



Welcome to the Oklahoma Department of Transportation's Virtual Open House for the proposed reconstruction of SH-51 (also known as 6th Avenue) in Stillwater, Oklahoma, in Payne County. To keep the public informed about this proposed transportation improvement project, ODOT, the City, and the Consultant team (led by EST, Incorporated), have developed this on-line presentation. Under normal circumstances, this information would be presented at an in-person Open House, but due to ongoing concerns over the spread of COVID-19 and to protect the safety of the public, the City and ODOT have opted to host this Virtual Open House.

Purpose of this Open House

The purpose of this Virtual Open House is to introduce this proposed project to the public.

Specifically, this presentation will:

- Present the Project Definition and Background
- Discuss Supporting Efforts to this Project
- Outline Existing Conditions & Improvement Opportunities
- Highlight Project Constraints
- Present Construction Phasing
- Offer Opportunity for Public & Stakeholder Input
- Outline the Next Steps



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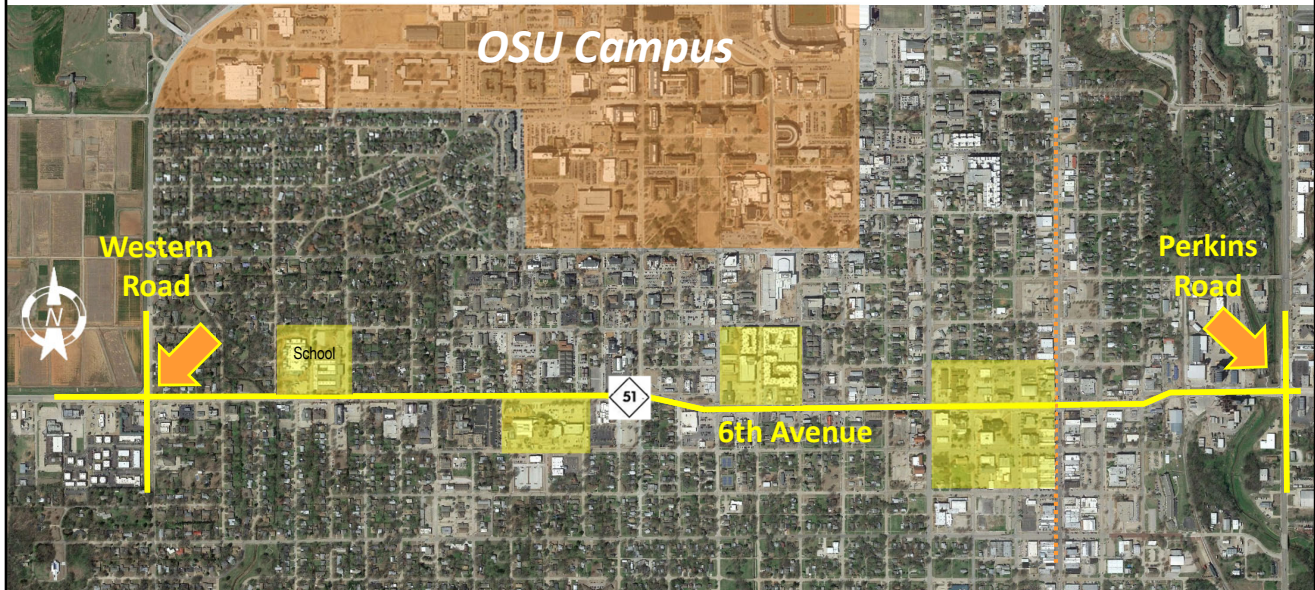
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- Present the Project Background
- Discuss Supporting Efforts to this Project
- Outline Existing Conditions & Improvement Opportunities
- Highlight Project Constraints
- Present initial ideas of Corridor Construction Phasing
- Provide you the opportunity to give your thoughts to the team, and then...
- Outline the Next Steps in the project development process

Project Definition and Background

Project limits

- The 6th Avenue Roadway Improvement Project is bounded on the west by of the intersection of SH-51/6th Avenue and Western Road and by Perkins Road intersection on the east. The length is approximately two miles and ties into the previously completed intersection improvement at the SH-51/US-177.



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Project Definition and Background

Purpose and Need of the Project

The purpose of this project is to provide improvements that address several vital needs within the corridor. The pavement is in poor condition, roadway drainage is poor, there is inadequate capacity for current and future traffic demand in addition to operational issues at corridor intersections, there are safety concerns for vehicles turning into and out of the numerous property driveways and there is inadequate, inconsistent, and non-ADA compliant pedestrian facilities within the corridor.



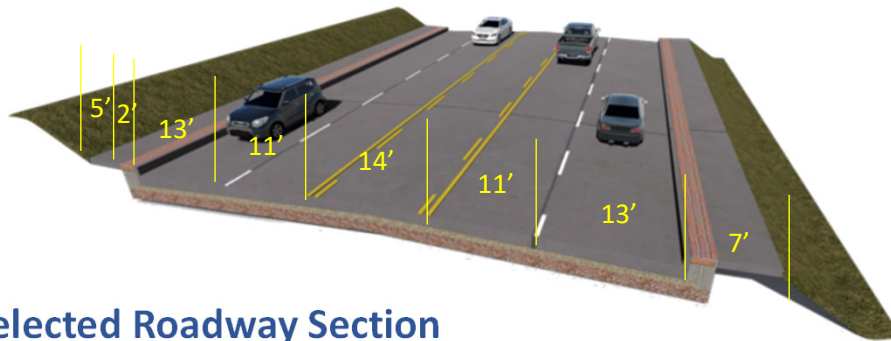
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Safety of both motorists and pedestrians is a driving force behind the need for this project. Additionally, the City of Stillwater experiences a significant increase in traffic during University and other community events, necessitating improvements to better manage traffic at during those events.

Project Definition and Background

Several roadway options previously studied by SRB, LLC in 2018 identified the following basic section as preferred:

- A 5-lane curb and gutter roadway, with a two-way left turn lane in the center and sidewalk on each side of SH-51
- Utility relocation strategies
- The selected option provides a 5-Lane Section placed at various offsets from the center of the existing roadway to maximize the avoidance of acquisition of any buildings and other items of interest, for the full length of the project.



Selected Roadway Section



In 2018, Smith, Roberts, Baldischwiler, LLC. (SRB), an engineering consultant to the City, developed conceptual plans for a 5-Lane roadway Section consisting of a center turn lane (sometimes referred to as a Two-way Left Turn Lane), two driving lanes each direction, and continuous sidewalks on both sides of the roadway. That study also evaluated utility relocation strategies. The selected option places the 5-Lane Section, as shown, at various offsets from the center of the existing roadway to avoid acquisition of any buildings and other items of interest within the corridor. This study was provided to ODOT for consideration in the development of the current project. This project will continue to build on this option.

