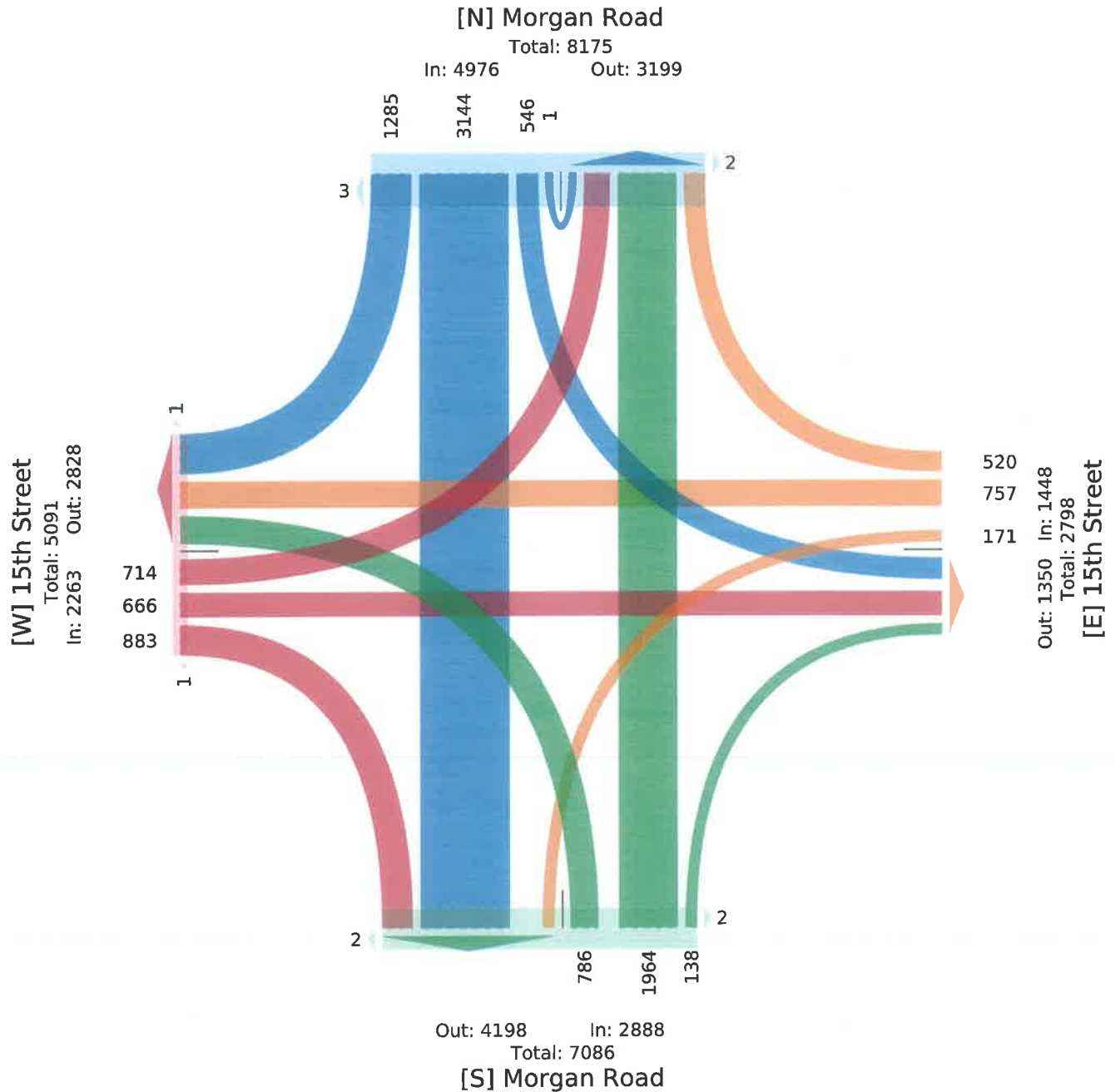
All Movements

ID: 1128556, Location: 35.449646, -97.689248



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# 7. 15th Street at Morgan Street - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 5PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128556, Location: 35.449646, -97.689248



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Morgan Road Southbound						15th Street Westbound						Morgan Road Northbound						15th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 5:00PM	59	148	29	0	236	0	46	51	14	0	111	0	5	78	33	0	116	0	38	30	23	0	91	0	554
5:15PM	58	138	25	0	221	0	31	53	12	0	96	0	8	84	43	0	135	0	43	36	28	0	107	0	559
5:30PM	71	165	21	0	257	0	17	32	5	0	54	0	4	87	27	0	118	0	55	35	38	0	128	0	557
5:45PM	58	136	20	0	214	0	15	42	7	0	64	0	1	102	29	0	132	0	37	35	24	0	96	0	506
<b>Total</b>	246	587	95	0	928	0	109	178	38	0	325	0	18	351	132	0	501	0	173	136	113	0	422	0	2176
<b>% Approach</b>	26.5%	63.3%	10.2%	0%	-	-	33.5%	54.8%	11.7%	0%	-	-	3.6%	70.1%	26.3%	0%	-	-	41.0%	32.2%	26.8%	0%	-	-	-
<b>% Total</b>	11.3%	27.0%	4.4%	0%	42.6%	-	5.0%	8.2%	1.7%	0%	14.9%	-	0.8%	16.1%	6.1%	0%	23.0%	-	8.0%	6.3%	5.2%	0%	19.4%	-	-
<b>PHF</b>	0.866	0.889	0.819	-	0.903	-	0.592	0.840	0.679	-	0.732	-	0.563	0.860	0.767	-	0.928	-	0.786	0.944	0.743	-	0.824	-	0.973
<b>Lights</b>	246	583	89	0	918	-	102	177	38	0	317	-	17	340	132	0	489	-	172	135	111	0	418	-	2142
<b>% Lights</b>	100%	99.3%	93.7%	0%	98.9%	-	93.6%	99.4%	100%	0%	97.5%	-	94.4%	96.9%	100%	0%	97.6%	-	99.4%	99.3%	98.2%	0%	99.1%	-	98.4%
<b>Articulated Trucks</b>	0	1	3	0	4	-	5	0	0	0	5	-	0	2	0	0	2	-	0	1	0	0	1	-	12
<b>% Articulated Trucks</b>	0%	0.2%	3.2%	0%	0.4%	-	4.6%	0%	0%	0%	1.5%	-	0%	0.6%	0%	0%	0.4%	-	0%	0.7%	0%	0%	0.2%	-	0.6%
<b>Buses and Single-Unit Trucks</b>	0	3	3	0	6	-	2	1	0	0	3	-	1	9	0	0	10	-	1	0	2	0	3	-	22
<b>% Buses and Single-Unit Trucks</b>	0%	0.5%	3.2%	0%	0.6%	-	1.8%	0.6%	0%	0%	0.9%	-	5.6%	2.6%	0%	0%	2.0%	-	0.6%	0%	1.8%	0%	0.7%	-	1.0%
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

## 7. 15th Street at Morgan Street - TMC

Thu Nov 2, 2023

PM Peak (Nov 02 2023 5PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

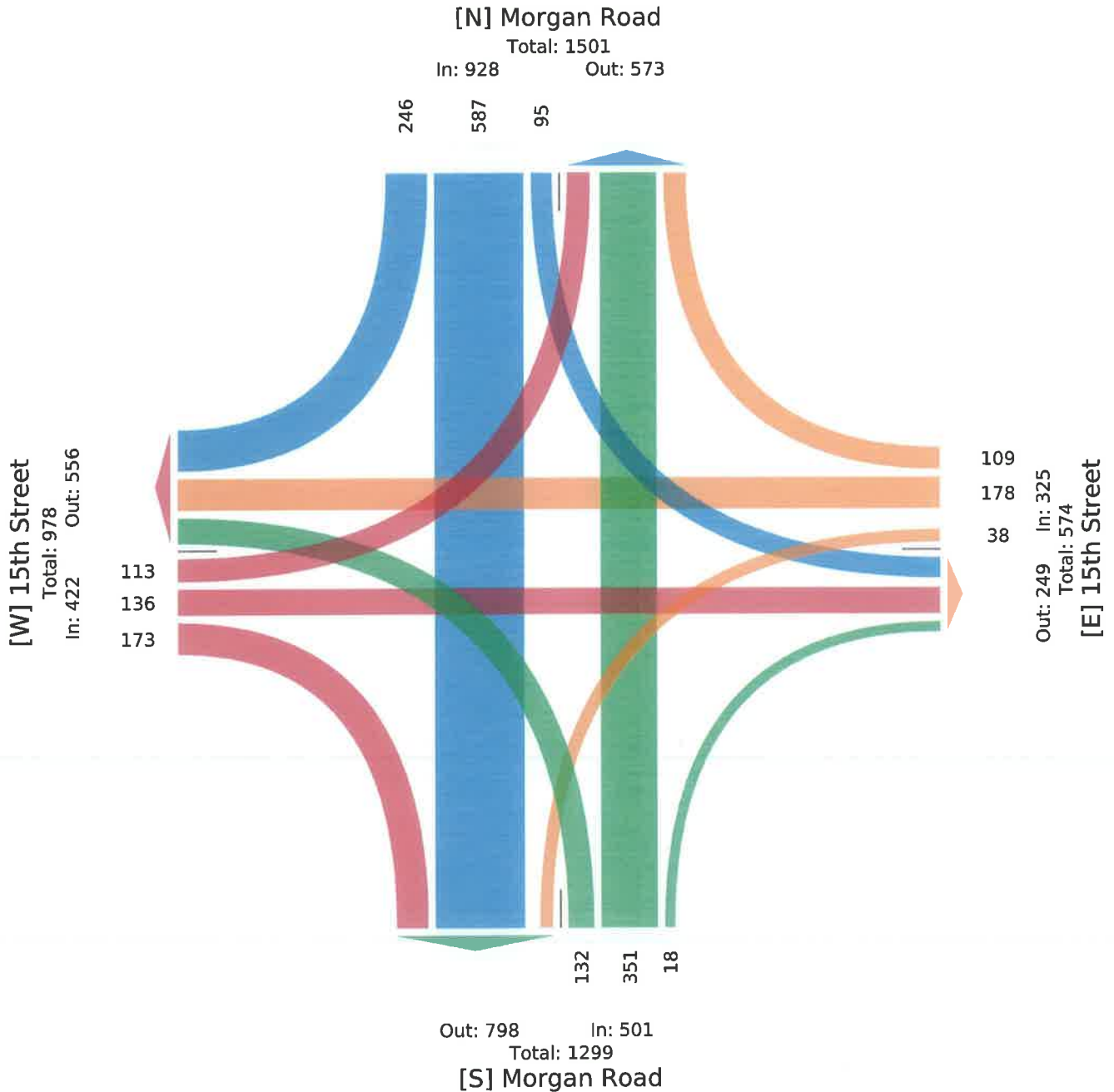
All Movements

ID: 1128556, Location: 35.449646, -97.689248



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# 8. Morgan Street at I-40 - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

All Classes (Vehicles, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128557, Location: 35.460177, -97.689144



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave., Pasadena, TX, 77503, US

Leg Direction	Morgan Road Southbound						I-40 EBFR Westbound						Morgan Road Northbound						I-40 WBFR Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 2:00PM	28	48	63	0	139	1	85	0	73	0	158	0	88	48	31	0	167	0	43	0	10	0	53	1	517
2:15PM	21	39	39	0	99	1	105	0	73	0	178	0	59	38	42	0	139	0	38	0	13	0	51	0	467
2:30PM	34	46	79	0	159	0	82	0	87	0	169	0	77	40	37	0	154	0	40	0	18	0	58	0	540
2:45PM	27	33	60	0	120	0	72	0	80	0	152	0	70	44	46	0	160	0	40	0	28	0	68	0	500
Hourly Total	110	166	241	0	517	2	344	0	313	0	657	0	294	170	156	0	620	0	161	0	69	0	230	1	2024
3:00PM	44	42	75	0	161	0	76	0	76	0	152	0	64	49	27	0	140	0	40	0	22	0	62	0	515
3:15PM	35	50	71	0	156	2	121	0	95	0	216	1	62	40	38	0	140	0	40	0	23	0	63	0	575
3:30PM	28	41	95	0	164	1	111	0	99	0	210	1	75	63	41	0	179	0	56	0	30	0	86	1	639
3:45PM	25	45	108	0	178	2	115	0	124	0	239	1	49	38	52	0	139	0	59	0	25	0	84	0	640
Hourly Total	132	178	349	0	659	5	423	0	394	0	817	3	250	190	158	0	598	0	195	0	100	0	295	1	2369
4:00PM	45	43	114	0	202	0	77	0	119	0	196	0	67	48	62	0	177	0	46	0	31	0	77	0	652
4:15PM	47	60	74	0	181	0	99	0	125	0	224	0	55	46	44	0	145	0	51	0	22	0	73	0	623
4:30PM	40	50	75	0	165	2	100	0	109	0	209	0	73	36	54	0	163	0	47	0	18	0	65	0	602
4:45PM	32	40	89	0	161	0	87	0	150	0	237	0	61	41	57	0	159	0	52	0	27	0	79	2	636
Hourly Total	164	193	352	0	709	2	363	0	503	0	866	0	256	171	217	0	644	0	196	0	98	0	294	2	2513
5:00PM	57	63	88	0	208	0	121	0	140	0	261	0	82	34	66	0	182	0	56	0	39	0	95	0	746
5:15PM	39	77	48	0	164	0	101	0	148	0	249	0	66	50	63	0	179	0	70	0	27	0	97	0	689
5:30PM	40	48	38	0	126	0	108	0	142	0	250	0	76	36	49	0	161	0	55	0	35	0	90	1	627
5:45PM	28	39	48	0	115	0	83	0	128	0	211	0	72	40	52	0	164	0	49	0	19	0	68	0	558
Hourly Total	164	227	222	0	613	0	413	0	558	0	971	0	296	160	230	0	686	0	230	0	120	0	350	1	2620
6:00PM	29	40	55	0	124	0	66	0	95	0	161	0	75	33	43	0	151	0	64	0	25	0	89	0	525
6:15PM	24	29	46	0	99	0	63	0	101	0	164	0	67	23	52	0	142	0	49	0	24	0	73	0	478
6:30PM	18	36	47	0	101	0	64	0	82	0	146	0	77	30	40	0	147	0	43	0	14	0	57	0	451
6:45PM	24	27	35	0	86	0	46	0	72	0	118	0	58	31	32	0	121	0	55	0	14	0	69	0	394
Hourly Total	95	132	183	0	410	0	239	0	350	0	589	0	277	117	167	0	561	0	211	0	77	0	288	0	1848
7:00PM	13	36	36	0	85	2	45	0	78	0	123	0	55	18	25	0	98	0	34	0	9	0	43	0	349
7:15PM	15	17	50	0	82	0	47	0	77	0	124	0	42	23	30	0	95	0	45	0	8	0	53	0	354
7:30PM	7	20	16	0	43	0	55	0	53	0	108	0	48	24	31	0	103	0	55	0	11	0	66	0	320
7:45PM	9	13	22	0	44	0	47	0	67	0	114	0	29	9	15	0	53	0	47	0	12	0	59	0	270
Hourly Total	44	86	124	0	254	2	194	0	275	0	469	0	174	74	101	0	349	0	181	0	40	0	221	0	1293
8:00PM	11	14	10	0	35	0	50	0	58	0	108	0	40	14	8	0	62	0	40	0	12	0	52	0	257
8:15PM	12	31	20	0	63	0	45	0	68	0	113	0	31	11	16	0	58	0	43	0	9	0	52	0	286
8:30PM	14	14	12	0	40	0	55	0	61	0	116	0	32	19	12	0	63	0	44	0	6	0	50	0	269
8:45PM	15	14	16	0	45	0	55	0	41	0	96	0	42	10	9	0	61	0	45	0	9	0	54	2	256
Hourly Total	52	73	58	0	183	0	205	0	228	0	433	0	145	54	45	0	244	0	172	0	36	0	208	2	1068
9:00PM	15	19	22	0	56	0	38	0	54	0	92	1	32	17	13	0	62	0	36	0	8	0	44	0	254
9:15PM	19	10	22	0	51	0	53	0	55	0	108	0	33	13	7	0	53	0	26	0	8	0	34	0	246
9:30PM	14	15	18	0	47	0	38	0	54	0	92	0	29	5	10	0	44	0	31	0	8	0	39	0	222
9:45PM	12	10	22	0	44	0	24	0	41	0	65	0	20	11	4	0	35	0	11	0	13	0	24	0	168
Hourly Total	60	54	84	0	198	0	153	0	204	0	357	1	114	46	34	0	194	0	104	0	37	0	141	0	890
10:00PM	10	16	16	0	42	0	38	0	37	0	75	0	20	14	11	0	45	0	18	0	9	0	27	0	189
10:15PM	8	4	19	0	31	0	43	0	30	0	73	0	28	12	4	0	44	0	11	0	7	0	18	0	166
10:30PM	12	7	15	0	34	0	34	0	32	0	66	0	13	7	5	0	25	0	11	0	5	0	16	0	141
10:45PM	13	9	11	0	33	0	31	0	10	0	41	1	11	6	1	0	18	0	21	0	6	0	27	0	119
Hourly Total	43	36	61	0	140	0	146	0	109	0	255	1	72	39	21	0	132	0	61	0	27	0	88	0	615
11:00PM	5	15	12	0	32	0	27	0	15	0	42	0	16	11	5	0	32	0	15	0	7	0	22	0	128
11:15PM	7	7	11	0	25	0	21	0	38	0	59	0	19	1	6	0	26	0	10	0	5	0	15	0	125
11:30PM	4	4	15	0	23	0	23	0	15	0	38	0	16	5	2	0	23	0	10	0	2	0	12	0	96
11:45PM	4	5	17	0	26	0	19	0	12	0	31	0	7	5	2	0	14	0	13	0	8	0	21	0	92
Hourly Total	20	31	55	0	106	0	90	0	80	0	170	0	58	22	15	0	95	0	48	0	22	0	70	0	441
Total	884	1176	1729	0	3789	11	2570	0	3014	0	5584	5	1936	1043	1144	0	4123	0	1559	0	626	0	2185	7	15681
% Approach	23.3%	31.0%	45.6%	0%	-	-	46.0%	0%	54.0%	0%	-	-	47.0%	25.3%	27.7%	0%	-	-	71.4%	0%	28.6%	0%	-	-	-
% Total	5.6%	7.5%	11.0%	0%	24.2%	-	16.4%	0%	19.2%	0%	35.6%	-	12.3%	6.7%	7.3%	0%	26.3%	-	9.9%	0%	4.0%	0%	13.9%	-	-
Vehicles	884	1176	1729	0	3789	-	2570	0	3014	0	5584	-	1936	1043	1144	0	4123	-	1559	0	626	0	2185	-	15681
% Vehicles	100%	100%	100%	0%	100%	-	100%	0%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	0%	100%	0%	100%	-	100%
Pedestrians	-	-	-	-	-	11	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	6

Leg	Morgan Road						I-40 EBFR						Morgan Road						I-40 WBFR						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	85.7%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	14.3%	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# 8. Morgan Street at I-40 - TMC

Thu Nov 2, 2023

Full Length (2 PM-12 AM)

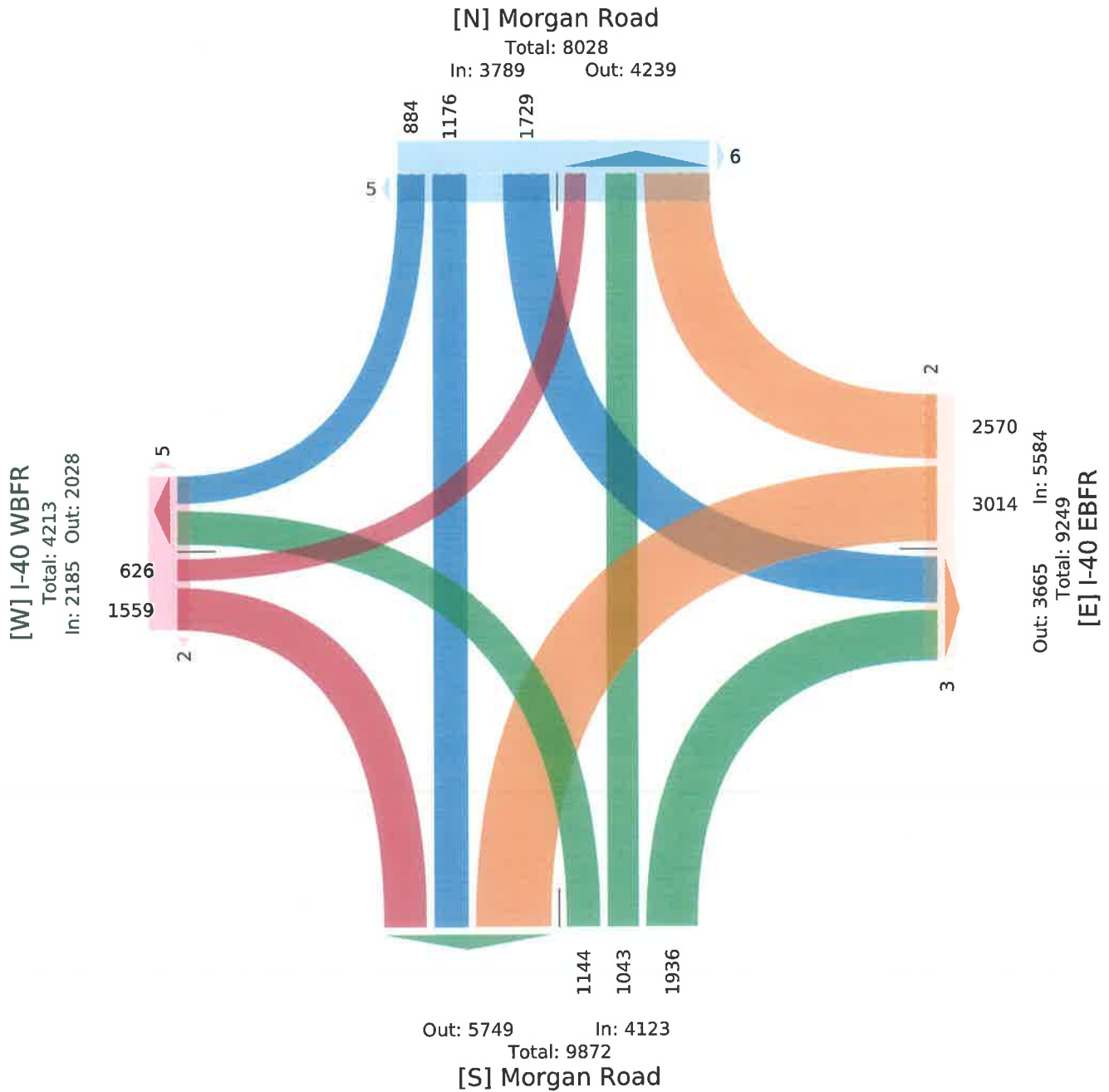
All Classes (Vehicles, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128557, Location: 35.460177, -97.689144



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave., Pasadena, TX, 77503, US





# 8. Morgan Street at I-40 - TMC

Thu Nov 2, 2023

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Vehicles, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128557, Location: 35.460177, -97.689144



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave., Pasadena, TX, 77503, US

Leg	Morgan Road						I-40 EBFR						Morgan Road						I-40 WBFR						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-11-02 4:45PM	32	40	89	0	161	0	87	0	150	0	237	0	61	41	57	0	159	0	52	0	27	0	79	2	636
5:00PM	57	63	88	0	208	0	121	0	140	0	261	0	82	34	66	0	182	0	56	0	39	0	95	0	746
5:15PM	39	77	48	0	164	0	101	0	148	0	249	0	66	50	63	0	179	0	70	0	27	0	97	0	689
5:30PM	40	48	38	0	126	0	108	0	142	0	250	0	76	36	49	0	161	0	55	0	35	0	90	1	627
<b>Total</b>	168	228	263	0	659	0	417	0	580	0	997	0	285	161	235	0	681	0	233	0	128	0	361	3	2698
<b>% Approach</b>	25.5%	34.6%	39.9%	0%	-	-	41.8%	0%	58.2%	0%	-	-	41.9%	23.6%	34.5%	0%	-	-	64.5%	0%	35.5%	0%	-	-	-
<b>% Total</b>	6.2%	8.5%	9.7%	0%	24.4%	-	15.5%	0%	21.5%	0%	37.0%	-	10.6%	6.0%	8.7%	0%	25.2%	-	8.6%	0%	4.7%	0%	13.4%	-	-
<b>PHF</b>	0.737	0.740	0.739	-	0.792	-	0.862	-	0.967	-	0.955	-	0.869	0.805	0.890	-	0.935	-	0.832	-	0.821	-	0.930	-	0.904
<b>Vehicles</b>	168	228	263	0	659	-	417	0	580	0	997	-	285	161	235	0	681	-	233	0	128	0	361	-	2698
<b>% Vehicles</b>	100%	100%	100%	0%	100%	-	100%	0%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	0%	100%	0%	100%	-	100%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# 8. Morgan Street at I-40 - TMC

Thu Nov 2, 2023

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

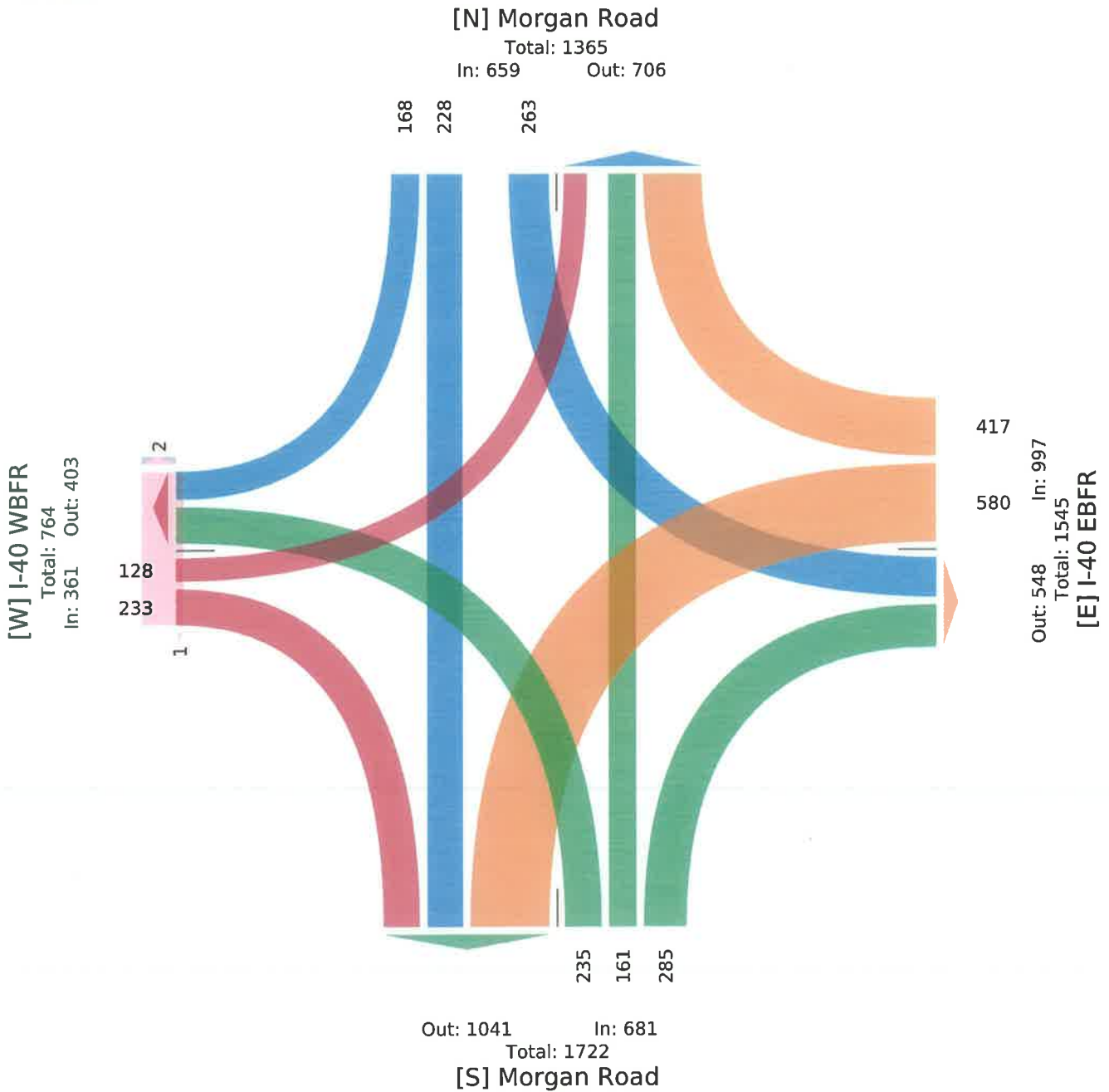
All Classes (Vehicles, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1128557, Location: 35.460177, -97.689144
























Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave., Pasadena, TX, 77503, US



## **Appendix C:** ***Synchro* Reports**

# HCM 6th Signalized Intersection Summary 401: Morgan Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	120	164	128	376	100	184	304	48	20	208	52
Future Volume (veh/h)	48	120	164	128	376	100	184	304	48	20	208	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	141	193	151	442	118	216	358	56	24	245	61
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	319	284	192	683	181	252	1196	533	40	614	150
Arrive On Green	0.04	0.18	0.18	0.11	0.25	0.25	0.14	0.34	0.34	0.02	0.22	0.22
Sat Flow, veh/h	1781	1777	1585	1781	2779	736	1781	3554	1585	1781	2832	691
Grp Volume(v), veh/h	56	141	193	151	281	279	216	358	56	24	152	154
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1738	1781	1777	1585	1781	1777	1746
Q Serve(g_s), s	1.8	4.0	6.4	4.7	8.0	8.1	6.7	4.2	1.4	0.8	4.1	4.3
Cycle Q Clear(g_c), s	1.8	4.0	6.4	4.7	8.0	8.1	6.7	4.2	1.4	0.8	4.1	4.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	74	319	284	192	437	427	252	1196	533	40	386	379
V/C Ratio(X)	0.76	0.44	0.68	0.79	0.64	0.65	0.86	0.30	0.11	0.61	0.39	0.41
Avail Cap(c_a), veh/h	252	944	842	252	551	539	252	1196	533	252	598	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	20.7	21.6	24.6	19.1	19.1	23.7	13.8	12.9	27.4	18.9	19.0
Incr Delay (d2), s/veh	14.6	1.0	2.8	11.5	1.7	1.9	24.0	0.6	0.4	14.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.5	2.3	2.3	2.9	2.9	4.1	1.5	0.5	0.4	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	21.6	24.5	36.0	20.8	21.0	47.6	14.5	13.3	41.4	19.6	19.7
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h	390			711			630			330		
Approach Delay, s/veh	25.9			24.1			25.7			21.2		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	17.3	7.3	18.9	6.3	24.0	11.1	15.1				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	8.0	19.0	8.0	17.5	8.0	19.0	8.0	30.0				
Max Q Clear Time (g_c+I1), s	8.7	6.3	3.8	10.1	2.8	6.2	6.7	8.4				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.8	0.0	1.8	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	24.5											
HCM 6th LOS	C											



# HCM 6th Signalized Intersection Summary 403: Morgan Rd & SW 15th St





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	140	220	20	128	68	108	348	16	84	660	284
Future Volume (veh/h)	152	140	220	20	128	68	108	348	16	84	660	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	165	259	24	151	80	127	409	19	99	776	334
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	334	298	32	207	104	152	1936	90	123	1315	565
Arrive On Green	0.12	0.19	0.19	0.02	0.09	0.09	0.09	0.56	0.56	0.07	0.54	0.54
Sat Flow, veh/h	1781	1777	1585	1781	2288	1152	1781	3458	160	1781	2420	1040
Grp Volume(v), veh/h	179	165	259	24	115	116	127	210	218	99	569	541
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1663	1781	1777	1842	1781	1777	1683
Q Serve(g_s), s	12.8	10.8	20.6	1.7	8.2	8.8	9.1	7.7	7.7	7.1	28.0	28.1
Cycle Q Clear(g_c), s	12.8	10.8	20.6	1.7	8.2	8.8	9.1	7.7	7.7	7.1	28.0	28.1
Prop In Lane	1.00		1.00	1.00		0.69	1.00		0.09	1.00		0.62
Lane Grp Cap(c), veh/h	205	334	298	32	161	151	152	995	1031	123	965	914
V/C Ratio(X)	0.87	0.49	0.87	0.76	0.72	0.77	0.83	0.21	0.21	0.81	0.59	0.59
Avail Cap(c_a), veh/h	260	472	421	110	321	301	206	995	1031	192	965	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	56.6	47.2	51.2	63.6	57.5	57.8	58.5	14.3	14.3	59.7	20.0	20.0
Incr Delay (d2), s/veh	18.0	0.9	10.5	29.8	5.8	7.9	19.0	0.5	0.5	10.8	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	4.8	8.8	1.0	3.9	4.0	4.8	3.1	3.2	3.5	11.6	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	48.1	61.7	93.3	63.3	65.6	77.6	14.8	14.8	70.5	22.1	22.3
LnGrp LOS	E	D	E	F	E	E	E	B	B	E	C	C
Approach Vol, veh/h	603			255			555			1209		
Approach Delay, s/veh	61.8			67.2			29.1			26.2		
Approach LOS	E			E			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.1	76.6	20.0	17.3	13.9	78.8	7.3	30.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	6.0	5.0	5.5				
Max Green Setting (Gmax), s	15.0	51.0	19.0	23.5	14.0	52.0	8.0	34.5				
Max Q Clear Time (g_c+I1), s	11.1	30.1	14.8	10.8	9.1	9.7	3.7	22.6				
Green Ext Time (p_c), s	0.1	7.3	0.2	0.9	0.1	2.4	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	39.0											
HCM 6th LOS	D											























HCM 6th Signalized Intersection Summary  
575: Sara Rd & Reno Ave

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	132	120	40	560	48	152	176	24	56	220	196
Future Volume (veh/h)	76	132	120	40	560	48	152	176	24	56	220	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	155	141	47	659	56	179	207	28	66	259	231
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	535	453	63	873	74	226	903	121	85	375	323
Arrive On Green	0.07	0.29	0.29	0.04	0.26	0.26	0.13	0.29	0.29	0.05	0.21	0.21
Sat Flow, veh/h	1781	1825	1544	1781	3315	281	1781	3151	421	1781	1811	1556
Grp Volume(v), veh/h	89	151	145	47	353	362	179	116	119	66	254	236
Grp Sat Flow(s),veh/h/ln	1781	1777	1592	1781	1777	1820	1781	1777	1795	1781	1777	1590
Q Serve(g_s), s	3.1	4.2	4.5	1.7	11.6	11.7	6.2	3.2	3.2	2.3	8.4	8.8
Cycle Q Clear(g_c), s	3.1	4.2	4.5	1.7	11.6	11.7	6.2	3.2	3.2	2.3	8.4	8.8
Prop In Lane	1.00		0.97	1.00		0.15	1.00		0.23	1.00		0.98
Lane Grp Cap(c), veh/h	116	521	467	63	468	479	226	509	514	85	368	330
V/C Ratio(X)	0.77	0.29	0.31	0.74	0.75	0.76	0.79	0.23	0.23	0.78	0.69	0.72
Avail Cap(c_a), veh/h	419	710	636	419	710	727	419	696	703	419	696	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	17.4	17.5	30.5	21.6	21.6	27.0	17.4	17.4	30.0	23.4	23.5
Incr Delay (d2), s/veh	10.0	0.3	0.4	15.8	2.5	2.4	6.1	0.2	0.2	13.9	2.3	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.5	0.9	4.5	4.6	2.8	1.2	1.2	1.3	3.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	17.7	17.9	46.3	24.1	24.1	33.1	17.6	17.6	44.0	25.7	26.5
LnGrp LOS	D	B	B	D	C	C	C	B	B	D	C	C
Approach Vol, veh/h	385			762			414			556		
Approach Delay, s/veh	22.8			25.4			24.3			28.2		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	19.2	9.2	22.3	8.0	24.3	7.3	24.2				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	* 6	5.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	15.0	25.5	15.0	* 25	15.0	25.5				
Max Q Clear Time (g_c+I1), s	8.2	10.8	5.1	13.7	4.3	5.2	3.7	6.5				
Green Ext Time (p_c), s	0.2	2.4	0.1	3.1	0.1	1.1	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay	25.5											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary  
576: Sara Rd & SW 15th St










11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	360	60	116	224	124	44	128	80	96	204	36
Future Volume (veh/h)	48	360	60	116	224	124	44	128	80	96	204	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	424	71	136	264	146	52	151	94	113	240	42
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	587	98	302	534	286	464	390	243	501	601	105
Arrive On Green	0.04	0.19	0.19	0.08	0.24	0.24	0.04	0.36	0.36	0.06	0.39	0.39
Sat Flow, veh/h	1781	3049	507	1781	2234	1198	1781	1078	671	1781	1550	271
Grp Volume(v), veh/h	56	246	249	136	208	202	52	0	245	113	0	282
Grp Sat Flow(s),veh/h/ln	1781	1777	1779	1781	1777	1655	1781	0	1750	1781	0	1822
Q Serve(g_s), s	1.8	9.5	9.6	4.4	7.4	7.7	1.3	0.0	7.6	2.9	0.0	8.2
Cycle Q Clear(g_c), s	1.8	9.5	9.6	4.4	7.4	7.7	1.3	0.0	7.6	2.9	0.0	8.2
Prop In Lane	1.00		0.29	1.00		0.72	1.00		0.38	1.00		0.15
Lane Grp Cap(c), veh/h	295	342	342	302	424	395	464	0	633	501	0	706
V/C Ratio(X)	0.19	0.72	0.73	0.45	0.49	0.51	0.11	0.00	0.39	0.23	0.00	0.40
Avail Cap(c_a), veh/h	533	716	717	458	740	690	705	0	633	696	0	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.6	27.7	27.8	21.5	24.0	24.1	14.0	0.0	17.3	13.4	0.0	16.2
Incr Delay (d2), s/veh	0.3	2.8	3.0	1.0	0.9	1.0	0.1	0.0	1.8	0.2	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.9	4.0	1.7	2.9	2.9	0.5	0.0	3.1	1.0	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	30.5	30.7	22.6	24.9	25.2	14.1	0.0	19.1	13.7	0.0	17.9
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	B
Approach Vol, veh/h	551			546			297			395		
Approach Delay, s/veh	29.8			24.4			18.2			16.7		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	33.9	8.2	23.0	10.0	32.0	11.6	19.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	12.5	26.5	12.5	30.5	12.5	26.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	3.3	10.2	3.8	9.7	4.9	9.6	6.4	11.6				
Green Ext Time (p_c), s	0.0	1.3	0.1	2.1	0.1	1.2	0.1	2.5				
Intersection Summary												
HCM 6th Ctrl Delay	23.4											
HCM 6th LOS	C											



HCM 6th Signalized Intersection Summary  
2361: SW 15th St & Kilpatrick Turnpike

11/20/2023

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	260	452	268	28	0	0
Future Volume (veh/h)	260	452	268	28	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	306	532	315	33		
Peak Hour Factor	0.85	0.85	0.85	0.85		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	946	2636	894	93		
Arrive On Green	0.21	0.74	0.28	0.28		
Sat Flow, veh/h	1781	3647	3342	338		
Grp Volume(v), veh/h	306	532	171	177		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1810		
Q Serve(g_s), s	1.7	0.9	1.5	1.5		
Cycle Q Clear(g_c), s	1.7	0.9	1.5	1.5		
Prop In Lane	1.00			0.19		
Lane Grp Cap(c), veh/h	946	2636	489	498		
V/C Ratio(X)	0.32	0.20	0.35	0.36		
Avail Cap(c_a), veh/h	2415	5506	2753	2803		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	2.4	0.8	5.6	5.6		
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.6	0.8	6.1	6.1		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		838	348			
Approach Delay, s/veh		1.5	6.1			
Approach LOS		A	A			
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			9.0	10.3		19.4
Change Period (Y+Rc), s			5.0	5.0		5.0
Max Green Setting (Gmax), s			20.0	30.0		30.0
Max Q Clear Time (g_c+l1), s			3.7	3.5		2.9
Green Ext Time (p_c), s			0.8	1.8		3.4
Intersection Summary						
HCM 6th Ctrl Delay			2.8			
HCM 6th LOS			A			























HCM 6th Signalized Intersection Summary  
2362: SW 15th St & Kilpatrick Turnpike

11/20/2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↑↑↑	↑↑		↑	↑
Traffic Volume (veh/h)	8	508	252	4	192	552
Future Volume (veh/h)	8	508	252	4	192	552
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	598	296	5	226	649
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	110	1264	918	15	832	740
Arrive On Green	0.26	0.26	0.26	0.26	0.47	0.47
Sat Flow, veh/h	26	5076	3670	60	1781	1585
Grp Volume(v), veh/h	229	378	147	154	226	649
Grp Sat Flow(s),veh/h/ln	1851	1549	1777	1860	1781	1585
Q Serve(g_s), s	0.0	3.7	2.4	2.4	2.8	13.4
Cycle Q Clear(g_c), s	3.7	3.7	2.4	2.4	2.8	13.4
Prop In Lane	0.04			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	579	795	456	477	832	740
V/C Ratio(X)	0.40	0.48	0.32	0.32	0.27	0.88
Avail Cap(c_a), veh/h	1619	2568	1473	1541	984	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.4	11.4	10.9	10.9	5.9	8.7
Incr Delay (d2), s/veh	0.4	0.4	0.4	0.4	0.2	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.9	0.7	0.7	0.5	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	11.8	11.3	11.3	6.1	17.6
LnGrp LOS	B	B	B	B	A	B
Approach Vol, veh/h		607	301		875	
Approach Delay, s/veh		11.8	11.3		14.6	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		21.9		14.3		14.3
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		20.0		30.0		30.0
Max Q Clear Time (g_c+I1), s		15.4		4.4		5.7
Green Ext Time (p_c), s		1.5		1.5		3.5
Intersection Summary						
HCM 6th Ctrl Delay			13.1			
HCM 6th LOS			B			

# HCM Signalized Intersection Capacity Analysis 396: EB I-40 Ramp/WB I-40 Ramp & Morgan Rd

11/20/2023

												
Movement	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations												
Traffic Volume (vph)	196	144	304	0	152	192	160	0	140	220	568	432
Future Volume (vph)	196	144	304	0	152	192	160	0	140	220	568	432
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	5.5			5.5	6.0			6.5	4.0	5.5	4.0
Lane Util. Factor	0.97	0.95			0.97	0.95			0.97	1.00	0.97	1.00
Frt	1.00	0.90			1.00	0.93			1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	3179			3433	3298			3433	1583	3433	1583
Flt Permitted	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	3179			3433	3298			3433	1583	3433	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.85
Adj. Flow (vph)	231	169	358	0	179	226	188	0	165	259	668	508
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	231	527	0	0	179	414	0	0	165	259	668	508
Turn Type	Prot	NA		Prot	Prot	NA		Free	Prot	Free	Prot	Free
Protected Phases	1	6		6	5	2			3		7	
Permitted Phases								Free		Free		Free
Actuated Green, G (s)	9.7	16.9			8.8	14.0			15.2	58.4	16.2	58.4
Effective Green, g (s)	9.7	16.9			8.8	14.0			15.2	58.4	16.2	58.4
Actuated g/C Ratio	0.17	0.29			0.15	0.24			0.26	1.00	0.28	1.00
Clearance Time (s)	7.0	5.5			5.5	6.0			6.5		5.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	570	919			517	790			893	1583	952	1583
v/s Ratio Prot	0.07	c0.17			0.05	0.13			0.05		c0.19	
v/s Ratio Perm										0.16		c0.32
v/c Ratio	0.41	0.57			0.35	0.52			0.18	0.16	0.70	0.32
Uniform Delay, d1	21.8	17.7			22.2	19.3			16.8	0.0	18.9	0.0
Progression Factor	1.00	1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.9			0.4	0.6			0.1	0.2	2.4	0.5
Delay (s)	22.2	18.5			22.6	19.9			16.9	0.2	21.3	0.5
Level of Service	C	B			C	B			B	A	C	A
Approach Delay (s)		19.7				20.7						
Approach LOS		B				C						
<b>Intersection Summary</b>												
HCM 2000 Control Delay		15.1				HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		58.4				Sum of lost time (s)			19.5			
Intersection Capacity Utilization		50.0%				ICU Level of Service			A			
Analysis Period (min)		15										

c Critical Lane Group



HCM 6th TWSC  
17: S Mustang Rd & SW 11th St

11/20/2023

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕		↕	↕			↕		
Traffic Vol, veh/h	12	0	44	0	0	8	52	808	12	0	964	72
Future Vol, veh/h	12	0	44	0	0	8	52	808	12	0	964	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	52	0	0	9	61	951	14	0	1134	85

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	1775	2264	610	1647	-	483	1219	0
Stage 1	1177	1177	-	1080	-	-	-	-
Stage 2	598	1087	-	567	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	4.14	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.22	-
Pot Cap-1 Maneuver	52	40	437	65	0	530	568	-
Stage 1	203	263	-	233	0	-	-	-
Stage 2	456	290	-	476	0	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	42	31	437	47	-	530	568	-
Mov Cap-2 Maneuver	42	31	-	47	-	-	-	-
Stage 1	156	263	-	179	-	-	-	-
Stage 2	344	223	-	420	-	-	-	-






















Approach	EB	WB	NB	SB
HCM Control Delay, s	49	11.9	1.8	0
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	568	-	-	145	-	530	709	-	-
HCM Lane V/C Ratio	0.108	-	-	0.454	-	0.018	-	-	-
HCM Control Delay (s)	12.1	1.2	-	49	0	11.9	0	-	-
HCM Lane LOS	B	A	-	E	A	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.1	-	0.1	0	-	-

HCM 6th Signalized Intersection Summary  
401: Morgan Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	24	36	16	72	16	68	76	4	12	68	0
Future Volume (veh/h)	8	24	36	16	72	16	68	76	4	12	68	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	28	42	19	85	19	80	89	5	14	80	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	17	157	140	34	284	62	101	1521	678	25	1370	0
Arrive On Green	0.01	0.09	0.09	0.02	0.10	0.10	0.06	0.43	0.43	0.01	0.39	0.00
Sat Flow, veh/h	1781	1777	1585	1781	2904	630	1781	3554	1585	1781	3647	0
Grp Volume(v), veh/h	9	28	42	19	51	53	80	89	5	14	80	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1757	1781	1777	1585	1781	1777	0
Q Serve(g_s), s	0.2	0.6	1.1	0.5	1.2	1.2	2.0	0.7	0.1	0.3	0.6	0.0
Cycle Q Clear(g_c), s	0.2	0.6	1.1	0.5	1.2	1.2	2.0	0.7	0.1	0.3	0.6	0.0
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	17	157	140	34	174	172	101	1521	678	25	1370	0
V/C Ratio(X)	0.53	0.18	0.30	0.57	0.29	0.31	0.79	0.06	0.01	0.55	0.06	0.00
Avail Cap(c_a), veh/h	321	1201	1071	321	700	693	321	1521	678	321	1521	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.9	18.7	18.9	21.6	18.6	18.6	20.7	7.4	7.3	21.7	8.6	0.0
Incr Delay (d2), s/veh	23.7	0.5	1.2	14.1	0.9	1.0	12.9	0.1	0.0	17.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.4	0.3	0.4	0.4	1.0	0.2	0.0	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	19.3	20.1	35.7	19.5	19.6	33.5	7.5	7.3	39.0	8.6	0.0
LnGrp LOS	D	B	C	D	B	B	C	A	A	D	A	A
Approach Vol, veh/h	79				123				174			
Approach Delay, s/veh	22.7				22.1				19.5			
Approach LOS	C				C				B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	22.1	5.4	9.3	5.6	24.0	5.8	8.9				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	8.0	19.0	8.0	17.5	8.0	19.0	8.0	30.0				
Max Q Clear Time (g_c+l1), s	4.0	2.6	2.2	3.2	2.3	2.7	2.5	3.1				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	19.4											
HCM 6th LOS	B											























HCM 6th Signalized Intersection Summary  
403: Morgan Rd & SW 15th St

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	20	32	0	12	12	32	76	8	36	208	60
Future Volume (veh/h)	44	20	32	0	12	12	32	76	8	36	208	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	24	38	0	14	14	38	89	9	42	245	71
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	171	152	1	35	30	49	2436	243	54	2049	581
Arrive On Green	0.04	0.10	0.10	0.00	0.02	0.02	0.03	0.75	0.75	0.03	0.75	0.75
Sat Flow, veh/h	1781	1777	1585	1781	1809	1558	1781	3263	325	1781	2733	775
Grp Volume(v), veh/h	52	24	38	0	14	14	38	48	50	42	157	159
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1590	1781	1777	1812	1781	1777	1731
Q Serve(g_s), s	3.8	1.6	2.9	0.0	1.0	1.2	2.8	0.9	0.9	3.0	3.2	3.3
Cycle Q Clear(g_c), s	3.8	1.6	2.9	0.0	1.0	1.2	2.8	0.9	0.9	3.0	3.2	3.3
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.18	1.00		0.45
Lane Grp Cap(c), veh/h	68	171	152	1	35	31	49	1326	1352	54	1332	1297
V/C Ratio(X)	0.77	0.14	0.25	0.00	0.39	0.46	0.77	0.04	0.04	0.77	0.12	0.12
Avail Cap(c_a), veh/h	288	526	469	110	349	312	247	1326	1352	274	1332	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	62.0	53.8	54.4	0.0	63.0	63.0	62.8	4.3	4.3	62.6	4.5	4.5
Incr Delay (d2), s/veh	16.5	0.4	0.8	0.0	7.1	10.2	22.4	0.1	0.1	19.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.7	1.2	0.0	0.5	0.5	1.5	0.3	0.3	1.7	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.4	54.2	55.3	0.0	70.1	73.2	85.2	4.3	4.3	82.5	4.7	4.7
LnGrp LOS	E	D	E	A	E	E	F	A	A	F	A	A
Approach Vol, veh/h	114				28				136			
Approach Delay, s/veh	65.6				71.7				26.9			
Approach LOS	E				E				C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	103.4	9.9	8.0	9.0	103.0	0.0	18.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	6.0	5.0	5.5				
Max Green Setting (Gmax), s	18.0	44.0	21.0	25.5	20.0	42.0	8.0	38.5				
Max Q Clear Time (g_c+I1), s	4.8	5.3	5.8	3.2	5.0	2.9	0.0	4.9				
Green Ext Time (p_c), s	0.0	1.8	0.1	0.1	0.1	0.5	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	28.4											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary  
575: Sara Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	60	40	8	112	24	24	20	4	8	24	20
Future Volume (veh/h)	40	60	40	8	112	24	24	20	4	8	24	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	71	47	9	132	28	28	24	5	9	28	24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	466	283	17	547	113	49	323	65	17	177	134
Arrive On Green	0.04	0.22	0.22	0.01	0.19	0.19	0.03	0.11	0.11	0.01	0.09	0.09
Sat Flow, veh/h	1781	2123	1292	1781	2932	606	1781	2946	594	1781	1926	1459
Grp Volume(v), veh/h	47	58	60	9	79	81	28	14	15	9	26	26
Grp Sat Flow(s),veh/h/ln	1781	1777	1638	1781	1777	1761	1781	1777	1763	1781	1777	1608
Q Serve(g_s), s	0.9	0.9	1.0	0.2	1.2	1.3	0.5	0.2	0.2	0.2	0.4	0.5
Cycle Q Clear(g_c), s	0.9	0.9	1.0	0.2	1.2	1.3	0.5	0.2	0.2	0.2	0.4	0.5
Prop In Lane	1.00		0.79	1.00		0.34	1.00		0.34	1.00		0.91
Lane Grp Cap(c), veh/h	76	390	359	17	331	329	49	195	194	17	163	148
V/C Ratio(X)	0.62	0.15	0.17	0.53	0.24	0.25	0.57	0.07	0.08	0.53	0.16	0.18
Avail Cap(c_a), veh/h	810	1373	1266	810	1373	1361	810	1400	1390	810	1346	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.5	10.4	10.4	16.3	11.4	11.4	15.9	13.2	13.2	16.3	13.8	13.8
Incr Delay (d2), s/veh	8.1	0.2	0.2	22.8	0.4	0.4	10.1	0.2	0.2	22.8	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.2	0.2	0.4	0.4	0.3	0.1	0.1	0.2	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	10.6	10.6	39.1	11.8	11.8	26.0	13.3	13.4	39.1	14.2	14.4
LnGrp LOS	C	B	B	D	B	B	C	B	B	D	B	B
Approach Vol, veh/h	165			169			57			61		
Approach Delay, s/veh	14.3			13.3			19.6			18.0		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	9.0	6.4	11.7	5.3	9.6	5.3	12.7				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	* 6	5.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	15.0	25.5	15.0	* 26	15.0	25.5				
Max Q Clear Time (g_c+I1), s	2.5	2.5	2.9	3.3	2.2	2.2	2.2	3.0				
Green Ext Time (p_c), s	0.0	0.2	0.1	0.7	0.0	0.1	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	15.1											
HCM 6th LOS	B											
Notes												



# HCM 6th Signalized Intersection Summary 576: Sara Rd & SW 15th St










11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	60	16	28	52	8	4	24	12	20	16	4
Future Volume (veh/h)	16	60	16	28	52	8	4	24	12	20	16	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	71	19	33	61	9	5	28	14	24	19	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	382	98	331	458	66	711	483	242	712	610	161
Arrive On Green	0.02	0.14	0.14	0.03	0.15	0.15	0.01	0.41	0.41	0.02	0.43	0.43
Sat Flow, veh/h	1781	2796	721	1781	3116	450	1781	1176	588	1781	1427	376
Grp Volume(v), veh/h	19	44	46	33	34	36	5	0	42	24	0	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1741	1781	1777	1789	1781	0	1764	1781	0	1803
Q Serve(g_s), s	0.5	1.2	1.3	0.9	0.9	1.0	0.1	0.0	0.8	0.4	0.0	0.4
Cycle Q Clear(g_c), s	0.5	1.2	1.3	0.9	0.9	1.0	0.1	0.0	0.8	0.4	0.0	0.4
Prop In Lane	1.00		0.41	1.00		0.25	1.00		0.33	1.00		0.21
Lane Grp Cap(c), veh/h	336	242	238	331	261	263	711	0	725	712	0	771
V/C Ratio(X)	0.06	0.18	0.19	0.10	0.13	0.14	0.01	0.00	0.06	0.03	0.00	0.03
Avail Cap(c_a), veh/h	710	957	937	686	957	964	1108	0	725	1079	0	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	20.9	21.0	19.5	20.3	20.3	9.4	0.0	9.7	8.9	0.0	9.1
Incr Delay (d2), s/veh	0.1	0.4	0.4	0.1	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.5	0.5	0.3	0.3	0.4	0.0	0.0	0.3	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	21.3	21.4	19.6	20.5	20.6	9.4	0.0	9.9	8.9	0.0	9.2
LnGrp LOS	B	C	C	B	C	C	A	A	A	A	A	A
Approach Vol, veh/h	109				103				47			
Approach Delay, s/veh	21.1				20.2				9.8			
Approach LOS	C				C				A			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.8	28.9	6.5	13.5	6.7	28.0	7.1	13.0				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	12.5	22.5	12.5	29.5	12.5	22.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	2.1	2.4	2.5	3.0	2.4	2.8	2.9	3.3				
Green Ext Time (p_c), s	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	17.2											
HCM 6th LOS	B											
Notes												



HCM 6th Signalized Intersection Summary  
2361: SW 15th St & Kilpatrick Turnpike

11/20/2023

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	92	64	12	0	0
Future Volume (veh/h)	44	92	64	12	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	52	108	75	14		
Peak Hour Factor	0.85	0.85	0.85	0.85		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	948	2445	936	170		
Arrive On Green	0.06	0.69	0.31	0.31		
Sat Flow, veh/h	1781	3647	3096	546		
Grp Volume(v), veh/h	52	108	44	45		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1772		
Q Serve(g_s), s	0.2	0.2	0.3	0.3		
Cycle Q Clear(g_c), s	0.2	0.2	0.3	0.3		
Prop In Lane	1.00			0.31		
Lane Grp Cap(c), veh/h	948	2445	554	553		
V/C Ratio(X)	0.05	0.04	0.08	0.08		
Avail Cap(c_a), veh/h	2500	6649	3325	3316		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	2.2	0.8	3.9	3.9		
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.2	0.8	4.0	4.0		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		160	89			
Approach Delay, s/veh		1.3	4.0			
Approach LOS		A	A			
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			6.0	10.0		16.0
Change Period (Y+Rc), s			5.0	5.0		5.0
Max Green Setting (Gmax), s			15.0	30.0		30.0
Max Q Clear Time (g_c+I1), s			2.2	2.3		2.2
Green Ext Time (p_c), s			0.1	0.4		0.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			2.2			
HCM 6th LOS			A			























