

# Crosstown Boulevard Environmental Assessment

Oklahoma City, Oklahoma County, Oklahoma



October 2014





**Crosstown Boulevard  
Oklahoma City, Oklahoma County, Oklahoma**

**Crosstown Boulevard from Pennsylvania Avenue to Byers Avenue  
State J/P No. 17428(25) OKCY-XTWN (006)SS; 17428(60) OKCY-XTWN (048)SS; 17428(63) OKCY-XTWN(051);  
17428(80) OKCY-XTWN (070); 17428(88) OKCY-XTWN (078); 17428(89) OKCY-XTWN (079)**

**Environmental Assessment**

**US Department of Transportation, Federal Highway Administration and  
Oklahoma Department of Transportation**

The proposed improvement includes constructing the Crosstown Boulevard from approximately Pennsylvania Avenue to Byers Avenue in Oklahoma City. The Preferred Alternative is a four-lane local facility and would require the closure of Classen Boulevard between Reno Avenue and the new Western Avenue, and also close Exchange Avenue at Western Avenue and Reno Avenue. The Preferred Alternative would include an eight to 12-foot wide multi-purpose trail along both sides of the Crosstown Boulevard between Western Avenue and the Bricktown Canal.

This highway project is proposed for funding under Title 23, United States Code (USC). This statement for the improvement has been developed in consultation with the Federal Highway Administration and is submitted pursuant to 42 USC-4332(2)(c) and 49 USC 303.

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## What Are the Highlights of this Environmental Assessment (EA)?

In 1995, the Federal Highway Administration (FHWA) and the Oklahoma Department of Transportation (ODOT) followed a process called an Environmental Impact Statement (EIS) to evaluate options to improve and/or relocate the I-40 Crosstown Expressway in Oklahoma City, Oklahoma. The FHWA and ODOT conducted the EIS to address design, safety, and capacity concerns of the I-40 Crosstown Expressway. On May 1, 2002, the FHWA issued a Record of Decision (ROD) for the *Interstate 40 – Crosstown Expressway from I-235 to Meridian Avenue Oklahoma City, Oklahoma FHWA-OK-EIS-01-(1)-F* project (FHWA 2002). The ROD documented FHWA's decision to select the Preferred Alternative, Alternative D. This alternative resulted in the reconstruction of I-40 about 2,200 feet south of the existing I-40 and it reduced the number of entrance and exit ramps to downtown. As part of the I-40 Crosstown Expressway Relocation Project, the ROD identified that the old I-40 Crosstown Expressway right-of-way would be converted to a six-lane at-grade boulevard. Using this right-of-way for a new boulevard was a critical part of the project because it provided stronger transportation connectivity into downtown Oklahoma City.

An EA is a decision-making document that succinctly provides enough details to determine if a project has significant environmental impacts. It includes a brief discussion of the project's need, alternatives studied, a summary of the project's effects, and the public communication efforts completed as part of the project.

The newly relocated I-40 Crosstown Expressway opened to traffic in 2012. However, because of the amount of time that had passed since the ROD, recent downtown Oklahoma City development, and changing city priorities with respect to pedestrian and cyclist options, ODOT and FHWA needed to reevaluate the original six-lane boulevard concept. After initial public involvement activities undertaken by Oklahoma City, FHWA determined that the reevaluation of the ROD would best be accomplished by preparing a new EA that would address various alternatives to the approved six-lane boulevard. The environmental review process for the I-40 Crosstown Expressway is summarized in the table on the next page.

As a result, this EA<sup>1</sup> examines alternatives compared to the original six-lane boulevard concept; identifies potential social, economic, and environmental impacts; provides for consistency with the most current planning priorities of Oklahoma City; and considers current and future traffic needs. This EA considers four alternatives (Alternatives A, B, C, and D). Alternative A is the boulevard design described in the I-40 Crosstown Expressway ROD. This Alternative, modified to address Oklahoma City plans for Western Avenue and Classen Boulevard, represents the baseline condition for the EA. The EA compares Alternatives B, C, and D to this baseline. Alternative B is the same as

<sup>1</sup> - For this project, ODOT and FHWA developed a "user friendly" EA based on the latest guidance from FHWA's Every Day Counts initiative and the American Center for Environmental Excellence by American Association of State Highway and Transportation Officials (AASHTO): [http://environment.transportation.org/center/products\\_programs/reports/quality\\_enviro\\_docs.aspx](http://environment.transportation.org/center/products_programs/reports/quality_enviro_docs.aspx).



Alternative A except it would be two lanes in each direction. Alternative C is similar to Alternative B but would have a shorter bridge and come down to an intersection with Reno Avenue. Alternative D uses the downtown street grid. The comparison of the alternatives to Alternative A uses seven project evaluation criteria: estimated construction costs; traffic service; right-of-way impacts; ease of construction; construction impacts to traffic; public and agency input; and environmental impacts. Based on these evaluation criteria, Alternative C best meets the project purpose and need, is most consistent with Oklahoma City's plans, and best meets engineering and design standards for ODOT and Oklahoma City. As such FHWA, ODOT and Oklahoma City have identified Alternative C as the Preferred Alternative for the Crosstown Boulevard.

It should be noted that in 2011, Oklahoma City renamed the local street that is the concept of the Crosstown Boulevard as the "Oklahoma City Boulevard" (Ordinance 24,280). For the purposes of consistency between the EA and the original I-40 Crosstown Expressway Relocation Project environmental process, it is referred to as the Crosstown Boulevard in this document.

The National Environmental Policy Act of 1969 (NEPA) requires federal agencies to evaluate and consider impacts to the natural and human environment.		
Environmental Process	Summary of the Environmental Review Process	I-40 Crosstown Expressway Relocation Project Review Process
<b>Environmental Impact Statement (EIS)</b>	An EIS is required when a project has a significant effect on the environment. The EIS describes why the project is needed, the alternatives that were studied, potential effects, and includes public and agency comments. A Draft EIS is published for public and agency comment. After a public and agency comment period, a Final EIS (FEIS) is prepared which addresses comments, and any changes that may have happened on the project since the DEIS. It also identifies a Preferred Alternative.	In 1995, FHWA and ODOT began the I-40 Crosstown EIS process to evaluate options to improve and/or relocate the I-40 Crosstown Expressway to address design, safety, and capacity concerns of the facility.
<b>Record of Decision (ROD)</b>	A ROD is the formal approval of the EIS and the Preferred Alternative. It allows the project to move toward final design and construction.	In May 2002, the FHWA issued the ROD which documented FHWA's decision to select the Preferred Alternative (Alternative D, as described in the FEIS).
<b>Environmental Assessment (EA)</b>	When the significance of the effects of a project is unknown, an EA is prepared. The EA includes brief discussions of the need for the project, alternatives studied, environmental impacts, and a listing of agencies and persons consulted during the process.  If an EA identifies significant impacts, an EIS would be needed. If there are no significant impacts, a "Finding of No Significant Impacts" is developed.	As a result of the amount of time that had passed since the ROD, ODOT and FHWA needed to reevaluate the original six-lane boulevard concept. The reevaluation in the form of an EA, began in 2012, and examines alternatives compared to the original six-lane boulevard concept; identifies potential social, economic, and environmental impacts; provides for consistency with the most current planning priorities of Oklahoma City; and considers current and future traffic needs.
<b>Finding of No Significant Impact (FONSI)</b>	A FONSI is a document that briefly describes why the project has no significant impacts. It allows the project to move toward final design and construction.	A FONSI will be developed after the public comment period if FHWA determines that Crosstown Boulevard would have no significant impacts to the environment.



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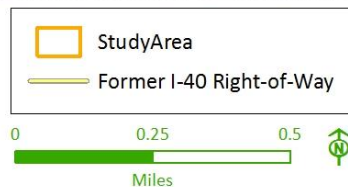
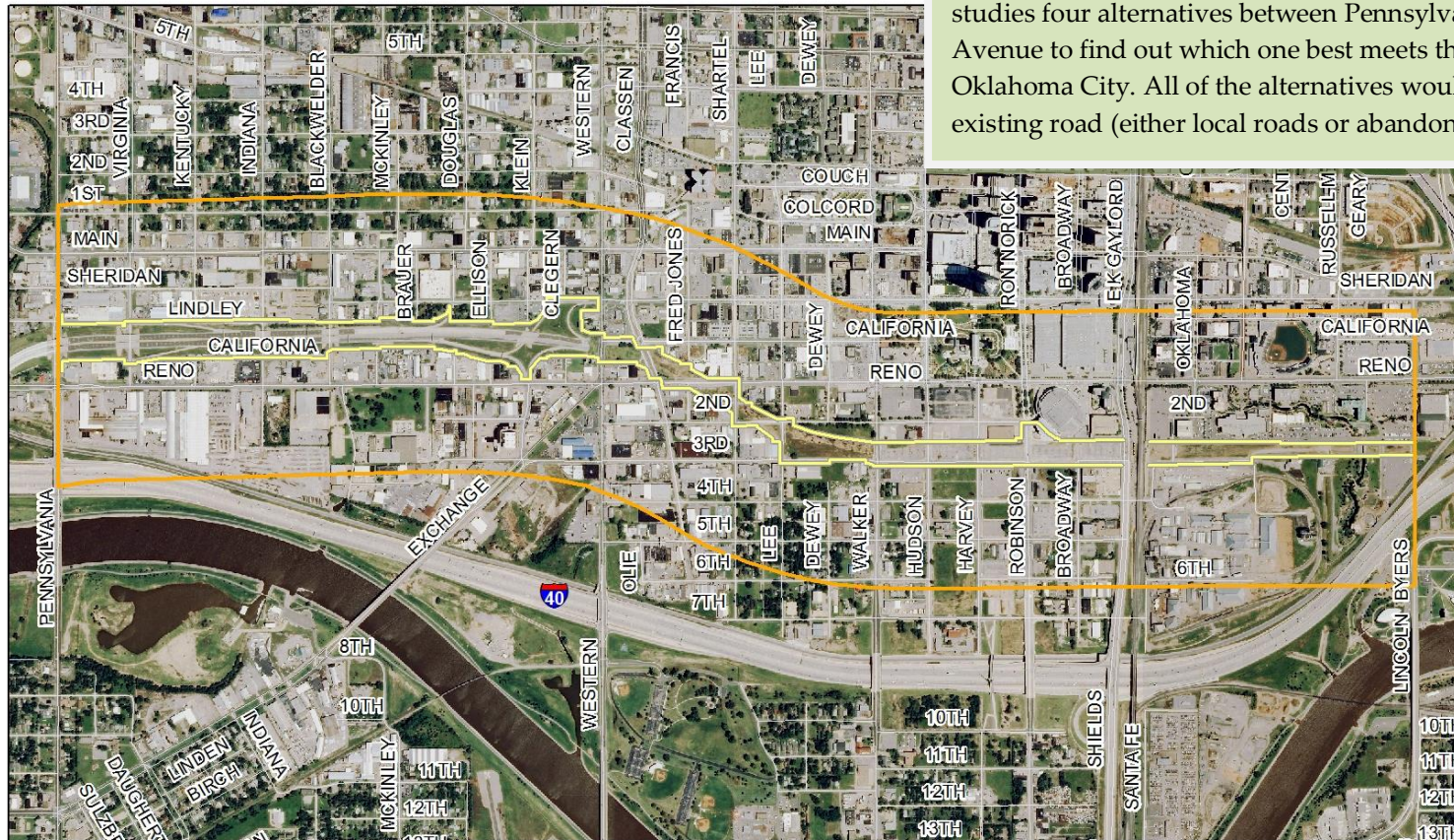
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## What Project Are We Considering?

The Crosstown Boulevard is the last part of the I-40 Crosstown Relocation Project that started in 1995. The Crosstown Boulevard EA studies four alternatives between Pennsylvania Avenue and Byers Avenue to find out which one best meets the needs of downtown Oklahoma City. All of the alternatives would occur mostly within existing road (either local roads or abandoned interstate) right-of-way.



Source: Parsons Brinckerhoff 2014



The Crosstown Boulevard study area covers the part of Oklahoma City between Pennsylvania Avenue and Byers Avenue and extends approximately 0.25 mile north and south of the old I-40 Crosstown Expressway right-of-way. These study area limits allow analysts to identify potential changes that the four alternatives (Alternatives A, B, C, and D) would have on the environment.

The Crosstown Boulevard and the I-40 Crosstown Expressway Relocation Project depend on one another. As planned during the I-40 Crosstown Expressway EIS process, the Crosstown Boulevard was needed to provide additional access points into downtown because some were lost when the I-40 Crosstown Expressway was moved. Prior to the relocation of the I-40 Crosstown Expressway, traffic into downtown Oklahoma City had access at Pennsylvania Avenue (an off-ramp in the eastbound direction and an on-ramp in the westbound direction), Virginia Avenue (an on-ramp in the eastbound direction and an off-ramp in the westbound direction), Western Avenue (off- and on-ramps in both directions), Classen Boulevard (an off-ramp in the westbound direction only), Walker Avenue (an off-ramp in the eastbound direction only), Hudson Avenue (an on-ramp in the westbound direction only), Harvey Avenue (an off-ramp in the eastbound direction only), and Robinson Avenue (off- and on-ramps in both direction). As a result of these, eight access points distributed traffic rather evenly across the central business district. As the new I-40 Crosstown was opened in 2012, local traffic entering the downtown street network was limited to Pennsylvania Avenue (off- and on-ramps in both directions), Western Avenue (off- and on-ramps in both directions), Robinson Avenue (an off-ramp in the westbound direction), Shields Boulevard (both off- and on-ramps in the eastbound direction and an on-ramp in the westbound direction), and the east boulevard connection to I-235/I-35.