Supporting Efforts –

Road Safety Audit



Click for Link to FHWA Road Safety Audit



6th Avenue Corridor Multimodal Evaluation



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In support of this project, ODOT, in partnership with the City, has begun a Road Safety Audit of the 6th Avenue Corridor. With the goal of Zero Deaths, ODOT is following the Federal Highway Administration’s guidelines in conducting this formal safety performance evaluation. Specifically, the FHWA guidelines requires a team of engineers and local stakeholders to be formed to examine the existing roadway and intersections for potential road safety issues and opportunities for improvement considering all road users. The Audit will focus on Roadway elements that may present a safety concern: to what extent, to which user, and under what circumstances are these concerns, and then identify opportunities to eliminate or mitigate identified safety concerns.

A second Supporting Effort is the multi-modal study commissioned by the City of Stillwater, which will consider multi-modal improvement opportunities in an expanded 6th Avenue Corridor. The study area is bounded by Hall of Fame on the north and 12th Avenue on the south and is focused on identifying opportunities to better accommodate pedestrian and bicycle trips, both east & west and north & south. This is a comprehensive study of potential routes and needed ADA improvements within the study area. Specific elements of this multi-modal study include the identification of origins and destinations of pedestrian and bike trips, on-street bike lanes (avoiding the 6th Avenue corridor), sidewalk improvements, ADA compliant curb ramps, and connections with other modes of travel. Results of this effort that specifically apply to the 6th Avenue Corridor will be incorporated into the design of improvements for this project.

More information on this Road Safety Audit and The Multi-modal study is available by clicking on the appropriate tab on the homepage.

The remainder of this presentation will now focus on the 6th Avenue Roadway improvement design effort.

Understanding Traffic

- 1: Collected Data of existing roadway and intersection operational conditions**
- 2: Analyzed current and future traffic volume data to identify capacity needs**
- 3: Collect and analyze 5-year crash data to identify safety patterns**
- 3: Evaluate multimodal accommodations**
- 4: Identify Improvement Opportunities:**
 - **Access Management**
 - **Intersections**
 - **Gameday Operations**
 - **Traffic Signals**



One of the first tasks the consultant team accomplished was to conduct a comprehensive Traffic Study. Elements of the Traffic study included collection of traffic data by physically counting traffic, collection of available crash data from ODOT, investigating current and proposed land use changes that would affect traffic this corridor, developing design traffic for 2020 and 2045, and identifying specific improvement opportunities for traffic control, intersection geometry and access management.

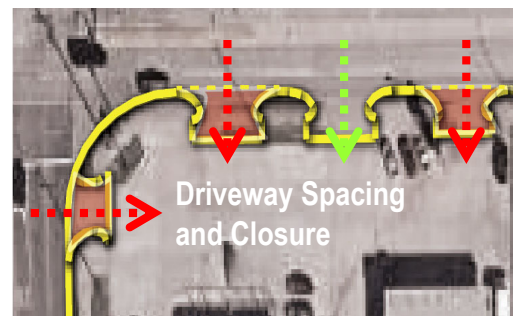
Improvement Opportunities



Access Management

- 1: Proactive management of vehicular access to adjacent land use
- 2: Evaluate intersection and driveway spacing, median treatments, right-of-way management, traffic control and turn lane design
- 3: Methods employed to reduce crashes, increase roadway capacity and shorten travel time include...

- Increase spacing between driveways and intersections
- Restrict turning movements
- Review sight distances to identify removable obstructions



One area of improvement is in Access Management. Access Management is a proactive strategy for the safe design of vehicular access points to and from private land parcels – in other words, the design and location of driveways. It considers intersection and driveway spacing, median treatments, right-of-way management, traffic control and turn lane design. The goal is to reduce crashes, increase roadway capacity and shorten travel time and may include...

- Increasing spacing between driveways and intersections
- Restricting turning movements
- Improving sight distances by removing obstructions

Improvement Opportunities

Intersections Improvements

- Western Road ←
- Willis Street
- Stanley Street
- Knoblock Street
- Duncan Street
- Lowry Street



Another area of improvement is in the operations of intersections. The following intersections were studied for capacity, geometry changes, turn lane improvements and signal improvements

- Western Road
- Willis Street
- Stanley Street
- Knoblock Street
- Duncan Street
- Lowry Street

In this regard, a significant effort has been given to potential improvements to the Western Road intersection

Improvement Opportunities

Intersections - a focus on...



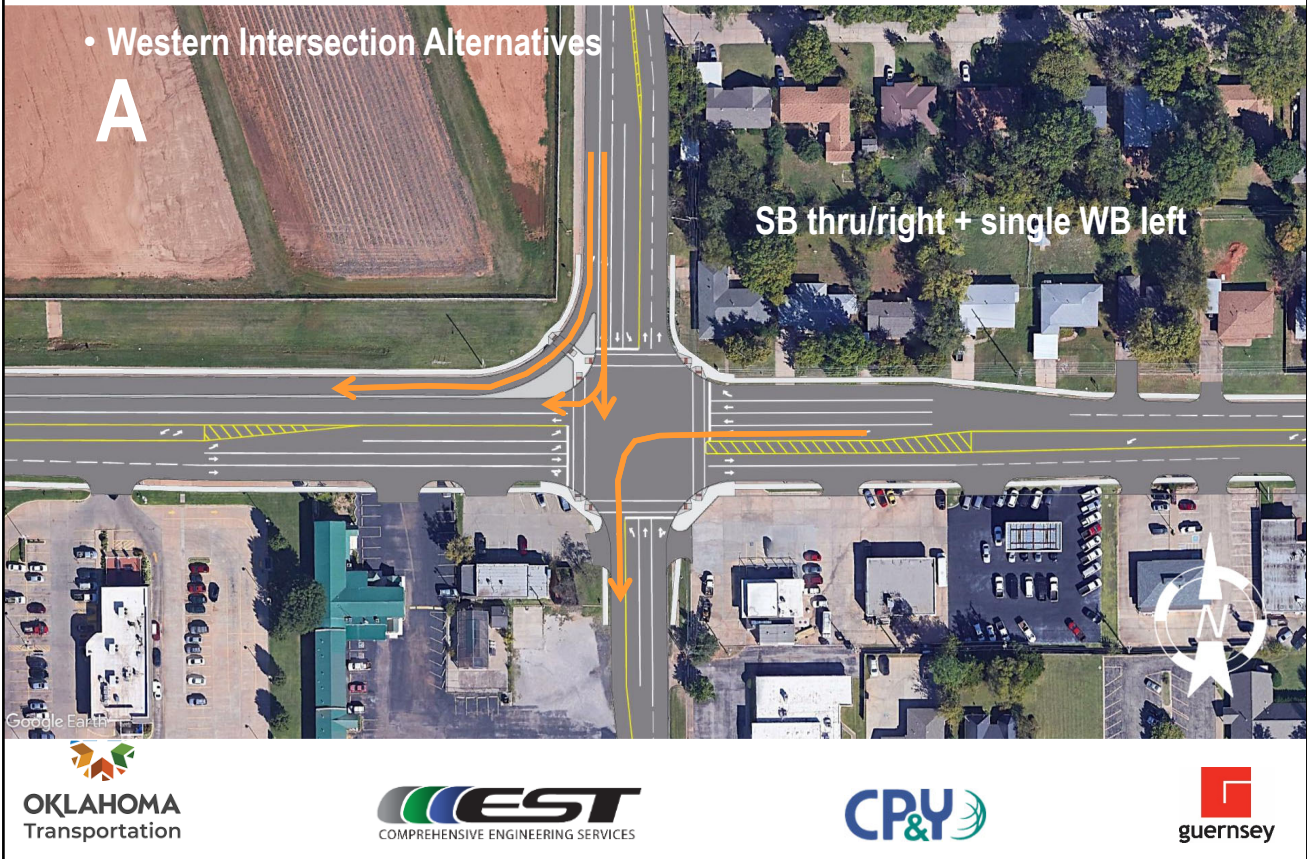
Western Road:

Mitigate queues on southbound Western especially on Game Day



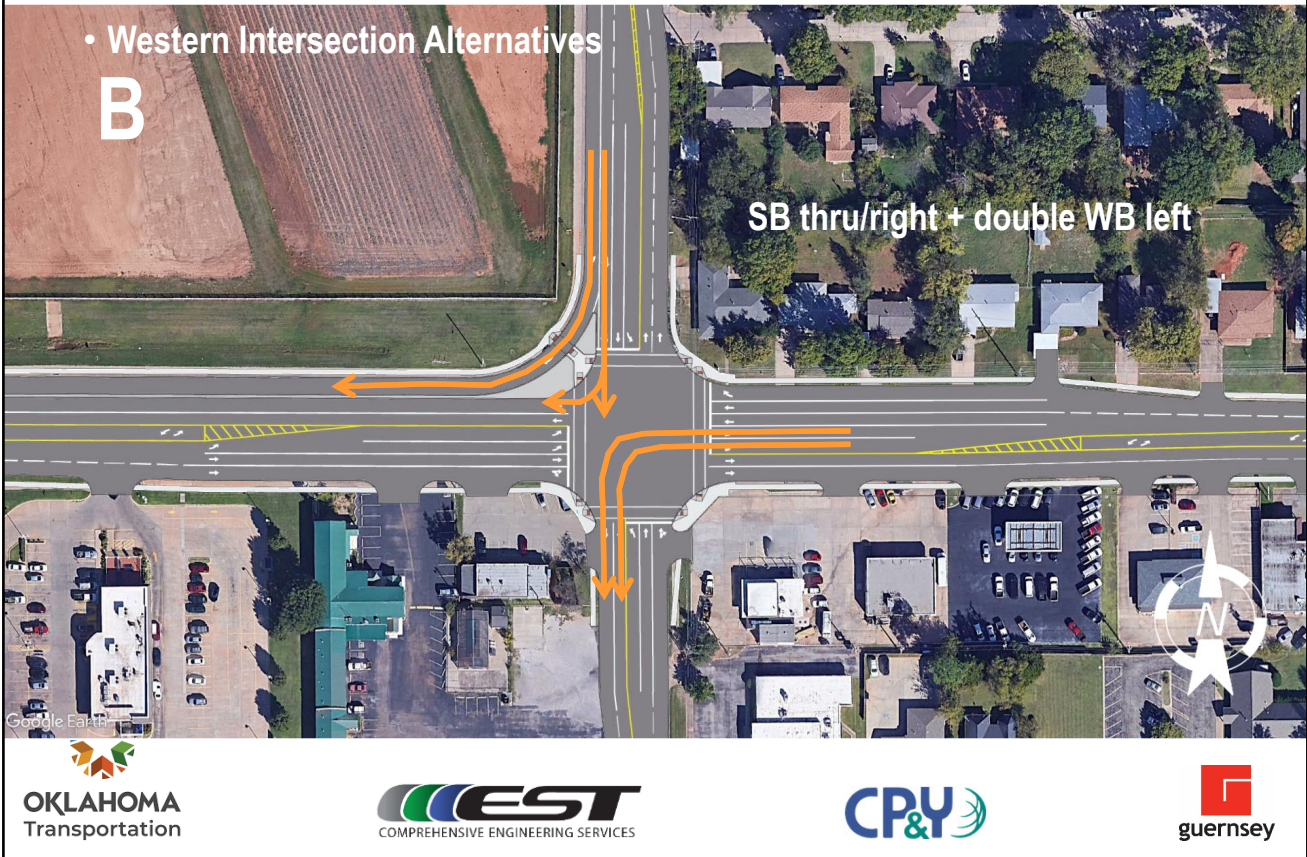
The goal for improving the Western Road intersection is focused on mitigating queues on the southbound approach to 6th Avenue especially on Game Day. Options studied include the following...