HCM 6th Signalized Intersection Summary  
2362: SW 15th St & Kilpatrick Turnpike

11/20/2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↑↑↑	↑↑		↘	↗
Traffic Volume (veh/h)	0	124	64	0	24	132
Future Volume (veh/h)	0	124	64	0	24	132
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	146	75	0	28	155
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1419	987	0	297	264
Arrive On Green	0.00	0.28	0.28	0.00	0.17	0.17
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	146	75	0	28	155
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	0.4	0.3	0.0	0.2	1.6
Cycle Q Clear(g_c), s	0.0	0.4	0.3	0.0	0.2	1.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1419	987	0	297	264
V/C Ratio(X)	0.00	0.10	0.08	0.00	0.09	0.59
Avail Cap(c_a), veh/h	0	8511	5924	0	1980	1761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.8	4.8	0.0	6.4	6.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.9	4.8	0.0	6.5	9.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		146	75		183	
Approach Delay, s/veh		4.9	4.8		8.6	
Approach LOS		A	A		A	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		8.0		10.0		10.0
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		20.0		30.0		30.0
Max Q Clear Time (g_c+I1), s		3.6		2.3		2.4
Green Ext Time (p_c), s		0.5		0.3		0.8
Intersection Summary						
HCM 6th Ctrl Delay			6.6			
HCM 6th LOS			A			

# HCM Signalized Intersection Capacity Analysis 396: EB I-40 Ramp/WB I-40 Ramp & Morgan Rd

11/20/2023

												
Movement	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations												
Traffic Volume (vph)	40	20	116	0	72	60	56	0	32	124	216	152
Future Volume (vph)	40	20	116	0	72	60	56	0	32	124	216	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	5.5			5.5	6.0			6.5	4.0	5.5	4.0
Lane Util. Factor	0.97	0.95			0.97	0.95			0.97	1.00	0.97	1.00
Frt	1.00	0.87			1.00	0.93			1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	3088			3433	3283			3433	1583	3433	1583
Flt Permitted	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	3088			3433	3283			3433	1583	3433	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	24	136	0	85	71	66	0	38	146	254	179
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	47	160	0	0	85	137	0	0	38	146	254	179
Turn Type	Prot	NA		Prot	Prot	NA		Free	Prot	Free	Prot	Free
Protected Phases	1	6		6	5	2			3		7	
Permitted Phases								Free		Free		Free
Actuated Green, G (s)	2.6	15.5			4.0	14.9			8.3	45.3	9.3	45.3
Effective Green, g (s)	2.6	15.5			4.0	14.9			8.3	45.3	9.3	45.3
Actuated g/C Ratio	0.06	0.34			0.09	0.33			0.18	1.00	0.21	1.00
Clearance Time (s)	7.0	5.5			5.5	6.0			6.5		5.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	197	1056			303	1079			629	1583	704	1583
v/s Ratio Prot	0.01	0.05			c0.02	0.04			0.01		c0.07	
v/s Ratio Perm										0.09		c0.11
v/c Ratio	0.24	0.15			0.28	0.13			0.06	0.09	0.36	0.11
Uniform Delay, d1	20.4	10.3			19.3	10.6			15.3	0.0	15.4	0.0
Progression Factor	1.00	1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.1			0.5	0.1			0.0	0.1	0.3	0.1
Delay (s)	21.0	10.4			19.8	10.7			15.3	0.1	15.8	0.1
Level of Service	C	B			B	B			B	A	B	A
Approach Delay (s)		12.8				14.2						
Approach LOS		B				B						
<b>Intersection Summary</b>												
HCM 2000 Control Delay		10.0				HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio		0.27										
Actuated Cycle Length (s)		45.3				Sum of lost time (s)				19.5		
Intersection Capacity Utilization		41.7%				ICU Level of Service				A		
Analysis Period (min)		15										

c Critical Lane Group



HCM 2010 TWSC  
17: S Mustang Rd & SW 11th St

11/20/2023

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↖		↗	↔			↔		
Traffic Vol, veh/h	4	0	16	0	0	0	24	260	4	0	312	40
Future Vol, veh/h	4	0	16	0	0	0	24	260	4	0	312	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	19	0	0	0	28	306	5	0	367	47

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	600	758	207	549	-	156	414	0
Stage 1	391	391	-	365	-	-	-	-
Stage 2	209	367	-	184	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	4.14	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.22	-
Pot Cap-1 Maneuver	385	335	799	419	0	862	1141	-
Stage 1	605	606	-	627	0	-	-	-
Stage 2	774	621	-	800	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	376	325	799	400	-	862	1141	-
Mov Cap-2 Maneuver	376	325	-	400	-	-	-	-
Stage 1	587	606	-	608	-	-	-	-
Stage 2	751	602	-	781	-	-	-	-






















Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	0	0.8	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1141	-	-	652	-	-	1246
HCM Lane V/C Ratio	0.025	-	-	0.036	-	-	-
HCM Control Delay (s)	8.2	0.1	-	10.7	0	0	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	-	0

HCM 6th Signalized Intersection Summary  
401: Morgan Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	125	171	133	391	104	191	316	50	21	216	54
Future Volume (veh/h)	50	125	171	133	391	104	191	316	50	21	216	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	147	201	156	460	122	225	372	59	25	254	64
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	328	293	197	704	185	249	1180	526	41	607	150
Arrive On Green	0.04	0.18	0.18	0.11	0.25	0.25	0.14	0.33	0.33	0.02	0.22	0.22
Sat Flow, veh/h	1781	1777	1585	1781	2783	733	1781	3554	1585	1781	2824	698
Grp Volume(v), veh/h	59	147	201	156	293	289	225	372	59	25	158	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1738	1781	1777	1585	1781	1777	1745
Q Serve(g_s), s	1.9	4.2	6.8	4.9	8.4	8.5	7.1	4.5	1.5	0.8	4.4	4.5
Cycle Q Clear(g_c), s	1.9	4.2	6.8	4.9	8.4	8.5	7.1	4.5	1.5	0.8	4.4	4.5
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	76	328	293	197	450	440	249	1180	526	41	382	375
V/C Ratio(X)	0.78	0.45	0.69	0.79	0.65	0.66	0.90	0.32	0.11	0.61	0.41	0.43
Avail Cap(c_a), veh/h	249	931	831	249	543	532	249	1180	526	249	590	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	20.7	21.8	24.8	19.1	19.2	24.2	14.3	13.3	27.7	19.3	19.4
Incr Delay (d2), s/veh	15.6	1.0	2.8	12.5	2.0	2.2	32.8	0.7	0.4	13.9	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.6	2.4	2.5	3.1	3.1	4.9	1.6	0.5	0.5	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.7	21.7	24.6	37.3	21.1	21.4	57.0	15.0	13.7	41.6	20.1	20.2
LnGrp LOS	D	C	C	D	C	C	E	B	B	D	C	C
Approach Vol, veh/h	407			738			656			343		
Approach Delay, s/veh	26.2			24.7			29.3			21.7		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	17.3	7.4	19.5	6.3	24.0	11.3	15.6				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	8.0	19.0	8.0	17.5	8.0	19.0	8.0	30.0				
Max Q Clear Time (g_c+I1), s	9.1	6.5	3.9	10.5	2.8	6.5	6.9	8.8				
Green Ext Time (p_c), s	0.0	1.3	0.0	1.8	0.0	1.9	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	25.9											
HCM 6th LOS	C											























HCM 6th Signalized Intersection Summary  
403: Morgan Rd & SW 15th St

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	146	229	21	133	71	112	362	17	87	687	295
Future Volume (veh/h)	158	146	229	21	133	71	112	362	17	87	687	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	172	269	25	156	84	132	426	20	102	808	347
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	349	311	33	216	111	158	1897	89	127	1287	551
Arrive On Green	0.12	0.20	0.20	0.02	0.09	0.09	0.09	0.55	0.55	0.07	0.53	0.53
Sat Flow, veh/h	1781	1777	1585	1781	2274	1164	1781	3456	162	1781	2423	1038
Grp Volume(v), veh/h	186	172	269	25	120	120	132	219	227	102	592	563
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1661	1781	1777	1841	1781	1777	1684
Q Serve(g_s), s	13.3	11.2	21.4	1.8	8.5	9.2	9.5	8.2	8.3	7.3	30.4	30.6
Cycle Q Clear(g_c), s	13.3	11.2	21.4	1.8	8.5	9.2	9.5	8.2	8.3	7.3	30.4	30.6
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.09	1.00		0.62
Lane Grp Cap(c), veh/h	213	349	311	33	169	158	158	975	1011	127	944	895
V/C Ratio(X)	0.87	0.49	0.86	0.77	0.71	0.76	0.84	0.22	0.23	0.81	0.63	0.63
Avail Cap(c_a), veh/h	288	526	469	110	349	326	247	975	1011	274	944	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	56.3	46.5	50.6	63.5	57.1	57.4	58.3	15.1	15.1	59.5	21.4	21.4
Incr Delay (d2), s/veh	15.7	0.8	8.3	30.5	5.5	7.3	13.3	0.5	0.5	9.3	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.9	9.0	1.1	4.0	4.1	4.8	3.3	3.4	3.6	12.7	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.9	47.3	58.9	94.0	62.6	64.7	71.6	15.6	15.6	68.8	24.0	24.2
LnGrp LOS	E	D	E	F	E	E	E	B	B	E	C	C
Approach Vol, veh/h	627				265				578			
Approach Delay, s/veh	59.6				66.5				28.4			
Approach LOS	E				E				C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.5	75.1	20.5	17.8	14.2	77.4	7.4	31.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	6.0	5.0	5.5				
Max Green Setting (Gmax), s	18.0	44.0	21.0	25.5	20.0	42.0	8.0	38.5				
Max Q Clear Time (g_c+I1), s	11.5	32.6	15.3	11.2	9.3	10.3	3.8	23.4				
Green Ext Time (p_c), s	0.2	5.6	0.2	1.0	0.1	2.4	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	38.9											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary  
575: Sara Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	137	125	42	583	50	158	183	25	58	229	204
Future Volume (veh/h)	79	137	125	42	583	50	158	183	25	58	229	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	161	147	49	686	59	186	215	29	68	269	240
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	547	466	64	888	76	233	920	122	88	380	328
Arrive On Green	0.07	0.30	0.30	0.04	0.27	0.27	0.13	0.29	0.29	0.05	0.21	0.21
Sat Flow, veh/h	1781	1820	1549	1781	3311	285	1781	3152	420	1781	1808	1559
Grp Volume(v), veh/h	93	157	151	49	368	377	186	120	124	68	264	245
Grp Sat Flow(s),veh/h/ln	1781	1777	1592	1781	1777	1819	1781	1777	1795	1781	1777	1590
Q Serve(g_s), s	3.4	4.5	4.9	1.8	12.7	12.8	6.8	3.4	3.5	2.5	9.2	9.6
Cycle Q Clear(g_c), s	3.4	4.5	4.9	1.8	12.7	12.8	6.8	3.4	3.5	2.5	9.2	9.6
Prop In Lane	1.00		0.97	1.00		0.16	1.00		0.23	1.00		0.98
Lane Grp Cap(c), veh/h	122	534	479	64	477	488	233	518	524	88	374	335
V/C Ratio(X)	0.76	0.29	0.32	0.77	0.77	0.77	0.80	0.23	0.24	0.77	0.71	0.73
Avail Cap(c_a), veh/h	401	679	609	401	679	696	401	666	673	401	666	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	17.9	18.0	31.9	22.5	22.5	28.1	17.9	18.0	31.3	24.4	24.6
Incr Delay (d2), s/veh	9.5	0.3	0.4	17.4	3.5	3.4	6.2	0.2	0.2	13.3	2.5	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.7	1.6	1.0	5.1	5.2	3.1	1.3	1.3	1.3	3.8	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	18.2	18.4	49.3	26.0	26.0	34.4	18.2	18.2	44.7	26.9	27.7
LnGrp LOS	D	B	B	D	C	C	C	B	B	D	C	C
Approach Vol, veh/h	401			794			430			577		
Approach Delay, s/veh	23.3			27.4			25.2			29.3		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	20.0	9.6	23.4	8.3	25.5	7.4	25.6				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	* 6	5.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	15.0	25.5	15.0	* 25	15.0	25.5				
Max Q Clear Time (g_c+l1), s	8.8	11.6	5.4	14.8	4.5	5.5	3.8	6.9				
Green Ext Time (p_c), s	0.2	2.5	0.1	3.1	0.1	1.2	0.1	1.5				
Intersection Summary												
HCM 6th Ctrl Delay	26.7											
HCM 6th LOS	C											
Notes												












HCM 6th Signalized Intersection Summary  
576: Sara Rd & SW 15th St

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	375	62	121	233	129	46	133	83	100	212	37
Future Volume (veh/h)	50	375	62	121	233	129	46	133	83	100	212	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	441	73	142	274	152	54	156	98	118	249	44
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	617	102	318	557	300	422	350	220	461	549	97
Arrive On Green	0.04	0.20	0.20	0.09	0.25	0.25	0.04	0.33	0.33	0.07	0.36	0.36
Sat Flow, veh/h	1781	3054	502	1781	2230	1201	1781	1074	675	1781	1548	273
Grp Volume(v), veh/h	59	255	259	142	217	209	54	0	254	118	0	293
Grp Sat Flow(s),veh/h/ln	1781	1777	1780	1781	1777	1654	1781	0	1749	1781	0	1821
Q Serve(g_s), s	1.8	9.2	9.4	4.3	7.2	7.5	1.4	0.0	7.9	3.0	0.0	8.5
Cycle Q Clear(g_c), s	1.8	9.2	9.4	4.3	7.2	7.5	1.4	0.0	7.9	3.0	0.0	8.5
Prop In Lane	1.00		0.28	1.00		0.73	1.00		0.39	1.00		0.15
Lane Grp Cap(c), veh/h	310	359	360	318	444	413	422	0	570	461	0	647
V/C Ratio(X)	0.19	0.71	0.72	0.45	0.49	0.51	0.13	0.00	0.45	0.26	0.00	0.45
Avail Cap(c_a), veh/h	562	759	761	486	759	707	678	0	570	665	0	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	25.7	25.7	19.7	22.1	22.2	14.8	0.0	18.3	14.2	0.0	17.1
Incr Delay (d2), s/veh	0.3	2.6	2.7	1.0	0.8	1.0	0.1	0.0	2.5	0.3	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.8	3.8	1.6	2.8	2.7	0.5	0.0	3.2	1.1	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	28.3	28.4	20.7	23.0	23.2	14.9	0.0	20.9	14.4	0.0	19.4
LnGrp LOS	C	C	C	C	C	C	B	A	C	B	A	B
Approach Vol, veh/h	573			568			308			411		
Approach Delay, s/veh	27.6			22.5			19.8			18.0		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	30.0	8.2	22.7	10.1	28.0	11.5	19.4				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	12.5	22.5	12.5	29.5	12.5	22.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	3.4	10.5	3.8	9.5	5.0	9.9	6.3	11.4				
Green Ext Time (p_c), s	0.1	1.2	0.1	2.2	0.1	1.1	0.2	2.6				
Intersection Summary												
HCM 6th Ctrl Delay	22.6											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary  
2361: SW 15th St & Kilpatrick Turnpike

11/20/2023

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	271	470	279	29	0	0
Future Volume (veh/h)	271	470	279	29	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	319	553	328	34		
Peak Hour Factor	0.85	0.85	0.85	0.85		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	944	2647	910	94		
Arrive On Green	0.21	0.74	0.28	0.28		
Sat Flow, veh/h	1781	3647	3346	335		
Grp Volume(v), veh/h	319	553	178	184		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1810		
Q Serve(g_s), s	1.7	0.9	1.6	1.6		
Cycle Q Clear(g_c), s	1.7	0.9	1.6	1.6		
Prop In Lane	1.00			0.18		
Lane Grp Cap(c), veh/h	944	2647	497	506		
V/C Ratio(X)	0.34	0.21	0.36	0.36		
Avail Cap(c_a), veh/h	2387	5438	2719	2770		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	2.5	0.8	5.7	5.7		
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.7	0.8	6.1	6.1		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		872	362			
Approach Delay, s/veh		1.5	6.1			
Approach LOS		A	A			
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			9.1	10.5		19.6
Change Period (Y+Rc), s			5.0	5.0		5.0
Max Green Setting (Gmax), s			20.0	30.0		30.0
Max Q Clear Time (g_c+I1), s			3.7	3.6		2.9
Green Ext Time (p_c), s			0.8	1.9		3.5
Intersection Summary						
HCM 6th Ctrl Delay			2.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
2362: SW 15th St & Kilpatrick Turnpike























11/20/2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↑↑↑	↑↑		↘	↗
Traffic Volume (veh/h)	8	529	262	4	200	574
Future Volume (veh/h)	8	529	262	4	200	574
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	622	308	5	235	675
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	106	1276	927	15	847	754
Arrive On Green	0.26	0.26	0.26	0.26	0.48	0.48
Sat Flow, veh/h	24	5078	3672	58	1781	1585
Grp Volume(v), veh/h	238	393	153	160	235	675
Grp Sat Flow(s),veh/h/ln	1852	1549	1777	1860	1781	1585
Q Serve(g_s), s	0.0	4.1	2.6	2.6	3.0	14.7
Cycle Q Clear(g_c), s	4.1	4.1	2.6	2.6	3.0	14.7
Prop In Lane	0.04			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	579	802	460	482	847	754
V/C Ratio(X)	0.41	0.49	0.33	0.33	0.28	0.90
Avail Cap(c_a), veh/h	1557	2468	1416	1482	946	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	11.8	11.3	11.3	6.0	9.0
Incr Delay (d2), s/veh	0.5	0.5	0.4	0.4	0.2	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.0	0.8	0.8	0.6	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.3	12.3	11.7	11.7	6.1	20.4
LnGrp LOS	B	B	B	B	A	C
Approach Vol, veh/h		631	313		910	
Approach Delay, s/veh		12.3	11.7		16.7	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		22.9		14.8		14.8
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		20.0		30.0		30.0
Max Q Clear Time (g_c+I1), s		16.7		4.6		6.1
Green Ext Time (p_c), s		1.3		1.6		3.7
Intersection Summary						
HCM 6th Ctrl Delay			14.4			
HCM 6th LOS			B			



# HCM Signalized Intersection Capacity Analysis 396: EB I-40 Ramp/WB I-40 Ramp & Morgan Rd

11/20/2023

												
Movement	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations												
Traffic Volume (vph)	204	150	316	0	158	200	166	0	146	229	591	449
Future Volume (vph)	204	150	316	0	158	200	166	0	146	229	591	449
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	5.5			5.5	6.0			6.5	4.0	5.5	4.0
Lane Util. Factor	0.97	0.95			0.97	0.95			0.97	1.00	0.97	1.00
Frt	1.00	0.90			1.00	0.93			1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	3179			3433	3298			3433	1583	3433	1583
Flt Permitted	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	3179			3433	3298			3433	1583	3433	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.85
Adj. Flow (vph)	240	176	372	0	186	235	195	0	172	269	695	528
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	240	548	0	0	186	430	0	0	172	269	695	528
Turn Type	Prot	NA		Prot	Prot	NA		Free	Prot	Free	Prot	Free
Protected Phases	1	6		6	5	2			3		7	
Permitted Phases								Free		Free		Free
Actuated Green, G (s)	9.9	17.2			9.0	14.3			15.6	59.3	16.6	59.3
Effective Green, g (s)	9.9	17.2			9.0	14.3			15.6	59.3	16.6	59.3
Actuated g/C Ratio	0.17	0.29			0.15	0.24			0.26	1.00	0.28	1.00
Clearance Time (s)	7.0	5.5			5.5	6.0			6.5		5.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	573	922			521	795			903	1583	961	1583
v/s Ratio Prot	0.07	c0.17			0.05	0.13			0.05		c0.20	
v/s Ratio Perm										0.17		c0.33
v/c Ratio	0.42	0.59			0.36	0.54			0.19	0.17	0.72	0.33
Uniform Delay, d1	22.1	18.1			22.6	19.6			17.0	0.0	19.3	0.0
Progression Factor	1.00	1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.0			0.4	0.8			0.1	0.2	2.7	0.6
Delay (s)	22.6	19.1			23.0	20.4			17.1	0.2	22.0	0.6
Level of Service	C	B			C	C			B	A	C	A
Approach Delay (s)		20.2				21.2						
Approach LOS		C				C						
<b>Intersection Summary</b>												
HCM 2000 Control Delay		15.5				HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		59.3				Sum of lost time (s)				19.5		
Intersection Capacity Utilization		51.2%				ICU Level of Service				A		
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th TWSC  
17: S Mustang Rd & SW 11th St

11/20/2023

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔		↔		↔		↔
Traffic Vol, veh/h	12	0	46	0	0	8	54	841	12	0	1003	75
Future Vol, veh/h	12	0	46	0	0	8	54	841	12	0	1003	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	54	0	0	9	64	989	14	0	1180	88

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	1847	2355	634	1714	-	502	1268	0
Stage 1	1224	1224	-	1124	-	-	-	-
Stage 2	623	1131	-	590	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	4.14	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.22	-
Pot Cap-1 Maneuver	46	35	422	58	0	515	544	-
Stage 1	190	250	-	219	0	-	-	-
Stage 2	440	277	-	461	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	36	26	422	40	-	515	544	-
Mov Cap-2 Maneuver	36	26	-	40	-	-	-	-
Stage 1	139	250	-	161	-	-	-	-
Stage 2	317	203	-	402	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	59.1	12.1	2.1	0
HCM LOS	F	B		





















  

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	544	-	-	131	-	515	686	-	-
HCM Lane V/C Ratio	0.117	-	-	0.521	-	0.018	-	-	-
HCM Control Delay (s)	12.5	1.5	-	59.1	0	12.1	0	-	-
HCM Lane LOS	B	A	-	F	A	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.5	-	0.1	0	-	-























HCM 6th Signalized Intersection Summary  
401: Morgan Rd & Reno Ave

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	25	37	17	75	17	71	79	4	12	71	0
Future Volume (veh/h)	8	25	37	17	75	17	71	79	4	12	71	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	29	44	20	88	20	84	93	5	14	84	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	17	158	141	35	288	63	107	1518	677	25	1356	0
Arrive On Green	0.01	0.09	0.09	0.02	0.10	0.10	0.06	0.43	0.43	0.01	0.38	0.00
Sat Flow, veh/h	1781	1777	1585	1781	2894	638	1781	3554	1585	1781	3647	0
Grp Volume(v), veh/h	9	29	44	20	53	55	84	93	5	14	84	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1755	1781	1777	1585	1781	1777	0
Q Serve(g_s), s	0.2	0.7	1.2	0.5	1.2	1.3	2.1	0.7	0.1	0.3	0.7	0.0
Cycle Q Clear(g_c), s	0.2	0.7	1.2	0.5	1.2	1.3	2.1	0.7	0.1	0.3	0.7	0.0
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	17	158	141	35	177	174	107	1518	677	25	1356	0
V/C Ratio(X)	0.53	0.18	0.31	0.57	0.30	0.32	0.79	0.06	0.01	0.55	0.06	0.00
Avail Cap(c_a), veh/h	320	1199	1069	320	699	691	320	1518	677	320	1518	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.9	18.8	19.0	21.6	18.6	18.6	20.6	7.5	7.3	21.8	8.7	0.0
Incr Delay (d2), s/veh	23.7	0.5	1.2	13.7	0.9	1.0	12.1	0.1	0.0	17.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.4	0.3	0.4	0.5	1.1	0.2	0.0	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	19.3	20.2	35.4	19.5	19.6	32.7	7.6	7.3	39.0	8.7	0.0
LnGrp LOS	D	B	C	D	B	B	C	A	A	D	A	A
Approach Vol, veh/h	82			128			182			98		
Approach Delay, s/veh	22.7			22.1			19.2			13.1		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	22.0	5.4	9.4	5.6	24.0	5.9	9.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	8.0	19.0	8.0	17.5	8.0	19.0	8.0	30.0				
Max Q Clear Time (g_c+I1), s	4.1	2.7	2.2	3.3	2.3	2.7	2.5	3.2				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.3	0.0	0.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	19.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary  
403: Morgan Rd & SW 15th St





















11/20/2023

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	46	21	33	0	12	12	33	79	8	37	216	62	
Future Volume (veh/h)	46	21	33	0	12	12	33	79	8	37	216	62	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	54	25	39	0	14	14	39	93	9	44	254	73	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	70	173	155	1	35	30	50	2437	233	57	2046	576	
Arrive On Green	0.04	0.10	0.10	0.00	0.02	0.02	0.03	0.74	0.74	0.03	0.75	0.75	
Sat Flow, veh/h	1781	1777	1585	1781	1809	1558	1781	3278	313	1781	2738	770	
Grp Volume(v), veh/h	54	25	39	0	14	14	39	50	52	44	163	164	
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1590	1781	1777	1814	1781	1777	1732	
Q Serve(g_s), s	3.9	1.7	3.0	0.0	1.0	1.2	2.8	1.0	1.0	3.2	3.3	3.4	
Cycle Q Clear(g_c), s	3.9	1.7	3.0	0.0	1.0	1.2	2.8	1.0	1.0	3.2	3.3	3.4	
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.17	1.00		0.44	
Lane Grp Cap(c), veh/h	70	173	155	1	35	31	50	1321	1349	57	1328	1294	
V/C Ratio(X)	0.77	0.14	0.25	0.00	0.39	0.46	0.77	0.04	0.04	0.77	0.12	0.13	
Avail Cap(c_a), veh/h	288	526	469	110	349	312	247	1321	1349	274	1328	1294	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	
Uniform Delay (d), s/veh	61.8	53.7	54.3	0.0	63.0	63.0	62.7	4.4	4.4	62.4	4.6	4.6	
Incr Delay (d2), s/veh	16.0	0.4	0.8	0.0	7.1	10.2	21.8	0.1	0.1	18.9	0.2	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	2.0	0.8	1.2	0.0	0.5	0.5	1.6	0.3	0.3	1.7	1.1	1.1	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	77.8	54.1	55.1	0.0	70.1	73.2	84.5	4.5	4.5	81.3	4.8	4.8	
LnGrp LOS	E	D	E	A	E	E	F	A	A	F	A	A	
Approach Vol, veh/h	118			28				141				371	
Approach Delay, s/veh	65.3			71.7				26.6				13.8	
Approach LOS	E			E				C				B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	8.7	103.2	10.1	8.0	9.2	102.7	0.0	18.2					
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	6.0	5.0	5.5					
Max Green Setting (Gmax), s	18.0	44.0	21.0	25.5	20.0	42.0	8.0	38.5					
Max Q Clear Time (g_c+l1), s	4.8	5.4	5.9	3.2	5.2	3.0	0.0	5.0					
Green Ext Time (p_c), s	0.0	1.9	0.1	0.1	0.1	0.5	0.0	0.3					
Intersection Summary													
HCM 6th Ctrl Delay	28.3												
HCM 6th LOS	C												



# HCM 6th Signalized Intersection Summary 575: Sara Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	62	42	8	117	25	25	21	4	8	25	21
Future Volume (veh/h)	42	62	42	8	117	25	25	21	4	8	25	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	73	49	9	138	29	29	25	5	9	29	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	471	290	17	554	114	50	336	65	17	181	138
Arrive On Green	0.04	0.22	0.22	0.01	0.19	0.19	0.03	0.11	0.11	0.01	0.09	0.09
Sat Flow, veh/h	1781	2110	1302	1781	2937	602	1781	2968	575	1781	1921	1463
Grp Volume(v), veh/h	49	60	62	9	82	85	29	15	15	9	27	27
Grp Sat Flow(s),veh/h/ln	1781	1777	1636	1781	1777	1762	1781	1777	1767	1781	1777	1607
Q Serve(g_s), s	0.9	0.9	1.0	0.2	1.3	1.4	0.5	0.2	0.3	0.2	0.5	0.5
Cycle Q Clear(g_c), s	0.9	0.9	1.0	0.2	1.3	1.4	0.5	0.2	0.3	0.2	0.5	0.5
Prop In Lane	1.00		0.80	1.00		0.34	1.00		0.33	1.00		0.91
Lane Grp Cap(c), veh/h	78	396	365	17	336	333	50	201	200	17	168	152
V/C Ratio(X)	0.63	0.15	0.17	0.53	0.24	0.26	0.58	0.07	0.08	0.53	0.16	0.18
Avail Cap(c_a), veh/h	801	1359	1251	801	1359	1347	801	1332	1325	801	1332	1205
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	10.4	10.5	16.4	11.5	11.5	16.0	13.2	13.2	16.4	13.9	13.9
Incr Delay (d2), s/veh	8.1	0.2	0.2	22.9	0.4	0.4	10.0	0.2	0.2	22.9	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.3	0.2	0.4	0.4	0.3	0.1	0.1	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	10.6	10.7	39.3	11.9	11.9	26.0	13.4	13.4	39.3	14.3	14.5
LnGrp LOS	C	B	B	D	B	B	C	B	B	D	B	B
Approach Vol, veh/h	171				176				59			
Approach Delay, s/veh	14.4				13.3				19.6			
Approach LOS	B				B				B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	9.1	6.5	11.8	5.3	9.8	5.3	12.9				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	* 6	5.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	15.0	25.5	15.0	* 25	15.0	25.5				
Max Q Clear Time (g_c+I1), s	2.5	2.5	2.9	3.4	2.2	2.3	2.2	3.0				
Green Ext Time (p_c), s	0.0	0.2	0.1	0.7	0.0	0.1	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	15.1											
HCM 6th LOS	B											
Notes												