The Crosstown Boulevard, however, is independent from other transportation projects in the area like the proposed streetcar and Project 180. **[Project 180 is a program in Oklahoma City that focuses on pedestrian improvements for downtown streets, sidewalks, parks and plazas.]** Alternatives A, B, and C for the Crosstown Boulevard are compatible with the other existing or future transportation projects. This means that the alternatives were developed in such a way as to not prevent the others from happening. For example, all of the alternatives require an underpass of the Burlington Northern Santa Fe (BNSF) Railway tracks. As designed, this underpass would not prevent possible expansion of future intercity passenger rail in the BNSF railway corridor. The Crosstown Boulevard was also designed to allow future expansion of the streetcar on Walker or Hudson avenues.

Summary: ODOT and FHWA have determined that the study area limits of the Crosstown Boulevard were “logical and independent”. It could be built without needing any other transportation improvements beyond what was planned as part of the I-40 Crosstown Expressway Relocation Project.



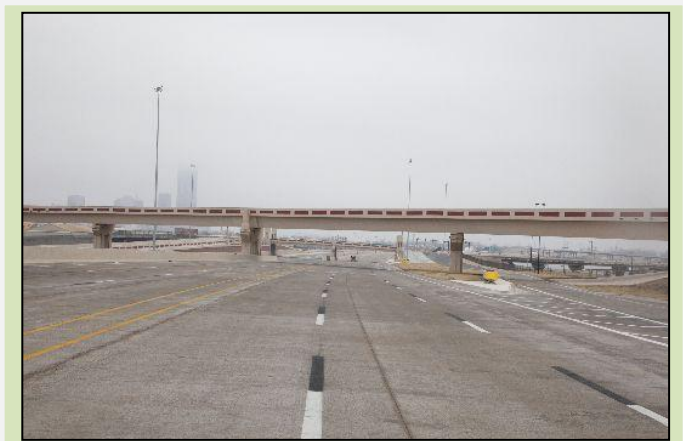
The new boulevard would mostly lie in the original I-40 Crosstown Expressway right-of-way which was under an approximately 8,900-foot long bridge.



## How Did We Get Here?

Interstate 40 (I-40) plays a critical role in the national, state and local passenger and freight transportation system. In Oklahoma City, I-40 was approaching the end of its useful life and had to be re-constructed. In 1995, FHWA and ODOT began an EIS process that led to the decision to replace the I-40 Crosstown Expressway in downtown Oklahoma City. At the end of the process, on May 1, 2002, FHWA issued the ROD that documented FHWA and ODOT's decision to move the I-40 Crosstown Expressway approximately 2,200 feet south and use the old I-40 right-of-way for a six-lane boulevard.

Since the new I-40 Crosstown Expressway opened to traffic in 2012, access into downtown from I-40 occurs at Pennsylvania Avenue, Western Avenue, Robinson Avenue and Shields Boulevard. Using the old I-40 right-of-way as a boulevard would increase access from the new I-40 Crosstown into downtown by providing a local route that allows commuters, visitors and residents to get easily into and out of neighborhoods and businesses, tourist attractions, sporting events, the Convention Center and other downtown activities.



The new Crosstown opened to traffic in 2012.

## What Are We Doing Now?

Because many things have changed in Oklahoma City since 2002, ODOT and FHWA decided to study the original six-lane Crosstown Boulevard from the ROD and determine if it is still the best solution for downtown. FHWA determined that the reconsideration process would best be accomplished by preparing an Environmental Assessment or EA.

Unlike most EAs which examine a “No-Build” or “Do Nothing” Alternative, the Crosstown Boulevard EA is unusual because it is part of an ongoing construction effort and the decision to build a boulevard had already been reached in FHWA's 2002 ROD. As a result, there is not a traditional “No-Build” Alternative. This EA studies four alternatives (Alternatives A, B, C, and D) with Alternative A being the one most closely related to the one originally selected with the I-40 Crosstown Expressway Relocation Project. Alternative A is the six-lane boulevard design and is considered the baseline condition for the EA. This EA compares the other three alternatives—B, C, and D—to this baseline – Alternative A.

Downtown has changed a lot since 2002.



## Why Is This Project Needed?

The purpose of constructing the Crosstown Boulevard is to complete the I-40 Crosstown Expressway Relocation Project in a way consistent with the EIS, and makes sense with the changes that have happened in Oklahoma City since 2002. A primary objective of the Crosstown Boulevard is to help restore connections that were lost when I-40 was relocated south to its current location. Before the I-40 Crosstown Expressway was relocated to its current location, travelers had eight different options to get into downtown from I-40. As a result, travelers were able to flow smoothly into downtown. Since the newly located I-40 Crosstown opened in 2012, drivers trying to get into downtown have only four access points. To improve interstate access to Oklahoma City and separate through and local traffic on I-40, travelers need additional downtown access points. The 2002 FEIS and ROD recognized this need and the Crosstown Boulevard became part of the Selected Alternative. Since the approval of the ROD, many commercial, recreational and entertainment sites have opened in downtown and more are expected. As a result, there will be an even greater need for efficient access into and out of downtown from the newly relocated I-40 Crosstown Expressway.

Summary: When built, the Crosstown Boulevard would provide additional access points into the downtown street network and help distribute traffic from the I-40 Crosstown Expressway into and out of downtown. It would also provide additional opportunities for pedestrian and bicyclists in the downtown area.

If you are interested in reading more about this topic, [Appendix A](#) has a document called the *Purpose and Need Statement*.

## What Potential Solutions Are Being Studied?

While the EA covers the area from Pennsylvania Avenue to Byers Avenue, it focuses on Western Avenue to E.K. Gaylord Boulevard. As described below, the West Connection is the portion of the study area between Pennsylvania Avenue to Western Avenue, and is the same for all of the alternatives in the EA (see the next page). The East Connection (see page 10) is the portion of the study area from E.K. Gaylord Boulevard and the I-40 Crosstown Expressway, was approved in the ROD. It is the same for all the alternatives in the EA.

If you want to read more about the West and East Connections, [Appendix B](#) has a document called the *Concept Study Report*.



## What Would Happen Between Pennsylvania Avenue And Western Avenue?

This West Connection changes from an access controlled interstate to a limited access urban roadway. **[A controlled-access interstate is made for high-speed traffic with limited or no access to adjacent property. A limited access urban roadway is made for lower speeds and limits access to certain locations.]** This section was approved in the ROD as an elevated, six-lane road on the old I-40 roadbed and overpass bridges. In 2013, ODOT constructed it with four through lanes in each direction, with one additional lane for making speed transitions. Exit and entrance ramps are provided on the west side of Virginia Avenue to replace the ramps lost at Pennsylvania Avenue and thus restore full access to the area. A right on/right-off intersection exists at Klein Avenue.

Currently, the land uses that lie within the West Connection are primarily industrial and consistent with the Oklahoma City zoning regulations. As designed and constructed, the West Connection helps balance Oklahoma City's area plans and objectives by providing good accessibility and connectivity to the surrounding industrial uses; while keeping large trucks that serve this area from using neighborhood streets to the north and south and helps alleviate congestion on Western Avenue.

To meet public and traffic concerns in the area, the West Connection is elevated from the surrounding land. The Crosstown Boulevard comes down to street level east of Blackwelder Avenue. Oklahoma City's currently approved Master Plan, *OKC Plan 2000-2020*, identifies the West Connection portion of the area as being within the "Traditional Neighborhood" area, with mature neighborhoods and commercial buildings.

As discussed in the *Concept Study Report*, included in [Appendix B](#), ODOT studied many options to address public concerns about this section of roadway being built over local streets.



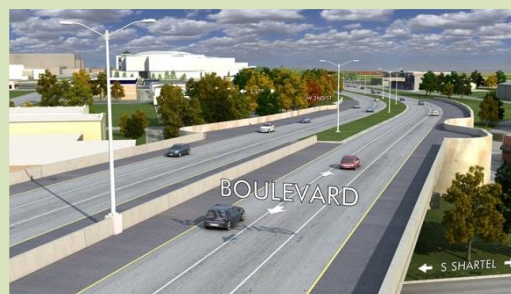
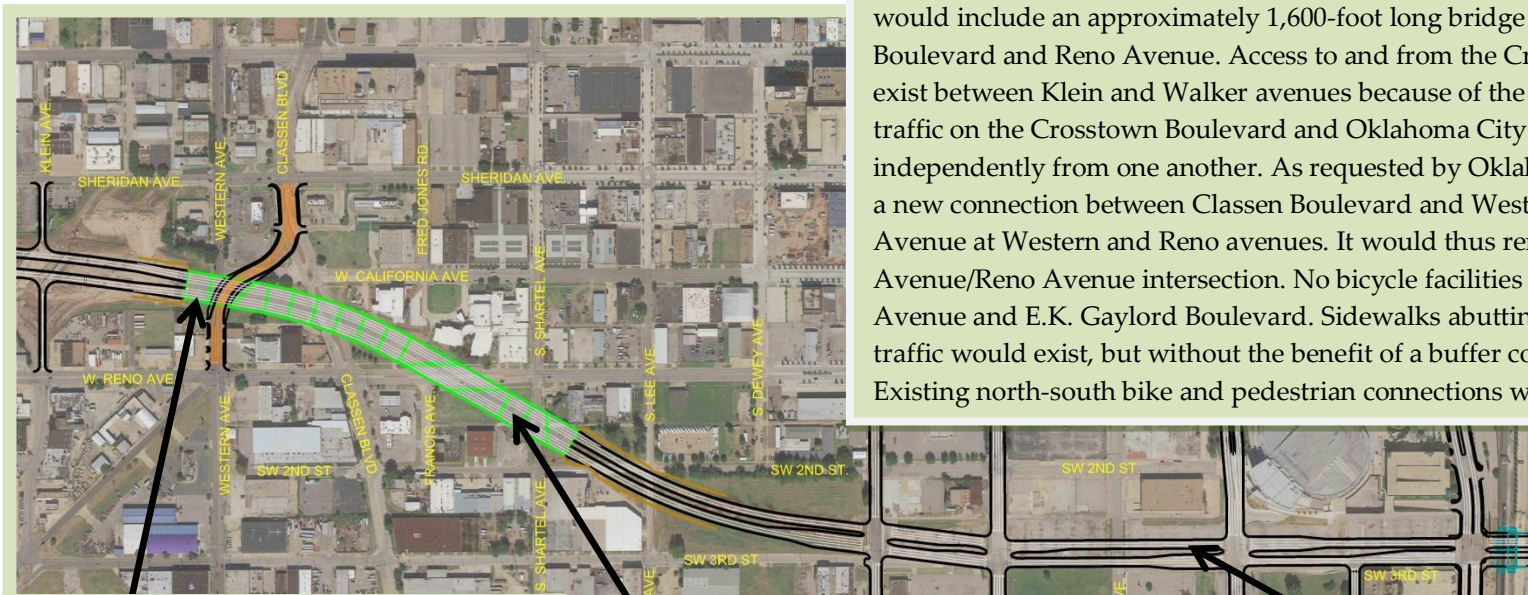
ODOT provided improvements from Pennsylvania Avenue to Klein Avenue to provide access from and alleviate traffic congestion on the I-40 Crosstown. This section opened to traffic in November 2013, and is consistent with the Purpose and Need of the I-40 Crosstown Expressway EIS. This area was evaluated as part of this EA, in case changes would be necessary to make it compatible with the remainder of the Crosstown Boulevard resulting from this EA.

## What Would Happen From Western Avenue To E.K. Gaylord Boulevard?

The area from Western Avenue to E.K. Gaylord Boulevard is where the main differences exist among the four alternatives. Below please find maps and descriptions of each.