Improvement Opportunities



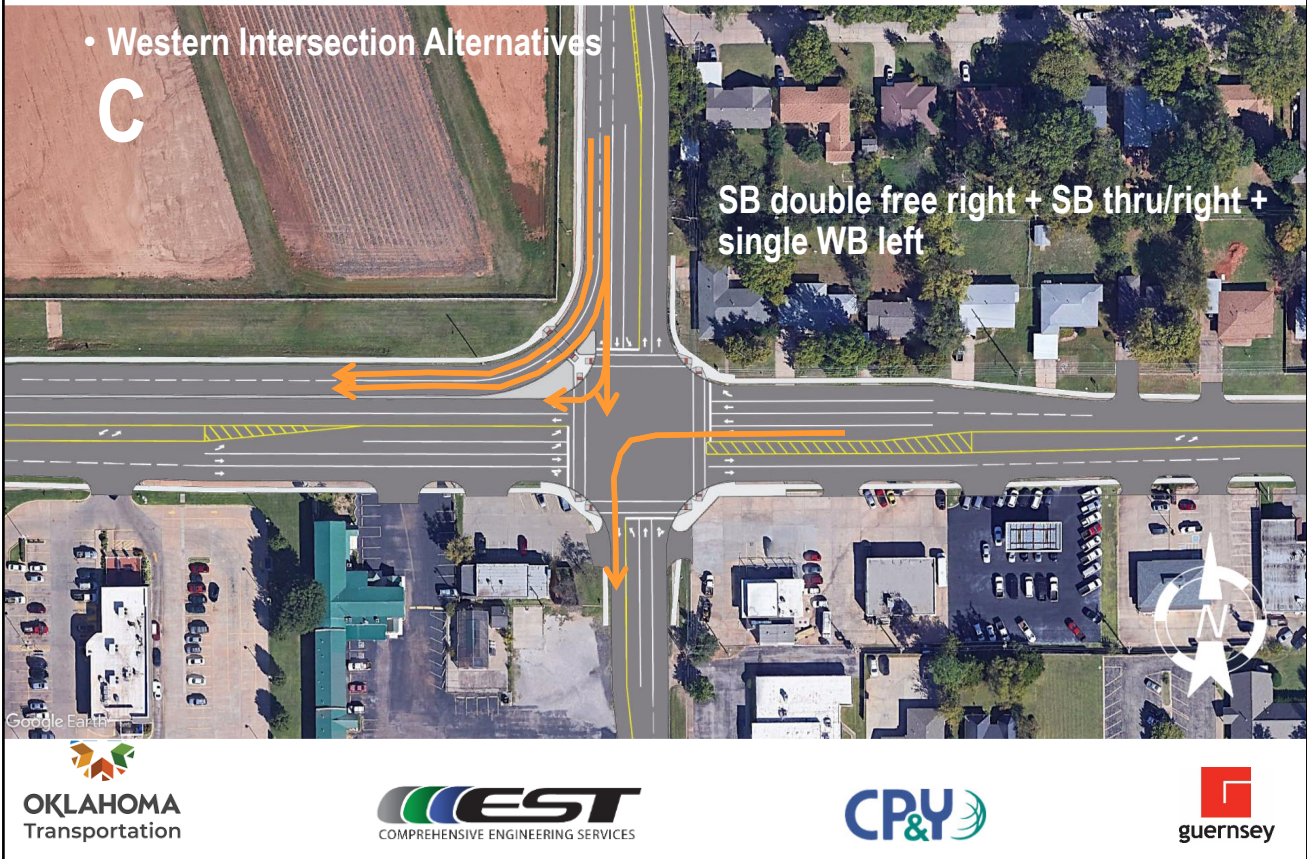
Option A involves keeping the current arrangement with a single dedicated southbound right turn in combination with a southbound through-right at the signal.

Improvement Opportunities



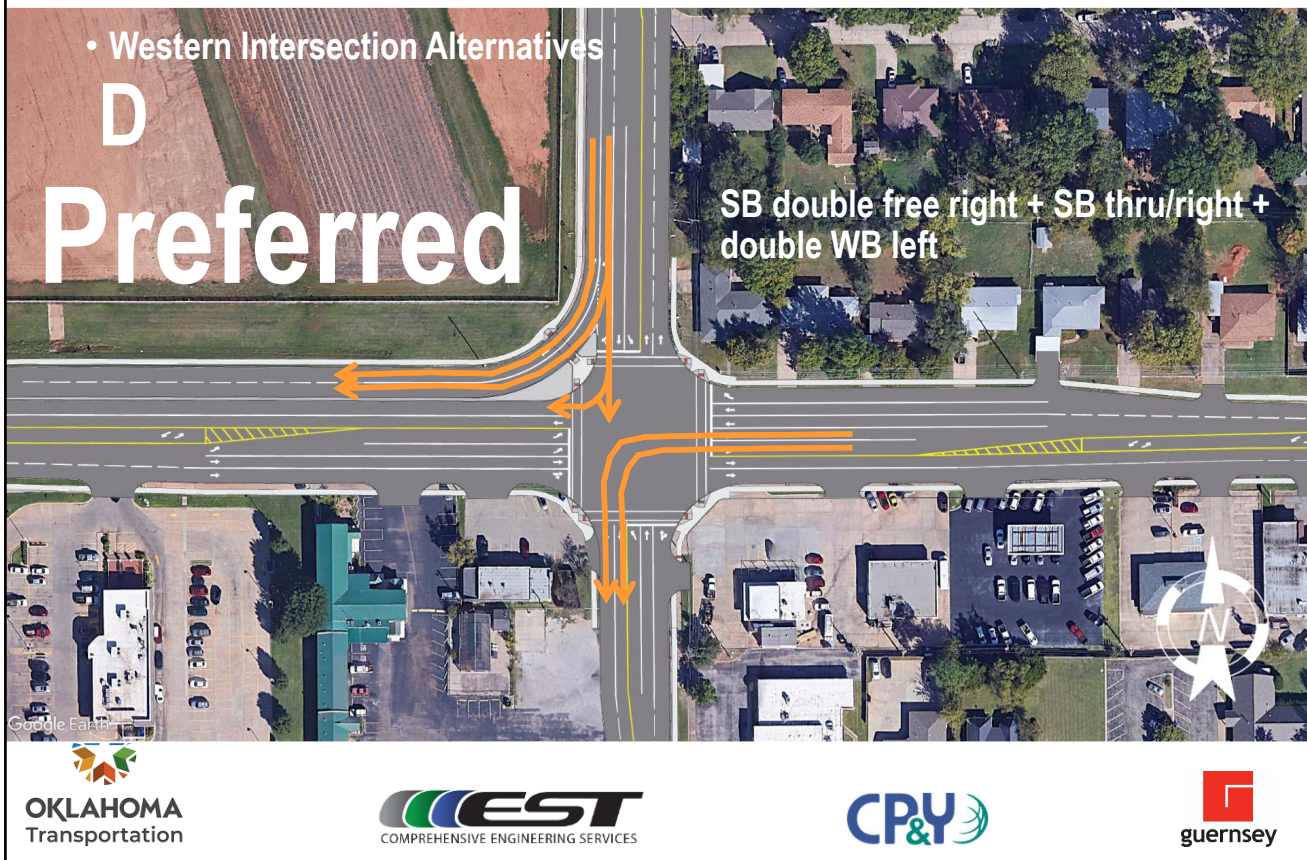
Similar to Option A, Option B adds a double left turn to the westbound to southbound movement.

Improvement Opportunities



Option C adds a dedicated double right turn while keeping the Through-right southbound.

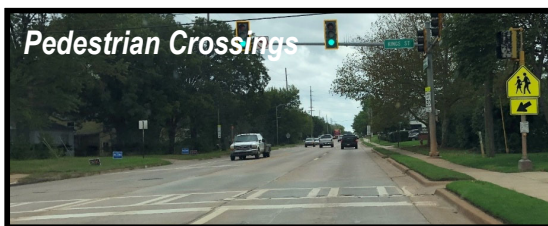
Improvement Opportunities



Option D, the preferred Option, combines the added capacity of Option C with the dedicated double right turn and the double left turn westbound to southbound. This Option was determined to best serve the traffic demand under normal conditions, adds capacity for the heavy right turn traffic on Game days, and avoids taking right-of way from the University's property in the northwest quadrant. The westbound to southbound double left improves the overall efficiency of this signalized intersection.