HCM 6th Signalized Intersection Summary  
576: Sara Rd & SW 15th St

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	62	17	29	54	8	4	25	12	21	17	4
Future Volume (veh/h)	17	62	17	29	54	8	4	25	12	21	17	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	73	20	34	64	9	5	29	14	25	20	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	337	381	101	331	463	64	708	488	236	711	617	154
Arrive On Green	0.02	0.14	0.14	0.03	0.15	0.15	0.01	0.41	0.41	0.02	0.43	0.43
Sat Flow, veh/h	1781	2781	734	1781	3137	432	1781	1192	575	1781	1444	361
Grp Volume(v), veh/h	20	46	47	34	36	37	5	0	43	25	0	25
Grp Sat Flow(s),veh/h/ln	1781	1777	1738	1781	1777	1793	1781	0	1767	1781	0	1805
Q Serve(g_s), s	0.5	1.2	1.3	0.9	1.0	1.0	0.1	0.0	0.8	0.4	0.0	0.4
Cycle Q Clear(g_c), s	0.5	1.2	1.3	0.9	1.0	1.0	0.1	0.0	0.8	0.4	0.0	0.4
Prop In Lane	1.00		0.42	1.00		0.24	1.00		0.33	1.00		0.20
Lane Grp Cap(c), veh/h	337	244	238	331	262	264	708	0	724	711	0	772
V/C Ratio(X)	0.06	0.19	0.20	0.10	0.14	0.14	0.01	0.00	0.06	0.04	0.00	0.03
Avail Cap(c_a), veh/h	708	954	934	684	954	963	1104	0	724	1075	0	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	21.0	21.0	19.5	20.4	20.4	9.4	0.0	9.8	9.0	0.0	9.1
Incr Delay (d2), s/veh	0.1	0.4	0.4	0.1	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.5	0.5	0.3	0.4	0.4	0.0	0.0	0.3	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	21.4	21.4	19.6	20.6	20.6	9.4	0.0	10.0	9.0	0.0	9.2
LnGrp LOS	B	C	C	B	C	C	A	A	A	A	A	A
Approach Vol, veh/h	113			107			48			50		
Approach Delay, s/veh	21.1			20.3			9.9			9.1		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.8	29.0	6.6	13.6	6.8	28.0	7.1	13.0				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	12.5	22.5	12.5	29.5	12.5	22.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s	2.1	2.4	2.5	3.0	2.4	2.8	2.9	3.3				
Green Ext Time (p_c), s	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	17.3											
HCM 6th LOS	B											
Notes												

HCM 6th Signalized Intersection Summary  
2361: SW 15th St & Kilpatrick Turnpike

11/20/2023

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	96	67	12	0	0
Future Volume (veh/h)	46	96	67	12	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	54	113	79	14		
Peak Hour Factor	0.85	0.85	0.85	0.85		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	948	2448	942	163		
Arrive On Green	0.07	0.69	0.31	0.31		
Sat Flow, veh/h	1781	3647	3123	524		
Grp Volume(v), veh/h	54	113	46	47		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1776		
Q Serve(g_s), s	0.3	0.2	0.3	0.3		
Cycle Q Clear(g_c), s	0.3	0.2	0.3	0.3		
Prop In Lane	1.00			0.29		
Lane Grp Cap(c), veh/h	948	2448	553	553		
V/C Ratio(X)	0.06	0.05	0.08	0.09		
Avail Cap(c_a), veh/h	3046	6634	3317	3315		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	2.2	0.8	3.9	3.9		
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.3	0.8	4.0	4.0		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		167	93			
Approach Delay, s/veh		1.3	4.0			
Approach LOS		A	A			
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			6.1	10.0		16.1
Change Period (Y+Rc), s			5.0	5.0		5.0
Max Green Setting (Gmax), s			20.0	30.0		30.0
Max Q Clear Time (g_c+I1), s			2.3	2.3		2.2
Green Ext Time (p_c), s			0.1	0.4		0.6
Intersection Summary						
HCM 6th Ctrl Delay			2.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
2362: SW 15th St & Kilpatrick Turnpike























11/20/2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↑↑↑	↑↑		↖	↗
Traffic Volume (veh/h)	0	129	67	0	25	137
Future Volume (veh/h)	0	129	67	0	25	137
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	152	79	0	29	161
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1413	983	0	303	270
Arrive On Green	0.00	0.28	0.28	0.00	0.17	0.17
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	152	79	0	29	161
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	0.4	0.3	0.0	0.2	1.7
Cycle Q Clear(g_c), s	0.0	0.4	0.3	0.0	0.2	1.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1413	983	0	303	270
V/C Ratio(X)	0.00	0.11	0.08	0.00	0.10	0.60
Avail Cap(c_a), veh/h	0	8475	5899	0	1971	1754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.9	4.8	0.0	6.3	6.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.9	4.9	0.0	6.5	9.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		152	79		190	
Approach Delay, s/veh		4.9	4.9		8.6	
Approach LOS		A	A		A	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		8.1		10.0		10.0
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		20.0		30.0		30.0
Max Q Clear Time (g_c+I1), s		3.7		2.3		2.4
Green Ext Time (p_c), s		0.5		0.4		0.8
Intersection Summary						
HCM 6th Ctrl Delay			6.6			
HCM 6th LOS			A			



# HCM Signalized Intersection Capacity Analysis 396: EB I-40 Ramp/WB I-40 Ramp & Morgan Rd

11/20/2023

												
Movement	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations												
Traffic Volume (vph)	42	21	121	0	75	62	58	0	33	129	225	158
Future Volume (vph)	42	21	121	0	75	62	58	0	33	129	225	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	5.5			5.5	6.0			6.5	4.0	5.5	4.0
Lane Util. Factor	0.97	0.95			0.97	0.95			0.97	1.00	0.97	1.00
Frt	1.00	0.87			1.00	0.93			1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	3088			3433	3283			3433	1583	3433	1583
Flt Permitted	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	3088			3433	3283			3433	1583	3433	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.85
Adj. Flow (vph)	49	25	142	0	88	73	68	0	39	152	265	186
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	49	167	0	0	88	141	0	0	39	152	265	186
Turn Type	Prot	NA		Prot	Prot	NA		Free	Prot	Free	Prot	Free
Protected Phases	1	6		6	5	2			3		7	
Permitted Phases								Free		Free		Free
Actuated Green, G (s)	2.6	15.2			4.0	14.6			8.4	45.1	9.4	45.1
Effective Green, g (s)	2.6	15.2			4.0	14.6			8.4	45.1	9.4	45.1
Actuated g/C Ratio	0.06	0.34			0.09	0.32			0.19	1.00	0.21	1.00
Clearance Time (s)	7.0	5.5			5.5	6.0			6.5		5.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	197	1040			304	1062			639	1583	715	1583
v/s Ratio Prot	0.01	c0.05			c0.03	0.04			0.01		c0.08	
v/s Ratio Perm										0.10		c0.12
v/c Ratio	0.25	0.16			0.29	0.13			0.06	0.10	0.37	0.12
Uniform Delay, d1	20.3	10.5			19.2	10.8			15.1	0.0	15.3	0.0
Progression Factor	1.00	1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1			0.5	0.1			0.0	0.1	0.3	0.2
Delay (s)	21.0	10.6			19.8	10.8			15.1	0.1	15.6	0.2
Level of Service	C	B			B	B			B	A	B	A
Approach Delay (s)		12.9				14.3						
Approach LOS		B				B						
<b>Intersection Summary</b>												
HCM 2000 Control Delay		10.0				HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio		0.28										
Actuated Cycle Length (s)		45.1				Sum of lost time (s)			19.5			
Intersection Capacity Utilization		41.7%				ICU Level of Service			A			
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th TWSC  
17: S Mustang Rd & SW 11th St

11/20/2023

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕		↕	↕			↕		
Traffic Vol, veh/h	4	0	17	0	0	0	25	271	4	0	325	42
Future Vol, veh/h	4	0	17	0	0	0	25	271	4	0	325	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	20	0	0	0	29	319	5	0	382	49

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	625	789	216	571	-	162	431	0
Stage 1	407	407	-	380	-	-	-	-
Stage 2	218	382	-	191	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	4.14	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.22	-
Pot Cap-1 Maneuver	369	321	789	404	0	854	1125	-
Stage 1	592	596	-	614	0	-	-	-
Stage 2	764	611	-	792	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	360	311	789	385	-	854	1125	-
Mov Cap-2 Maneuver	360	311	-	385	-	-	-	-
Stage 1	574	596	-	595	-	-	-	-
Stage 2	740	592	-	772	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	0	0.8	0
HCM LOS	B	A		






















  

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1125	-	-	643	-	-	1233	-	-
HCM Lane V/C Ratio	0.026	-	-	0.038	-	-	-	-	-
HCM Control Delay (s)	8.3	0.1	-	10.8	0	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	-	0	-	-























# HCM 6th Signalized Intersection Summary 401: Morgan Rd & Reno Ave

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	125	234	163	451	104	551	316	50	21	246	84
Future Volume (veh/h)	50	125	234	163	451	104	551	316	50	21	246	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	147	275	192	531	122	648	372	59	25	289	99
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	359	321	184	756	173	654	1728	771	35	362	122
Arrive On Green	0.04	0.20	0.20	0.10	0.26	0.26	0.37	0.49	0.49	0.02	0.14	0.14
Sat Flow, veh/h	1781	1777	1585	1781	2872	657	1781	3554	1585	1781	2613	877
Grp Volume(v), veh/h	59	147	275	192	328	325	648	372	59	25	195	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1752	1781	1777	1585	1781	1777	1713
Q Serve(g_s), s	3.5	7.6	17.8	11.0	17.7	17.8	38.4	6.4	2.1	1.5	11.2	11.6
Cycle Q Clear(g_c), s	3.5	7.6	17.8	11.0	17.7	17.8	38.4	6.4	2.1	1.5	11.2	11.6
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	76	359	321	184	467	461	654	1728	771	35	246	237
V/C Ratio(X)	0.77	0.41	0.86	1.04	0.70	0.71	0.99	0.22	0.08	0.71	0.79	0.81
Avail Cap(c_a), veh/h	151	502	448	184	535	528	654	1728	771	134	335	322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	36.8	40.9	47.6	35.4	35.4	33.4	15.7	14.6	51.8	44.2	44.4
Incr Delay (d2), s/veh	15.2	0.7	11.4	77.4	3.4	3.6	32.7	0.3	0.2	23.5	8.7	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.3	7.7	8.6	7.7	7.6	21.3	2.5	0.8	0.9	5.4	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	37.6	52.2	125.0	38.8	39.0	66.2	15.9	14.8	75.3	52.9	55.4
LnGrp LOS	E	D	D	F	D	D	E	B	B	E	D	E
Approach Vol, veh/h	481			845			1079			413		
Approach Delay, s/veh	49.4			58.5			46.0			55.4		
Approach LOS	D			E			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.0	19.7	9.5	32.9	7.1	56.6	16.0	26.5				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	39.0	20.0	9.0	32.0	8.0	51.0	11.0	30.0				
Max Q Clear Time (g_c+I1), s	40.4	13.6	5.5	19.8	3.5	8.4	13.0	19.8				
Green Ext Time (p_c), s	0.0	1.1	0.0	2.8	0.0	2.5	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay	51.7											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary  
403: Morgan Rd & SW 15th St





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	146	229	21	163	71	142	362	17	87	687	715
Future Volume (veh/h)	221	146	229	21	163	71	142	362	17	87	687	715
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	172	269	25	192	84	167	426	20	102	808	841
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	390	348	34	256	108	148	1766	83	127	887	791
Arrive On Green	0.13	0.22	0.22	0.02	0.11	0.11	0.08	0.51	0.51	0.07	0.50	0.50
Sat Flow, veh/h	1781	1777	1585	1781	2436	1026	1781	3456	162	1781	1777	1585
Grp Volume(v), veh/h	260	172	269	25	138	138	167	219	227	102	808	841
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1686	1781	1777	1841	1781	1777	1585
Q Serve(g_s), s	16.0	10.0	19.1	1.7	9.0	9.6	10.0	8.2	8.3	6.8	50.1	59.9
Cycle Q Clear(g_c), s	16.0	10.0	19.1	1.7	9.0	9.6	10.0	8.2	8.3	6.8	50.1	59.9
Prop In Lane	1.00		1.00	1.00		0.61	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	238	390	348	34	187	177	148	908	941	127	887	791
V/C Ratio(X)	1.09	0.44	0.77	0.74	0.74	0.78	1.13	0.24	0.24	0.80	0.91	1.06
Avail Cap(c_a), veh/h	238	466	416	119	348	330	148	908	941	193	887	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	52.0	40.4	44.0	58.6	52.1	52.3	55.0	16.4	16.4	54.9	27.6	30.1
Incr Delay (d2), s/veh	82.2	0.7	6.4	27.3	5.6	7.2	111.4	0.6	0.6	12.0	13.9	48.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	4.3	7.9	1.0	4.2	4.3	9.0	3.3	3.5	3.4	23.2	31.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	134.2	41.1	50.4	85.9	57.7	59.5	166.4	17.0	17.0	66.9	41.6	78.7
LnGrp LOS	F	D	D	F	E	E	F	B	B	E	D	F
Approach Vol, veh/h	701			301			613			1751		
Approach Delay, s/veh	79.2			60.9			57.7			60.9		
Approach LOS	E			E			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	65.9	21.0	18.1	13.5	67.3	7.3	31.9				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	6.0	5.0	5.5				
Max Green Setting (Gmax), s	10.0	49.0	16.0	23.5	13.0	46.0	8.0	31.5				
Max Q Clear Time (g_c+I1), s	12.0	61.9	18.0	11.6	8.8	10.3	3.7	21.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.1	2.5	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	64.1											
HCM 6th LOS	E											



HCM 6th Signalized Intersection Summary  
575: Sara Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	137	605	492	583	50	230	183	88	58	259	204
Future Volume (veh/h)	79	137	605	492	583	50	230	183	88	58	259	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	161	712	579	686	59	271	215	104	68	305	240
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	394	352	419	1295	111	299	722	337	87	360	276
Arrive On Green	0.07	0.22	0.22	0.23	0.39	0.39	0.17	0.31	0.31	0.05	0.19	0.19
Sat Flow, veh/h	1781	1777	1585	1781	3311	285	1781	2353	1097	1781	1915	1468
Grp Volume(v), veh/h	93	161	712	579	368	377	271	160	159	68	282	263
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1819	1781	1777	1673	1781	1777	1606
Q Serve(g_s), s	5.9	8.9	25.5	27.0	18.3	18.3	17.2	7.9	8.3	4.3	17.6	18.2
Cycle Q Clear(g_c), s	5.9	8.9	25.5	27.0	18.3	18.3	17.2	7.9	8.3	4.3	17.6	18.2
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.66	1.00		0.91
Lane Grp Cap(c), veh/h	117	394	352	419	695	711	299	545	513	87	334	302
V/C Ratio(X)	0.79	0.41	2.02	1.38	0.53	0.53	0.91	0.29	0.31	0.78	0.85	0.87
Avail Cap(c_a), veh/h	202	394	352	419	695	711	326	572	539	155	387	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	38.2	44.7	43.9	26.9	26.9	46.9	30.3	30.5	54.0	45.0	45.3
Incr Delay (d2), s/veh	11.3	0.7	470.7	186.8	0.8	0.7	26.3	0.3	0.3	13.7	14.2	18.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.8	55.6	33.1	7.5	7.7	9.6	3.4	3.3	2.2	8.9	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	38.9	515.4	230.7	27.6	27.6	73.2	30.6	30.8	67.7	59.2	63.7
LnGrp LOS	E	D	F	F	C	C	E	C	C	E	E	E
Approach Vol, veh/h	966			1324			590			613		
Approach Delay, s/veh	392.5			116.4			50.2			62.1		
Approach LOS	F			F			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.3	27.6	12.6	50.4	10.6	41.3	32.0	31.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	* 6	5.0	5.5				
Max Green Setting (Gmax), s	21.0	25.0	13.0	39.5	10.0	* 37	27.0	25.5				
Max Q Clear Time (g_c+I1), s	19.2	20.2	7.9	20.3	6.3	10.3	29.0	27.5				
Green Ext Time (p_c), s	0.2	1.4	0.1	4.0	0.0	1.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	172.1											
HCM 6th LOS	F											
Notes												

# HCM 6th Signalized Intersection Summary

576: Sara Rd & SW 15th St










11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	560	375	62	121	263	579	106	193	83	163	212	109
Future Volume (veh/h)	560	375	62	121	263	579	106	193	83	163	212	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	659	441	73	142	309	681	125	227	98	192	249	128
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	1422	234	399	407	363	171	243	105	217	247	127
Arrive On Green	0.31	0.47	0.47	0.08	0.23	0.23	0.06	0.20	0.20	0.08	0.21	0.21
Sat Flow, veh/h	1781	3054	502	1781	1777	1585	1781	1239	535	1781	1164	598
Grp Volume(v), veh/h	659	255	259	142	309	681	125	0	325	192	0	377
Grp Sat Flow(s),veh/h/ln	1781	1777	1780	1781	1777	1585	1781	0	1774	1781	0	1763
Q Serve(g_s), s	37.5	10.8	10.9	7.2	19.5	27.5	6.7	0.0	21.6	9.5	0.0	25.5
Cycle Q Clear(g_c), s	37.5	10.8	10.9	7.2	19.5	27.5	6.7	0.0	21.6	9.5	0.0	25.5
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.30	1.00		0.34
Lane Grp Cap(c), veh/h	617	827	828	399	407	363	171	0	347	217	0	375
V/C Ratio(X)	1.07	0.31	0.31	0.36	0.76	1.87	0.73	0.00	0.94	0.88	0.00	1.01
Avail Cap(c_a), veh/h	617	827	828	404	407	363	171	0	347	217	0	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.3	20.0	20.1	31.5	43.2	46.3	37.8	0.0	47.5	39.2	0.0	47.3
Incr Delay (d2), s/veh	56.0	0.2	0.2	0.5	8.1	404.0	14.6	0.0	34.4	31.9	0.0	48.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.8	4.3	4.4	3.1	9.2	51.2	3.6	0.0	12.6	6.4	0.0	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.2	20.2	20.3	32.0	51.2	450.3	52.4	0.0	81.9	71.1	0.0	95.4
LnGrp LOS	F	C	C	C	D	F	D	A	F	E	A	F
Approach Vol, veh/h	1173			1132			450			569		
Approach Delay, s/veh	59.6			288.9			73.7			87.2		
Approach LOS	E			F			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	31.0	43.0	33.0	15.0	29.0	14.6	61.4				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	7.5	25.5	37.5	27.5	9.5	23.5	9.5	55.5				
Max Q Clear Time (g_c+l1), s	8.7	27.5	39.5	29.5	11.5	23.6	9.2	12.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay	144.3											
HCM 6th LOS	F											
Notes												



HCM 6th Signalized Intersection Summary  
2361: SW 15th St & Kilpatrick Turnpike


11/20/2023

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	271	1580	306	74	0	0
Future Volume (veh/h)	271	1580	306	74	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	319	1859	360	87		
Peak Hour Factor	0.85	0.85	0.85	0.85		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	938	3113	1797	429		
Arrive On Green	0.12	0.88	0.63	0.63		
Sat Flow, veh/h	1781	3647	2939	679		
Grp Volume(v), veh/h	319	1859	223	224		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1748		
Q Serve(g_s), s	1.7	5.5	2.1	2.2		
Cycle Q Clear(g_c), s	1.7	5.5	2.1	2.2		
Prop In Lane	1.00			0.39		
Lane Grp Cap(c), veh/h	938	3113	1122	1104		
V/C Ratio(X)	0.34	0.60	0.20	0.20		
Avail Cap(c_a), veh/h	1827	10131	3744	3683		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	1.3	0.6	3.1	3.1		
Incr Delay (d2), s/veh	0.2	0.2	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.2	0.2		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.5	0.8	3.2	3.2		
LnGrp LOS	A	A	A	A		
Approach Vol, veh/h		2178	447			
Approach Delay, s/veh		0.9	3.2			
Approach LOS		A	A			
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			9.9	30.5		40.3
Change Period (Y+Rc), s			5.0	5.0		5.0
Max Green Setting (Gmax), s			25.0	85.0		115.0
Max Q Clear Time (g_c+I1), s			3.7	4.2		7.5
Green Ext Time (p_c), s			0.9	2.6		27.9
Intersection Summary						
HCM 6th Ctrl Delay			1.3			
HCM 6th LOS			A			


























HCM 6th Signalized Intersection Summary  
2362: SW 15th St & Kilpatrick Turnpike

11/20/2023

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑		↗	↗
Traffic Volume (veh/h)	8	919	289	4	920	694
Future Volume (veh/h)	8	919	289	4	920	694
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	1081	340	5	1082	816
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	39	1412	1025	15	1102	981
Arrive On Green	0.29	0.29	0.29	0.29	0.62	0.62
Sat Flow, veh/h	14	5095	3679	53	1781	1585
Grp Volume(v), veh/h	409	681	168	177	1082	816
Grp Sat Flow(s),veh/h/ln	1859	1549	1777	1861	1781	1585
Q Serve(g_s), s	1.6	21.0	7.8	7.8	61.7	42.3
Cycle Q Clear(g_c), s	21.0	21.0	7.8	7.8	61.7	42.3
Prop In Lane	0.02			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	566	885	508	532	1102	981
V/C Ratio(X)	0.72	0.77	0.33	0.33	0.98	0.83
Avail Cap(c_a), veh/h	832	1332	764	800	1107	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	34.2	29.5	29.5	19.4	15.7
Incr Delay (d2), s/veh	1.8	1.6	0.4	0.4	22.6	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	7.7	3.2	3.4	27.7	14.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.9	35.8	29.9	29.8	42.0	21.8
LnGrp LOS	D	D	C	C	D	C
Approach Vol, veh/h		1090	345		1898	
Approach Delay, s/veh		35.8	29.9		33.3	
Approach LOS		D	C		C	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		69.7		34.9		34.9
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		65.0		45.0		45.0
Max Q Clear Time (g_c+I1), s		63.7		9.8		23.0
Green Ext Time (p_c), s		1.0		1.8		6.9
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			33.8			
HCM 6th LOS			C			









HCM Signalized Intersection Capacity Analysis  
396: EB I-40 Ramp/WB I-40 Ramp & Morgan Rd

11/20/2023

												
Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	SBR2
Lane Configurations					 	 		 	 	 		
Traffic Volume (vph)	326	409	771	629	231	150	352	0	194	260	193	0
Future Volume (vph)	326	409	771	629	231	150	352	0	194	260	193	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					7.0	5.5			5.5	6.0		
Lane Util. Factor					0.97	0.95			0.97	0.95		
Frt					1.00	0.89			1.00	0.94		
Flt Protected					0.95	1.00			0.95	1.00		
Satd. Flow (prot)					3433	3167			3433	3313		
Flt Permitted					0.95	1.00			0.95	1.00		
Satd. Flow (perm)					3433	3167			3433	3313		
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	384	481	907	740	272	176	414	0	228	306	227	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	272	590	0	0	228	533	0	0
Turn Type	Perm		Perm		Prot	NA		Prot	Prot	NA		Free
Protected Phases					1	6		6	5	2		
Permitted Phases	4!		8!									Free
Actuated Green, G (s)					9.5	15.9			8.9	13.3		
Effective Green, g (s)					9.5	15.9			8.9	13.3		
Actuated g/C Ratio					0.27	0.44			0.25	0.37		
Clearance Time (s)					7.0	5.5			5.5	6.0		
Vehicle Extension (s)					3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)					910	1406			853	1230		
v/s Ratio Prot					c0.08	c0.19			0.07	0.16		
v/s Ratio Perm												
v/c Ratio					0.30	0.42			0.27	0.43		
Uniform Delay, d1					10.5	6.8			10.8	8.4		
Progression Factor					1.00	1.00			1.00	1.00		
Incremental Delay, d2					0.2	0.2			0.2	0.2		
Delay (s)					10.7	7.0			11.0	8.7		
Level of Service					B	A			B	A		
Approach Delay (s)						8.2				9.4		
Approach LOS						A				A		
Intersection Summary												
HCM 2000 Control Delay	Error			HCM 2000 Level of Service						F		
HCM 2000 Volume to Capacity ratio	0.81											
Actuated Cycle Length (s)	35.8			Sum of lost time (s)						24.0		
Intersection Capacity Utilization	Err%			ICU Level of Service						H		
Analysis Period (min)	15											
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
396: EB I-40 Ramp/WB I-40 Ramp & Morgan Rd

11/20/2023

				
Movement	NEL	NER2	SWL	SWR2
Lane Configurations				
Traffic Volume (vph)	0	0	0	0
Future Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type	Prot	Free	Prot	Free
Protected Phases	3!		7!	
Permitted Phases		Free		Free
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)				
Approach LOS				
Intersection Summary				



HCM 6th TWSC  
17: S Mustang Rd & SW 11th St

11/20/2023

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↖		↗	↔			↔		
Traffic Vol, veh/h	12	0	46	0	0	8	54	868	102	120	1273	75
Future Vol, veh/h	12	0	46	0	0	8	54	868	102	120	1273	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	54	0	0	9	64	1021	120	141	1498	88

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	2463	3093	793	2240	-	571	1586	0
Stage 1	1824	1824	-	1209	-	-	-	-
Stage 2	639	1269	-	1031	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	4.14	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.22	-
Pot Cap-1 Maneuver	16	12	331	23	0	464	410	-
Stage 1	80	127	-	194	0	-	-	-
Stage 2	431	238	-	249	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	331	-	-	464	410	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-
Stage 1	45	0	-	108	-	-	-	-
Stage 2	235	133	-	-	-	-	-	-






















Approach	EB	WB	NB	SB
HCM Control Delay, s		12.9	3.4	5.6
HCM LOS	-	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	410	-	-	-	-	464	608	-	-
HCM Lane V/C Ratio	0.155	-	-	-	-	0.02	0.232	-	-
HCM Control Delay (s)	15.4	3	-	-	0	12.9	12.7	5.3	-
HCM Lane LOS	C	A	-	-	A	B	B	A	-
HCM 95th %tile Q(veh)	0.5	-	-	-	-	0.1	0.9	-	-

HCM 6th Signalized Intersection Summary  
401: Morgan Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	62	300	17	75	17	149	79	4	12	71	0
Future Volume (veh/h)	83	62	300	17	75	17	149	79	4	12	71	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	73	353	20	88	20	175	93	5	14	84	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	462	412	31	597	132	216	1721	767	23	1337	0
Arrive On Green	0.07	0.26	0.26	0.02	0.21	0.21	0.12	0.48	0.48	0.01	0.38	0.00
Sat Flow, veh/h	1781	1777	1585	1781	2894	638	1781	3554	1585	1781	3647	0
Grp Volume(v), veh/h	98	73	353	20	53	55	175	93	5	14	84	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1755	1781	1777	1585	1781	1777	0
Q Serve(g_s), s	4.8	2.8	18.8	1.0	2.2	2.3	8.5	1.2	0.1	0.7	1.3	0.0
Cycle Q Clear(g_c), s	4.8	2.8	18.8	1.0	2.2	2.3	8.5	1.2	0.1	0.7	1.3	0.0
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	127	462	412	31	366	362	216	1721	767	23	1337	0
V/C Ratio(X)	0.77	0.16	0.86	0.64	0.14	0.15	0.81	0.05	0.01	0.60	0.06	0.00
Avail Cap(c_a), veh/h	381	740	660	201	560	553	582	1721	767	201	1337	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.5	25.4	31.3	43.3	28.8	28.9	38.0	12.1	11.9	43.6	17.7	0.0
Incr Delay (d2), s/veh	9.5	0.2	6.4	19.7	0.2	0.2	7.1	0.1	0.0	22.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.1	7.4	0.6	0.9	0.9	3.9	0.5	0.0	0.4	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	25.5	37.7	63.1	29.0	29.1	45.1	12.2	11.9	65.6	17.7	0.0
LnGrp LOS	D	C	D	E	C	C	D	B	B	E	B	A
Approach Vol, veh/h	524			128			273			98		
Approach Delay, s/veh	38.3			34.4			33.3			24.6		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	38.4	11.3	23.3	6.2	48.0	6.6	28.1				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	29.0	24.0	19.0	28.0	10.0	43.0	10.0	37.0				
Max Q Clear Time (g_c+I1), s	10.5	3.3	6.8	4.3	2.7	3.2	3.0	20.8				
Green Ext Time (p_c), s	0.4	0.3	0.2	0.4	0.0	0.5	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay	35.2											
HCM 6th LOS	D											