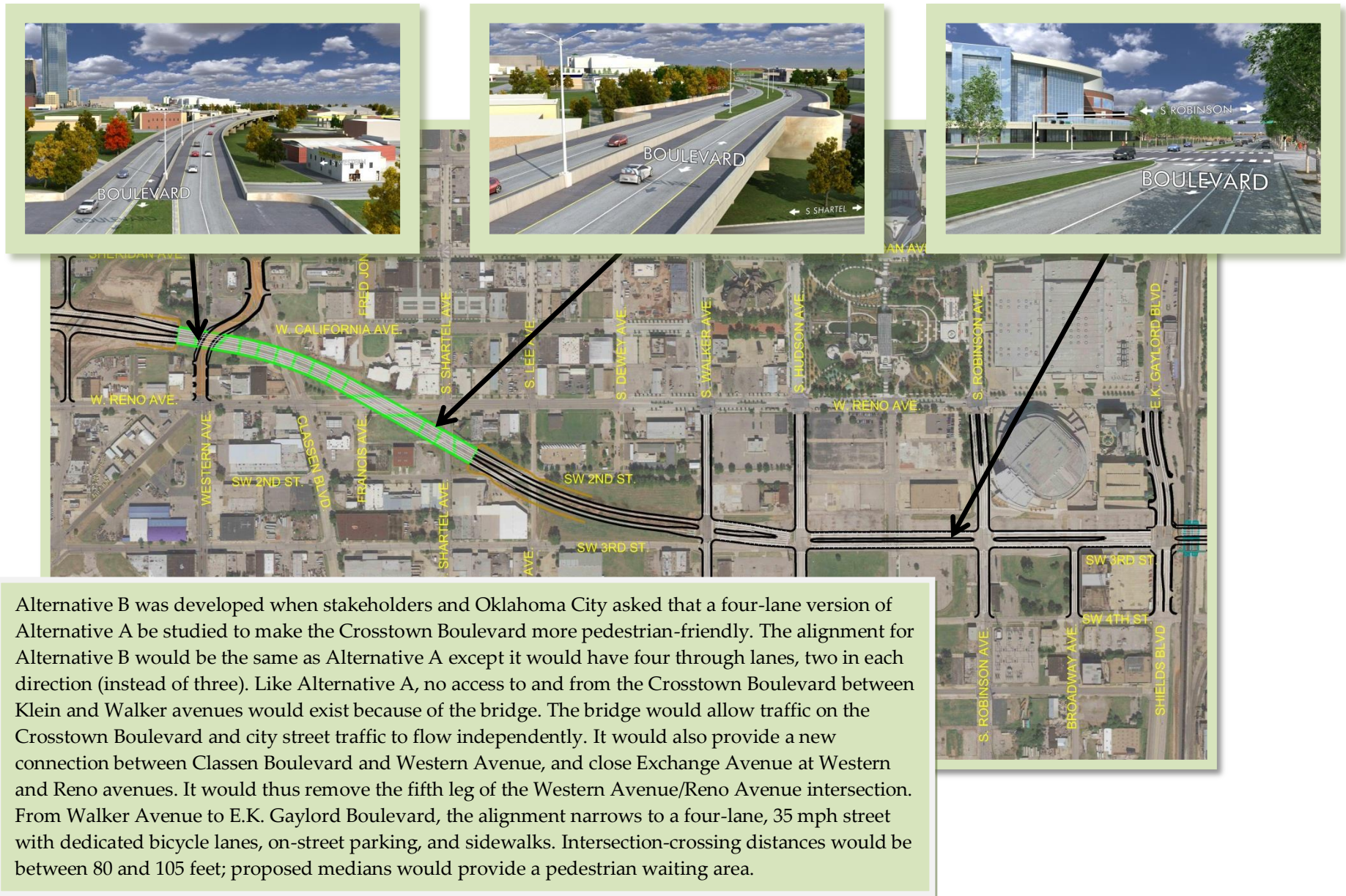
### Alternative A

Through the I-40 Crosstown Expressway EIS process, FHWA identified Alternative A, the six-lane boulevard, as a local downtown roadway to mitigate the new I-40 Crosstown Expressway having fewer downtown ramps and being farther south of downtown. The six-lane (three lanes in each direction) roadway would provide a 22-foot raised center median which would be narrowed in areas with dedicated left turn lanes. Alternative A would include an approximately 1,600-foot long bridge over Western Avenue, Classen Boulevard and Reno Avenue. Access to and from the Crosstown Boulevard would not exist between Klein and Walker avenues because of the bridge. The bridge would allow traffic on the Crosstown Boulevard and Oklahoma City street traffic to flow independently from one another. As requested by Oklahoma City, it would also provide a new connection between Classen Boulevard and Western Avenue, and close Exchange Avenue at Western and Reno avenues. It would thus remove the fifth leg of the Western Avenue/Reno Avenue intersection. No bicycle facilities would occur between Walker Avenue and E.K. Gaylord Boulevard. Sidewalks abutting the 35 mile-per-hour (mph) traffic would exist, but without the benefit of a buffer consisting of parked vehicles. Existing north-south bike and pedestrian connections would be maintained.



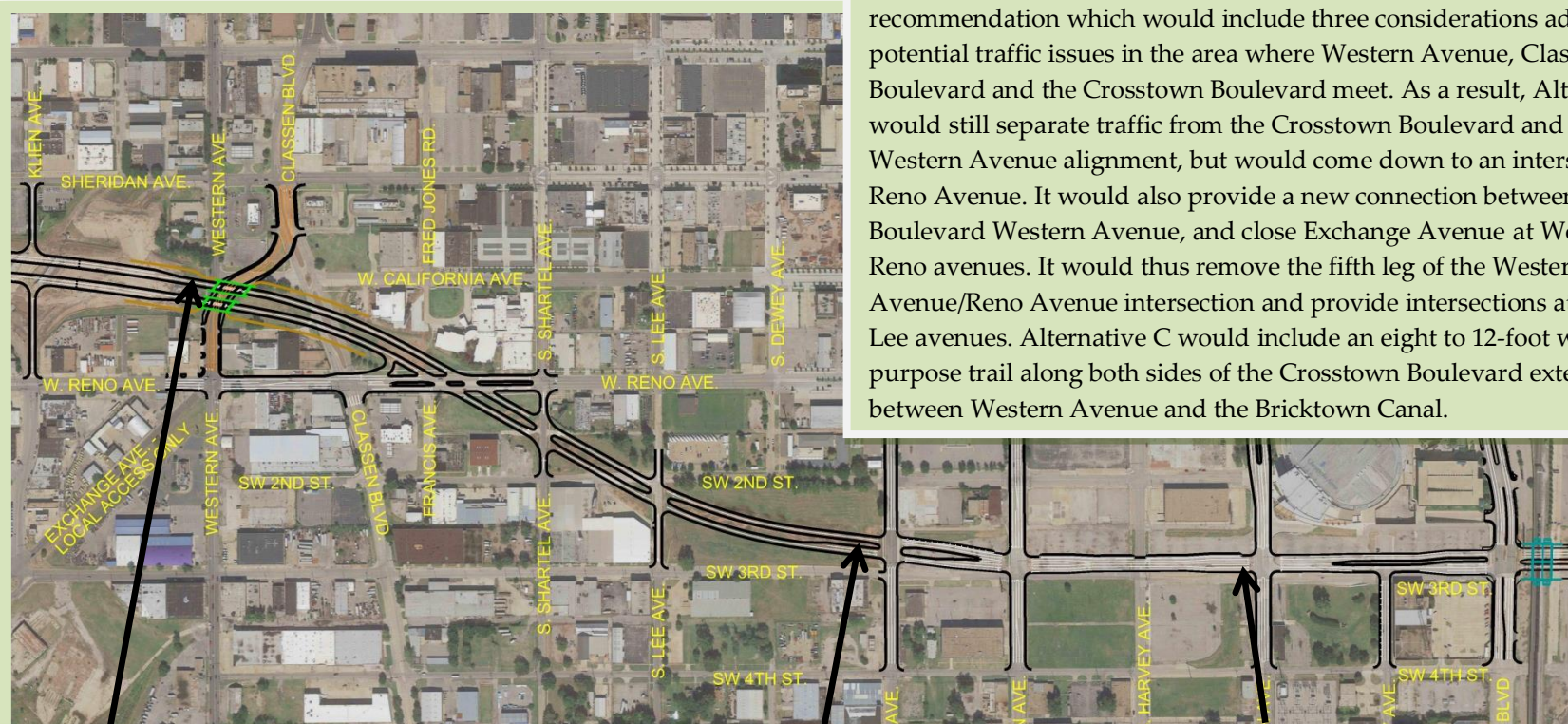


## Alternative B





## Alternative C



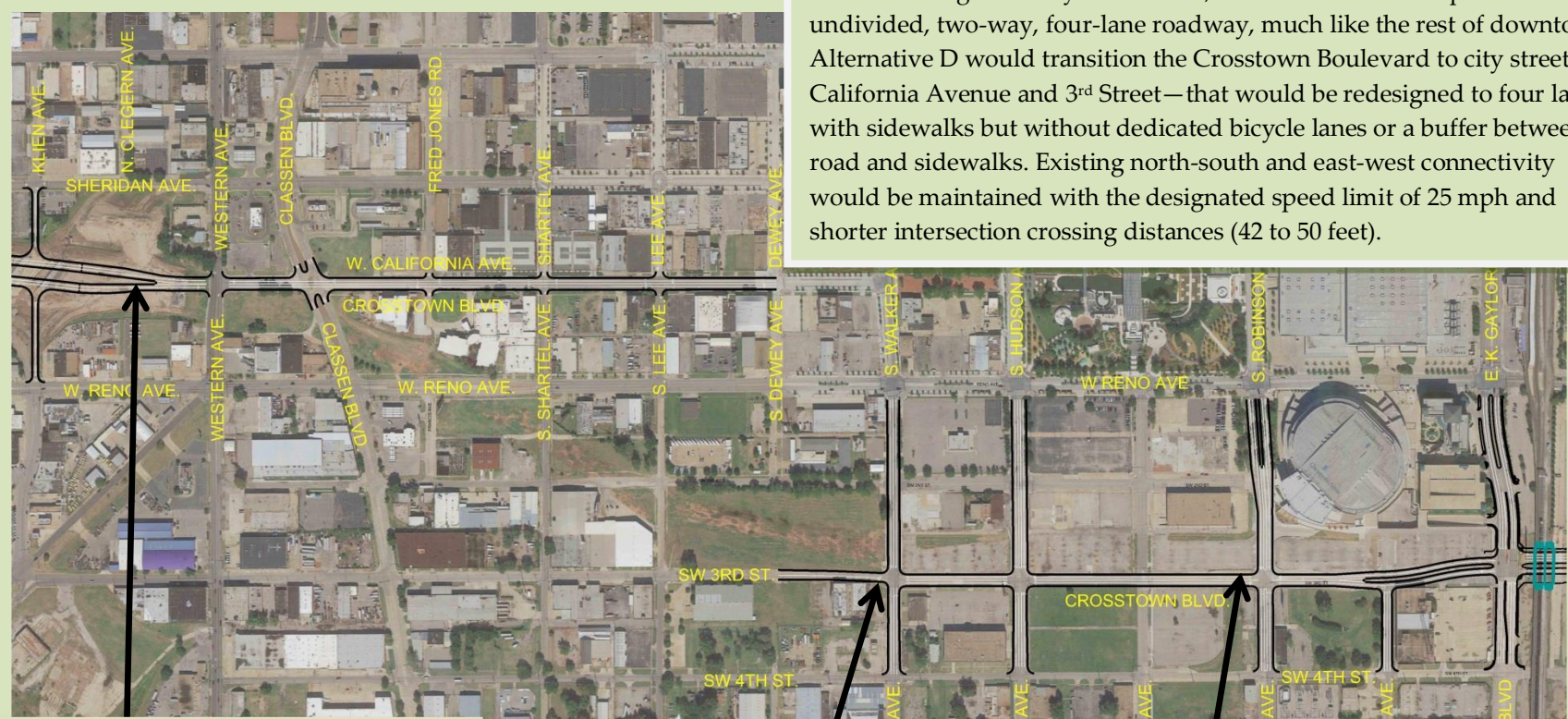
Alternative C is a four-lane alternative that was developed when stakeholders and Oklahoma City asked that the 1,600-foot long bridge near Western Avenue be removed. Oklahoma City approved the recommendation which would include three considerations addressing potential traffic issues in the area where Western Avenue, Classen Boulevard and the Crosstown Boulevard meet. As a result, Alternative C would still separate traffic from the Crosstown Boulevard and the new Western Avenue alignment, but would come down to an intersection with Reno Avenue. It would also provide a new connection between Classen Boulevard Western Avenue, and close Exchange Avenue at Western and Reno avenues. It would thus remove the fifth leg of the Western Avenue/Reno Avenue intersection and provide intersections at Shartel and Lee avenues. Alternative C would include an eight to 12-foot wide multi-purpose trail along both sides of the Crosstown Boulevard extending between Western Avenue and the Bricktown Canal.





## Alternative D

Alternative D was developed when stakeholders requested using the existing downtown street grid to carry traffic instead of a new roadway in the old I-40 right-of-way. As a result, Alternative D would provide an undivided, two-way, four-lane roadway, much like the rest of downtown. Alternative D would transition the Crosstown Boulevard to city streets—California Avenue and 3<sup>rd</sup> Street—that would be redesigned to four lanes with sidewalks but without dedicated bicycle lanes or a buffer between the road and sidewalks. Existing north-south and east-west connectivity would be maintained with the designated speed limit of 25 mph and shorter intersection crossing distances (42 to 50 feet).



## What Would Happen Between E.K. Gaylord Boulevard And Byers Avenue?

The East Connection begins at E.K. Gaylord Boulevard where the Crosstown Boulevard would extend east, going under the BNSF Railway and connect to ramps for the I-40 Crosstown Expressway at approximately Byers Avenue. It would contain three westbound lanes and two eastbound lanes and allow turns at E.K. Gaylord and Oklahoma Avenue and not affect future expansion potential of the BNSF Railway. This section was planned during the I-40 Crosstown Expressway EIS and would be the same for all of the alternatives.

Summary: The design of the Crosstown Boulevard accommodates the possible future expansion of rail operations at the Santa Fe Depot by providing adequate clearance for the Crosstown Boulevard under the existing and future railroad tracks.

## How Much Would The Boulevard Cost To Build?

The alternatives would vary in cost, ranging from approximately \$33.8 million to over \$62.0 million (Table 1) and is based on 2014 values. The nearly \$29 million dollar difference is primarily because Alternatives A and B would have the 1,600-foot long bridge near Western Avenue.

If you want to look at the details of the estimated costs, they are part of the *Concept Study Report* provided in [Appendix B](#).



The design of the East Section of the Crosstown Boulevard was identified during the I-40 Crosstown Expressway EIS.