Understanding & Improvement Opportunities

Pedestrian Movements & ADA



The next area that was considered is pedestrian movement along the corridor. There are numerous deficiencies and inefficiencies in how pedestrians and handicap individuals travel within the corridor. Currently, there are multiple locations where sidewalks are not continuous and either end abruptly or begin without connecting pedestrians to a designated route. Additionally, some of the sidewalk and sidewalk ramps are narrow, too steep, or do not provide landing space for disabled pedestrians. These are all challenges for disabled travelers and do not comply with the Americans for Disability Act (ADA) standards. Throughout the corridor there are existing designated pedestrian crossings for travelers wanting to cross north and south of 6th Ave. The City of Stillwater and the Oklahoma Department of Transportation's standards for sidewalks and pedestrian crossings will be utilized for this project which are based on the Federal Public Right-of-Way Accessibility Guidelines (or PROWAG).

Improvement Opportunities

Downtown Connectivity



Currently the City of Stillwater’s Multi-use Trail and On-street Bicycle Master Plan does not identify clear bicycle and pedestrian crossings of 6th Ave. This issue is actively being studied for various pedestrian modes with the previously mentioned 6th Avenue Corridor Multi-Modal Study where any 6th Avenue crossings that are identified ,will be implemented by this project. With Oklahoma State University being north of 6th Ave and downtown Stillwater being south of 6th Ave, it is necessary to look for efficient and safe ways to connect pedestrians to these vital parts of the community.

Understanding Corridor Aesthetics

- **Hardscaping**
 - **Decorative Walls**
 - **Decorative Lighting**
 - **Patterned Concrete Buffers**



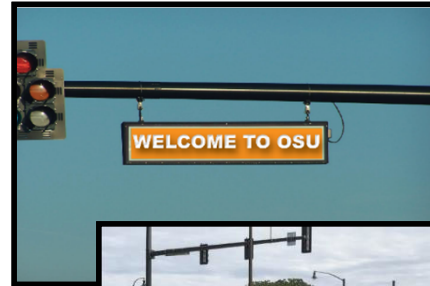
The corridor currently does not utilize (or lacks a consistent application of) hardscaping, decorative retaining walls, or decorative lighting which are found in other areas of Stillwater and the around the University Campus. Since this is the main thoroughfare through the community of Stillwater as well as providing an entrance to Oklahoma State University and downtown Stillwater, this poses as an opportunity for improvement through this project.

Improvement Opportunities

Corridor Aesthetics

Opportunity to improve the aesthetics of the corridor through consistency in application and creating gateway intersections. Possibilities include...

- Western Avenue
- Monroe Street
- Hester Street
- Knoblock Street
- Duck Street
- Main Street



Aesthetics in Various Parts of the Community



There are potential aesthetic improvements that can be made throughout the entire corridor, including hardscaping such as simulated brick stamped concrete separating the roadway from the sidewalk and decorative lighting. There are multiple intersections that also offer unique aesthetic improvement opportunities including: Western Road, Monroe Street, Hester Street, Knoblock Street, Duck Street, and Main Street. Additionally, any retaining wall locations throughout the project could offer as an opportunity for additional hardscaping aesthetics.

Understanding Corridor Drainage

- **6th Avenue tends to be at a low point, receiving waters from both the north and the south.**
- **Stormwater generally drains North to South from the Oklahoma State University Campus, south toward 6th Avenue.**
- **4 Major Drainages from US-51**



Turning our attention to Drainage:

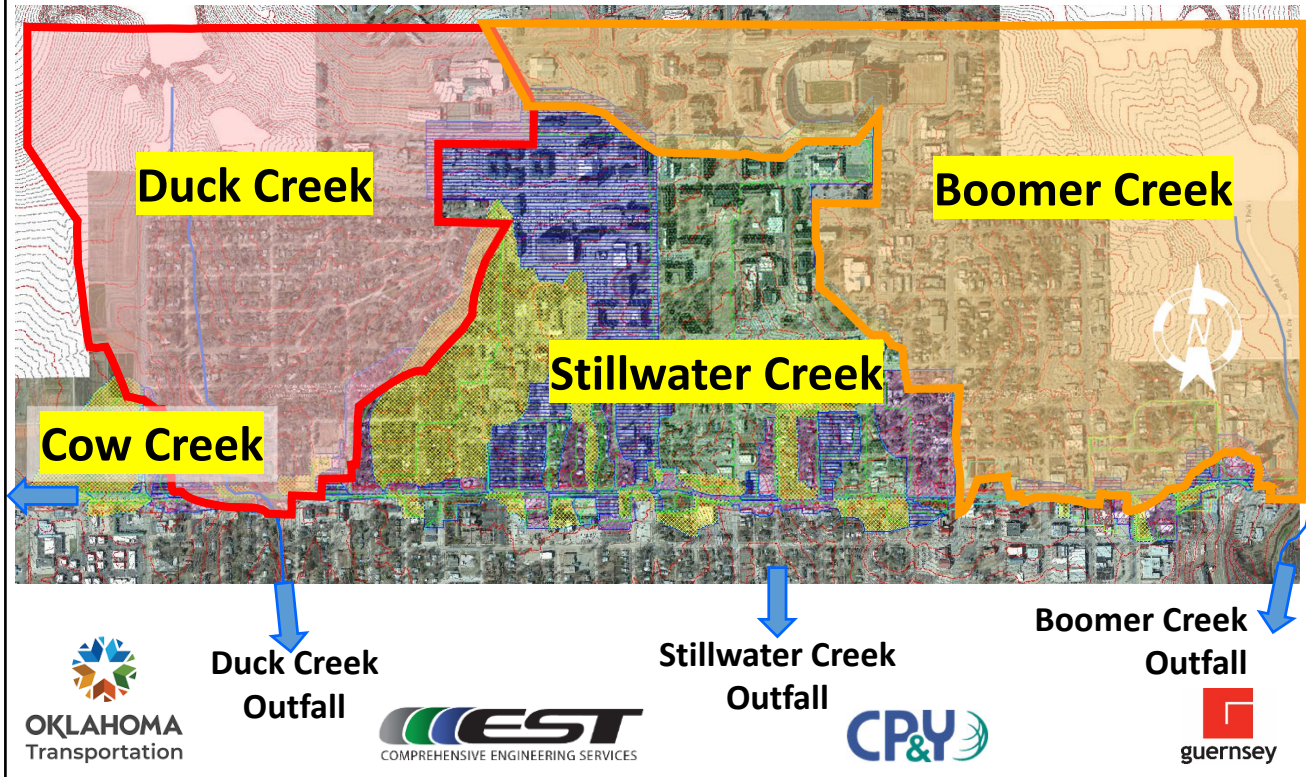
6th Avenue is lower than the surrounding landscape, most of the water that 6th Avenue receives is from the north.