HCM 6th Signalized Intersection Summary  
403: Morgan Rd & SW 15th St

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	58	71	0	12	12	33	79	8	37	216	141
Future Volume (veh/h)	346	58	71	0	12	12	33	79	8	37	216	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	407	68	84	0	14	14	39	93	9	44	254	166
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	531	474	1	34	29	50	1821	174	57	1169	738
Arrive On Green	0.25	0.30	0.30	0.00	0.02	0.02	0.03	0.56	0.56	0.03	0.56	0.56
Sat Flow, veh/h	1781	1777	1585	1781	1809	1558	1781	3278	313	1781	2091	1319
Grp Volume(v), veh/h	407	68	84	0	14	14	39	50	52	44	214	206
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1590	1781	1777	1814	1781	1777	1633
Q Serve(g_s), s	32.4	4.0	5.7	0.0	1.1	1.3	3.2	1.9	1.9	3.6	8.8	9.2
Cycle Q Clear(g_c), s	32.4	4.0	5.7	0.0	1.1	1.3	3.2	1.9	1.9	3.6	8.8	9.2
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.17	1.00		0.81
Lane Grp Cap(c), veh/h	438	531	474	1	33	30	50	987	1008	57	994	913
V/C Ratio(X)	0.93	0.13	0.18	0.00	0.41	0.48	0.78	0.05	0.05	0.78	0.22	0.23
Avail Cap(c_a), veh/h	848	1035	924	98	288	258	98	987	1008	98	994	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	53.5	37.1	37.6	0.0	70.4	70.5	70.0	14.7	14.7	69.7	16.0	16.1
Incr Delay (d2), s/veh	7.3	0.1	0.1	0.0	8.0	11.6	22.0	0.1	0.1	19.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.0	1.8	2.2	0.0	0.6	0.6	1.7	0.8	0.8	1.9	3.7	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	37.1	37.8	0.0	78.4	82.1	92.0	14.8	14.8	88.8	16.5	16.7
LnGrp LOS	E	D	D	A	E	F	F	B	B	F	B	B
Approach Vol, veh/h	559				28				141			
Approach Delay, s/veh	54.4				80.3				36.2			
Approach LOS	D				F				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	87.1	40.6	8.2	9.6	86.6	0.0	48.8				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	6.0	5.0	5.5				
Max Green Setting (Gmax), s	8.0	23.0	69.0	23.5	8.0	23.0	8.0	84.5				
Max Q Clear Time (g_c+I1), s	5.2	11.2	34.4	3.3	5.6	3.9	0.0	7.7				
Green Ext Time (p_c), s	0.0	1.8	1.2	0.1	0.0	0.4	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay	40.8											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary  
575: Sara Rd & Reno Ave





















11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	62	132	87	117	25	400	58	379	8	25	21
Future Volume (veh/h)	42	62	132	87	117	25	400	58	379	8	25	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	73	155	102	138	29	471	68	446	9	29	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	256	229	132	529	109	552	679	606	17	157	119
Arrive On Green	0.04	0.14	0.14	0.07	0.18	0.18	0.31	0.38	0.38	0.01	0.08	0.08
Sat Flow, veh/h	1781	1777	1585	1781	2937	602	1781	1777	1585	1781	1921	1463
Grp Volume(v), veh/h	49	73	155	102	82	85	471	68	446	9	27	27
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1762	1781	1777	1585	1781	1777	1607
Q Serve(g_s), s	1.5	2.0	5.1	3.1	2.2	2.3	13.7	1.4	13.3	0.3	0.8	0.9
Cycle Q Clear(g_c), s	1.5	2.0	5.1	3.1	2.2	2.3	13.7	1.4	13.3	0.3	0.8	0.9
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	68	256	229	132	320	317	552	679	606	17	145	131
V/C Ratio(X)	0.72	0.28	0.68	0.77	0.26	0.27	0.85	0.10	0.74	0.54	0.18	0.21
Avail Cap(c_a), veh/h	258	822	733	323	886	879	1195	1805	1610	258	838	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	21.1	22.4	25.1	19.4	19.5	17.8	10.9	14.6	27.2	23.6	23.7
Incr Delay (d2), s/veh	13.2	0.6	3.5	9.1	0.4	0.4	3.9	0.1	1.8	24.6	0.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.8	1.9	1.5	0.8	0.8	5.2	0.4	4.1	0.2	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	21.7	25.9	34.2	19.8	19.9	21.7	11.0	16.4	51.8	24.2	24.4
LnGrp LOS	D	C	C	C	B	B	C	B	B	D	C	C
Approach Vol, veh/h	277			269			985			63		
Approach Delay, s/veh	27.2			25.3			18.6			28.2		
Approach LOS	C			C			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.1	10.5	7.1	15.4	5.5	27.1	9.1	13.5				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.5	5.0	* 6	5.0	5.5				
Max Green Setting (Gmax), s	37.0	26.0	8.0	27.5	8.0	* 56	10.0	25.5				
Max Q Clear Time (g_c+I1), s	15.7	2.9	3.5	4.3	2.3	15.3	5.1	7.1				
Green Ext Time (p_c), s	1.4	0.2	0.0	0.8	0.0	3.7	0.1	1.1				
Intersection Summary												
HCM 6th Ctrl Delay	21.6											
HCM 6th LOS	C											
Notes												












HCM 6th Signalized Intersection Summary  
576: Sara Rd & SW 15th St

11/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	475	129	29	54	87	4	25	12	208	54	229
Future Volume (veh/h)	107	475	129	29	54	87	4	25	12	208	54	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	559	152	34	64	102	5	29	14	245	64	269
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	727	197	189	382	341	407	393	190	720	138	581
Arrive On Green	0.07	0.26	0.26	0.03	0.21	0.21	0.01	0.33	0.33	0.12	0.44	0.44
Sat Flow, veh/h	1781	2763	749	1781	1777	1585	1781	1192	575	1781	314	1319
Grp Volume(v), veh/h	126	359	352	34	64	102	5	0	43	245	0	333
Grp Sat Flow(s),veh/h/ln	1781	1777	1736	1781	1777	1585	1781	0	1767	1781	0	1633
Q Serve(g_s), s	4.4	15.5	15.6	1.2	2.4	4.5	0.2	0.0	1.4	7.0	0.0	11.9
Cycle Q Clear(g_c), s	4.4	15.5	15.6	1.2	2.4	4.5	0.2	0.0	1.4	7.0	0.0	11.9
Prop In Lane	1.00		0.43	1.00		1.00	1.00		0.33	1.00		0.81
Lane Grp Cap(c), veh/h	415	467	456	189	382	341	407	0	583	720	0	719
V/C Ratio(X)	0.30	0.77	0.77	0.18	0.17	0.30	0.01	0.00	0.07	0.34	0.00	0.46
Avail Cap(c_a), veh/h	487	954	931	347	954	851	559	0	583	1041	0	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	28.2	28.3	25.2	26.5	27.3	18.4	0.0	19.1	13.6	0.0	16.3
Incr Delay (d2), s/veh	0.4	2.7	2.8	0.5	0.2	0.5	0.0	0.0	0.2	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	6.4	6.3	0.5	1.0	1.6	0.1	0.0	0.6	2.6	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	30.9	31.1	25.6	26.7	27.8	18.4	0.0	19.3	13.9	0.0	18.5
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	B
Approach Vol, veh/h	837			200			48			578		
Approach Delay, s/veh	29.7			27.1			19.2			16.5		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	42.0	11.7	23.3	15.1	32.9	7.7	27.3				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	7.5	36.5	9.5	44.5	24.5	19.5	9.5	44.5				
Max Q Clear Time (g_c+I1), s	2.2	13.9	6.4	6.5	9.0	3.4	3.2	17.6				
Green Ext Time (p_c), s	0.0	2.0	0.1	0.9	0.6	0.1	0.0	4.2				
Intersection Summary												
HCM 6th Ctrl Delay	24.5											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary  
2361: SW 15th St & Kilpatrick Turnpike

11/20/2023

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	271	129	554	1062	0	0
Future Volume (veh/h)	271	129	554	1062	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach		No	No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	319	152	652	1249		
Peak Hour Factor	0.85	0.85	0.85	0.85		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	403	3171	1147	1023		
Arrive On Green	0.14	0.89	0.65	0.65		
Sat Flow, veh/h	1781	3647	1870	1585		
Grp Volume(v), veh/h	319	152	652	1249		
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1585		
Q Serve(g_s), s	3.8	0.2	9.5	30.0		
Cycle Q Clear(g_c), s	3.8	0.2	9.5	30.0		
Prop In Lane	1.00			1.00		
Lane Grp Cap(c), veh/h	403	3171	1147	1023		
V/C Ratio(X)	0.79	0.05	0.57	1.22		
Avail Cap(c_a), veh/h	922	4206	1147	1023		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.0	0.3	4.6	8.2		
Incr Delay (d2), s/veh	3.5	0.0	0.7	108.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.3	33.7		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.6	0.3	5.3	116.4		
LnGrp LOS	B	A	A	F		
Approach Vol, veh/h		471	1901			
Approach Delay, s/veh		12.0	78.3			
Approach LOS		B	E			
Timer - Assigned Phs		3	4		8	
Phs Duration (G+Y+Rc), s		11.5	35.0		46.5	
Change Period (Y+Rc), s		5.0	5.0		5.0	
Max Green Setting (Gmax), s		20.0	30.0		55.0	
Max Q Clear Time (g_c+I1), s		5.8	32.0		2.2	
Green Ext Time (p_c), s		0.8	0.0		0.9	
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			65.1			
HCM 6th LOS			E			

HCM 6th Signalized Intersection Summary  
2362: SW 15th St & Kilpatrick Turnpike























11/20/2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↑↑↑	↑↑		↑	↑
Traffic Volume (veh/h)	0	388	554	0	81	137
Future Volume (veh/h)	0	388	554	0	81	137
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	456	652	0	95	161
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2038	1418	0	309	275
Arrive On Green	0.00	0.40	0.40	0.00	0.17	0.17
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	456	652	0	95	161
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	1.4	3.2	0.0	1.1	2.2
Cycle Q Clear(g_c), s	0.0	1.4	3.2	0.0	1.1	2.2
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2038	1418	0	309	275
V/C Ratio(X)	0.00	0.22	0.46	0.00	0.31	0.59
Avail Cap(c_a), veh/h	0	6550	4558	0	1523	1355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.6	5.2	0.0	8.4	8.9
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.2	0.0	0.2	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.7	5.4	0.0	9.0	10.9
LnGrp LOS	A	A	A	A	A	B
Approach Vol, veh/h		456	652		256	
Approach Delay, s/veh		4.7	5.4		10.2	
Approach LOS		A	A		B	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		9.1		14.3		14.3
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		20.0		30.0		30.0
Max Q Clear Time (g_c+I1), s		4.2		5.2		3.4
Green Ext Time (p_c), s		0.6		4.2		2.9
Intersection Summary						
HCM 6th Ctrl Delay			6.1			
HCM 6th LOS			A			



# HCM Signalized Intersection Capacity Analysis 396: EB I-40 Ramp/WB I-40 Ramp & Morgan Rd

11/20/2023

												
Movement	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations												
Traffic Volume (vph)	192	21	271	0	225	62	171	0	78	163	258	203
Future Volume (vph)	192	21	271	0	225	62	171	0	78	163	258	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	5.5			5.5	6.0			6.5	4.0	5.5	4.0
Lane Util. Factor	0.97	0.95			0.97	0.95			0.97	1.00	0.97	1.00
Frt	1.00	0.86			1.00	0.89			1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	3047			3433	3150			3433	1583	3433	1583
Flt Permitted	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	3047			3433	3150			3433	1583	3433	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.85
Adj. Flow (vph)	226	25	319	0	265	73	201	0	92	192	304	239
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	226	344	0	0	265	274	0	0	92	192	304	239
Turn Type	Prot	NA		Prot	Prot	NA		Free	Prot	Free	Prot	Free
Protected Phases	1	6		6	5	2			3		7	
Permitted Phases								Free		Free		Free
Actuated Green, G (s)	9.3	14.3			9.6	12.6			10.9	52.3	11.9	52.3
Effective Green, g (s)	9.3	14.3			9.6	12.6			10.9	52.3	11.9	52.3
Actuated g/C Ratio	0.18	0.27			0.18	0.24			0.21	1.00	0.23	1.00
Clearance Time (s)	7.0	5.5			5.5	6.0			6.5		5.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	610	833			630	758			715	1583	781	1583
v/s Ratio Prot	0.07	c0.11			c0.08	0.09			0.03		c0.09	
v/s Ratio Perm										0.12		c0.15
v/c Ratio	0.37	0.41			0.42	0.36			0.13	0.12	0.39	0.15
Uniform Delay, d1	18.9	15.6			18.9	16.5			16.8	0.0	17.1	0.0
Progression Factor	1.00	1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3			0.5	0.3			0.1	0.2	0.3	0.2
Delay (s)	19.3	15.9			19.3	16.8			16.9	0.2	17.4	0.2
Level of Service	B	B			B	B			B	A	B	A
Approach Delay (s)		17.2				18.1						
Approach LOS		B				B						
<b>Intersection Summary</b>												
HCM 2000 Control Delay		13.7				HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio		0.45										
Actuated Cycle Length (s)		52.3				Sum of lost time (s)			19.5			
Intersection Capacity Utilization		42.9%				ICU Level of Service			A			
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th TWSC  
17: S Mustang Rd & SW 11th St

11/20/2023

Intersection												
Int Delay, s/veh	22.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖		↗		↔		↔		
Traffic Vol, veh/h	4	0	17	75	0	263	194	683	4	0	358	42
Future Vol, veh/h	4	0	17	75	0	263	194	683	4	0	358	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	20	88	0	309	228	804	5	0	421	49
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1304	1711	235	1474	-	405	470	0	0	809	0	0
Stage 1	446	446	-	1263	-	-	-	-	-	-	-	-
Stage 2	858	1265	-	211	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	118	90	767	~ 88	0	595	1088	-	-	812	-	-
Stage 1	561	572	-	180	0	-	-	-	-	-	-	-
Stage 2	318	239	-	771	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	40	56	767	~ 60	-	595	1088	-	-	812	-	-
Mov Cap-2 Maneuver	40	56	-	~ 60	-	-	-	-	-	-	-	-
Stage 1	347	572	-	111	-	-	-	-	-	-	-	-
Stage 2	94	148	-	751	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	29.4		101.5		2.9		0					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR			
Capacity (veh/h)	1088	-	-	172	60	595	812	-	-			
HCM Lane V/C Ratio	0.21	-	-	0.144	1.471	0.52	-	-	-			
HCM Control Delay (s)	9.2	1.1	-	29.4	396.5	17.4	0	-	-			
HCM Lane LOS	A	A	-	D	F	C	A	-	-			
HCM 95th %tile Q(veh)	0.8	-	-	0.5	7.8	3	0	-	-			
Notes												
~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    *: All major volume in platoon												

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:40 am, Feb 28, 2024

-----Original Message-----

From: Casey Witvoet <[casey.witvoet@yahoo.com](mailto:casey.witvoet@yahoo.com)>

Sent: Wednesday, February 28, 2024 7:52 AM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Protest PUD-1983 Sunset Amphitheater

[You don't often get email from [casey.witvoet@yahoo.com](mailto:casey.witvoet@yahoo.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Amy K. Simpson,

I am writing you today to protest the PUD-1983 for the Sunset Amphitheater. My name is Casey Witvoet and I live at 1209 Edinburg Dr. I was legally notified by your letter on February 14th that on April 9th a vote would take place to put the Sunset Amphitheater a few hundred feet from my backyard. I think this short notice is unacceptable!

We have lived in our home for thirteen years. The thing we love the most about our home is the backyard because it has gorgeous sunsets. I can hear the sounds of the animals while gardening in the evenings in my backyard which has been very important for my mental health while living in the city which I find to be very stressful and fast paced.

If you vote to allow them to build this amphitheater, it will destroy my family's quality of life and force us out of our homes because we cannot live in a home that is constantly being disturbed by low frequency vibrations and 12,500 screaming people 350 feet from our home. I do not believe anyone would want an outdoor theater this close to their home! Having concerts during the week is unacceptable because it will disturb our sleep. Many people go to bed before 10:30 p.m. at night because they have work and school the next day.

When we bought our home, we did not sign up to have "noise equivalent to a train running through our backyards without the horn" as it was described in the Commissioner's meeting on January 11th, 2024.

I am asking you to vote on April 9, 2024, to reject the PUD-1983 to prevent concerts from going late into the evening during the week keeping our community from getting sleep, because there is no one to enforce a curfew. I am not sure if you are aware, but this area is Mustang Public Schools, Yukon addresses and Oklahoma City utilities so calling the police and getting a response is already a huge problem for us. There will be no one coming to hold them accountable when residents call to complain, and fines are nothing to concert venues because they will just pay them and play on. There needs to be a better remedy than just calling the police our community needs some kind of reassurance like a device put in place that will shut power off if they exceed the volume requirements or time limits.

Noise pollution is not the only concern I have but also the low frequencies that cannot be controlled that will vibrate the inside of our homes along Sara Road. This is something that needs to be addressed. I would like to propose that Notes Live pay to soundproof our homes as a form of mitigation to stop the low frequency bass and the sound of 12,500 people screaming across the street. If this is not done our homes along Sara Road will be unlivable for even the most avid music lover.

These are some of the issues our neighborhood will be facing, and they need to be addressed properly and I feel in the current state of this PUD-1983 the people who will mostly be affected have not even

been considered. I have neighbors who have autistic children, veterans with PTSD and spouses with dementia. These people should be taken into consideration on how this will affect them.

Noise is a very serious issue as the former U.S. Surgeon General, William H. Stewart said, "calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of the people everywhere."

This is not the Oklahoma way! We put children, people and communities before million-dollar companies and tax revenue. I hope that you will take into consideration the things I have shared with you and vote NO on PUD-1983 and do what is best for the people who put their trust in you when we elected you to the position that you are holding today.

Sincerely,

Casey and Albert Witvoet

1209 Edinburg Dr, Yukon, OK 73099- Westbury North Homeowner

**RECEIVED**

By The City of Oklahoma City Office of the City Clerk at 8:28 am, Mar 08, 2024

-----Original Message-----

From: Casey Witvoet <[casey.witvoet@yahoo.com](mailto:casey.witvoet@yahoo.com)>

Sent: Thursday, March 7, 2024 6:04 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>; City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: PUD-1983 Sunset Amphitheater Protest

[You don't often get email from [casey.witvoet@yahoo.com](mailto:casey.witvoet@yahoo.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

I am writing to you today to protest the PUD-1983 for the Sunset Amphitheater. My name is Casey Witvoet and I live at 1209 Edinburg Drive, and I am on the legal protest list. My backyard is on Sara Road right across the street from the proposed land to be rezoned.

The current way PUD-1983 is written allows this outdoor concert venue to have concerts during the week Sunday-Thursday until 10:30 pm. This is unacceptable! How are people in our community and the surrounding communities going to be able to get adequate sleep and live in peace in our homes with them having concerts during the week? Sleep is very important because my husband needs to get adequate sleep for his very stressful job and not being able to come home and unwind after a long day is going to be detrimental to his health and his job performance. I am also concerned for my daughter who is homeschooled because she does her online work in the evenings since she attends vo-tech during the day. I think the people, especially us who live within 350 feet of this proposed venue should be taken into consideration! It feels like the people in our community are being discriminated against because we are middle-class working families and only accommodations have been made for a million-dollar company at the expense of the Oklahoma people living in Ward 3.

According to this NIH article

<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpmc%2Farticles%2FPMC4608916%2F&data=05%7C02%7Cdena.smiley%40okc.gov%7C6f7157c44ea54a13913408dc3f771e5b%7C837e0d97dd9d4d0097e688f05a32ee59%7C0%7C0%7C638455028032881182%7CUnknown%7CTWFpbGZsb3d8eyJWljoImMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C0%7C%7C%7C&sdata=tGjv%2BEr%2Bbb6RB5GJxznohdV1M5poF6icbsoK1D%2FvU%3D&reserved=0>

it states, "There is clear evidence that sleep disturbances are associated with health deterioration, and growing evidence that exposure to noise pollution, around-the-clock, negatively affects health, too." Living in Oklahoma City limits already exposes us to noise pollution but the noise that will come from this music venue will be equivalent to a train running through our backyards while we are trying to sleep. Allowing concerts during the week is unacceptable and should have never been allowed to pass through the Planning Commission.

The current PUD-1983 also allows this outdoor concert venue to have concerts Friday-Saturday until 11pm and I wouldn't have a problem with this except the portion of Sara Road directly behind my house is not going to be widened. It is a two-lane road that they will have their three main exits on! How long do you think it will take for 12,500 people to exit this venue on a two-lane road? We will have traffic noise and lights coming into our backyard probably until 1 am! Would you like this behind your house?

The current PUD-1983 also allows sound checks starting at 2pm while the two schools, Mustang Creek Elementary and Mustang North Middle are still in session! School is not dismissed for the Elementary school until 2:35 pm for car riders and 2:50 pm for bus rider's Pre-K-4th grade. The Middle school



dismisses at 3:35 pm. These children need to be taken into consideration as well because many children need a quiet environment to be able to learn and not the noise of a concert venue warming up hundreds of feet from the back of the school.

Even if the best mitigation is used to direct the sound with this venue being only hundreds of feet from the back of these two schools' property it will disrupt the children affecting their ability to learn and it will affect the teacher's ability to teach! All of these things must be taken into consideration. I know the state of Oklahoma seems to be all about catering to Million-dollar companies these days, but you are in the position where you can stop this from happening! And I beg you to think about how this will affect the people living in our community and the surrounding communities along with how it will affect the children at these two schools!

This location might be great for the concert venue, but it is not great for the children and teachers at Mustang Creek Elementary School and North Middle School, and it is not great for the people who are living 350 feet from the proposed site across the street from Sara Road. I hope you will do what is best for the people who this will affect and not join the club of putting Million-dollar companies and tax revenue above the best interests of the people who are depending on you to look out for their best interests!

Sincerely,

Casey and Albert Witvoet  
1209 Edinburg Dr, Yukon, OK 73099- Westbury North Homeowner

-----Original Message-----

From: Magean Wolf <[magean.wolf@gmail.com](mailto:magean.wolf@gmail.com)>

Sent: Tuesday, February 20, 2024 8:05 PM

To: City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

Subject: Opposition to Sunset Amphitheater in Mustang Creek Crossing

2024 FEB 21 AM 9:03  
OKLAHOMA CITY CLERK

[You don't often get email from [magean.wolf@gmail.com](mailto:magean.wolf@gmail.com). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

Hello,

My name is Magean Wolf. I live at 10432 Hollyhead Way in Ward 3.

I love a concert as much as the next person, but an amphitheater so close to schools and neighborhoods is extremely inconsiderate of the community they intend to encroach upon. I am a mom of a small child and my husband is an Oklahoma City firefighter; the noise is going to disrupt their sleep.

Our backyard backs up to 15th and we're off Edinburg, the closest street to the propose amphitheater. So I'm also concerned about people - likely under the influence of alcohol and/or drugs - loitering in our neighborhood. Admittedly, there's already a high crime rate in our neighborhood than I'm comfortable with. We've been trying to move for years, but we can't really afford to. It's scary and upsetting to think there will be thousands more people brought near our home in search of parking, potentially putting our houses, cars, and personal safety at risk.

Traffic is also a concern. The construction around here has been such a pain and this will only exacerbate that.

Please take whatever action possible to prevent the building of Sunset Amphitheater in Mustang Creek Crossing.

Thank you,

Magean Wolf

**From:** [Keith Woodward](#)  
**To:** [City Clerk Email](#)  
**Subject:** Protest PUD-1983983  
**Date:** Tuesday, March 5, 2024 4:52:27 AM

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You don't often get email from kewoodward@gmail.com. [Learn why this is important](#)

I, Keith Woodward, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

As a Ward 3 resident in Castlebrook Crossing and a Veteran with two young Autistic boys who have sensory challenges, this project will adversely affect our quality of life. After researching other facilities of this nature, it is apparent that the noise pollution alone will create hardship for my family and the thousands of residents in Ward 3. This project is better suited for a less residential area. As more and more housing is built in this area, we need retail and dining support not a venue that is going to create health issues for parents and their children.

I urge the council to consider the residents in this matter. Please do not approve PUD-1983.

Thank you,

Keith Woodward

2433 Stanley Station St.

Yukon, OK 73099

Subject

Protest PUD-1983

Date

3-5-2024

To: Amy Simpson - cityclerk@okc.gov (405) 297-2391

1. I, Ann Worthington, hereby protest PUD-1983 application by Mustang Creek Crossing LLC to re-zone 810 South John Kilpatrick Turnpike for the Sunset Amphitheatre.

I am a homeowner in Westburg South. I live at 10126 Paisley Rd., (405) 324-0098.

2. I have deep concerns over the noise disruptions these concerts would cause. This is NOT suitable for a residential area and so close to TWO schools. This type of venue will greatly diminish the value of living in a quality residential neighborhood.

3. The applicant NOTES LIVE should look for a less densely populated area. The area by I-40 and Frisco Rd. is a Yukon growth area. The city of Yukon is improving this area, as stated in an article by the Yukon Progress paper, 3-2-2024.

4. Again, I protest PUD-1983.

No Sunset Amphitheatre!

2024 MAR 7 AM 10:31  
OK! ANIMA CITY CLERK

Respectfully,

Ann M. Worthington

Ann M. Worthington  
Homeowner

## Johnson, Thad A

---

**From:** Smiley, Dena L  
**Sent:** Tuesday, April 2, 2024 11:18 AM  
**To:** Olivo Harrison, Elena; Johnson, Thad A; Welch, Sarah; Lakin, Cynthia A; Davis, Benjamin E  
**Cc:** Hurst, Paula J  
**Subject:** FW: Protest PUD-1983  
**Attachments:** Noise Pollution Studies.pdf

Dena Smiley  
Records Coordinator  
City Clerk's Office  
(405) 297-2398



---

**From:** Wrights, David R III <david.wrights@okc.gov> **On Behalf Of** City Clerk Email  
**Sent:** Tuesday, April 2, 2024 11:16 AM  
**To:** Smiley, Dena L <dena.smiley@okc.gov>  
**Subject:** FW: Protest PUD-1983

David Wrights

---

**From:** Megan Yarber <[mnyarber@gmail.com](mailto:mnyarber@gmail.com)>  
**Sent:** Tuesday, April 2, 2024 11:05 AM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [mnyarber@gmail.com](mailto:mnyarber@gmail.com). [Learn why this is important](#)

To whom it may concern:

I, Megan Yarber, hereby protest PUD-1983 by Mustang Creek Crossing, LLC to rezone 810 S John Kilpatrick Turnpike.

As a resident of Westbury North for the last 7 years and lifelong resident of the Mustang/Yukon area I have numerous concerns about how this project will affect our community.

The main concerns I have are listed below however, I imagine there are additional issues that could arise if the venue is built.

1. **Noise Pollution:** This venue will sit directly beside numerous homes, daycares, and multiple public schools. Based on the information I have seen posted by the proposed developers, there is no way for them to manage the sound waves in a way that it would not affect local residents in their homes or children at school. I have attached a PDF to this email that contains studies conducted



on the effects of noise frequencies and the direct impact on human health. Based on these studies, humans experience increase levels of sleep disorders, anxiety, mental fatigue and decreased mental performance. Our children are already under additional daily stresses, how can we knowingly put in a venue that could directly affect their home life and subsequently their ability to perform during the school day? I'd like you to imagine a car driving through your neighborhood with their base speakers on full blast and all of their windows down. We've all heard these sounds at one point or another and recognize that they are an annoyance. Now imagine that the car doesn't continue to drive past, the music continues to play for hours on end through the entirety of a concert, multiple nights a week, year-round. I did not see any noise mitigation or physical noise abatement structures listed in the proposal from Live Notes, how are they planning to manage the way these sound waves carry through the air and the ground? Regardless of the additional reasons I will list below, this noise pollution issue should be the number one reason why this project does not get approved for rezoning.