**Table 1. Estimated Costs of the Crosstown Boulevard**

Alternative	Dollars
A	62.0 million
B	56.9 million
C	39.5 million
D	33.8 million

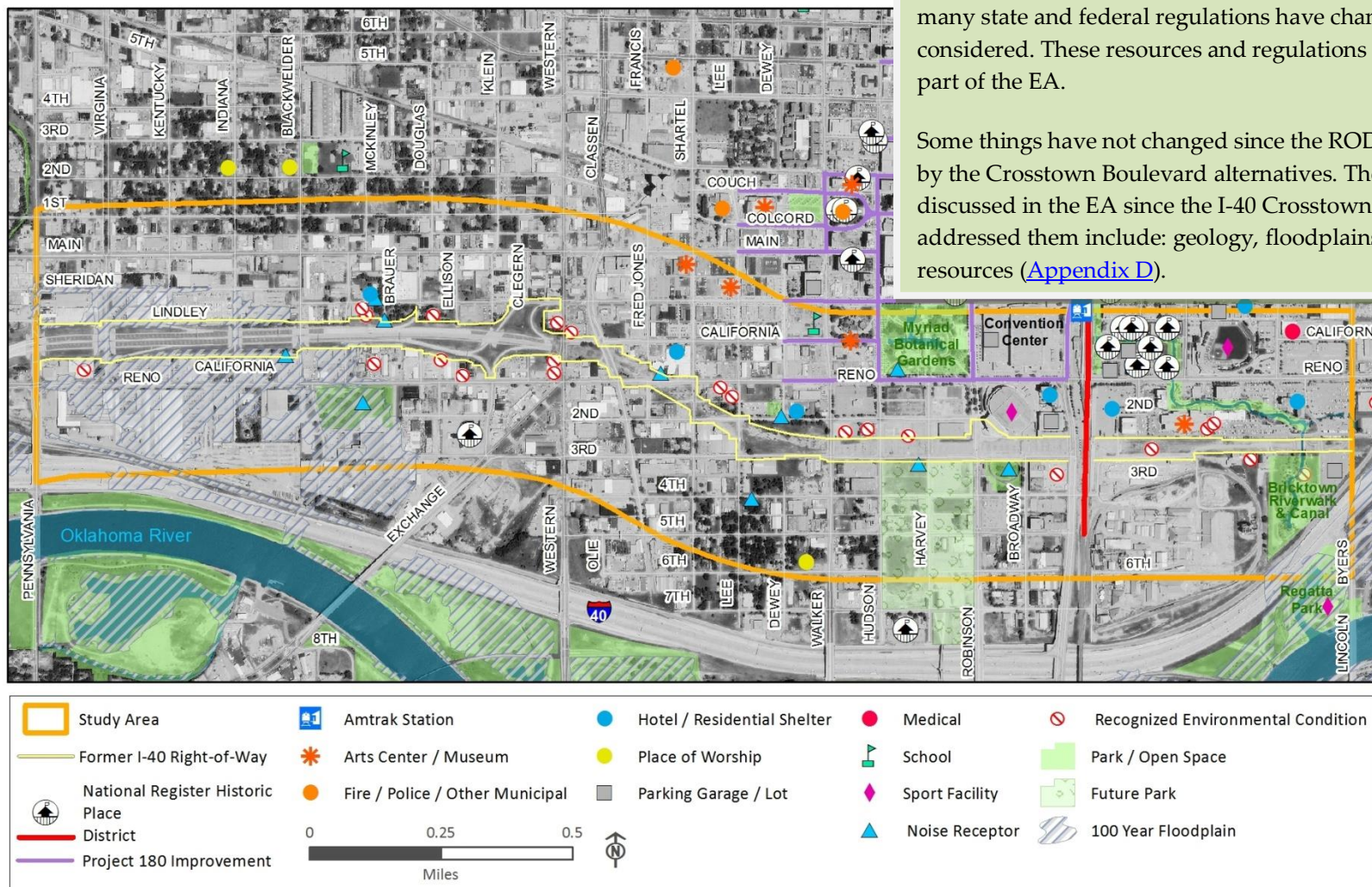
Source: MacArthur Associated Consultants, LLC. 2014



## What's Already In The Study Area?

You can see on the map that the study area hosts many resources that could be affected (either positively or negatively) by the Crosstown Boulevard alternatives. In addition, since the ROD was approved, many state and federal regulations have changed and need to be considered. These resources and regulations will be discussed in this part of the EA.

Some things have not changed since the ROD or would not be affected by the Crosstown Boulevard alternatives. The resources that will not be discussed in the EA since the I-40 Crosstown Expressway EIS addressed them include: geology, floodplains, and ecology/natural resources ([Appendix D](#)).



Source: Parsons Brinckerhoff 2014

## How Would The Boulevard Affect Traffic?

A traffic analysis of the four alternatives was conducted to determine how the project would change downtown traffic. The analysis looked at intersections near the Crosstown Boulevard. The traffic was analyzed for the years 2015 and 2040 in the morning and evening rush hours. As shown on the adjacent figure, the traffic flow conditions of roadways and intersections are defined by what is called levels of service or LOS and described in the Highway Capacity Manual (Transportation Research Board 2010). LOS uses letters A through F to measure traffic flow with A being the best and F being the worst. The LOS goal for the Crosstown Boulevard would be LOS D or better.

For the analysis, the total number of intersections having at least one portion of roadway with a LOS E or F was determined. This total was divided by the total number of intersections in the alternative. As a result, the failing LOS intersections (with LOS E and F) were expressed as a percentage of the total intersections affected by an alternative (Table 2). Using this analysis, Alternative B would have the worst traffic performance in 2015 and Alternative C would have the best traffic performance in both 2015 and 2040. Alternative D would have the worse traffic operations by 2040. In general, better traffic flow promotes community development opportunities and enhances livability for residents, employers and employees, and visitors.

If you want to look at the detailed evaluation of the traffic impacts, the *Concept Study Report* in [Appendix B](#) has this information.

Table 2. Traffic Summary of the Alternatives

Alternative	2015 (Percent of LOS E and F Intersections)	2040 (Percent of LOS E and F Intersections)
A	40	67
B	57	70
C	36	64
D	46	74

Source: MacArthur Associated Consultants, LLC. 2014

### LOS A

Most vehicles arrive at the green light and travel through without stopping.

### LOS B

Vehicles still move through the intersection very well, but more have to stop at the red light.

### LOS C

A substantial number of vehicles have to stop at the red light, but may still pass through without stopping.

### LOS D

Many vehicles have to stop at the red light, and traffic starts stacking at the intersection. There are times where the stopped vehicles do not make it through the green light.

### LOS E

Traffic volumes are higher than the intersection can handle with lines of stopped vehicles. A high number of stopped vehicles do not make it through the green light.

### LOS F

Traffic flow has broken down. Traffic volumes are high, and there are long backups at the intersection. Most vehicles have to wait through one or more green lights to get through.

Source: TRB 2010

Summary: Alternative C would have the lowest percentage of failing intersections and have the most advantageous traffic operations of the four alternatives for both 2015 and 2040. Alternative D would have the worst traffic operations in 2040.

## How Would The Boulevard Affect Oklahoma City Plans For The Area?

As you can see in Table 3, the study area is mostly made up of commercial and industrial land uses (approximately 328 acres or 71 percent of the study area). Because so much of the study area is already developed, no changes to the existing land uses would be expected to occur from any of the alternatives. However, it is estimated that the alternatives would result in approximately 17 to 27 (maximum) acres of new development because some of the old I-40 right-of-way would not be needed for transportation purposes following Crosstown Boulevard construction (Table 4). The acreage available for redevelopment will be determined during final design in coordination with FHWA, ODOT and the Oklahoma City.

Since 1991, the core of downtown Oklahoma City has undergone a lot of redevelopment. In these areas, a strong planning and policy emphasis has been placed on urban design and appearance. Encompassing these planning initiatives is **Metropolitan Area Projects (MAPS) which is designed to**

**increase economic growth and improve the overall quality of life in downtown Oklahoma City and was voter approved.** MAPS 3 resulted in Oklahoma City's *Core to Shore Plan: A Redevelopment Framework* (Oklahoma City 2008) which is part of the City's Comprehensive Plan approved by City Council. It envisions the Crosstown Boulevard as a "world-class, pedestrian-friendly boulevard." A large portion of the *Core to Shore Plan: A Redevelopment Framework* (2008) planning area lies within the study area, and the multimodal Crosstown Boulevard would provide necessary access and related improvements accommodating current and planned development.

In addition, the *MAPS 3 Downtown Park Master Plan* (Hargreaves Associates 2013) anticipated a proposed boulevard and suggested continued coordination during detail design of both the downtown park and the Crosstown Boulevard. Oklahoma City Council approved the *MAPS 3 Downtown Park Master Plan* on January 7, 2014. On July 21, 2014, Oklahoma City indicated its support of Alternative C if the intersections at both Lee and Shartel avenues would be modified to include north south connectivity. These modifications would create traditional intersections, and provide for future signalizations ([Appendix C](#)).

Table 3. Land Use within the Study Area

Land Use	Area (Acres)	Percent of Total Area
Residential	71	15.3
Commercial/Mixed Use	189	40.8
Office Center	18	3.9
Institutional	25	5.4
Industrial	139	30.0
Parks and Open Space	21	4.5
Total	463	-
Source: Parsons Brinckerhoff 2014		

Table 4. Land Development Opportunities

Alternative	Maximum Acres of Potential Development
A	16.9
B	17.7
C	16.9
D	27.4
Source: Parsons Brinckerhoff 2014a	

Summary: Alternatives A, B and C would be consistent with the various MAPS 3 plans. While not consistent with the local planning efforts, Alternative D would provide the greatest area for redevelopment.



## How Would The Boulevard Affect Residents And Businesses?

Based on information from the 2010 US Census, the study area includes all or portions of seven block groups and portions of four neighborhood districts (Table 5). **[A block group is a geographical unit used by the US Census Bureau and is the smallest unit they use to publish data.]** Page 15 shows a map with the location of these block groups and neighborhood districts. In 2010, the block groups had a total of 2,886 people; of these, nearly 25 percent lived in Census Tract 1036.01, Block Group 1, which lies east of Western Avenue. The majority of residences fall in the Bricktown entertainment district (Census Tract 1038, Block Group 1). The area population had a higher number of housing units (461), households (323), and median income (\$58,295) than any of the other areas analyzed. The median household income in the Bricktown area is also higher than Oklahoma City (\$45,704) and Oklahoma County (\$45,082). None of the alternatives displace residents.

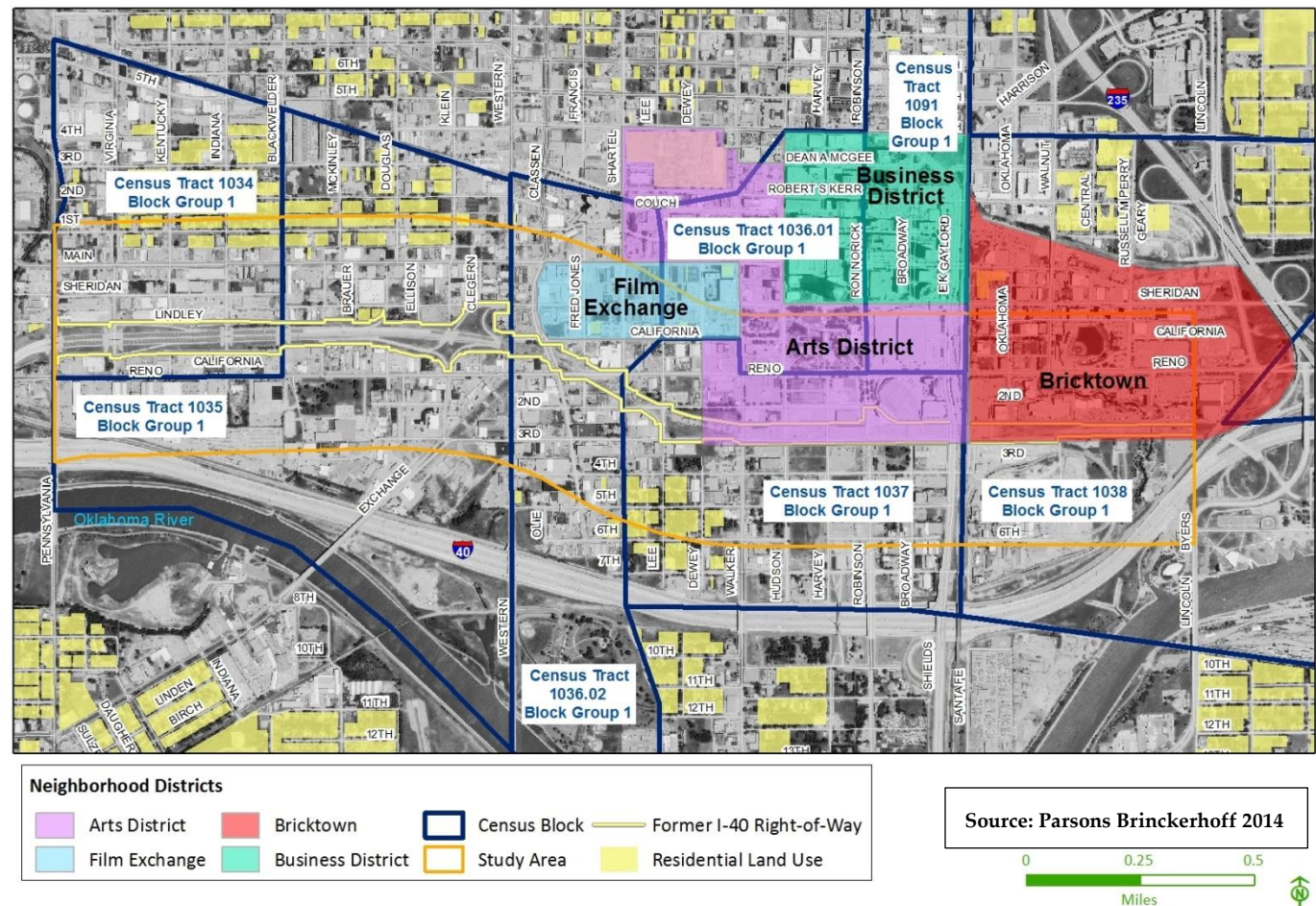
Summary: All of the alternatives lie primarily within existing transportation right-of-way and would have minimal effect on residents. No people or businesses would have to move because of the Crosstown Boulevard; therefore, direct population or business loss would not happen.