Stormwater generally drains North to South from the Oklahoma State University Campus, toward 6th Avenue.

The 6th Ave corridor is impacted by 4 major Drainage basins:

Understanding Corridor Drainage

The Four Major Drainages



- Cow Creek drainage, which drains a small portion of the project area west of Western Road is in good condition and will not need improvements.
- Duck Creek drainage which is conveyed under 6th Ave via an existing culvert is also in relatively good shape. Except for some minor drainage improvements to the culvert, this drain basin will not improve.
- Boomer Creek on the east side of the project was recently upgraded with the Perkins intersection project and is also in good shape.
- The drainage system conveying runoff across 6th Avenue within the Stillwater Creek basin is undersized and does not adequately convey stormwater to the Stillwater Creek outfall. Improvements within this basin are discussed in a moment.

For the most part, the regional drainage system south of and west of the 6th Avenue corridor is adequate to carry the expected stormwater runoff.

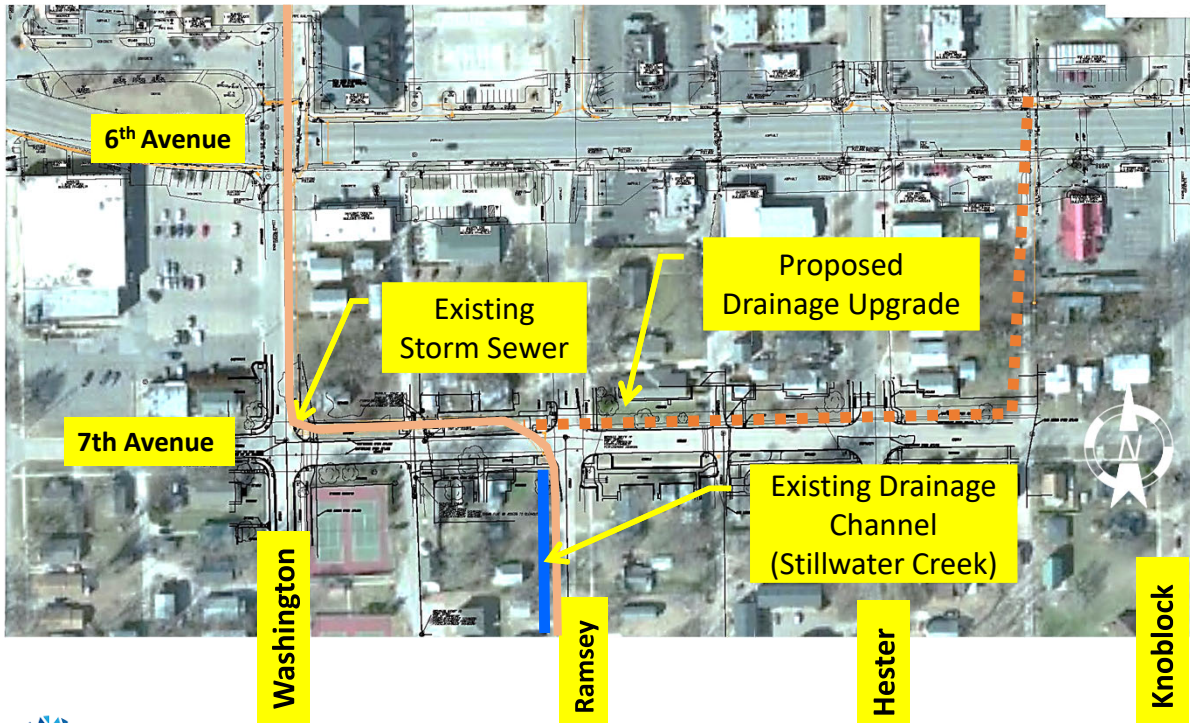
Improvement Opportunities

Flood Plain – Duck Creek



First, the Duck Creek Bridge is the most significant element within the Duck Creek Basin and is in good condition. This bridge will need to be extended to both the north and south to accommodate widening the roadway. This change in the geometry of this structure is not expected to affect the highwater elevations on either side of 6th Avenue.

Improvement Opportunities



Stillwater Creek is connected to 6th Avenue via the Ramsey drainage channel. Two storm sewers connect to this channel, one from Washington and one from the alley between Hester and Knoblock. The storm sewer in the alley between Hester and Knoblock is undersized. To address this problem a new storm sewer is proposed to replace the segment in the alley and to connect to the existing Ramsey outfall channel via 7th Street, as shown.

Understanding Corridor Drainage

Gutter Flow

- **ODOT Design Criteria**
- **For an on-grade section of roadway:**
 - The return period is the 10-year storm, and
 - The drainage should be confined to the road gutter
- **In a sag or depression section of roadway:**
 - The return period 50-year storm event, and
 - The stormwater should take up only the outside driving lane, leaving at least 1 functional lane



Another important consideration in proper storm sewer design is gutter flow. ODOT classifies US-51 (6th Ave.) as a Principal Arterial which sets the criteria for design. Under this designation, stormwater runoff within a continuous roadway grade section is to be contained within the gutter during the 10-year storm event. In a sag or depression section of roadway, the criteria changes to a 50-year storm event, where stormwater is to allowed to cover only the outside driving lane, leaving at least 1 functional lane.

There are specific problem locations through this project that have experienced past flooding which will be improved. Locations like...

Understanding Corridor Drainage

Monroe



The north side of Monroe Street where the depth of water in the gutter exceeds the criteria and will be addressed.

Understanding Corridor Drainage

Washington



Similarly, the runoff at the North and south sides of 6th Avenue at Washington Street will be collected more efficiently.

Understanding Corridor Drainage

Knoblock



The same condition occurs on the south side of 6th Avenue and Knoblock Street.