2. **Increased Traffic:** I believe that the addition of the Sunset Amphitheater would make the current traffic situation in our area much worse. If you have not driven down SW. 15th St. from 7AM - 8:30 AM, 2:15 PM - 4PM or 5PM - 6:30 PM I would encourage you to take that drive. Between people trying to drop their children off at two different public schools and additional people trying to get to work or back home from work, driving down SW. 15th St. is almost impossible to navigate for a large portion of the day. What should take 2 to 3 minutes ends up taking 20 to 30 minutes. Even with the proposed road widening and proposed turnpike tunnel there is no way to see how this area will be able to handle the additional traffic from a concert venue. We can barely handle having 2 schools let kids out in the afternoons, now we think these roads will be able to manage thousands upon thousands of extra vehicles with no access to I-40 on Sara Road? The truth is that people will inevitably use my neighborhood to cut through to avoid traffic which will only add to more traffic issues at other exits onto SW 15th or Sara Rd. That doesn't include the individuals who will want to park their cars in Westbury streets and walk to the concert to avoid parking fees. There are currently 3,500 parking spots planned for 12,500 people. Knowing that individuals will need to drive to the venue, how will 1/4 of spots accommodate all of the vehicles needed. What about the addition of rideshare vehicles parked and waiting for passenger pick ups? The traffic issues will be endless and unavoidable, just like when an event is released from Paycom Arena. Are we to expect that main roads will be blocked off by police and concert traffic will take precedence over those who need to access our neighborhood to get to our homes? This is a public safety concern that should also be top of mind.
3. **Increase in Crime & Potential Emergencies:** When bringing 12,500 additional people to a suburban area you can anticipate that there will be emergencies of some nature. When we have an unstable traffic situation and already delayed response times from OKCPD. There is no OKCPD or Canadian County Sheriff's station close to this area. What if a resident has an emergency and first responders are unable to reach us due to traffic blocks? Minutes, even seconds, count when an emergency situation arises. How will we be reached in a timely manner? These emergencies wouldn't just include medical or those of residents but concert goers as well. With any concert venue there is alcohol present and the use of drugs - numerous situations could happen - medical emergencies, physical assaults, robbery, etc. How can we ensure the public's safety and not expect an increase of DUIs and those driving impaired from drugs? What about the fact that these potential situations will be a mere hundred feet from 2 schools and close to 3,000+ homes that have families. Lastly, we have already seen a significant increase in crimes in the Westbury North & South neighborhoods. Personally, our vehicles have been broken into on 4 separate occasions. Like with anything, the more people it attracts the more crime that will come

with it. We can't handle more break-ins and random people wandering the neighborhood streets while our families sleep. The "ifs" are too important to wonder and hope they don't happen.

In closing, I hope you and the rest of the Council will see there is much more to be lost here than can ever be gained by an "economic impact". Dropping a concert venue for 12,500 people in the middle of almost 4,000 residents and a town that is already growing too fast is a recipe for disaster. Please think about the long term effects on our residents, our children, and our community. I reside at 10016 Fairfax Terrace Yukon, OK and I ask you to please **vote against rezoning for PUD-1983**.

Articles of similar amphitheaters and the issues they have caused local residents:

[Round Rock Amphitheater, Round Rock, Texas](#)



[Hayden Homes Amphitheater, Bend, Oregon:](#)

Thank you,  
Megan Yarber

10016 Fairfax Terrace  
Yukon, OK 73099

Review

# Low-Frequency Noise and Its Main Effects on Human Health—A Review of the Literature between 2016 and 2019

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**Abstract:** This paper summarizes the presently available knowledge about the association between low-frequency noise and its effects on health. A database was constructed with a total of 142 articles published between 2016 and 2019 regarding low-frequency noise exposure and its effects on health. A total of 39 articles were analysed in depth. The articles were divided into categories according to the effects on human health addressed. Regarding the emitting source, there was a greater number of articles addressing issues related to sources of environmental noise and noise from wind turbines. As for the effects generated on human health, there was a greater number of articles referring to the effects on sleep disorders, discomfort, sensitivity to and irritability from noise, annoyance, hearing loss, and cardiovascular diseases, and these effects are analysed in more detail in the present article.

**Keywords:** low-frequency noise; human health; impacts; environment; literature review

## 1. Introduction

At the worldwide level, there is a large number of studies on health impacts due to occupational and environmental exposure to noise. However, there are still few studies focusing exclusively on health impacts and discomfort due to low-frequency noise (Figure 1). One of the main reasons for this is the low sensitivity of the human auditory system to low frequencies. On the other hand, this type of noise has very particular characteristics and causes much more discomfort and long-term, non-auditory effects [1–3].

In the 1920s, research on the subject focused on occupational exposure and generally reported physiological changes such as pain in the hands, swelling, and increased vascular tone [4–6]. Until the 1930s, it was believed that the effects of noise on health were restricted only to hearing loss. In a study published in the *Journal of the Acoustical Society of America*, Jüichi Obata et al. [7] concluded that the effects of noise on human health went beyond hearing loss.

After the low contribution to the improvement of this scientific field in the 1960s, the 1970s were marked by the emergence of a series of studies addressing annoyance caused by environmental noise [1].

Consequently, during the 1970s and 1980s, studies started focusing on the impacts due to exposure to environmental noise [8,9]. The 1990s were marked by research aimed at more specific impacts on human health and reported discomfort due to noise [9–11]. Furthermore, these studies correlated exposure to noise with the onset of cardiovascular diseases [12,13].

In the 1990s, the World Health Organization (WHO) published documents on the subject, such as the *Guidelines for Community Noise*, in 1999. Regarding the studies published during the 2000s,

the most important are those directed at specific environments, such as schools and residential areas [14,15]. These studies used a comparison of the noise level measured by using reference curves with the aim of assessing noise discomfort and reinforced the fact that the A-weighting filter is not ideal to evaluate the non-auditory effects of low-frequency noise (LFN) [1–3]. From 2005, the studies that stand out are oriented to the impacts of low-frequency noise on the quality of sleep [16–18].

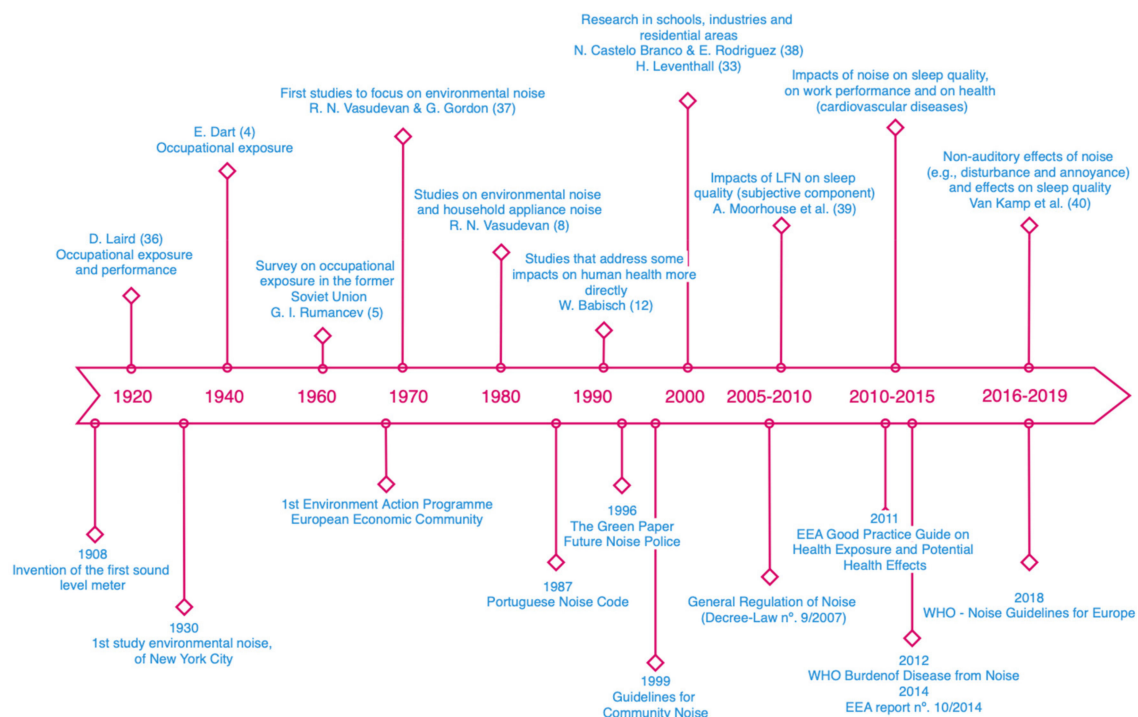
In general, these studies were carried out with voluminous samples involving patient reports, the application of questionnaires, the adoption of cross-sectional studies based on databases, and the comparison of environmental noise levels measured using criteria curves.

In fact, these studies reinforced the fact that low-frequency noise is a powerful stressor. The most cited effects on human health refer to emotional changes such as annoyance [19,20], agitation, and distraction [2,21,22], in addition to the association of low-frequency noise with cognitive alterations [23], the development of cardiovascular diseases [24,25], sleep disorders [26], and high blood pressure [27], and, more recently, the effects of industrial low-frequency noise on dental wear [28,29].

In the field of occupational medicine, there is a large number of studies that claim that low-frequency noise is an agent that interferes with the performance of work tasks [22,30]. In addition to these changes, noise can be an agent that affects mental and physical health.

In this sense, the effects of noise pollution comprise “auditory effects”, which directly affect the human auditory system, and “non-auditory effects”, i.e., the impact of noise on physiological functions. As regards “non-hearing effects”, discomfort has been reported as the most frequent effect caused by exposure to low-frequency noise in humans [1,31,32].

In addition, the discomfort may vary from individual to individual and depends not only on the recorded noise pressure levels but also on the exposure time as well as the low-frequency components present in the measured sound levels. Thus, noise that contains low-frequency components tends to be more annoying than noise without them [1,33–35].



**Figure 1.** A summary regarding health effects due to low-frequency noise exposure. Source: own elaboration based on several authors [4,5,8,12,36–40].

Since 2000, the WHO has recognized low-frequency noise as an environmental problem. In addition, the health impacts of low-frequency components on noise are estimated to be more severe [1,33–35].

The WHO published its most recent noise pollution guidelines for Europe in 2018. This publication states that further research into the health impacts from wind turbine noise is needed, namely, the low-frequency component [35].

In fact, a systematic review of the up-to-date, peer-reviewed, epidemiological literature has been performed on the association between low-frequency noise and its effects on human health. The present paper aims to fill this gap in the literature.

The paper is structured into four sections. After the introduction, the methodology is outlined. A systematic review regarding scientific articles about low-frequency noise and its impacts on human health is presented in Section 3. The article concludes by highlighting the main conclusions of an in-depth analysis of 39 articles published between 2016 and 2019, some limitations of the research, and recommendations for further studies.

## 2. Materials and Methods

### *Database Collection*

The original papers were identified by a literature search between October and December 2019 of all of the principal accessible journals and databases (PubMed, Web of Science, and Scopus) concerning the theme and using the following keywords: “low-frequency noise”; “low-frequency noise and its effects on health”; “noise pollution and health”. A database was constructed with some variables, e.g., sample results and main noise sources. A total of 142 articles published between 2016 and 2019 was found (Supplementary Materials). Only studies were included in which it was mentioned in the title or abstract that the association between the low-frequency noise and effects concerning health or well-being was studied.

The 142 papers selected for the period from January 2016 to December 2019 were grouped into 9 categories: reviews; health effects due to noise and noise pollution; low-frequency sound/infrasound; health LFN case studies (small population); health LFN case studies (large population); LFN case studies (animals); laboratories studies, simulation studies, and computational case studies; and not relevant. A total of 39 articles published between 2016 and 2019 and grouped in the categories “health LFN case studies (small population)”, “health LFN case studies (large population)”, and, finally, “LFN case studies (animals)” were selected for in-depth evaluation. The evaluation carried out focused on the impacts on health, highlighting the incidence of studies aimed at human health and others aimed at carrying out tests on animals that may lead to a future study on humans. Additionally, the 39 articles evaluated used similar techniques (e.g., questionnaires; data previously collected in other studies; cognitive, physiological, and psychological tests based on medical and auditory equipment; noise measurements and audiometric assessments; and experimental tests based on noise exposure). The 39 articles evaluated were carried out mostly in Asian and European countries and were based on small samples.

## 3. Results and Discussion

This section presents the main results obtained from the analysis of articles published on low-frequency noise and its impacts on human health between 2016 and 2019. The results and discussion are structured in five sections on the main effects of low-frequency noise exposure on human health. Each section begins with a description of the methodologies used, followed by the main results achieved in the studies analysed.

### *3.1. Low-Frequency Noise Exposure and Its Main Health Effects*

Table 1 presents a synthesis of the 39 articles based on three of the categories listed in the methodology section. These categories were as follows: cases of low-frequency noise studies in a small population, in a large population, and in a population of animals.



Of the 39 articles that were included in the evaluation of this article, it was observed that the main effects on human health are more prevalent in aspects such as sleep disorders (11.7%), discomfort, sensitivity and irritability to noise (10%), annoyance (13.3%), stress (6.7%), hearing loss (8.3%), reduced performance/fatigue (5%), heart rate/cardiovascular diseases (10%), tension and blood pressure (6.7%), anxiety (1.7%), depression (3.3%), imbalance (3.3%), and mental performance (6.7%).

There were also other effects on human health but with an incidence in very specific aspects (13.3%), such as the frequency of chromosomal aberrations in bone marrow cells, excess bilirubin, peptic ulcers (gastric and duodenal), effects on the cerebral blood barrier, haemodynamic events, irreversible imbalance with structural damage to the otoconial membrane, tinnitus and sound reconversion therapy, and vocal disorders and effort.

Only the effects on human health related to sleep disturbance, noise discomfort, annoyance, hearing loss, and cardiovascular disease were analysed, as these were the themes where a greater number of articles were observed, thus allowing a better comparison and evaluation between the various articles.

### 3.2. Sleep Disturbance

Sleep disturbance is one of the effects on human health that is due to exposure to noise, in particular, low-frequency noise. Long-term exposure to low-frequency noise from wind energy is a major factor in sleep disturbances in residents who live near wind farms. Abbasi et al. [41], Morsing et al. [42], Ishitake [43], Pohl, Gabriel, and Hübner [44], and Poulsen et al. [45] evaluated exposure to low-frequency noise due to proximity to wind turbines. The methodology adopted included the measurement of sound levels and, after the exposure of participants to wind turbine noise, an assessment of sleep disturbances.

The studies [41–43] applied questionnaires to participants to assess the disturbances they felt after exposure to noise. In the study by Abbasi et al. [41], in addition to the questionnaire, Pearson's correlation, analysis of variance, and multiple regression tests were applied for data analysis using software. Morsing et al. [42] evaluated the impact of noise on sleep as measured by polysomnography, after participants were exposed to wind turbine noise for three consecutive nights. Finally, Ishitake [43] assessed sleep disorders using the Athens Insomnia Scale method, based on the responses of participants when exposed to noise.

In the study designed by Pohl, Gabriel, and Hübner [44], the methodology of stress psychology with noise measurement was adopted, ascertaining the physical and psychological symptoms referenced by residents that participated in the study (general mental indisposition, performance and reduced work capacity, lack of concentration, fatigue, tension, nervousness, negative mood, dizziness, irritability, indisposition, reduced sleep quality, and annoyance) caused by exposure to noise from wind turbines. Moreover, Poulsen et al. [45] evaluated the evolution of medical prescriptions related to anxiolytics and antidepressants ingested by the populations living near the wind turbines, in an analysis that lasted two years (2012 to 2014).

Sleep disturbances may also be due to exposure to noise from oil and gas operations, namely in the construction and drilling of wells in residential areas [46]. Blair et al. [46] evaluated the impacts of these operations on human health, including sleep disorders. Sleep disturbances can also be linked to exposure to railway noise, as studied by Smith et al. [47]. They [47] evaluated the effects on physiological sleep resulting from the exposure of participants to railway noise for five consecutive nights, using polysomnography and questionnaires.

As for the results, Abbasi et al. [41] evaluated the effects of noise from wind turbines on the health of employees, divided into three groups (maintenance, safety, and administration). The group with the greatest exposure to noise was the maintenance team, who were considered as a reference group. Maintenance workers were subject to a higher sound level because they are in the vicinity of wind turbines, and higher GHQ (The General Health Questionnaire) scores were also recorded (the health assessment tool for individuals used in the study). Therefore, compared to those on management and safety staff, the harmful health effects of wind turbine noise are stronger on maintenance workers.

The questionnaire was divided into four sections, including somatic symptoms, anxiety and insomnia, social dysfunction, and depression. Based on the results obtained in this study, only the equivalent sound level had a significant effect on the general state of health and in some of its sections. The negative impact of noise exposure of 60 and 66 dBA on general health was approximately six and four times less than that of 83 dBA, respectively. The adverse effect of 60 dBA noise exposure in the anxiety and insomnia section was 1.6 times less than that in the 83 dBA exposure group. The effect of the experiment in the anxiety and insomnia section was 0.2 times greater than that of the 83 dBA noise exposure. This result indicates that the worst health status is due to working conditions and chronic exposure to occupational risk factors, such as noise. The results show that the effect of exposure to noise of 66 dBA in the social dysfunction section was 2.3 times less than that of 83 dBA noise. It was concluded that exposure to noise is significantly correlated with all subsections of general health, except depression. As a general evaluation of the article, the low-frequency noise from the turbines can cause harmful effects on the health of workers who are very close to the turbine, due to the reception of very intense noise [41]. By convention, a frequency A-weighting filter is used in low-frequency noise evaluation [3]. As a matter of fact, the A-weighting filter is not suitable for assessing the effects of low-frequency noise because this filter drastically reduces the low-frequency levels measured [3].

The results obtained by Morsing et al. [42] are due to the measurement of the effects of night noise from wind turbines on sleep measured physiologically in the laboratory. During nights with noise from the turbines, there was some incidence of participants with frequent awakening, less deep sleep, reduced continuous sleep, an increase in sleep disorders self-reported by the participants, and morning tiredness after the nights of noise exposure compared to nights without exposure to noise. Some evidence was observed in the study in which amplitude modulation and rotational frequency were varied; deeper sleep was negatively affected due to higher frequency and strong amplitude modulation while light sleep increased with high frequency and acoustic beat [42].

Blair et al. [46] monitored continuous levels of audible and low-frequency noise during the construction and drilling of oil and gas wells in a residential area. The equivalent monthly levels of continuous noise varied between minimum values of 51.5 and 73.1 dBC, and maximum values of 60.2 to 80.0 dBC. On the one hand, Blair et al. [46] found that continuous weighted noise levels above 50 dBA can have effects on health, such as increasing the risk of cardiovascular disease and hypertension. On the other hand, they found that low-frequency noise levels that exceeded the recommended level of 60 dBC caused nausea and headaches. In a general analysis of the article, the average noise levels in an oil and gas well during construction and drilling exceeded the levels associated with annoyance, sleep disturbances, and cardiovascular health effects; that is, they were higher than 50 dBA or 60 dBC [46].

Ishitake [43] conducted an epidemiological study that suggests that the noise generated by wind power generation facilities may be a risk factor for effects on human health, especially sleep disturbances. In this study regarding sleep disturbances caused by infrasound, it was found that the noise level of the wind turbine measured in the lower frequency range is below the human sensory threshold. As mentioned by Ishitake, 63% reported having sleep disturbance; the effect was reduced with increased distance between the source and the receiver [43].

Pohl, Gabriel, and Hübner [44] carried out a study that combined the methodology of stress psychology with noise measurement. They conducted interviews with residents who lived close to a wind farm and assessed their perception of noise from the wind farm and road traffic at two different points in time, first in 2012 and later in 2014. Residents complained of physical and psychological symptoms due to traffic noise (16%) and noise from wind turbines (10% and 7% in 2012 and 2014, respectively). In the study, 12 symptoms caused by exposure to noise were evaluated. It was found that the participants reported more symptoms in 2012 than in 2014 and the most strongly irritated participants considered their overall health in 2014 to be improved. The sleep disorders assessed decreased from 2012 to 2014. Distraction also decreased slightly from 2012 to 2014 for the most irritated residents, while remaining relatively low and/or unchanged in the other groups. However, only a few participants showed evidence of noise from low-frequency wind turbines: in 2012, 8.5% reported

feelings of pressure related to wind farms and 6.1% reported having felt vibrations in the body; in 2014, these feelings decreased to 6.8% and 3.8%, respectively. The annoyance experienced was very low, and symptoms of dizziness were not observed in this study. Regarding the effects of wind noise stress compared to road traffic noise, there were more reports of symptoms due to traffic (15.8%) than to noise from wind turbines. In 2014, it was observed that about a third (34.9%) of the participants were slightly irritated by traffic noise and 21.2%, by noise from the wind farm [44].

Poulsen et al. [45] determined the numbers of prescriptions for anxiolytics and antidepressants for residents due to prolonged exposure to noise from wind turbines. During the survey carried out between 1996 and 2013, 68,696 adults had recourse to sleeping pills and 82,373 used antidepressants, out of a population of 583,968 and 584,891, respectively. In this study, it was observed that people over the age of 65 years were more affected by the noise of wind turbines, with an HR (hazard ratio) of 1.68 for measuring sleep and 1.23 for antidepressants being found for the group with the greatest exposure. Regarding low-frequency noise due to wind turbines in indoor environments, the risk rate among people aged 65 and over when exposed to noise equal to or higher than 15 dB was 1.37 for anxiolytics and 1.34 for antidepressants. Thus, Poulsen et al. [45] concluded that the combination of high noise levels from wind turbines and the use of anxiolytics and antidepressants can induce sleep disturbance and, in turn, affect the mental health of the elderly [45].

Finally, Smith et al. [47] demonstrated that sleep was significantly affected, both in terms of physiological measures and by self-report, during nights with exposure to 45 dB noise, although the number and size of the effects were modest. Most self-reported sleep measures were adversely affected by terrestrial railway noise. In this study, no significant differences were found in the general sleep structure or disorders and in the subjective quality of sleep between the reference tests and the 35 dB night tests. The results obtained support the value of the Swedish guidelines proposed for the maximum noise level of 35 dB for indoor environments and may be suitable for protection against adverse sleep problems due to terrestrial railway noise [47].

### 3.3. Discomfort from, Sensitivity to, and Irritability from Noise

Discomfort, sensitivity to noise, and irritability are other effects on human health due to exposure to low-frequency noise.

Huang, Pan, Liu, Hou, and Yang [48] analysed acoustic comfort and developed a noise analysis model for a skyscraper by measuring exterior noise, mainly from road traffic.

Suzuki, Suzuki, Onishi, and Penido [49] performed audiometric assessments on patients with persistent tinnitus, through their perception of sounds of nature and everyday life and their comparison with a pure tone or noise (white noise, narrow-band low frequency and narrow-band high frequency). The assessments considered in the patients were otorhinolaryngological, audiological, Pitch Matching and Loudness, Visual Analogue Scale, Tinnitus Handicap Inventory, and Minimum Masking Level [49].

Lee et al. [50] determined the effects of exposure to transport noise and established a relationship with the blood pressure of residents of residential buildings. They determined noise exposure levels ( $L_{den}$ ,  $L_{day}$ , and  $L_{night}$ ) through adjusted linear regression analysis and established the relationship with blood pressure [50]. They also conducted a questionnaire related to the annoyance caused by internal noise, noise sensitivity, and sociodemographic variables [50].

Tao, Wang, Zou, Li, and Luo [51] assessed the irritation from noise in a metro depot and the influence of noise in adjacent residential buildings. They carried out a questionnaire with people working at the metro station and took field measurements, both at the metro station and in the adjacent residential buildings [51].

Moradi et al. [52] studied the effects of noise on the selective attention of university students. They conducted questionnaires to determine students' personality traits; that is, they assessed whether they were extroverted or introverted and analysed their stability or instability [52]. In addition, they also assessed the level of sensitivity to noise using the Weinstein sensitivity scale and the level of selective attention using the DUAF test from the Vienna Test System [52].

Alves, Silva, and Remoaldo [53] analysed the effects of exposure to low-frequency noise pollution emitted by poles and power lines on the well-being of the population, based on a study carried out on “exposed” and “unexposed” populations in two residential areas. Additionally, adapted audiometric tests were carried out to complement the analysis and determine the audibility thresholds of “exposed” and “unexposed” volunteers. To develop the research, Alves, Silva, and Remoaldo [53] used sound level measurements and sound recordings (recordings made at a distance of 5 m from the source), as well as the adapted audiometric performance test [53].

Regarding the results, [48] observed that, due to the effect of the ground, the effect of medium propagation, and the different frequency components, the comfort of the sound does not increase with distance from the ground, that is, on the highest floors. They concluded that low-frequency noise has great potential for the annoyance and discomfort of the residents of the building.

Suzuki et al. [49] identified 181 tinnitus complaints in which pure-tone-type tinnitus was observed in 93 (51%) of the responses (4 low pitch and 89 high pitch) and from noise in 88 (49%) responses (15 low frequency and 73 high frequency). Regarding tinnitus with a low-frequency sensation, 19 responses were determined, while for that with a high-frequency sensation, 162 responses were found. They determined a Visual Analogue Scale average of 5.47 for tinnitus similar to pure tone and 6.66 for that similar to noise, with a higher value for noise. The average loudness of tinnitus similar to pure tone was 12.31 dBNS, and that similar to noise was 10.54 dBNS. For the Tinnitus Handicap Inventory and the Minimum Masking Level, the patients considered in the study were separated into three groups with tinnitus, pure tone, noise, and multiple, with the mean of the largest Tinnitus Handicap Inventory in the group with multiple tinnitus being 61.38. For the Minimum Masking Level, masked noises of the type white noise and narrow band [49] were used.

Lee et al. [50] concluded that general noise (road and rail traffic) and road traffic showed higher associations with systolic blood pressure (SBP) than with diastolic blood pressure (DBP), while rail noise had similar associations with SBP and DBP. They also observed that the closest associations between exposure to noise and blood pressure were estimated for participants who reported higher classifications of annoyance, irritation, and sensitivity to noise. This indicates that the annoyance of internal noise and sensitivity to noise develop regardless of the level of exposure to external noise. They also found that people who were sensitive to noise and participants who were most irritated due to internal noise had significantly higher SBP and DBP than the rest. In addition, the regression coefficients between noise exposure and blood pressure increased slightly in a subgroup that excluded participants exposed to high railway noise [50]. The results established by Lee et al. [50] support the hypothesis that long-term exposure to transport noise is associated with higher blood pressure in adults living in multi-storey residential buildings.

Tao et al. [51] concluded that 96% of respondents feel disturbed by noise and 31% of them feel that the impact of noise is serious. They noted that closing doors in buildings may be a solution, but only a reduction in noise from the low-frequency structure in the range 63 to 125 Hz occurs. They found that there is a problem of annoyance from low-frequency noise. They evaluated that the noise level caused by the fans decreases with the height of the floors. Ventilation noise is one of the dominant noise sources for adjacent buildings, and, therefore, they found that the shorter the distance between the building’s fans and ventilation, the more severe the impact of the noise. They also concluded that the noise attenuation rate increases with an increase in the distance to the noise source [51].

Moradi et al. [52] concluded that there were no significant differences in the average time spent on correct answers before and after exposure to noise between extroverted and introverted participants; however, there was a significant difference among extroverts in the average time spent on correct answers before and after exposure to noise. The results showed that introverted participants are more sensitive to noise than extroverts. The most noise-sensitive participants showed greater stimulation during exposure to noise, which led to increases in incorrect responses and a decrease in mental performance. Moradi et al. [52] found that the participants’ personal traits are related to their annoyance

due to noise. Moradi et al. [52] concluded that stress due to noise improves selective attention in extroverted individuals.

Finally, Alves et al. [53] concluded that the “exposed” area has higher sound levels and, consequently, more problems with well-being and health than the “unexposed” population. Audiometric tests also revealed that the “exposed” population seems to be less sensitive to low-frequencies than the “unexposed” population; that is, the “exposed” group needs a higher sound intensity to perceive noise, especially at lower frequencies. The “exposed” group has a larger number of respondents with health problems (e.g., cardiovascular disease, insomnia, and depression), which can be caused by exposure to low-frequency noise emitted by power poles and lines. On the other hand, the “unexposed” group tends to perceive noise with a slightly lower sound intensity, due to the fact that this residential area is far from the emission source [53].

### 3.4. Annoyance

Annoyance is another effect on human health due to exposure to low-frequency noise.