Table 5. Study Area Population Characteristics (2010)

Area	Total Population	Median Age	Housing Units (#)	Annual Median Household Income	Vacant Housing Units (%)	Households (#)	Unemployment Rate (%)
Oklahoma County	718,633	34.3	322,550	\$45,082	10.1	283,168	4.2
Oklahoma City	579,999	34.0	256,930	\$45,704	10.4	226,945	4.3
Census Tract 1034 Block Group 1	373	33.8	91	\$26,344	22.8	129	1.7
Census Tract 1035 Block Group 1	351	39.9	91	\$20,481	15.4	77	8.6
Census Tract 1036.01 Block Group 1	226	30.6	247	\$53,625	32.4	167	0.0
Census Tract 1036.02 Block Group 1	704	39.6	33	\$21,518	21.2	26	0.0
Census Tract 1037 Block Group 1	514	43.7	76	\$27,554	26.3	56	0.0
Census Tract 1038 Block Group 1	467	26.7	461	\$58,295	29.9	323	5.5
Census Tract 1091 Block Group 1	251	52.7	161	\$6,346	3.7	155	13.9
Sources: Oklahoma Department of Commerce 2013; US Census Bureau 2010							

All alternatives would improve downtown access and none would eliminate direct access to existing businesses in the study area. Some access would change. With Alternatives A and B, Lee Avenue would be closed at the Crosstown Boulevard. Access south of the Crosstown Boulevard would occur from South 2<sup>nd</sup> Street, Walker Avenue and SW 4<sup>th</sup> Street. With the closure of Lee Avenue, access north of the Crosstown Boulevard would occur from South 3<sup>rd</sup> Street and Walker Avenue. For Alternatives A through C, Western Avenue would be closed north of the Crosstown Boulevard. People going to the businesses on the west side of Western Avenue and north of the Crosstown Boulevard would have to travel from Sheridan Avenue to the new Classen Boulevard to gain access south of the Crosstown Boulevard. New access would be provided from the realigned Classen Boulevard for businesses, but the realignment would affect approximately 12 parking spaces from the overflow parking south of one restaurant. ODOT and FHWA will work with businesses to keep appropriate access open during Crosstown Boulevard construction. FHWA and ODOT would follow the acquisition and relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, effective February 3, 2005.

If you want to read more about this topic, you can get more details from the *Social and Community Technical Memorandum* located in [Appendix E](#).





## How Would The Boulevard Affect Low Income Or Minority Populations?

All federal agencies must comply with Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed on February 11, 1994. This order states that, “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” These populations are called “Environmental Justice [EJ] populations.” FHWA adopted FHWA Order 6640.23, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* on December 2, 1998. This FHWA Order states that “a disproportionately high and adverse effect” means the adverse effect is predominantly borne by EJ populations, or is appreciably more severe than the adverse effect made on non-EJ populations or the benefits to the EJ populations are delayed compared to non-EJ populations.

To determine how the Crosstown Boulevard would affect EJ populations, the study area population was compared to that of Oklahoma City and Oklahoma County using information from the 2010 US Census. Table 6 shows the resulting summary of population characteristics.

Since the entire study area lies within block groups identified as having a higher percentage of EJ population than Oklahoma City has on average, any beneficial or adverse impacts from the Crosstown Boulevard would be predominantly borne by minority and low-income populations. None of the alternatives’ impacts would be borne disproportionately by more EJ populations than other populations

**Table 6. Environmental Justice Characteristics of the Study Area**

Area	Total Population (#)	Minority Population (#) <sup>1</sup>	Hispanic or Latino (%) <sup>2</sup>	Minority Percent Higher than Region	Persons Below the Poverty Level (#)	Poverty Level Higher than the Region <sup>3</sup>
Oklahoma City	579,999	37.3	17.2	-	17.6	-
Oklahoma County	718,633	28.2	58.5	-	17.8	-
Census Tract 1034 Block Group 1	373	56.9	63.3	Yes	19.3	Yes
Census Tract 1035 Block Group 1	351	45.6	34.8	Yes	32.6	Yes
Census Tract 1036.01 Block Group 1	226	16.1	6.2	No	7.3	No
Census Tract 1036.02 Block Group 1	704	31.2	4.0	No	91.4	Yes
Census Tract 1037 Block Group 1	514	49.5	12.3	Yes	34.3	Yes
Census Tract 1038 Block Group 1	467	18.7	4.7	No	11.4	No
Census Tract 1091 Block Group 1	251	49.1	2.4	Yes	78.7	Yes
1 – Minority Populations include: Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Hispanic or Other race or Two or More Races.						
2 – This refers to a person that identifies themselves with Cuban, Mexican, Puerto Rican, South of Central America, or other Spanish origin. The classification is an ethnicity and is regardless of race.						
3 – Region is defined as both Oklahoma City or Oklahoma County.						
Sources: US Census Bureau 2010; American Community Survey 2008-2012.						

since all affect EJ populations equally. The majority of right-of-way that would be needed for Alternatives A, B, C and D would occur within existing road right-of-way. This new transportation facility, the Crosstown Boulevard, would replace another transportation facility (I-40 Crosstown Expressway). The project would not change the land use and no adverse effects are expected to EJ populations as compared to non-EJ populations. In fact, the improved pedestrian and bicycle facilities in the area would be improvements to be enjoyed by the EJ populations as well as the population at large.

If you want to read more about this topic, you can get more details from the *Social and Community Technical Memorandum* located in [Appendix E](#).

## Would The Boulevard Affect Existing Parks And Recreational Areas?

**Section 4(f) of the US Department of Transportation Act of 1966 provides special protection for publically owned parks and recreational lands, wildlife and waterfowl refuges, and significant public or private historic properties.** The Crosstown Boulevard would not affect any existing parks or recreational areas. The *MAPS 3 Downtown Park Master Plan* (Hargreaves Associates 2013) describes the plans for the future downtown park (Central Park). It would be adjacent to Alternatives A, B and C. Park amenities in the first phase would include event gardens, plaza, promontory, passive gardens, lake with boat rental, great lawn and stage, promenade, amusement and concession area and family recreation area. Since this park is part of an officially adopted plan; is programmed for construction; is publicly owned and would offer significant recreational activities, the EA evaluates the project's affects on the park as a Section 4(f) resource.

The Crosstown Boulevard would not incorporate any land of the planned park, but would be adjacent to it. As a result, the planned Central Park would not have a constructive use, meaning that the Crosstown Boulevard would neither prevent use of the recreational activities nor would these resources be substantially impaired. The fact that the park and boulevard are being planned with each facility in mind, allows for the Crosstown Boulevard to not affect this 4(f) property. Future noise levels resulting from Alternatives A, B and C would not exceed the noise criteria for parks, and therefore there would be no negative noise impacts from those alternatives. The future noise levels for Alternative D would not change from the existing area noise levels. The result of this information shows that none of the Crosstown Boulevard alternatives would create a "use" of the park in accordance with Section 4(f) Transportation Act of 1966.

If you want to read more about how Section 4(f) properties were identified and analyzed for the Crosstown Boulevard, you can get more detail information from the *Social and Community Technical Memorandum* contained in [Appendix E](#).

Summary: Alternatives A, B, C and D would not cause disproportionately high and adverse effects on minority or low-income populations, as defined in Executive Order 12898 and FHWA Order 6640.23.

Summary: No alternative "uses" park land or part of a park according to Section 4(f) of the US DOT act of 1966. Alternatives A, B and C would be consistent with the downtown park envisioned as part of MAPS 3.



## How Would The Boulevard Affect Historic Or Other Culturally Important Properties?

ODOT's Cultural Resources Program (ODOT-CRP) conducted a study area field review in February 2014. Each alternative was evaluated as a 500-foot wide corridor to consider potential visual effects on historic properties outside of the potential right-of-way from the Crosstown Boulevard. This 500-foot wide corridor is considered the project's area of potential effect (APE). ODOT determined that no historic properties would be affected by any alternative. The Oklahoma State Historic Preservation Office (SHPO) agreed with these findings on February 27, 2014. **[The SHPO conducts surveys of and maintains an inventory of historic properties. The SHPO also advises and assists governments in matters of historic preservation.]**

In April, 2014, ODOT-CRP initiated a re-evaluation of the East Connection to consider how the alternatives for the Crosstown Boulevard would change the BNSF railway tracks. These tracks are part of the Santa Fe Railroad Historic District which was determined eligible for inclusion on the National Register of Historic Places in 2013. Construction of these elevated rails began in 1931. The elevated track portion currently contains openings at ten roadway intersections (South 4<sup>th</sup>, Reno, Sheridan, Main, Park/1<sup>st</sup>, North 2<sup>nd</sup>, North 3<sup>rd</sup>, North 4<sup>th</sup>, North 5<sup>th</sup>, and North 6<sup>th</sup> streets). The Crosstown Boulevard would open a new underpass through the concrete between South 4<sup>th</sup> Street and Reno Avenue. According to two newspaper articles (October 26 and November 12, 1930) in *The Oklahoman*, this is similar to what was proposed in the 1930s, but never built.

On May 23, 2014, ODOT-CRP determined that the construction of the Crosstown Boulevard underpass would have no adverse effect on the Santa Fe Railroad Historic District. This was based on the fact that the historic property, the wall which elevates the rail, is consistent with the intended use of the structure - to facilitate the movement of traffic in Oklahoma City at this location. In addition, the notion of an underpass would be consistent with the original elevated rail design, as proposed in the 1920s and 1930s planning for the project. The SHPO agreed with these findings on June 13, 2014. The underpass would also not prevent using the BNSF Railway for future light rail in Oklahoma City. The SHPO concurred with ODOT's determination. Based on this concurrence, ODOT and FHWA also determined that the construction of an underpass would not constitute a use under Section 4(f) of the US Department of Transportation Act of 1966.

Summary: For all the alternatives, the Crosstown Boulevard underpass would not prevent using the BNSF Railway Corridor for future potential light rail in Oklahoma City.

Additionally, all of the alternatives resulted in ODOT determining that the Crosstown Boulevard would have no adverse effect on the Santa Fe Railroad Historic District.

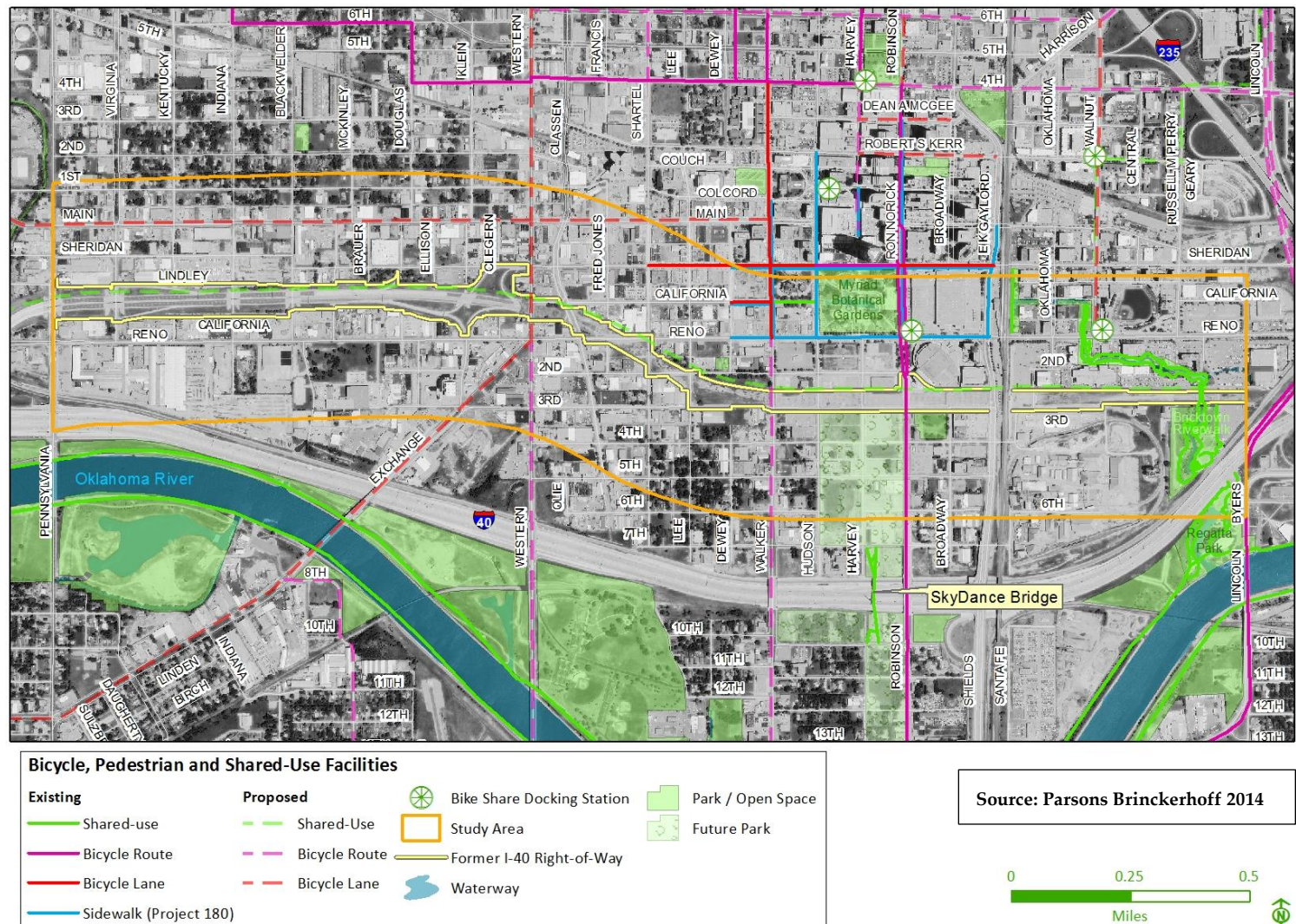
If you want to read more about this topic, [Appendix F](#) contains additional information.

## How Would The Boulevard Affect Pedestrian And Bike Access?

As you can see from the adjacent map, numerous bike and pedestrian facilities exist within the study area. As part of the EA, the alternatives for the Crosstown Boulevard were studied to determine if they would change these facilities.