Understanding Corridor Drainage

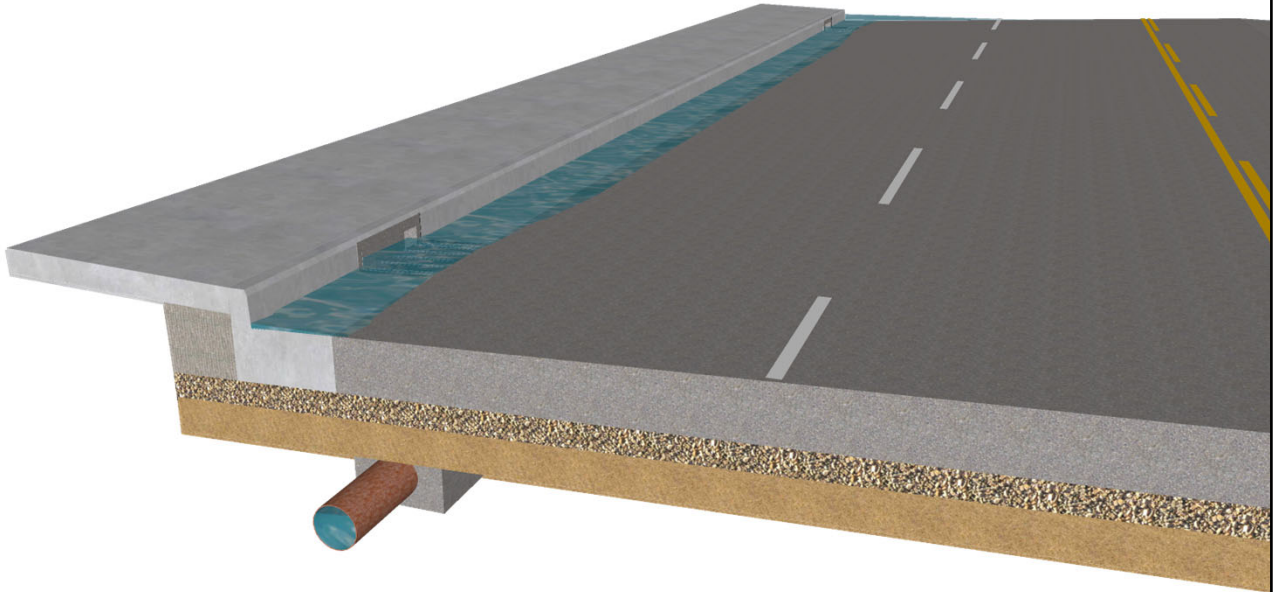
Duncan



And the crossing 6th Avenue near Duncan.

Improvement Opportunities

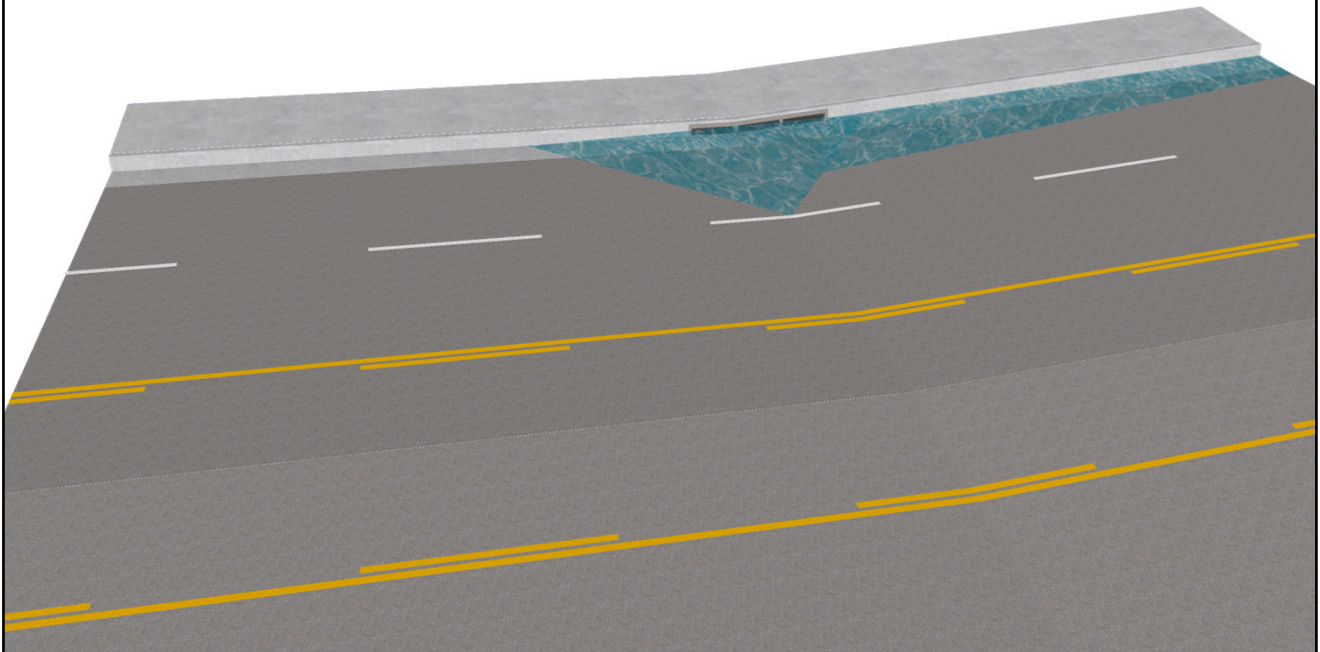
Gutter Flow On-Grade Example



To illustrate these criteria, without inlets, the depth of water in the gutter will cross the outside lane, and in some cases encroach on the inside lane. The intent of the new design will be to place inlets often enough to capture the stormwater to reduce the amount of flow in the gutter before water encroaches onto the roadway.

Improvement Opportunities

Gutter Flow Depressed Section Example



Similarly, in sag locations or depressions in the roadway, where the design storm frequency changes to a 50-year event, which generates significantly more stormwater, inlets will be sized with the goal to capture runoff so one lane remains open to travel. The intent of the design is to limit roadway inundation to less than ½ lane for the 50-year event; however, during larger storm events, we can expect the outside lane may be temporally flooded and impassible.

Problem locations, those with a history of flooding along 6th Avenue, will be improved with additional inlets.

Understanding Project Constraints

Right-of-Way



- Existing structures and parking sit closely to the existing right-of-way lines, making acquisition of right-of-way challenging.
- Numerous overhead and underground utilities serving multiple commercial and residential properties will require relocation.



Regarding Right-of-way...

This corridor is well developed with both commercial and residential land uses having many structures and parking lots built right up to the adjacent right-of-way line. This makes right-of-way acquisition challenging and exponentially impactful. The roadway option selected by ODOT to widen the corridor using various offsets from the center of the existing roadway and by using retaining walls in select locations, will limit the project footprint and will help limit the acquisition of new right-of-way.

Additionally, there are numerous overhead and underground utilities that will need to be relocated within the already tight right-of-way.