Boyle et al. [54] assessed how the A-weighted exposure levels differed indoors and outdoors in homes in the vicinity of a natural gas compressor station, where low-frequency noise was found. They performed measurements of the noise levels defined in the A-weighted scale to filter most of the low-frequency noise and in the C-weighted scale to identify the impulse noise (noise measured in less than one second with peak levels 15 dB higher than the background noise) [54].

Van Kamp, Breugelmans, Van Poll, Baliatsas and Van Kempen [40], and Lee et al. [50] presented questionnaires to assess issues related to annoyance due to noise. Van Kamp et al. [40] surveyed complaints due to low-frequency noise using existing data and by means of a questionnaire determining participants’ annoyance due to noise from road, rail, and air traffic sources, low-frequency noise, construction noise, and noise sensitivity; the residential satisfaction index; and a survey of measures applied in the residence to avoid noise. As for the study by Lee et al. [50], the methodologies adopted are referenced in Section 3.3.

The methodologies adopted by Blair et al. [46] and Pohl, Gabriel, and Hübner [44] are referenced in Section 3.2. However, according to [46], noise levels above 50 or 60 dBA can cause annoyance.

Ishitake [43] assessed the level of annoyance regarding the source of low-frequency noise generated by wind energy and road traffic noise, by conducting a questionnaire to obtain these perceptions.

According to Hansen et al. [55], the presence of amplitude modulation in wind farm noise results in increased annoyance and possible sleep disruptions. The developed study investigated the prevalence of this characteristic in homes close to the wind farm [55]. In the article by Hansen et al., several important variables were considered, namely, the receiver-source distance, meteorological conditions, and proximity to reflective surfaces, among others.

Moradi et al. [52] assessed the level of selective attention through the DUAF test (test of selective attention, performance capacity, and general performance) and the level of annoyance based on the ISO15666 (International Organization for Standardization, 2003), based on the study sample referenced in Section 3.3.

As for the results, Boyle et al. [54] found that houses located close to a compressor station have higher average noise levels, both indoors and outdoors, than houses located at a distance greater than 300 m. The authors also found that noise levels during the day were higher than those recorded at night and that the residents of residences located less than 300 m from the station were exposed to low-frequency noise. In this study, they established the relationship of the results with the daytime and nighttime noise levels recommended for the prevention of hearing loss and annoyance, established by the WHO [56,57], and found that the average noise levels determined exceeded these guidelines [54].



**Table 1.** Studies selected and health effects related to low-frequency noise.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2016	Zeitoni, Mäki-Torkko and Stenfelt [66]	27	Binaural hearing capacity	Evaluation of binaural auditory capacity in adults with normal hearing when bone conduction stimulation is applied bilaterally in the bone conduction hearing aid implant position, as well as in the audiometric position in the mastoid.	Exposure to low-frequency noise (400 to 600 Hz) and high-frequency noise (3000 to 5000 Hz).	The results confirmed that the binaural auditory processing with bilateral bone conduction stimulation in the mastoid position is also present in the bone conduction hearing aid (BCHA) implant position. This indicates the capacity for binaural hearing in patients with good cochlear function when using bilateral BCHAs.
2016	Walker, Brammer, Cherniack, Laden and Cavallari [63]	10 (male)	Heart rate variability and stress	The authors conducted a sound monitoring campaign between February 2015 and February 2016 across the city of Boston, MA. Boston occupies an area of 124 square kilometres with an estimated population of close to 700,000 individuals. To identify potential monitoring sites, the authors divided the city of Boston into 500 × 500 m grid cells using ArcGIS. They constructed a list of all accessible potential sites ( $n = 525$ ), and 400 site locations were randomly selected for monitoring by time of day. Convenience sampling was also conducted in certain areas of the city to ensure adequate coverage of varied land use and urban activity. The participants underwent an outpatient electrocardiogram. Blood pressure measurements and saliva samples were collected before, during, and after exposure to noise.	Low-frequency noise (31.5 to 125 Hz at 75 dB (A)); high-frequency noise (500 to 2 kHz at 75 dB (A)); 50 dB (A) “noise-free” exposure.	During exposure to noise, reductions in heart rate variability of 19% (−35; −3.5) with low-frequency power and 9.1% (−17; −1.1) were observed according to the quadratic difference average between adjacent normal heartbeat intervals. During exposure to low-frequency noise, reductions in heart rate variability of 32% (−57; −6.2) with high-frequency power, 34% (−52; −15) with low-frequency power and 16% (−26; −6.1) according to the standard deviation of the adjacent normal heartbeat intervals. During exposure to high-frequency noise, reductions in heart rate variability of 21% (−39; −2.3) with low-frequency power compared to that with exposure to noise.
2016	Liu, Young, Yu, Bao and Chang [67]	1002	Hypertension and blood pressure	Personal noise measurements and environmental analysis of octave bands were carried out to divide workers into similar exposure groups based on the similarity and frequency of the tasks they performed in the company, thus creating a high exposure group ( $\geq 80$ dBA), another of medium exposure (75–79 dBA), and another of low exposure ( $< 75$ dBA).	Noise at frequencies of 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, and 8 kHz during the working period.	Participants exposed to $\geq 80$ dBA for 8 years had a higher relative risk of hypertension (relative risk = 1.38, 95% confidence interval: 1.02, 1.85) than those exposed to $< 75$ dBA. Significant exposure–response patterns were observed between incident hypertension and the stratum of exposure to noise at frequencies of 250 Hz, 1 kHz, 2 kHz, 4 kHz, and 8 kHz. The strongest effect was found at the frequency of 4 kHz, and a 20 dBA increase in noise exposure at 4 kHz was found to be associated with a 34% higher risk of hypertension (relative risk = 1.34, confidence interval of 95%: 1.01, 1.77).
2016	Selander et al. [58]	1,422,333	Hearing dysfunction in children due to noise during pregnancy	Occupational noise exposure during pregnancy, according to the prospective cohort study, FENIX (foetal noise exposure), based on births between 1986 and 2008.	Low-frequency noise ( $< 75$ dBA); high-frequency noise ( $\geq 85$ dBA); medium-frequency noise (75–84 dBA).	In the sample, in a mixture of part-time and full-time workers during pregnancy, HR adjusted for hearing impairment associated with exposure to maternal occupational noise $\geq 85$ vs. $< 75$ dB LAeq, 8 h was 1.27 (95% CI: 0.99 1.64; 60 exposed cases). When restricted to children whose mothers worked full time and had less than 20 days of absence during pregnancy, the HR was 1.82 (95% CI: 1.08, 3.08; 14 exposed cases).

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2016	Abbasi et al. [41]	53	General health; somatic symptoms; anxiety; insomnia; social dysfunction; depression	Study of the effect of wind turbine noise on the general health of employees at a wind farm, with workers divided into three groups: maintenance, security, and office workers. Equivalent sound levels were measured for each group. The individuals' health data were assessed using a 28-item questionnaire. Pearson's correlation, analysis of variance, and multiple regression tests were performed for data analysis using software.	In the maintenance team, an LAeq of 83 dBA was considered, an LAeq of 66 dBA was considered in the security team, and an LAeq of 60 dBA, in the administration team.	Exposure to noise is significantly correlated with all subscales of general health, except depression. The low-frequency noise from the turbines can cause harmful effects on the health of workers who are very close to the turbine and receive very intense noise.
2016	Wang et al. [59]	2700	Cardiovascular diseases; hearing loss.	The authors carried out the study in the metropolitan area of Taichung, Taiwan and set up 50 monitoring stations to collect related information on noise measurements, traffic flow rates, speed limits, and meteorological data. The 50 monitoring stations included 4 agricultural areas, 6 green-land areas (e.g., parks, forests, and mountains), 2 conservation areas, 8 culture-educational areas (i.e., schools, temples, and churches), 11 residential areas, 4 industrial areas, 1 stream-channel area (e.g., harbours), 7 commercial areas, 6 governmental areas (i.e., governmental agencies and institutes), and 1 recreational area. Determination of exposure to traffic noise by measuring the average equivalent noise levels A (LAeq, 24 h) in 50 monitoring stations (25 road traffic stations and 25 non-commercial ones) covering 10 different types of land use.	Equivalent continuous sound levels (Leq, 24 h) in the range of 30–130 dBA; noise levels with the time-weighted average (TWA) at frequencies of 31.5, 63, 125, 250, 500, 1000, 2000, 4000, and 8000 Hz.	The Leq annual average, 24 h in Taichung was $66.4 \pm 4.7$ dBA, exceeding the threshold for cardiovascular disease prevention. The mean annual Leq, 24 h in the flow and commercial channel areas was $71.2 \pm 1.0$ and $70.0 \pm 2.6$ dBA, respectively, revealing a potential risk of hearing loss among residents. The noise levels at 125 Hz had the highest correlation with total traffic and the highest forecast in multiple linear regression.
2017	Vasilyeva, Bepalov, Semenov, Baranenko and Zinkin [68]	96 rats	Frequency of chromosomal aberrations in bone marrow cells; levels of low molecular weight DNA (lmwDNA) in blood plasma.	Exposure to single or multiple LFN from male Wistar rats and their comparison with those in the control group. The control group rats were not subjected to any impact. Measurement of the frequency of chromosomal aberrations in bone marrow cells and the levels of lmwDNA in blood plasma.	Frequency below 250 Hz; simple LFN with sound pressure levels (SPL) of 120 dB; multiple LFN with 150 dB SPL.	Blood plasma lmwDNA levels measured the following day after a single exposure to LFN were significantly higher (7.7 and 7.6 times, respectively) than in the control group ( $11.0 \pm 5.4$ ng/mL), and these levels were higher (4.8 and 2.1 times, respectively) in the week after a single exposure of LFN to the SPL of 120 and 150 dB, respectively, than in the control group ( $18.8 \pm 1.6$ ng/mL). Similar results were obtained in the group with multiple exposures to LFN (36.4 and 22.4 times, respectively) compared to the control group ( $17.7 \pm 1.7$ ng/mL) and suggest an increase in cell apoptosis as a result of impact of the LFN.
2017	Boyle et al. [54]	11	Noise disturbance from natural gas compression stations.	Assessment of how A-weighted exposure levels differ indoors and outdoors in homes near the natural gas compressor station, where low-frequency noise was found. Measurement of noise levels defined in the A-weighted scale to filter out most of the low-frequency noise and in the C-weighted scale to identify the impulse noise.	-	Houses located close to a compressor station have higher average noise levels, both indoors and outdoors, than houses located more than 300 m away. Noise levels during the day were higher than at night. Residents of residences located less than 300 m from the station were exposed to low-frequency noise. The daytime and nighttime noise levels recommended for preventing hearing loss and annoyance were exceeded.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2017	Van Kamp, Breugelmans, Van Poll, Baliatsas and Van Kempen [40]	3972	Annoyance due to low-frequency noise	Survey of complaints due to low-frequency noise, based on analysis of existing data. Conducting a questionnaire with participants addressing aspects such as annoyance and sensitivity to noise, sources of emission, and residential satisfaction, among others.	-	The level of background noise, sensitivity to noise, and dissatisfaction with the residential situation were strongly associated with higher levels of annoyance. The lower the background noise levels, the greater the annoyance due to tinnitus. Low-frequency noise is particularly a problem in places with low levels of background noise.
2017	Ohgami, Oshino, Ninomiya, Li and Kato [60]	Rats	Hearing loss; imbalance	Conducting an experimental study in which wild type rats were exposed to similar low-frequency noise and the assessment of noise-induced hearing loss and determination of the rats' imbalance.	Low-frequency noise (70 dB, 100 Hz)	The authors observed that a sound stimulation at 375 Hz at a frequency lower than the audible range of the rats causes a hearing reduction in wild type rats, and in rats with an abnormal otolytic morphology, this hearing loss was not observed.
2017	Venet et al. [61]	117 rats	Effects on hearing	Evaluation of exposure to the combination of low-frequency noise and carbon disulfide.	Low-frequency noise, ranging from 0.5 to 2 kHz at an intensity of 106 dB SPL.	Exposure to CS <sub>2</sub> (250 ppm or more) and noise increased the extent of the damaged frequency window, as a significant hearing deficit was measured at 9.6 kHz in these conditions; in addition, the significance at 9.6 kHz increased with solvent concentrations. Histological data showed that neither hair cells nor ganglion cells were damaged by CS <sub>2</sub> .
2017	Alimohammadi and Ebrahimi [69]	89	Mental performance	All participants underwent the Stroop and Cognitrone tests in silent conditions, after 30 min of exposure to LFN and HFN. The Cognitrone test assesses concentration and attention, and the Stroop interference test is a sensorimotor speed test that records the performance of reading speed.	Low-frequency and high-frequency noise at 50 and 70 dBA.	Both noises emitted (LFN and HFN) not only caused precision in scaling the response but also reduced the duration of the test run. It was concluded that, disregarding the distribution of energy frequencies, noise improved the task performance of participants. The results illustrated that individuals under LFN performed the Cognitrone test more quickly than individuals under HFN.
2017	Huang, Pan, Liu, Hou and Yang [48]	-	Noise disturbance	Analysis of acoustic comfort and development of a noise analysis model for a skyscraper, through the measurement of exterior noise, mainly road traffic noise. The selection of measuring points was made on the horizontal and vertical planes and strictly follows the guidelines (Chinese standard JTG B03–206 and HJ 2.4-2009). The noise measurement instruments were an AWA6270+B noise analyser, AWA6228 frequency analyser, and TES1350A sound level meter.	-	A higher capacity to respond to high-frequency than low-frequency mining noise (LF) was observed, which probably reflects the audibility of the two frequency spectra.
2017	Mancera, Lisle, Allavena and Phillips [70]	57 rats	Effects on behaviour (stress), organ morphology, and faecal corticosterone.	Evaluation of the effects of noise from mining machines on the behaviour and physiological parameters (organ morphology and faecal corticosterone) of wild rats, when subjected to high- and low-frequency ranges, and comparison with a reference treatment without auditory stimuli.	High-frequency noise (>2 kHz); low-frequency noise (≤2 kHz).	The frequencies below and above 2 kHz had differential effects on male and female wild rats that can have important consequences for their well-being and survival.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Morsing et al. [42]	12	Sleep effects	Evaluation of sleep effects, through polysomnography measurement and questionnaires, in 2 pilot studies, due to noise exposure from wind turbines. Six participants spent five consecutive nights in an ambient sound laboratory and, for three nights, were exposed to the noise of the wind turbine with the variation of some parameters.	High-frequency (>125 Hz) and low-frequency noise (125 Hz). Similar to a ventilation noise, a low background noise (18 dB LAeq) was used.	During nights with noise from the wind turbine, there were sleep disturbances compared to during control nights. Deeper sleep was negatively affected by higher rotational frequency and amplitude modulation, but light sleep increased with high rotational frequency and acoustic beat.
2018	Blair, Brindley, Dinkeloo, McKenzie and Adgate [46]	4 (residences)	Annoyance, sleep disorders, and cardiovascular effects	Determination of noise levels in a well block of oil and gas operations of several wells during construction and drilling in a residential area in Colorado and the verification of impacts on human health. A (dBA) and C (dBC) weighted noise measurements were collected at four residences located between 320 (1049.9 ft) and 550 m (1804.5 ft) from the site during development over a three-month period (February to April 2017).	A and C weighted noise levels of 60.2 dBA and 80 dBC, respectively.	Proportionally, 41.1% of continuous daytime equivalent daytime measurements and 23.6% of 1 min dBA exceeded 50 dBA, and 97.5% of daytime and 98.3% of nighttime measurements exceeded 60 dBC. Average noise levels in an oil and gas well during construction and drilling exceed levels associated with annoyances, sleep disturbances, and cardiovascular health effects (greater than 50 dBA or 60 dBC) in studies involving noise sources such as traffic, airports, wind turbines, and rail-related noise pollution.
2018	A.M. Abbasi, Motamedzade, Aliabadi, Golmohammadi and Tapak [71]	35	Physiological effects and mental health (fatigue)	Participants were exposed to low-frequency noise and were ultimately asked to determine their level of mental fatigue. A cognitive test was performed to assess working memory (low, medium, or high workload). Software was used to assess mental fatigue, visual fatigue analogue scale, and psychophysiological indexes.	Low-frequency noise levels of 55, 65, 70, and 74 dBA.	The results showed that mental fatigue significantly affected heart rate, low- to high-frequency rates, and electroencephalogram rates. The results confirmed that the mental fatigue caused by low-frequency noise significantly impacted the participants' psychophysiological and working memory with exposure to noise levels of 65 to 75 dBA.
2018	Ninomiya et al. [72]	44 rats	Stress	A comparison of auditory levels and levels of expression of the Hsp70 protein in the cochlea was performed between rats exposed and not exposed to LFN.	Low-frequency noise (100 Hz to 95 dB).	The results showed that the inner ear may be one of the organs negatively affected by the stress caused by the inaudible exposure to LFN. Exposure to LFN increases the level of Hsp70 expression via Cebpb in the inner ear. The levels of Hsp70 and Cebpb may be candidates for biomarkers of responses to exposure to LFN.
2018	Rossi, Prato, Lesina and Schiavi [65]	25 (19 to 29 years)	Physiological effects (response time and heart rate)	The experiment involved 25 Italian volunteers (12 female and 13 male volunteers), aged 19–29 years. Before starting the test, each subject filled in a general questionnaire specifying age, occupation, musical experience, eyesight and hearing problems, and the presence of noise in their daily life. Measurement of changes in cognitive and physiological parameters in a sample of volunteers exposed to three types of noise in a hemi-anechoic room. Participants were involved in a cognitive task (Stroop effect) for 10 min in four different conditions: silence, multi-tonal broadband (BBN) stochastic noise, low and low-frequency stochastic noise (LFN1), and low-frequency stationary noise with regular amplitude modulation (LFN2).	Sounds reproduced with a sound pressure level equivalent to 93 dB; BBN noise based on frequencies between 315 and 2000 Hz; LFN1 with frequencies between 30 and 60 Hz; LFN2 with frequencies between 30 and 200 Hz.	In noise conditions, participants reduced their response times, that is, there was evidence of increasing stress. Dividing the participants into extroverts and introverts, it was demonstrated that LFN1 and LFN2 produced higher stress effects than BBN noise on cognitive performance and a physiological stress comparable to that produced by BBN noise.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Zhou and Fu [62]	1404	Sensorineural hearing loss (SNHL); excess bilirubin (causes problems in the liver, spleen, kidneys, gallbladder).	Measurements of total serum bilirubin, tympanometry, and determination of the mean threshold of pure tones at low frequencies or high frequencies for a subset of adolescents, to assess levels of total serious bilirubin associated with different subtypes of sensorineural hearing loss.	Low-frequency noise (LPTA: 500, 1000, 2000 Hz); high-frequency noise (HPTA: 3000, 4000, 6000, and 8000 Hz).	Total serum bilirubin levels were associated with any high-frequency SNHL (HPTA > 15 dB in at least one ear) in adolescents in the USA; high-frequency SNHL with HPTA > 15 dB in both ears (bilateral) or with HPTA ≥ 25 dB in at least one ear had a stronger association with total serum bilirubin levels than HPTA > 15 dB in only one ear (unilateral) or HPTA = 15–25 dB in at least one ear.
2018	Ishitake [43]	9000 (≥20 years)	Annoyance; sleep disorders	Conducting an environmental epidemiological study and assessing the effects on sleep disturbance due to low-frequency noise generated by wind power installations, based on residents living in areas close to the source. Assessment of sleep disorders using the Athens Insomnia Scale. Assessment of environmental noise in residential areas (50 community centres) close to the noise source by measuring infrared and low-frequency sound exposure levels.	Infrared, low-frequency (20 Hz) and infrasound (<20 Hz).	As for sleep disturbances caused by infrasound (20 Hz or less), the noise level of the wind turbine measured in the ultra-low-frequency range is below the human sensory threshold. Of the participants, 63% heard the noise when the distance was less than 1000 m. However, the hearing rate decreased significantly when the distance was increased to 5000 m, when only 2% of the participants heard the noise. Based on the Athens Insomnia Scale, 40% of participants had sleep disorders when the distance was less than 1000 m. However, the frequency of sleep disorders decreased to 22% with an increase in distance. Amplitude-modulated sounds and pure tones contained in the noise generated by wind power generation facilities tend to increase annoyance.
2018	Chalansonnet et al. [73]	133 rats	Balance effects	Study of how exposure to low-frequency noise combined with 250 ppm CS <sub>2</sub> affects rat balance. Vestibular function was tested based on post-rotational nystagmus recorded by a video-oculography system. These measurements were completed by behavioural tests and cerebellar analysis to measure levels of gene expression associated with neurotoxicity.	Low-frequency noise, ranging from 0.5 to 2 kHz at an intensity of 106 dB SPL.	Coexposure to CS-250 ppm and low-frequency noise reduced the number and duration of the withdrawals by 33% and 34%, respectively. It was observed that the effects of CS <sub>2</sub> were due to reversible neurochemical disorders of the efferent pathways that manage post-rotational nystagmus. Since the nervous structures that involve vestibular function seem particularly sensitive to CS <sub>2</sub> , post-rotational nystagmus can be used as an early non-invasive measure to diagnose CS <sub>2</sub> poisoning as part of an occupational conservation programme.
2018	Min and Min [74]	466,822 (217,308 with gastric ulcer + 249,514 with duodenal ulcer)	Peptic ulcer (gastric and duodenal)	Investigation of the incidence of peptic ulcers in adults due to long-term exposure to environmental noise. The diagnosis of gastric and duodenal ulcers was made during an 8-year follow-up (2006–2013). Environmental noise data were obtained from the National Noise Information System, a national noise monitoring system.	The interquartile range (IQR) for nighttime noise exposure was 2.37 dB for gastric ulcers and 2.41 dB for duodenal ulcers.	Gastric ulcers occurred in 32.1% of individuals, and duodenal ulcers, in 10.7% of individuals. The diagnostic rate for gastric and duodenal ulcers increased with increasing cumulative mean levels of nighttime ambient noise. With increases in the IQR of nighttime noise, the risk rate increased significantly by 12% for gastric ulcers and 17% for duodenal ulcers, based on the fully adjusted model.



Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Pohl, Gabriel and Hübner [44]	212 (1st phase) and 133 (2nd phase)	General mental indisposition; reduced performance and work capacity; lack of concentration; fatigue; voltage; nervousness; dizziness; irritability; indisposition; reduced sleep quality; annoyance	A total of 212 persons participated in the first survey; nearly two-thirds (133 persons) remained in the second. Accordingly, a third dropped out (“dropouts”; 79 participants). Indeed, dropouts differed statistically from the other participants only in terms of education level and household size. The remaining participants had higher education levels and slightly larger households compared to the dropouts (small effect size for each). These socio-demographic variables had no significant influence on the central stress and attitude indicators; significant differences in the central attitude and annoyance assessments were not apparent. Longitudinal study, based on the methodology of stress psychology with noise measurements, in which residents of a wind farm in Lower Saxony were interviewed on two occasions (2012, 2014), using audio equipment to record irritating noises. Several residents complained of physical and psychological symptoms due to traffic noise (16%) and wind turbine noise (10%; two years later, 7%), which allowed the assessment of some symptoms caused by noise exposure.	Noise from low-frequency wind turbines (<100 Hz).	Participants reported more symptoms in 2012 than in 2014. From 2012 to 2014, sleep disorders decreased and symptoms of impaired performance were not repeated. Only a few participants showed evidence of low-frequency (<100 Hz) wind turbine (WT) noise effects: in 2012, 8.5% reported feelings of pressure related to wind farms and 6.1% experienced vibrations in the body. The annoyance experienced induced by feelings of pressure or vibrations was slightly greater in 2012. Symptoms of dizziness were not observed. The participants had more symptoms and greater irritation due to traffic noise than to wind noise.
2018	X. Wang, Lai, Zhang and Zhao [75]	6 (3 exposed, 3 unexposed) Bama pigs	Effects on the blood–brain barrier (BBB)	Investigation of the effect of noise exposure on the blood–brain barrier (BBB). Healthy male Bama pigs were randomly divided into a noise exposure group and a control group (no noise) for 30 min. After exposure, brain imaging was performed using computed tomography and fluorescent images.	Low-frequency noise (50, 70, 100, and 120 Hz at 140 dB).	The BBB permeability test showed that 50, 70, and 100 Hz noise exposure at 140 dB increased the BBB permeability, and the BBB opening at 70 Hz was more severe and reversible. Tomographic images demonstrated that noise-induced opening of the BBB did not cause intracerebral haemorrhage.
2018	Suzuki, Suzuki, Onishi and Penido [49]	110	Tinnitus and LFN discomfort	Classification of persistent tinnitus and its comparison with pure tone or noise, high or low pitch, presented to the patient by the sounds of the audiometer. Participants were subject to inclusion and exclusion criteria. The following evaluations were performed on patients: otorhinolaryngological, audiological, Pitch Matching and Loudness, Visual Analogue Scale, Tinnitus Handicap Inventory, and Minimum Masking Level.	Three types of noise: white noise (WN), narrow band low frequency (LFNB) at 500 Hz, and narrow band high frequency (HFNB) at 6000 Hz.	A total of 181 tinnitus complaints were identified, in which the presence of pure tone type tinnitus was observed in 93 (51%) of the responses (4 from low pitch and 89 from high pitch) and from noise in 88 (49%) of the responses (15 low frequency and 73 high). For tinnitus with low-frequency sensation, 19 responses were determined, while for high-frequency sensation, 162 responses were determined. Visual Analogue Scale average of 5.47 for tinnitus similar to pure tone, and 6.66 for that similar to noise. Average Loudness for tinnitus similar to the pure tone of 12.31 dBNS, and for that similar to the noise of 10.54 dBNS.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2018	Paunović, Jakovljević and Stojanov [76]	112 (82 women and 30 men, aged 19 to 32).	Blood pressure; haemodynamic events	Study divided into three 10-min phases: resting in quiet conditions before noise, exposure to traffic noise, and resting in quiet conditions after noise. Measurement of blood pressure, heart rate, and haemodynamic parameters (cardiac index and total peripheral resistance) with a chest bioimpedance device. Use of four statistical models to answer the study questions.	Exposure to noise: resting in quiet conditions before noise (Leq = 40 dBA); exposure to noise registered in traffic (Leq = 89 dBA); resting in quiet conditions after noise (Leq = 40 dBA).	Blood pressure decreased during the quiet phase before noise, increased in the first minute of exposure to noise, then gradually decreased at the end of exposure to noise, and continued to decrease to baseline values after exposure to noise. The cardiac index showed a gradual decrease throughout the experiment, while the total vascular resistance increased steadily during and after exposure to noise.
2019	Negishi-Oshino et al. [77]	Rats	Irreversible imbalance with structural damage to the otoconial membrane	Assessment of rats' imbalance due to acute exposure to LFN. The exposed rats also showed decreased cervical vestibular evoked myogenic potential (cVEMP) with impaired vestibular hair cell activity.	LFN with a frequency of 100 Hz at 85, 90, or 95 dB.	The results of this study demonstrate that acute exposure to LFN at 100 Hz at 95 dB for just 1 h caused irreversible imbalance in rats with structural damage to the otoconial membrane, as the target region for the LFN-mediated imbalance, which could be rescued by Hsp70.
2019	Lee, Park, Jeong, Choung and Kim [50]	400	Discomfort and sensitivity to noise; blood pressure; annoyance due to noise	The study recruited healthy residents aged between 20 and 60 years. Effects of exposure to transport noise on blood pressure in adult residents of multi-storey residential buildings, modification of the effects of discomfort from and sensitivity to internal noise, and self-assessed associations between transport noise and blood pressure. Measurement of noise levels at the top of buildings for 24 h, forecasting the levels of each unit in the house for different sources and periods using noise maps. Conducting adjusted linear regression analyses to estimate associations between noise exposure levels and systolic blood pressure (SBP) and diastolic blood pressure (DBP). Conducting a questionnaire with questions about annoyance from and sensitivity to noise and sociodemographic variables.	Exposure to noise (Lden, LDay, and LNight).	General noise (road traffic and rail noise) and road traffic showed stronger associations with SBP than with DBP, while rail noise had similar associations with SBP and DBP. Stronger associations were estimated for participants who reported higher ratings of annoyance by internal noise. The results support the hypothesis that long-term exposure to transport noise is associated with higher blood pressure in adults living in multi-storey residential buildings.
2019	Scherer and Formby [78]	151	Tinnitus retraining therapy (TRT); sound therapy (ST); tinnitus-specific educational counselling (TC)	Comparison of the effectiveness of TRT and its components, ST and CT, with the standards of care (SoC) in reducing the negative effect of tinnitus on quality of life. Study carried out in 6 military hospitals, in the office and in a data coordination centre, among active, retired, and dependent military personnel with functionally adequate hearing sensitivity and moderate to severe subjective tinnitus, with the objective of treating the military.	LFN (tinnitus).	There were few differences between treatment groups. About half of the participants showed clinically significant reductions in the effect of tinnitus.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Poulsen et al. [45]	Residences between 20 and 40 inhabitants	Annoyance; sleep disorders; depression	Evaluation of the evolution of medical prescriptions related to anxiolytics and antidepressants ingested by the populations that lived near the wind turbines, in an analysis that lasted two years (2012 to 2014). A total of 7256 wind turbines (WT) was considered in noise modelling. The authors collected information on model, type, height, and operational settings. Each WT was classified into one of 99 noise spectra classes, with detailed information on the noise spectrum from 10–10,000 Hz in thirds of octaves for wind speeds of 4–25 m/s.	Exposure to outdoor wind turbine noise (WTN) at night (<24, 24 to <30, 30 to <36, 36 to <42, and ≥42 dB) and nighttime low frequency indoor WTN (<5, 5 to <10.10 and <15, and ≥15 dB).	High levels of outdoors WTN associated with use of anxiolytics and antidepressants among the elderly, suggesting that WTN may be potentially associated with sleep and mental health.
2019	Tao, Wang, Zou, Li and Luo [51]	100	Irritation and sensitivity to noise	Assessment of noise irritation in the metro deposit and the influence of noise in adjacent residential buildings. Conducting a questionnaire with people who worked at the metro station and made field measurements, both at the metro station and in the adjacent residential buildings.	LFN and HFN (31.5, 63, 125, 250, 500, 1000, 2000, 4000, 8000, and 16,000 Hz)	Of respondents, 96% are disturbed by the noise and 31% of them feel that the impact of the noise is serious. They found that there is a problem of annoyance due to low-frequency noise. The authors evaluated that the noise level caused by the fans decreases with the height of the floors and that the shorter the distance between the building's fans and ventilation, the more severe the impact of the noise. They concluded that, with the increase in the distance to the noise source, the noise attenuation rate increases.
2019	Poulsen et al. [64]	717,453	Myocardial infarction (MI), stroke	The authors used the Danish Civil Registration System to identify the study cohort, defined as all adults (aged 25–84 years) who lived in one of these inclusion dwellings any time between five years before the erection of the first neighbouring WT and the end of 2013. Assessment of the impact of MI and stroke risk when there is long-term exposure to noise from wind turbines. Based on hospital and mortality records, an analysis was made of the number of cases of myocardial infarction and stroke that existed in homes located around wind turbines.	Exposure to wind turbine noise (WTN) at night outdoors (≥24 dB) and nighttime low frequency indoor WTN (≥5 dB; 10–160 Hz)	High long-term exposure to noise from wind turbines is associated with an increase in myocardial infarction and strokes.
2019	Hansen, Nguyen, Zajamšek, Catcheside and Hansen [55]	9 (residences) A total of 8716 and 8972 10 min samples of outdoor and indoor data	Annoyance	The outdoor measurements carried out at 9 different residences located between 1 and 9 km from the nearest wind turbine of a South Australian wind farm (37 operational turbines), each with a rated power of 3 MW. The wind farm is positioned along the top of a ridge, and the wind turbine hub height relative to the residences varies between 85 and 240 m. At all residences, the indoor measurements were taken in a room that faced as closely as possible towards the wind farm and the windows were closed. The presence of amplitude modulation in the noise of wind farms results in increased annoyance and possible interruptions in sleep. The study investigated the prevalence of this characteristic present in homes close to the wind farm.	-	During the night, audible amplitude modulation occurred in homes located 3.5 km from the wind farm up to 22% of the time. This had important implications for possible sleep disruptions and annoyance due to the wind farm by audible amplitude modelling, particularly as ambient noise levels in rural South Australia can be as low as 15 and 5 dBA, outdoors and in closed areas, respectively.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Phadke, Abo-Hasseba, Švec and Geneid [79]	140 (between 21 and 56 years)	Voice disorders: dysphonia; neck pain; vocal effort	This study aimed to identify possible correlations between the vocal symptoms of teachers and their perception of noise, the locations of schools, as well as the locations and conditions of their classrooms. They carried out a questionnaire, whose answers were analysed statistically, with questions about the severity and frequency of their voice symptoms, noise perception, and the locations and conditions of their schools and classrooms.	-	Teachers experienced severe dysphonia, neck pain, and increased vocal effort with weekly or daily recurrence. Among the teachers who participated in the study, 24.2% felt that they were always in a noisy environment, with 51.4% of the total participants reporting having to raise their voices. The most common sources of noise were student activities and conversations in the teachers' own classrooms (61.4%), noise from adjacent classrooms (52.9%), and road traffic (40.7%).
2019	Smith, Ögren, Ageborg Morsing and Persson Waye [47]	23	Disorders in physiological sleep; heart rate	The study volunteers slept for five nights in a sound environment laboratory, which was furnished like a typical apartment. The participants were instructed to start trying to fall asleep at 23:00 each evening and were woken with an alarm call at 07:00 each morning. Sleeping at times outside of this 8 h period was not permitted. Participants could follow their normal daytime routine but arrived at the laboratory by 20:00 each evening to allow time for relaxation and the setup of the sleep-measuring equipment. Caffeine was prohibited after 15:00 each day, and alcohol was prohibited at all times. Evaluation of the effects on physiological sleep resulting from the exposure of participants to railway noise for five consecutive nights, using polysomnography and questionnaires. Heart rate was measured by electrocardiography.	Frequencies of 35, 40, and 45 dB.	No significant differences were found in the overall structure of sleep disorders between the reference tests and the 35 dB night tests. Regarding cardiovascular diseases, they observed that the noise spectrum with amplitude frequencies greater than 100 Hz led to increases in heart rate for noise levels equal to or greater than 35 dB.
2019	Zare et al. [80]	75	Serum cortisol concentration	The study aimed to examine the effect of sound pressure level (SPL) on the serum concentration of cortisol at three different times during the night shift, in an industrial and mining company. Participants were divided into three groups (one control and two groups of cases, with 25 each). Dosimetry was adopted to evaluate SPL equivalents using a TES-1345 dosimeter. The serum cortisol concentration was measured using a radioimmunoassay (RIA) test in the laboratory.	Exposure levels of 67, 80, and 92 dB.	The results indicated a downward trend in the serum cortisol concentration of the three groups during the night shift. SPL and exposure time significantly affected cortisol concentration. Age and body mass index had no significant influence on the concentration of cortisol. It was concluded that an increase in SPL leads to an increase in serum cortisol concentration.