Alternatives A and B would have similar speeds (35 mph) between Western and Walker avenues with no pedestrian or bicycle facilities on the bridge. The reduced number of lanes with Alternative B would reduce the average intersection crossing distance from around 120 feet (maximum) to between

80 and 105 feet (maximum). For Alternative C, bicycle lanes, parking, and sidewalks would be proposed for the 25 mph section between Walker Avenue and E.K. Gaylord Boulevard. This slower vehicle speed and some of the shorter intersection crossing distances (55 to 80 feet) would create a more pleasant and safer environment for pedestrians and bicyclists than either Alternative A or Alternative B. In addition,





Alternative C would be pedestrian and bicyclist friendly between Western Avenue and E.K. Gaylord Boulevard resulting from the speed limit, intersection crossing distances, mid-block crossings and the proposed multi-purpose trails between Western Avenue and the Bricktown Canal.

Summary: Alternative A would be the least pedestrian and bicyclist friendly because of higher vehicle travel speed limits and generally longer intersection crossing distances. Alternative D would be the most pedestrian friendly through the area resulting from the lower speed limits and the shortest intersection crossing distances for pedestrians.

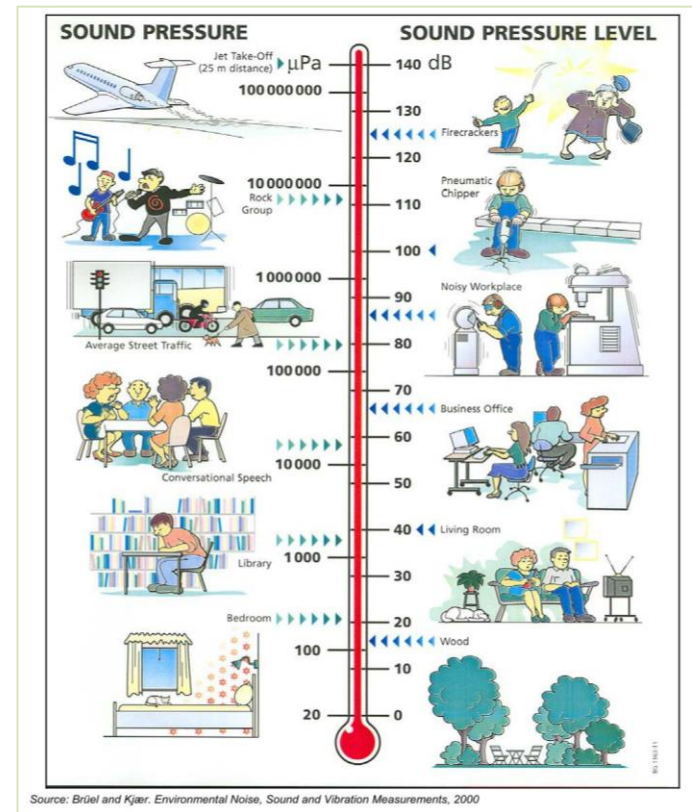
Alternative C would be pedestrian and bicyclist friendly between Western Avenue and E.K. Gaylord Boulevard resulting from the speed limit, intersection crossing distances, mid-block crossings and the proposed multi-purpose trails between Western Avenue and the Bricktown Canal.

Alternative D would transition the Crosstown Boulevard to city streets—California Avenue and Third Avenue—that would be redesigned to four lanes with sidewalks but without dedicated bicycle lanes or a buffer between the road and sidewalks. With the designated speed limit of 25 mph and shorter intersection crossing distances (42 to 50 feet), Alternative D would be the most bicyclist and pedestrian friendly alternative.

If you want to read more about this topic, [Appendix G](#) has the *Bike and Pedestrian Technical Memorandum*.

## How Would The Boulevard Affect Noise Levels?

Analysts conducted a noise study to determine how the Crosstown Boulevard alternatives would affect noise-sensitive land uses in the area. Noise sensitive land uses, are those areas where the perception of noise could be changed by the project. Analysts followed the **ODOT Policy Directive Highway Noise Abatement C-201-3 (ODOT Noise Policy) (ODOT 2011) that follows FHWA's regulations as defined by 23 Code of Federal Regulations (CFR) 772 Procedures for the Abatement of Highway Traffic Noise (FHWA 2010)** to determine changes in the study area noise levels resulting from the alternatives. ODOT and FHWA regulations contain noise impact criteria that define noise exposure limits for various land uses (Table 7). We call these limits noise abatement criteria (NAC).



Noise scientists measured noise measurements at 15 sites (which are shown on the map in the “What’s Already In the Study Area?” on page 11), at 15 minutes increments. These sites were determined based on the current land use and the location of the alternatives. Traffic counts were also recorded simultaneously during each noise measurement. The noise measurements and traffic counts were used to validate the Traffic Noise Model 2.5 (TNM® 2.5) for its accuracy to estimate noise levels reasonably at each traffic noise site.

These analysts predicted noise levels for rush hours in 2015 and 2040 to represent the worst case traffic conditions. For Alternatives A, B, C and D, two sites would have noise levels that approach, meet, or exceed the noise criteria. (This is 67 dB(A) Leq(h) noise level for these two types of land uses.) One site is a residence on North Barauer Avenue between Sheridan Avenue and the Crosstown Boulevard. The other was the Rescue Mission on the corner of Reno Avenue and Classen Avenue. Noise abatement measures in the form of a free standing noise wall placed within the Crosstown Boulevard right-of-way was considered for the impacted sites. Based on ODOT’s Noise Policy (2011), although mitigation for these impacts was determined feasible, it was determined not reasonable with the cost per benefited receptor exceeding the reasonable cost criteria. If you want to read more about how noise impacts were determined for the project, you can get more detailed information from the *Noise Technical Report* found in [Appendix H](#).

**Table 7. FHWA Noise Abatement Criteria—Hourly Weighted Sound Level**

Activity Category	Leq(h) dBA	Description of Activity Category
A	57	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B <sup>1</sup>	67	Residential
C	67	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	-	Undeveloped lands that are not permitted.

Source: FHWA 2010

Summary: Alternatives A, B, C and D result in two sites where noise levels that approach, meet, or exceed the Noise Abatement Criteria (NAC). However, providing noise mitigation by constructing free-standing noise walls would substantially exceed the reasonable cost per affected resident per ODOT noise policy (2011), so no noise walls would be constructed.



## How Would The Boulevard Affect Air Quality?

Oklahoma County currently meets all of the National Ambient Air Quality Standards (NAAQS). Based upon the studies completed for the Crosstown Boulevard Project in 2014, none of the Crosstown Boulevard alternatives would be expected to affect regional air quality levels, as travelers on each alternative would not affect regional vehicle miles traveled (VMT). **[A VMT is one vehicle traveling one mile so a vehicle traveling three miles is three VMT.]** Per the FHWA's *Interim Guidance Update on Air Toxic Analysis in NEPA* (FHWA 2012), the project would not have the potential for meaningful mobile source air toxic (MSAT) effects, as the project would not have a meaningful impact on traffic volumes or vehicle mix.

Summary: None of the alternatives would be expected to affect regional air quality levels, or would be predicted to cause a violation of air quality standards.

Several intersections in the study area would be predicted to have poor or failing traffic conditions (LOS D, E or F) under the alternatives in both 2015 and 2040 (Table 8). As a result, these intersections would have the potential for elevated levels of carbon monoxide (CO). Alternative A, would have the least number of intersections with poor LOS and would therefore have less potential to create elevated CO levels. Alternative D would have the most number of intersections with poor LOS and would have the greatest potential for elevated CO levels. However, based on the results of the microscale CO analysis of the highest volume intersection affected by the project, none of the alternatives would be predicted to cause or worsen a violation of the National Ambient Air Quality Standards (NAAQS) for CO.

If you want to read more about how air quality was analyzed for the Crosstown Boulevard, you can get more detailed information from the *Air Quality Technical Memorandum* provided in [Appendix I](#).

**Table 8. Summary of Intersections with Poor LOS**

Category	Alternative A	Alternative B	Alternative C	Alternative D
<i>Regional Impact (Yes/No)</i>	No	No	No	No
<i>2015 – AM Intersections (#)</i>	5	5	9	11
<i>2015 – PM Intersections (#)</i>	4	7	8	9
<i>2040 – AM Intersections (#)</i>	9	10	11	19
<i>2040 – PM Intersections (#)</i>	10	11	12	20

Source: Parsons Brinckerhoff 2014c

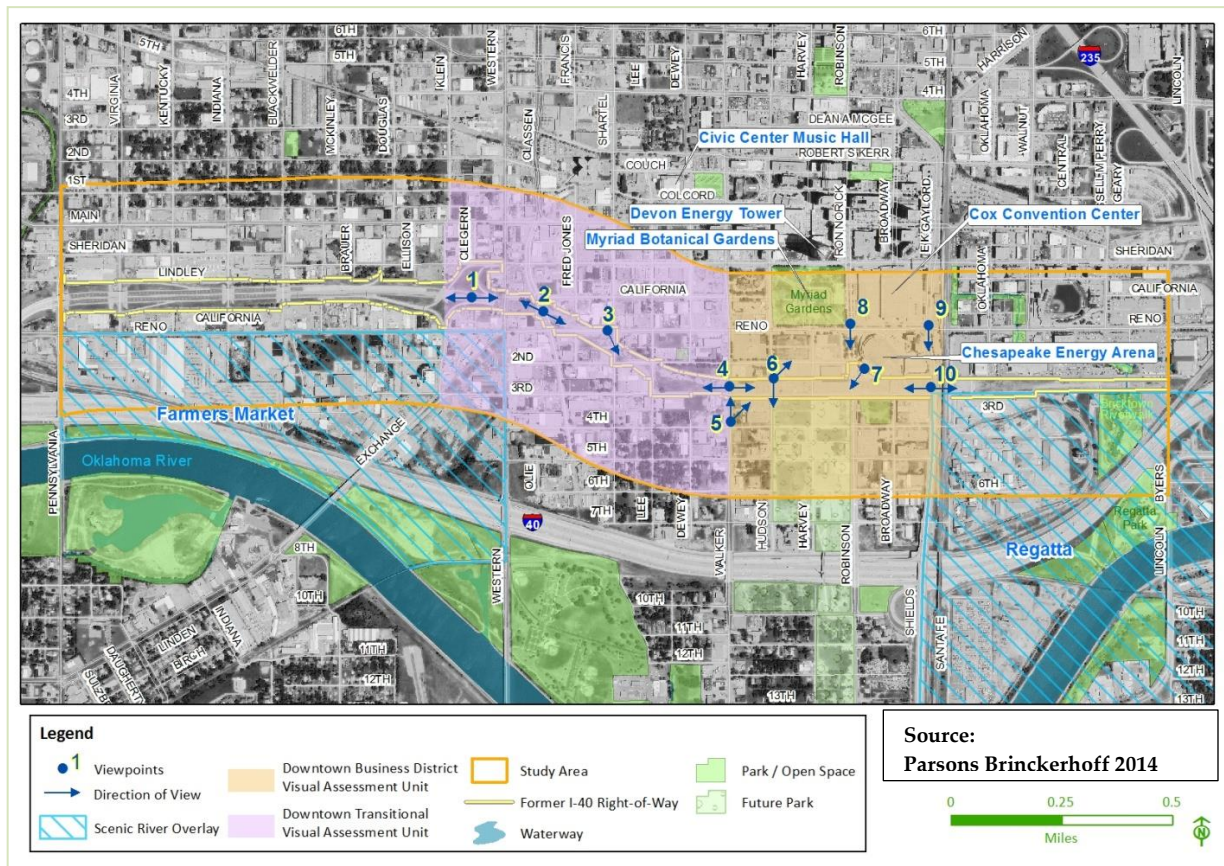
## Would The Boulevard Change The Way Downtown Looks?

Since Alternatives A, B and C would convert the old I-40 right-of-way through downtown Oklahoma City into a roadway; citizens want to know how these alternatives would affect downtown's visual quality. *FHWA's 1988 Visual Impact Assessment for Highway Projects* provides the methods used to study the potential visual impacts.

The central section of the study area was divided into two visual assessment units: Downtown Transitional and Downtown Business District. As shown on the adjacent map, five representative viewpoints within each visual assessment unit were evaluated for changes to the visual resource and the visual environment. In addition, an assessment of how four area viewer groups would experience the project's visual impact was completed. [Viewers are people whose views of the area may be altered by the project.] For the Crosstown Boulevard, four viewer groups were identified: drivers; bicyclists/pedestrians, employees, and residents.

If you want to read more about this topic, [Appendix I](#) has the *Visual Technical Report*.

Summary: Alternatives A and B would both increase and decrease visual quality because the long bridge would disrupt views, while the remaining portion of the I-40 right-of-way would be improved. Alternative C would have the most beneficial effects by improving the old I-40 right-of-way and reducing visual encroachments with the shorter bridge. Alternative D would not include further improvements to the existing I-40 right-of-way, and not change regional visual quality.





## Would Past Land Uses That Created Hazardous Materials Affect The Boulevard?

ODOT reviewed the study area to identify potential sites with environmental contamination that could affect the choice among the Crosstown Boulevard alternatives. This review included studying historic aerial photographs, Sanborn fire insurance maps, topographic maps, resource agency records, interviews with relevant agency personnel, a windshield survey of the area and limited soil sampling.

Summary: All of the alternatives could affect sites with hazardous materials. During construction, if petroleum or chemical odors or staining would be observed, contaminated soils would be managed in accordance with state and federal regulations.