Understanding Project Constraints

Utilities

- Serval utilities are within the roadway expansion and need to be moved
- Utilities are somewhat scattered around the corridor and much of the infrastructure is 50 years old or older. Replacement for certain infrastructure pieces has been prioritized, including:
 - Utilities in conflict with the design (e.g. overhead electrical poles)
 - Cast Iron Pipe
 - Asbestos Concrete Pipe (Transite)
 - Utilities under the Roadway
 - Undersized lines



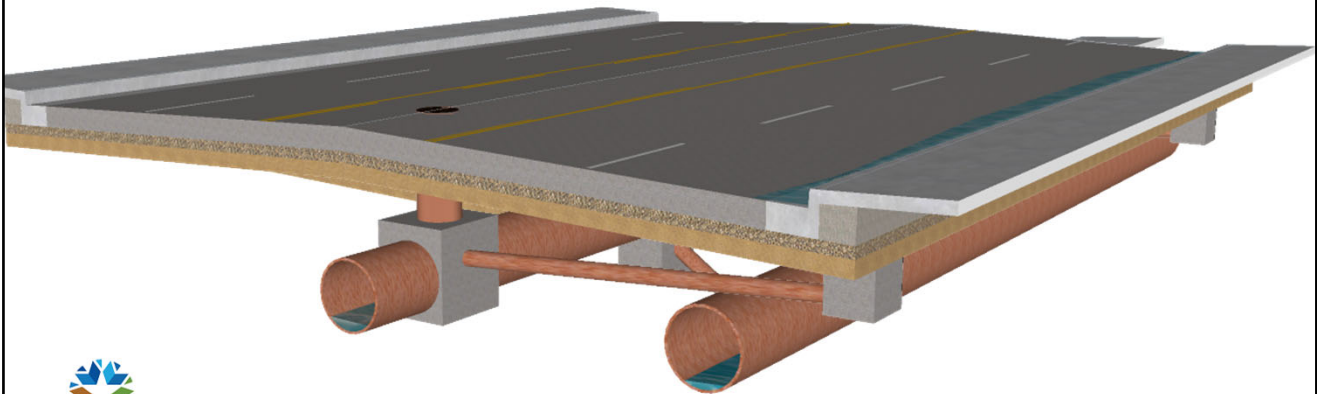
Many of the utilities along the corridor are very old or are made of outdated materials. These include cast iron and Asbestos Concrete pipes. Other utilities are in direct conflict with the road widening, for example overhead electrical lines and poles. The replacement of these utilities is a significant priority of this project.

Proposals for consideration to mitigate this constraint will include installing utilities under sidewalk, combining like-in-kind utilities in the same duct, and installing stormwater trunk lines under the center turn lane.

Improvement Opportunities

Creating Utility Corridors

- Need to uncomplicate the utility corridor and free space for utility relocations
- Currently drainage conduits are located behind the curb to both the north and south sides of the road.
- A proposed drainage revision could move drainage from the back-of-curb to the center of the road.



As mentioned, to untangle the numerous utilities in this corridor and to free space for other utility relocations, the storm sewers, which collect runoff from various inlets along the 6th Avenue can be consolidated into a central drainage conduit under the center of the road. This proposed drainage revision will help to uncomplicate utility relocations and simplify construction.

Understanding Project Constraints

Environmental Considerations

- The following environmental studies are in progress by ODOT:
 - Cultural Resources (Historic and Archeological)
 - Water and Wetlands
 - Threatened and Endangered Species
 - Hazardous Materials
 - Environmental Justice and Community Impact Assessment
- Studies will be compiled into a NEPA document upon the completion of the stakeholder and public meetings and will be provided to the public



Regarding Environmental Considerations:

ODOT is in the process of completing additional studies on environmental topics that include...

- Cultural Resources (both Historic and Archeological)
- Water and Wetlands
- Threatened and Endangered Species
- Hazardous Materials, and
- Environmental Justice and Community Impact Assessment

These studies will be compiled into a National Environmental Policy Act (or NEPA) document once the final stakeholder and public meetings are concluded.

There are other studies being conducted by the consultant team, they include:

Understanding Project Constraints

Historic & National Register of Historic Places Review

- **Payne County Courthouse**
- **Magruder Plots**
- **Agronomy Barn**
- **Oklahoma A&M Seed House**



A Study of Historic Architecture, which has been completed. In the review of the National Register of Historic Places (NRHP) properties four resources were found in vicinity of the project alignment:

- Payne County Courthouse
- Magruder Plots
- Agronomy Barn
- Oklahoma A&M Seed House

An Archaeological Study along the corridor will be completed as the project moves forward.

Understanding Project Constraints

Environmental Considerations

- Hazardous Waste Concerns
- Active Railroad
- LUST Cases/Facilities
- Airport
- Threatened & Endangered Species



An Initial hazardous materials Site Assessment has been completed for the study corridor. It found the following concerns:

- Several properties that potentially have hazardous waste stored or being used in their operations.
- An active railroad, Stillwater Central Railroad, that intersects the corridor near the eastern end of the project.
- Thirty-five leaking underground storage tank (LUST) and 55 petroleum storage tank (PST) sites/facilities, and
- One airport, Stillwater Regional, is within four miles of the study corridor.

A Threatened & Endangered Species Assessment has been completed for the study corridor. It has identified four federally listed species within the vicinity of the project (Interior Least Tern, Whooping Crane, Piping Plover, and the Red Knot); however, no significant impacts to these species' habitat is anticipated.

Construction Phasing

Work Packages

Proposing to split the corridor into eight separate work packages or projects.

Considerations for Phasing of Work Packages:

- **Time of Construction**
- **Cost of Project**
- **Length of Project**
- **Available Detours**
- **Event Traffic Timing**



A preliminary analysis has been performed to look at potential construction phasing of the corridor. It is currently being proposed to split the corridor into eight separate work packages or projects. These work packages have the potential to be constructed separately or concurrently depending on various factors, such as funding or site conditions. Considerations in the phasing analysis included the time and cost of construction, the length of each construction package, available local detours, and significant event traffic impacts during the year. To see more about the proposed preliminary location of each work package, please visit the homepage to view the project map.

Next Steps







So, what are the next steps? We invite your comments to be provided by October 19th, 2021.

We expect the Environmental Studies, Final selection of the Access Configuration and Formal Public Notice of the Proposed Action be complete by the Fall/Winter 2022.

The Right-of-way acquisition process is expected to begin between the in June 2023.

We expect final design and the start of construction of the Proposed Action to occur in 2025.

How to Submit Public Comments

-  Online – “Submit Comment” tab
-  E-mail – Environment@ODOT.org
-  Phone – (405) 325-3269
-  Mail – Oklahoma Dept. of Transportation
Environmental Programs Division
200 N.E. 21st Street
Oklahoma City, OK 73105



Thank you for participating in this Virtual Open House. Please submit your comments using any one of the various options provided on the homepage by October 19th, 2021, Comments can be offered by filling out the online Comment Form, by sending an e-mailing with your comments to environment@odot.org, or by mailing your comments form to:

**Oklahoma Dept. of Transportation
Environmental Programs Division
200 N.E. 21st Street
Oklahoma City, OK 73105**

If you have any questions, you are invited to call 405-325-3269 or mail them to the address above.

Again, please submit your comments or questions by October 19th, 2021.

Thank you.