Table 1. Cont.

Year	Studies	Studies Evaluated				
		Number of Participants/Sample	Main Human Health Effects	Methodology	Exposure	Outcomes
2019	Moradi et al. [52]	28 (14 females and 14 males)	Stress; noise sensitivity; annoyance	The study was conducted on students at different levels of educational programmes in an acoustic room in the School of Public Health, Iran University of Medical Sciences, in 2016. The study subjects were comprised of 14 female and 14 male university students who met the following entrance criteria: normal sense of hearing (hearing loss less than 20 dB) and no sensitivity to noise. Study of the effects of noise on selective attention of university students. They carried out questionnaires to determine students' personality traits (extroverted or introverted) and analyse their stability or instability. Evaluation of the level of sensitivity to noise, using the Weinstein sensitivity scale, and the level of selective attention, using the DUAF test.	80 dBA noise at 4000 Hz frequency	Introverted participants are more sensitive to noise than extroverts. The most noise-sensitive participants showed greater stimulation during exposure to noise, which led to increases in incorrect responses and a decrease in mental performance. The participants' personal traits are related to their annoyance due to noise. Stress due to noise improves selective attention in outgoing individuals.
2019	Alves, Silva and Remoaldo [53]	200 questionnaires + 62 measurements of noise levels + 14 adapted audiometric tests	Annoyance from LFN; audibility threshold	Analysis of the effects of exposure to low-frequency noise pollution, emitted by poles and power lines, on the well-being of the population, based on a study of “exposed” and “unexposed” individuals in two areas. Conducting audiometric tests adapted to complement the analysis and determine the audibility threshold of the volunteers. Sound level measurement and sound recording (at a distance of 5 m from the source), as well as the adapted audiometric performance test.	Frequency range between 10 and 160 Hz	The “exposed” area has higher sound levels and, consequently, more welfare and health problems than the “unexposed” population. Audiometric tests also revealed that the “exposed” population appears to be less sensitive to low frequencies than the “unexposed” population.



Van Kamp et al. [40] explored the determinants of annoyance due to tinnitus, that is, low-frequency noise. This article explored the relationship between contextual, situational, and personal characteristics with the level of annoyance due to low-frequency noise, based on secondary analysis of existing data. The results obtained showed significant differences between cities and neighbourhoods, a significant association between background noise levels during the day, and an inverse effect at night. The level of background noise, sensitivity to noise, and dissatisfaction with the residential situation were strongly associated with higher levels of annoyance. Based on the association with nighttime background levels, it was found that the lower the levels, the greater the annoyance due to tinnitus [40].

The main results of the studies by Blair et al. [46] and Pohl, Gabriel, and Hübner [44] have already been described in Section 3.2. Blair et al. (2018) found that the average noise levels during the construction and drilling of an oil and gas well exceeded the levels associated with health annoyance; that is, they were above 50 dBA or 60 dBC [46]. Pohl, Gabriel, and Hübner [44] found that the annoyance experienced was very low and that symptoms of dizziness were not observed in this study.

Ishitake [43] carried out a study regarding annoyance due to wind energy, with a questionnaire carried out for the analysis. In this survey, it was observed that 81% answered that they did not feel annoyed due to the generation of wind energy, while 8% answered that they felt very or a little annoyed [43].

The results related to noise annoyance determined by Moradi et al. [52] and Lee et al. [50] have already been covered in Section 3.3. However, in addition to what was mentioned earlier, Lee et al. [50] concluded that the closest associations between noise exposure and blood pressure were estimated for participants who reported higher classifications of annoyance, irritation, and sensitivity to noise. This indicates that the annoyance from internal noise and sensitivity to noise develop regardless of the level of exposure to external noise. The authors also found that people who were sensitive to noise and participants most irritated due to internal noise had significantly higher SBP and DBP than others [50].

Finally, Hansen et al. [55] determined an audible internal low-frequency tone modulated in amplitude in the frequency of the passage of the blade for 20% of the time up to a distance of 2.4 km. The audible amplitude modelling took place for a similar percentage of time between the wind farm's percentage power capacities of 40% and 85%. The modelling of the audible amplitude in the interior still occurred for 16% of the time at a distance of 3.5 km. At distances of 7.6 and 8.8 km, audible amplitude modelling was only detected on one occasion. During the night, audible amplitude modulation occurred in homes located 3.5 km from the wind farm up to 22% of the time. This had important implications for possible sleep disruptions and annoyance due to the wind farm by audible amplitude modelling, particularly as ambient noise levels in rural South Australia can be as low as 15 and 5 dBA, outdoors and in closed environments, respectively [55]. Although the geometric dimension of the room was not considered in the study by Hansen et al. [55], it is an important variable for this type of study.

### 3.5. Hearing Loss

Although hearing loss is reported as an effect on human health due to exposure to noise, the studies analysed were not totally conclusive regarding hearing loss due to low-frequency noise.

Selander et al. [58] assessed the impairment of children's hearing when occupational noise exposure occurred during pregnancy. They carried out a prospective cut study and determined cases of hearing impairment in children based on medical records and interviews conducted with prenatal unit teams, in a sample of births between 1986 and 2008 [58]. With the information collected, they established risk models to estimate data related to the impairment of children's hearing when exposed to noise with a strong low-frequency component during pregnancy [58].

Wang et al. [59] evaluated the exposure to noise from traffic and established a comparison regarding the potential risk of hearing loss for residents.

Ohgami, Oshino, Ninomiya, Li, and Kato [60] and Venet et al. [61] addressed experimental studies in rats and the assessment of hearing loss when they are exposed to low-frequency noise.

Ohgami et al. [60] carried out a survey of experimental studies carried out on rats when exposed to low-frequency noise and made an assessment of associated hearing loss. In this review, the imbalance in rats when exposed to noise was also assessed [60]. However, Venet et al. [61] effectively performed experimental tests on rats, testing the hearing of the rats with equipment (cubic DPOAEs – Distortion product otoacoustic emissions) when the animals were exposed to low-frequency noise combined with carbon disulfide (CS<sub>2</sub>). The rats' hearing was tested before, during, and after exposure to noise, and blood samples were taken to assess the exposure to CS<sub>2</sub> [61].

Zhou and Fu [62] performed measurements to assess levels of total serum bilirubin, performed tympanometry, and examined pure tone thresholds at low or high frequencies associated with adolescents with different subtypes of sensorineural hearing loss (SNHL), using binary or multinomial logistic regression models.

Regarding the results, Selander et al. [58] divided the sample into three parts: (i) mothers who worked full time, (ii) mothers who worked part-time, and (iii) mothers absent from work during pregnancy. They observed an increased risk of hearing impairment in children after exposure to occupational noise during pregnancy. In the sample considered in the study, they determined adjusted risk rates for 75–84 dBA and  $\geq 85$  dBA, compared to  $<75$  dBA, of 1.05 and 1.27, respectively. They observed 60, 42, and 14 highly exposed cases for all hearing disorders, sensorineural hearing loss, and tinnitus, respectively. They also determined that the adjusted risk rate for exposure to occupational noise  $\geq 85$  dBA compared to  $<75$  dBA was 1.82, based on 14 exposed cases and 2222 cases with low exposure. However, the corresponding relative risks (HR) were 1.25 for high exposure among mothers classified as part-time and 0.74 for women who had more than 153 days of absence from work during pregnancy or who were not working at the time of the interview. Finally, [58] found that, among mothers working full-time, high exposure to occupational noise was associated with an increased risk of hearing impairment. The authors also observed an increase in the risk of hearing impairment of the foetus for the case of mothers who worked part-time. On the other hand, [58] did not find an increased risk of hearing impairment in children whose mothers reported exposure to occupational noise in early pregnancy but were absent from work during pregnancy. Thus, the fact that the mother's risk increases with presence at work proves that occupational noise during pregnancy is associated with an increased risk of hearing impairment in children [58].

Wang et al. [59] observed that the mean annual Leq over 24 h in the flow and commercial channel areas was  $71.2 \pm 1.0$  and  $70.0 \pm 2.6$  dBA, respectively, revealing a potential risk of hearing loss among residents [59].

Ohgami et al. [60] determined that a sound stimulus of 375 Hz, a frequency below the audible range of rats, causes a hearing reduction in wild type rats, while in rats with an abnormal otolytic morphology, no hearing loss was observed.

Venet et al. [61] observed that, after the period of contact with noise, exposure due to noise alone caused a hearing reduction in an area of frequency that varied between 3.6 and 6 kHz. The damaged area was approximately one octave (6 kHz) above the highest frequency of the exposure noise (2.8 kHz). Since the maximum auditory sensitivity is located at around 8 kHz in rats, exposure to low-frequency noise can affect the cochlear regions that detect mid-range frequencies. Exposure to CS<sub>2</sub> (250 ppm or more) and noise increased the extent of the damaged frequency window, as a significant reduction in hearing was measured at 9.6 kHz in these conditions, with an increase in CS<sub>2</sub> concentrations [61].

Finally, Zhou and Fu [62] determined that total serum bilirubin levels were associated with any subtype of high-frequency sensorineural hearing loss (SNHL). However, they observed that total serum bilirubin levels were not significantly associated with any low-frequency SNHL (bilateral or unilateral; LPTA greater or lesser) [62].

### 3.6. Cardiovascular Disease/Heart Rate

Cardiovascular diseases (variations in heart rate) are another effect on human health due to exposure to low-frequency noise.

Walker et al. [63] and Smith et al. [47] used electrocardiograms to measure participants' heart rates when they were exposed to low-frequency noise. In the case of [63], participants were also subjected to blood pressure measurements and saliva samples were collected before, during, and after exposure to noise. Based on linear regression models, the differences between the results obtained before, during, and after the noise were examined [63]. In the case studied by Smith et al. [47], the authors measured participants' heart rates when they were exposed to railway noise.

Poulsen et al. [64] assessed the impact of the risk of myocardial infarction and stroke when there is long-term exposure to noise from wind turbines. Based on hospital and mortality records, they analysed the number of cases of myocardial infarction and stroke in homes located around wind turbines [64].

Wang et al. [59] evaluated the exposure to noise from traffic and established a comparison in relation to the prevention threshold established for cardiovascular diseases.

The methodology adopted by Blair et al. [46] has already been referenced in Section 3.2. According to [46], noise levels above 50 or 60 dBA can cause cardiovascular effects.

Rossi et al. [65] measured the changes in cognitive and physiological parameters—in particular, the response time and heart rate—of participants when exposed to tonal noise (silence or multi-band stochastic noise), low-frequency and low-frequency stochastic noise, and low-frequency stationary noise with regular amplitude modulation.

As for the results, Walker et al. [63] concluded that during exposure to noise, the reductions in heart rate variation (HRV) were 19% with low-frequency power and 9.1% according to the mean square difference between the intervals of adjacent normal heartbeats (RMSSD). On the other hand, during exposure to low-frequency noise, the reductions in HRV were 32% with high-frequency power, 34% with low-frequency power, and 16% according to the standard deviation of the adjacent normal heartbeat intervals (SDNN). Finally, during exposure to low-frequency noise, the reductions in HRV were 21% with low-frequency power, compared to that with exposure to noise. As a general conclusion, [63] determined that exposure to noise—and, in particular, low-frequency noise—negatively affects heart rate variation, which affects health in terms of cardiovascular diseases [63].

Part of the results observed by [47] and [46] have already been described in Section 3.2. Regarding cardiovascular diseases, [47] also observed that the noise spectrum with amplitude frequencies greater than 100 Hz led to increases in heart rate for noise levels equal to or greater than 35 dB and increasing the probability of excitation at a noise level of 45 dB. Meanwhile, [46] concluded that continuous weighted noise above the 50 dBA threshold can cause health effects, such as an increased risk of cardiovascular disease and hypertension [46].

Wang et al. [59] concluded that the average annual equivalent noise levels (Leq, 24 h) were  $66.4 \pm 4.7$  dBA, which exceeded the threshold established for the prevention of cardiovascular diseases.

Rossi et al. [65] concluded that, on average, participants decreased their response times in noise conditions compared to silence conditions; that is, there was evidence of increasing stress, according to the excitation theory. In this study, they observed that participant exposure to low-frequency noise 1 and 2 (LFN1 and LFN2, respectively) produced cognitive stress comparable to stochastic multi-tonal broadband noise (BBN). Subdividing the participants into extroverts and introverts, they demonstrated that LFN1 and LFN2 produced higher stress effects in introverted participants than BBN noise on cognitive performance, but had no effect on extroverts. In addition, heart rates increased significantly in the introverts during the tests, compared to those in a condition of silence before the start of the Stroop effect, while the extroverts showed no changes [65].

Finally, [64] concluded that, for external nighttime noise from long-term-operated wind turbines greater than 42 dBA and low-frequency noise from internal wind turbines greater than 15 dBA, the risks were slightly higher for myocardial infarction than those from exposures less than 24 and 5 dBA, respectively, but the number of cases was low in the groups with the highest exposure. As for strokes, all low-frequency noise levels from internal wind turbines were associated with adjusted incidence rates close to 1.0, while for noise from external wind turbines, the adjusted incidence rates were greater

than 1.0 for the groups of intermediate exposure, and lower than the unit for the groups with greater exposure. High long-term exposure to wind turbine noise was associated with slightly elevated point estimates for myocardial infarction, for both exposure to outdoor wind turbine noise and exposure to potentially more biologically relevant indoor wind turbine noise [64].

#### 4. Conclusions

In the present research, 39 articles addressing exposure to low-frequency noise and its impacts on human health were analysed in depth. The articles were divided into categories according to the emitting source of the noise, and the effects on human health were addressed. Regarding the emitting source, there was a greater number of articles addressing issues related to environmental noise and wind turbine sources.

As for the effects generated on human health, there was a greater number of articles referring to effects on sleep disorders, discomfort, sensitivity to and irritability from noise, annoyance, hearing loss, and cardiovascular diseases, and these effects were analysed in more detail in this article.

In the case of impacts on sleep disturbance, a dependence on the distance to the source of noise was observed; that is, the greater the proximity to the source, the greater the effects on sleep, as established by [41,43]. With long-term noise exposure, noise sensitivity is lower, which reduces the effects on sleep disturbance, as determined by [44]. Exposure to noise at night disturbs sleep and causes more frequent awakenings, less deep and non-continuous sleep, and morning tiredness in the participants, as discussed by [42,47].

With increasing age, especially for people over the age of 65, exposure to noise causes sleep disturbances, which adds to the demand for sleeping pills and antidepressants, as determined by [45].

According to [46], the average noise levels exceeded the levels for sleep disturbances established for human health.

Discomfort, irritability, and sensitivity to noise were among the effects analysed. Discomfort due to noise depends on the proximity of people to the emitting source, making their sensitivity to noise different. Tao et al. [51] proved that with increased distance from the noise source, the noise attenuation rate increases, due to the fact that they feel uncomfortable and disturbed by the low-frequency noise. Alves et al. [53] observed that constant exposure to noise makes people less sensitive to the perception of noise compared to people who are more distant from the emitting source, necessitating greater sound intensity for the perception of low-frequency noise. This sensitivity of people to noise leads to a decrease in their mental performance, as ascertained by [52], and an increase in blood pressure, especially when people are more irritated, as noted by [50]. Huang et al. [48] observed that the convenience of sound does not increase with distance from the ground for buildings of great height, such as skyscrapers, and that exposure to this noise has an impact on the annoyance and discomfort of its residents. However, Suzuki et al. [49] noted that there was a low percentage of people who were uncomfortable with the presence of low-frequency noise compared to the presence of high-frequency noise.

Background noise levels and sensitivity to noise are associated with higher levels of annoyance; that is, they exceed the thresholds established for this health effect, as indicated by [40,46,54]. Moradi et al. [52] also confirms that the level of annoyance when exposed to noise varies with people's personal traits, with greater sensitivity and annoyance in introverts than in extroverts. Exposure to noise from rail transport is associated with the blood pressure of exposed people, which indicates that people with greater sensitivity to noise, greater annoyance, and more irritability have higher blood pressure values than those who do not have these symptoms, as studied by Lee et al. [50]. Thus, the annoyance increases with exposure to noise, especially when people experience unconventional noise. As described by [81], a greater disturbance is observed due to railway noise in people who are not normally exposed to this noise source. Hansen et al. [55] noted that noise levels had implications for annoyance due to exposure to the wind farm. However, both Pohl et al. [44] and Ishitake [43] determined that people do not feel annoyed due to exposure to wind energy noise. New

methodologies for the evaluation of noise emitted by wind turbines could be used to provide new findings in this field [82].

Exposure to noise causes a potential risk of hearing loss in people subjected to it, as studied by Wang et al. [59] and Venet et al. [61]. Venet et al. [61] also determined that exposure to carbon disulfide (CS<sub>2</sub>) and noise caused a reduction in the auditory level when an increase in CS<sub>2</sub> concentrations was observed. Exposure to occupational noise during pregnancy was also a topic studied by Selander et al. [58] who proved that exposure to this type of noise is associated with the risk of increased hearing impairment in children, with greater relevance in mothers who worked full-time and part-time during pregnancy. Through experiments on rats, Ohgami et al. [60] observed a hearing reduction in wild type rats, in contrast to in rats with an abnormal autolytic morphology in which this hearing loss was not observed. However, studies were observed in which no effects associated with hearing loss were found with exposure to low-frequency noise, as ascertained by Zhou and Fu [62]. All studies analysed in this domain regarded low and high frequencies, revealing hearing loss in the samples exposed to high frequencies. Hearing loss due to low-frequency noise was not totally observed.

Finally, it was observed that exposure to noise—in particular, low-frequency noise—negatively affects the variation in heart rate, which harms health in terms of cardiovascular diseases, as it exceeds the levels established for the prevention of these diseases, as discussed by Walker et al. [63], Wang et al. [59], and Blair et al. [46]. According to Rossi et al. [65], heart rate increases significantly in introverts compared to in a situation of silence, while extroverts show no change in their heart rate. Smith et al. [47] realized that the heart rate in people increased with greater exposure to noise. High long-term exposure to noise from wind turbines is associated with an increase in myocardial infarction and stroke, as studied by Poulsen et al. [64].

The literature review carried out constitutes a novelty in Portugal, whether in the social sciences or the more exact ones, such as environmental acoustics. It is expected that in future studies, this type of evaluation can be explored for a longer period and more sources of low-frequency noise emission. This may provide important data on low-frequency exposure and its effects on human health, as well as important information on the definition of limits for installing wind farms and other sources of low-frequency noise. While some type of impacts on health have not yet been analysed and continue to be an understudied field, the impacts studied can provide good advice for the planning field. Thus, these studies can point out good ways of minimising the influence on human beings and can constitute a good tool for the preventive dimension of planning.

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**From:** Eugene Younger <[eugene.younger@gmail.com](mailto:eugene.younger@gmail.com)>

**Sent:** Tuesday, February 20, 2024 8:28 AM

**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>

**Subject:** Sunset Amphitheater - Opposed

2024 FEB 20 AM 9:43  
OKLAHOMA CITY CLERK

You don't often get email from [eugene.younger@gmail.com](mailto:eugene.younger@gmail.com). [Learn why this is important](#)  
Hello,

I have been made aware of the proposed construction of an amphitheater northwest of the intersection of SW 15th and Sara in Yukon. I believe this project would have negative results to this local community including, but not limited to, issues related to noise and traffic, and home values specifically.

This area is appealing because it is a quiet place to raise a family. An amphitheater appeals to an environment of entertainment, which is solely antithetical. I have a child under two years old, and getting them to sleep is difficult enough without accounting for reverberation from a venue such as the proposed.

The possibility that this installation might increase local business is only in the event that completely new businesses move into the area to cater to these crowds. I can assure you that those attending an event there are unlikely to increase revenue for the civil engineering firm standing opposite the intersection.

Families desperate to leave the area will be more interested in selling their homes quickly rather than waiting for offers, resulting in lower sale prices. This shift in home value will encourage others to leave before losing out on, what is for many, their largest investment. This shift is likely to change the area from pleasant neighborhoods to low income housing. While this may be hypothetical, it is a distinct possibility with dire repercussions to the area overall, including the appeal of this proposed amphitheater.

I implore you to reconsider this proposal, and encourage those who would build in that area to adjust their focus to something that might foster a community rather than destroy it.

Thank you,  
Eugene Younger  
10417 Glasgow Dr.,  
Yukon, OK 73099



## Johnson, Thad A

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**From:** Johnson, Thad A  
**Sent:** Wednesday, March 27, 2024 1:51 PM  
**To:** Johnson, Thad A  
**Subject:** FW: Protest PUD-1983

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**From:** joni younts <[joniyounts@yahoo.com](mailto:joniyounts@yahoo.com)>  
**Sent:** Tuesday, March 26, 2024 1:25 PM  
**To:** City Clerk Email <[CityClerk@okc.gov](mailto:CityClerk@okc.gov)>  
**Subject:** Protest PUD-1983

You don't often get email from [joniyounts@yahoo.com](mailto:joniyounts@yahoo.com). [Learn why this is important](#)

I, Joni Younts hereby protest PUD-1983 application by Mustang Creek Crossing LLC to rezone 810 South John Kilpatrick Turnpike.

My concern is on several levels. This arena is to be located near Mustang North Middle school and Mustang Creek Elementary School. The increased traffic and noise around the SW 15<sup>th</sup> Street and Mustang Road would be very disruptive to students and dangerous with the increased traffic as there are many students who cross SW 15<sup>th</sup> Street to and from school as well as parents dropping off and picking up their children as preparation for these concerts would begin before kids even get out of school. It could also interfere with the fluidity of the bus system as well.

The location is right in the middle of many residential areas as well. The estimated number of concerts expected, and the duration of the season (85) is preposterous because the noise level will be very disruptive to the residents, with the increased decibel level, 5db over city sound ordinance and extended noise timeframes. It has been reported that the sound and vibrations from these types of events travel miles away.

I realize it is a great opportunity for increased revenue, and drawing attention to the Yukon/OKC area for entertainment, however, it would make much more sense to have this at the edge of the any town in Oklahoma, thus not disturbing the lifestyle of the residents who have chosen to live in this area, purchased their homes here, and enrolled their children in school because it is a great place to live. Yukon is already bursting at the seams with new residences, let's not make them sorry they chose this area.

Let me ask you, how would you feel if your family was subjected to this concert arena in your backyard?

Your consideration of this protest is greatly appreciated.

Joni Younts  
1504 Forrest Ridge Way  
Yukon, OK 73099  
405.488.4751