An *Initial Site Assessment for Excavation and Construction of the Old Interstate 40 Crosstown Boulevard, Oklahoma City, Oklahoma* was completed for ODOT in June 2012. This Initial Site Assessment (ISA) identified potential sites of environmental contamination that could affect the project. The assessment identified 24 sites of potential environmental concern. Sites of concern include underground storage tank (UST) sites, closed leaking UST case sites, aboveground storage tank (AST) sites, leaking AST sites, dry cleaning facilities, Resource Conservation and Recovery Act (Small Quantity Generator, Non-generator and Conditionally Exempt Small Quantity Generator) sites, Solid Waste Recycling Center, a Comprehensive Environmental Response, Compensation, and Liability Information System – No Further Remedial Action Planned site, historic gasoline stations and industrial facilities, and abandoned oil and gas wells. The ISA concluded that contamination may be encountered during the excavation and construction activities, and that workers would need to be made aware of potential petroleum and chemical contamination in soil during excavation activities. **As a result, when construction plans are developed, these areas would be identified to protect the environment from unwanted releases and workers from exposure to these materials.**

If you want to read more about these hazardous materials sites identified for the Crosstown Boulevard, [Appendix K](#) includes a more detailed summary of the hazardous material reports.

## How Would The Boulevard Affect Downtown Development?

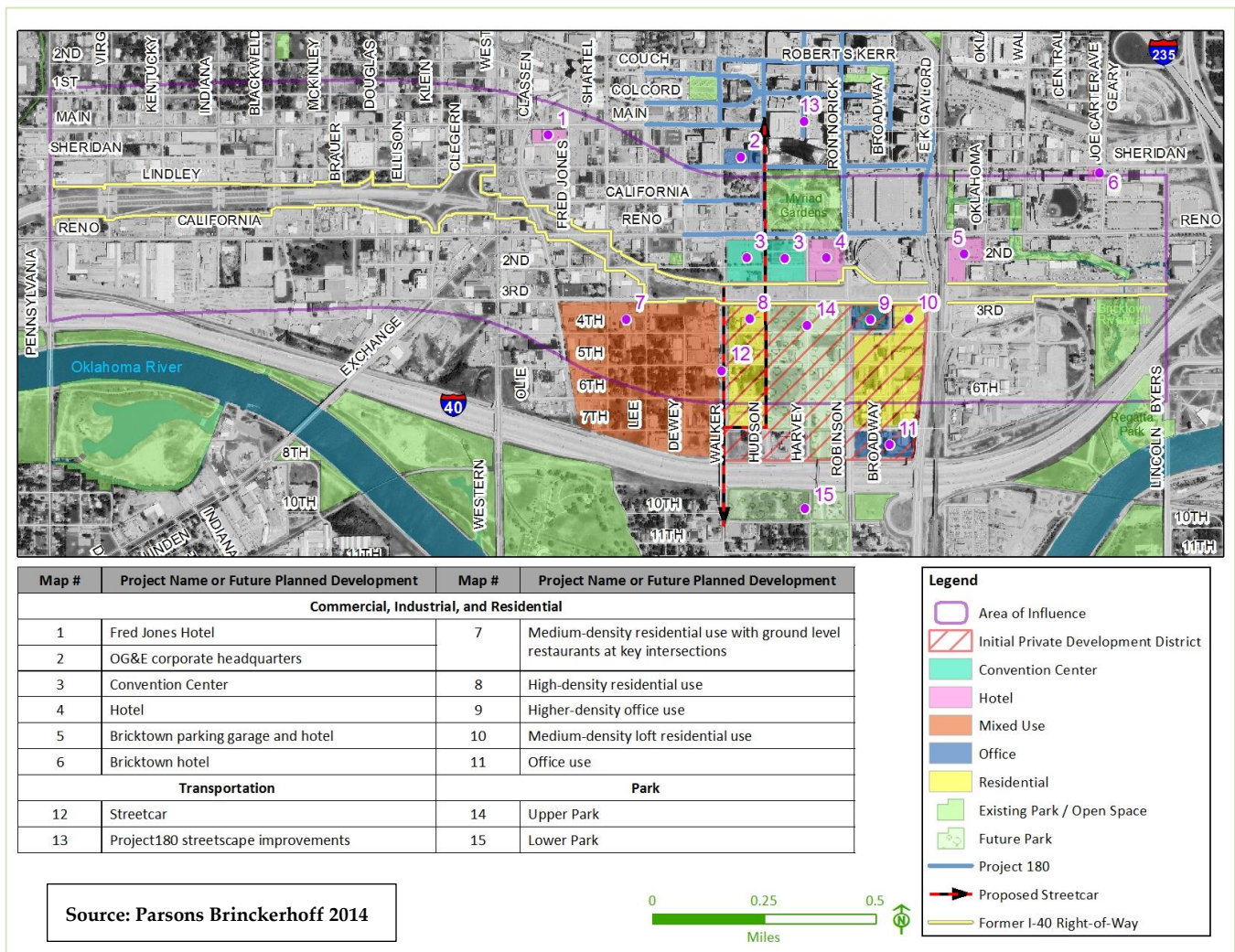
Under the National Environmental Policy Act (NEPA), the federal government has a policy of assessing indirect and cumulative impacts. To do this you have to consider whether adding “one more project” to what is already going on in an area will be the tipping point into making the impact significant. In assessing cumulative impact, the new project’s implementation can be considered as asking, “is this the straw that breaks

Alternatives A, B and C would be consistent with various MAPS 3 plans for the area and would support new land development consistent with the Core to Shore Plan and provide improved access for various transportation modes as called for in MAPS.

the camel's back?" or, in other words, it adds just the amount of traffic, in this case, that makes congestion, air quality, noise or other transportation-related impact significant when in its own confines, these impacts would not be significant.

For the Crosstown Boulevard, the alternatives in themselves do not cause overall significant negative impacts. The provision of improved access to and from downtown off of the I-40 Crosstown, new pedestrian and bicycle facilities, better traffic flow, and additional developable land from the previous interstate right-of-way are all positive impacts. Further, the other major land and park developments that are "reasonably foreseeable" have been planned or will be developed with the Crosstown Boulevard assumed to be in place. This is because **ODOT and FHWA committed to the original Crosstown Boulevard as a part of the overall I-40 Crosstown Expressway EIS**. Projects that specifically consider having the boulevard in place include Oklahoma City's *Core to Shore Plan: A Redevelopment Framework* (Oklahoma City 2008) and MAPs Downtown Park Master Plan (Hargreaves Associates, 2013). The City Council adopted the former as an amendment to the City's Comprehensive Plan in August 2008 and the latter on January 7, 2014.

If you want to read more about this topic, [Appendix L](#), the *Indirect and Cumulative Impact Technical Report* provides more details.





## Would The Boulevard Affect Public Safety?

The Crosstown Boulevard would not change access for emergency services (police, fire, and ambulance) within the study area. Response times may improve where traffic and LOS is improved because of the Crosstown Boulevard. Alternative C would have the fewest poorly operating intersections (LOS E or F) in both 2015 and 2040. Alternative D would have the most number of poorly operating intersections in 2040. Alternatives A, B and C would

decrease response times because access to and from the area would be improved and capacity would be added to the existing local transportation system. Alternative D would not improve travel times because access to/from the interstate system into downtown would be limited to Pennsylvania Avenue, Western Avenue, Robinson Avenue, Shields Boulevard, and the east boulevard connection to I-235/I-35.

During construction, the contractor would follow federal, state, and local laws governing safety, health, and sanitation. Reasonable safety considerations and safeguards necessary to protect the life and health of employees on the job, the public's safety and property protection in connection with roadway construction would be taken.

## How Would The Boulevard Affect Energy Use?

Transportation uses the most quickly depleting energy resource: petroleum. Transportation-related energy uses can be broken down into three primary areas: construction, operation, and maintenance. Table 9 shows the Energy to construct the alternatives. *Analysts used the US Department of Energy's (USDOE)'s Assessment of Energy Impacts of Improving Highway-Infrastructure Materials (1995) to estimate energy consumption.* Energy usage for vehicle operations would be improved overall because of the overall improved study area traffic conditions. Maintenance energy consumption can generally be considered proportional to the length of the new facility, so Alternative A would require the highest amount of energy for maintenance and Alternative D would have the lowest.

Summary: Alternative D would have more intersections with unacceptable LOS compared to Alternatives A, B and C. As a result, Alternatives A, B and C would have better traffic operations and likely improve emergency response times in the study area.

**Table 9. Average Energy Needed for Construction**

Alternative	Amount of Energy (mBtu*)
A	233,000
B	155,000
C	155,000
D	56,200

\* mBtu is a standard unit of measure for energy and means one thousand British thermal units (BTU). One BTU is the amount of energy needed to cool or heat one pound of water by one degree Fahrenheit.

Source: Parsons Brinckerhoff 2014

Summary: Alternative A would require the most energy to construct and maintain while Alternative D would require the least.

## How Did ODOT And FHWA Involve The Public In The Project?

Public involvement was a large part of the EA process for the Crosstown Boulevard and directly affected how the alternatives were developed. The FHWA and ODOT offered the public the opportunity to participate in the EA process through four public meetings held on August 21, 2012, December 3, 2012, June 18, 2013, and May 7, 2014 (Table 10). ODOT and FHWA in cooperation with Oklahoma City hosted the meetings to keep the public informed throughout the EA process and to get comments about the alternatives. ODOT advertised each public meeting via a direct mail postcard and news release. Information was also provided on ODOT's website, which allowed individuals to provide additional comments. For a complete record of these meetings, please see the public meeting summaries found in Appendix M ([August 21, 2012](#); [December 3, 2012](#); [June 18, 2013](#); [May 7, 2014](#)).

Public comments varied from the first meeting to the last meeting but overall, the following three public comments stood out and resonated throughout the process. The top three public comments were:

- Make the Crosstown Boulevard bicycle and pedestrian friendly;
- Take into account current Oklahoma City plans and studies; and
- Provide opportunities for economic development.

Table 11 on page 28 offers a brief summary of the public meeting dates, comments, and outcomes. Appendix M ([August 21, 2012](#); [December 3, 2012](#); [June 18, 2013](#); [May 7, 2014](#)) contains more detailed documentation of comments received.

Table 10. Summary of Public Meetings.

Date	Attendees (#)	Comment Forms/Letters (#)
August 21, 2012	274	98
December 3, 2012	244	36
June 18, 2013	79	25
May 7, 2014	101	320
Source: Parsons Brinckerhoff 2014d-g		

Images from the May 7, 2014 public meeting





Table 11. Summary of Public Meetings Comments for the EA

Date	Purpose of the Meeting	General Public Comments	Response
August 21, 2012	<ul style="list-style-type: none"> <li>Update the public on the project.</li> <li>Solicit comments on the proposal to build a four-lane Crosstown Boulevard instead of six-lanes.</li> </ul>	<ul style="list-style-type: none"> <li>Keep the boulevard at-grade as much as possible to allow for economic development. (107 comments)</li> </ul>	<ul style="list-style-type: none"> <li>Oklahoma City commissioned a study to look at alternatives for the previously elevated West Connection.</li> </ul>
		<ul style="list-style-type: none"> <li>Encourage walkability and alternative modes of transportation. (67 comments)</li> </ul>	<ul style="list-style-type: none"> <li>Alternatives were developed by Oklahoma City to provide for a multimodal corridor.</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce the traffic lanes and slow the speed of the vehicles. (65 comments)</li> </ul>	<ul style="list-style-type: none"> <li>Alternatives reduced the traffic lanes and allow for slower speeds.</li> </ul>
December 3, 2012	<ul style="list-style-type: none"> <li>Discuss the area of Western Avenue/Classen Boulevard/Reno Avenue in response to issues raised during the August 21, 2012 public meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Keep the boulevard at-grade as much as possible to allow for economic development. (25 comments)</li> </ul>	<ul style="list-style-type: none"> <li>Alternative C was developed to keep the roadway at-grade for longer via a four-lane configuration with a shorter bridge span over Western Avenue to Reno Avenue.</li> </ul>
		<ul style="list-style-type: none"> <li>Evaluate the possibility of restoring the original downtown street grid. (9 comments)</li> </ul>	<ul style="list-style-type: none"> <li>Alternative D was added to explore restoring the street grid.</li> </ul>
		<ul style="list-style-type: none"> <li>Provide greater access into downtown, not through it. (7 comments)</li> </ul>	<ul style="list-style-type: none"> <li>Alternatives C and D examined lower speeds with greater emphasis on access versus vehicular mobility.</li> </ul>
June 18, 2013	<ul style="list-style-type: none"> <li>Obtain additional information from the public to assist further in the identification of specific social, economic and environmental impacts that could result from the project.</li> </ul>	<ul style="list-style-type: none"> <li>Restore the street grid using two parallel streets and allow the former I-40 right-of-way to be opened up for economic development. (44 comments)</li> </ul>	<ul style="list-style-type: none"> <li>All alternatives were kept for further evaluation in the EA.</li> </ul>
		<ul style="list-style-type: none"> <li>Provide a multimodal boulevard that better serves the planned park in the core section. (9 comments)</li> </ul>	<ul style="list-style-type: none"> <li>Alternatives C and D were further developed to provide better access to the core section and multimodal connections with other Oklahoma City transportation projects.</li> </ul>

Table 11. Summary of Public Meetings Comments for the EA

Date	Purpose of the Meeting	General Public Comments	Response
		<ul style="list-style-type: none"><li>Avoid the creation of visible and physical barriers. (7 comments)</li></ul>	<ul style="list-style-type: none"><li>Visual impacts were evaluated in the EA.</li></ul>
May 7, 2014	<ul style="list-style-type: none"><li>Review the project history.</li><li>Discuss how input from previous meetings was incorporated.</li><li>Present the technical analysis done to evaluate social, economic and environmental effects.</li><li>Collect feedback on the alternatives.</li></ul>	<ul style="list-style-type: none"><li>Move forward with Alternative D. (148 comments)</li></ul>	<ul style="list-style-type: none"><li>While Alternative D was evaluated in the EA, Alternative C was found to provide a greater balance between motorized and non-motorized travel and was also the alternative supported by Oklahoma City.</li></ul>
		<ul style="list-style-type: none"><li>Provide a multimodal corridor that provides for safe bicycle, pedestrian and ADA accessibility. (128 comments)</li></ul>	<ul style="list-style-type: none"><li>Alternative C was recommended because it provided a good balance between all modes of transportation.</li></ul>
		<ul style="list-style-type: none"><li>Move forward with a modified Alternative C. (113 comments)</li></ul>	<ul style="list-style-type: none"><li>Alternative C was modified to address public concerns at Shartel and Lee avenues.</li></ul>
		<ul style="list-style-type: none"><li>Support mixed-use development and revitalization of downtown. (93 comments)</li></ul>	<ul style="list-style-type: none"><li>Both Alternatives C and D were found to provide opportunities for economic development. Alternative C appeared to be the best solution because it provided a good balance of mobility and access.</li></ul>
		<ul style="list-style-type: none"><li>Slow traffic and provide greater access to downtown. (58 comments)</li></ul>	<ul style="list-style-type: none"><li>Alternative C provided slower traffic than Alternatives A and B and comparable to Alternative D.</li></ul>
		<ul style="list-style-type: none"><li>Do not disrupt the street grid. (53 comments)</li></ul>	<ul style="list-style-type: none"><li>While Alternative D restored the street grid, Alternative C provides access to the street grid at major intersections while improving traffic operations and providing a more pedestrian-friendly corridor than originally proposed.</li></ul>
Source: ODOT, Parsons Brinckerhoff and MacArthur Associated Consultants, LLC. 2014			



## Public Hearing

On November 13, 2014, ODOT, in partnership with FHWA and Oklahoma City, conducted a public hearing on the Crosstown Boulevard to collect public comments on the EA and the Preferred Alternative. The purpose of the public hearing was to:

- Review the project history
- Summarize the results of the technical analyses that were completed as part of the EA and respond to stakeholder questions
- Discuss how input from previous public meetings was used and incorporated into the project
- Obtain feedback on the Preferred Alternative through written and verbal comments

A total of 121 individuals signed-in at the public hearing. [Appendix M \(November 13, 2014\)](#) includes copies of the sign in sheets and the material that was available for review. Everyone who attended was given a handout that provided project details and a schedule for the public hearing. Participants were able to provide verbal comments and/or written comments. Electronic and mailed comments were also accepted through the public comment period that ended on December 1, 2014. Seventeen comments were received during the public comment period for the public hearing, and are summarized in the Table 12, below

**Table 12. Summary of Comments Received During the Public Comment Period**

Comment	Summary	Response
1	<ul style="list-style-type: none"> <li>• Design the block between Hudson and Robinson avenues to be pedestrian friendly since it would be adjacent to the Convention Center and new park</li> </ul>	<ul style="list-style-type: none"> <li>• During detailed design, ODOT and Oklahoma City will coordinate to provide consistency between planning efforts in the area.</li> </ul>
2	<ul style="list-style-type: none"> <li>• Consider ten-foot travel lanes to encourage slower travel speeds</li> <li>• Separate bike and vehicular travel lanes</li> </ul>	<ul style="list-style-type: none"> <li>• In order to provide continuity between planning initiatives in the area, the proposed 11-foot-wide travel lanes adhere to the criteria developed as part of Project 180. Monitoring travel speeds would be a local law enforcement responsibility.</li> <li>• During detailed design, ODOT will coordinate with Oklahoma City, using the City's planning process, to identify the location of a multi-purpose trail along both sides of the Crosstown Boulevard.</li> </ul>
3	<ul style="list-style-type: none"> <li>• Crosstown Boulevard should be designed as an I-40 business route</li> </ul>	<ul style="list-style-type: none"> <li>• The purpose of constructing the Crosstown Boulevard is to complete the I-40 Crosstown Expressway Relocation Project in a way consistent with the EIS, and makes sense with the changes that have happened in Oklahoma City since 2002. Designating the Crosstown Boulevard as an I-40 Business Route does not meet the project's Purpose and Need.</li> </ul>
4	<ul style="list-style-type: none"> <li>• Alternative D would provide better benefits to downtown than Alternative C</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative C was identified as the Preferred Alternative because it would provide the best balance of mobility and access.</li> </ul>
5	<ul style="list-style-type: none"> <li>• Traffic on Pennsylvania and Classen Boulevard is heavy between 7:00 a.m. and 12:00 p.m.</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative C was identified as the Preferred Alternative because it would provide the best balance of mobility and access.</li> </ul>

Table 12. Summary of Comments Received During the Public Comment Period

Comment	Summary	Response
6	<ul style="list-style-type: none"> <li>Preferred Alternative does not provide room for development and will bisect the community</li> </ul>	<ul style="list-style-type: none"> <li>Alternative C was identified as the Preferred Alternative because it would provide the best balance of mobility and access.</li> </ul>
7	<ul style="list-style-type: none"> <li>Full intersections of Lee and Shartel would restrict access to Eureka Water (business)</li> </ul>	<ul style="list-style-type: none"> <li>During detailed design, Oklahoma City, on behalf of ODOT, will coordinate with this business to minimize access restrictions. Following the May 7, 2014 public meeting, full intersections at Lee and Shartel avenues were provided to address public concerns, and were supported by Oklahoma City.</li> </ul>
8	<ul style="list-style-type: none"> <li>Preferred Alternative does not provide enough capacity and should be six lanes</li> </ul>	<ul style="list-style-type: none"> <li>Alternative C was identified as the Preferred Alternative because it would provide the best balance of mobility and access.</li> </ul>
9	<ul style="list-style-type: none"> <li>Supports the Preferred Alternative.</li> <li>Add wayfinding signs for downtown attractions</li> </ul>	<ul style="list-style-type: none"> <li>Noted.</li> <li>Signage will be determined during detailed design in coordination with Oklahoma City.</li> </ul>
10	<ul style="list-style-type: none"> <li>Maintain access to Shell Lake Mart during construction</li> <li>Add a traffic signal at 108<sup>th</sup> Avenue to slow traffic and improve safety</li> </ul>	<ul style="list-style-type: none"> <li>During construction, access to all businesses will be maintained to the greatest extent possible.</li> <li>Following construction of the Crosstown Boulevard, the need for additional traffic signals will be determined by Oklahoma City.</li> </ul>
11	<ul style="list-style-type: none"> <li>Provide a buffer between bike and travel lanes</li> </ul>	<ul style="list-style-type: none"> <li>During detailed design, ODOT will coordinate with Oklahoma City, using the city's planning process, to identify the location of the multi-purpose trail along both sides of the Crosstown Boulevard.</li> </ul>
12	<ul style="list-style-type: none"> <li>Supports the Preferred Alternative</li> </ul>	<ul style="list-style-type: none"> <li>Noted.</li> </ul>
13	<ul style="list-style-type: none"> <li>Supports the Preferred Alternative</li> </ul>	<ul style="list-style-type: none"> <li>Noted.</li> </ul>
14	<ul style="list-style-type: none"> <li>Full intersections at Lee and Shartel avenues would restrict access to Eureka (Ozarka) Water</li> </ul>	<ul style="list-style-type: none"> <li>During detailed design, Oklahoma City on behalf of ODOT will coordinate with this business to minimize access restrictions. Following the May 7, 2014 public meeting, intersections at Lee and Shartel avenues were provided to address public concerns, and were supported by Oklahoma City.</li> </ul>
15	<ul style="list-style-type: none"> <li>Supports Preferred Alternative, but believes lanes are too wide and encourages higher travel speeds; makes it less pedestrian friendly</li> </ul>	<ul style="list-style-type: none"> <li>In order to provide continuity between planning initiatives in the area, the proposed 11-foot-wide travel lanes adhere to the criteria developed as part of Project 180. Monitoring travel speeds would be a local law enforcement responsibility.</li> </ul>
16	<ul style="list-style-type: none"> <li>Believes a sound barrier at the City Rescue Mission would provide a safety barrier between the Crosstown Boulevard and residents trying to cross mid-block</li> </ul>	<ul style="list-style-type: none"> <li>Based on ODOT's Noise Policy (2011), mitigation for changes in noise levels at the City Rescue Mission from the Crosstown Boulevard was determined feasible but not reasonable with the cost per benefited receptor exceeding the reasonable cost criteria. During final design, ODOT and Oklahoma City will evaluate the feasibility of measures to minimize unsafe mid-block pedestrian crossings in this area.</li> </ul>
17	<ul style="list-style-type: none"> <li>Supports Alternative D</li> </ul>	<ul style="list-style-type: none"> <li>Alternative C was identified as the Preferred Alternative because it would provide the best balance of mobility and access.</li> </ul>



## How Did ODOT And FHWA Involve Other State and Federal Organizations?

ODOT solicited comments from the following local, state and federal agencies/organizations, and Native American Tribal Governments:

- Absentee Shawnee Tribe
- Association of Central Oklahoma Governments
- Caddo Nation
- Cheyenne-Arapaho Tribes
- Chickasaw Nation
- Citizen Pottawatomie Nation
- Delaware Nation
- Iowa Tribe of Oklahoma
- Kickapoo tribe of Oklahoma
- Kiowa Tribe
- Oklahoma Aeronautics Commission
- Oklahoma Bicycle Society
- Oklahoma City Public Schools
- Oklahoma Conservation Commission
- Oklahoma Corporation Commission
- Oklahoma Department of Agriculture
- Oklahoma Department of Commerce
- Oklahoma Department of Environmental Quality
- Oklahoma Department of Wildlife Conservation
- Oklahoma Geological Survey
- Oklahoma State Department of Education
- Oklahoma Tourism & Recreation Department
- Oklahoma Water Resources Board
- Sac and Fox Nation
- US Army Corps of Engineers, Tulsa District
- US Department of Agriculture, Natural Resources Conservation Service
- US Department of Health & Human Services, Region 6
- US Department of Housing & Urban Development
- US Department of Interior, Bureau of Indian Affairs
- US Department of Interior, Bureau of Land Management
- US Department of Interior, Bureau of Reclamation
- US Department of Interior, National Park Service
- US Department of Transportation, Federal Aviation Administration
- US Department of Transportation, Federal Railroad Administration
- Wichita and Affiliated Tribes

The following agencies provided comments on the Crosstown Boulevard alternatives:

- US Army Corps of Engineers - Based on e-mail correspondence from the agency, the Crosstown Boulevard would not result in the placement of dredged or fill material into any "waters of the United States," including jurisdictional wetlands. Therefore, the Crosstown Boulevard would not be subject to regulation pursuant to Section 404 of the Clean Water Act, and a Department of the Army (DA) permit would not be required. Appendix C has a copy of this correspondence.
- SHPO - Coordination regarding historic resources occurred throughout the development of the EA. On February 27, 2014, the SHPO determined that the project from Western Avenue to E.K. Gaylord Boulevard had no historic resources affected by any of the alternatives. Additionally, on June 13, 2014, SHPO determined that the project would have no adverse effect on the Santa Fe Railroad Historic District. [Appendix F](#) has copies of the correspondence between ODOT and SHPO.

- Oklahoma City - Department of Public Works. Throughout the EA evaluation, Oklahoma City participated in coordination meetings. On July 21, 2014, the Department of Public Works for Oklahoma City indicated their support of Alternative C if the intersections at both Lee and Shartel avenues were modified to include north south connectivity, thus creating traditional intersections, and providing for future signalization. [Appendix C](#) has a copy of this letter.  
Oklahoma Conservation Commission (OCC) – The OCC reviewed the *Soil Survey of Oklahoma County* and the USFWS National Wetland Inventory Maps to identify potential wetland resources in the study area. No wetland resources were identified in the study area. As a result, the OCC concluded that the Crosstown Boulevard should not significantly impact wetland resources. A copy of the letter is found in [Appendix C](#).
- Oklahoma Department of Environmental Quality (ODEQ) – ODEQ provided four deed notices and a map of areas with either soil and/or groundwater contamination in the Bricktown Area. ODEQ indicated these properties are subject to either the Superfund Amendments and Reauthorization Act (SARA) Title III reporting Program [**SARA Title III sets requirements for local and state emergency planning around hazardous chemicals, the right of the public to access information on chemical hazards in their community, and the reporting responsibilities for facilities that use, store, and/or release hazardous chemicals**] or Oklahoma Water Resource Boards rules [**The rules identify areas where ground water is unsuitable for some uses by either natural conditions or pollution**]. ODOT is aware of these sites, and, if during construction, petroleum or chemical odors or staining are observed, contaminated materials would be managed in accordance with state and federal regulations. Copies of the ODEQ letters are found in [Appendix C](#).
- Oklahoma Tourism and Recreation Department – The Oklahoma Tourism and Recreation Department concluded that the Crosstown Boulevard would have no adverse impact on any federally funded park, recreation area or state park. A copy of the correspondence is found in [Appendix C](#).

In addition, during the Crosstown Boulevard EA, coordination has occurred with the BNSF Railway because of the railroad underpass associated with all four of the project alternatives. ODOT and BNSF Railway have entered an agreement to address the activities associated with construction of the underpass. Construction of the Crosstown Boulevard would also require Amtrak's south power switch at the Santa Fe Station to be taken out of service for approximately 18 months. ODOT has coordinated with Amtrak who plan on using the existing north switch during construction of the Crosstown Boulevard. Coordination with both the BNSF Railway and Amtrak will occur during detail design and construction of the Crosstown Boulevard to accommodate rail operation during construction.



Between South 5<sup>th</sup> and North 7<sup>th</sup> streets, the elevated BNSF Railway tracks are an important part of the Santa Fe Railroad Historic District. The Crosstown Boulevard Project would open a new underpass through the concrete between South 4<sup>th</sup> Street and Reno Avenue.



## How Did The Preferred Alternative Get Selected?

The Crosstown Boulevard alternatives were compared to one another based on the consideration overall of the project purpose and need and more specifically of the engineering requirements; environmental, social, and economic impacts on the natural and built environments; planning coordination with Oklahoma City and public input. As discussed below, a variety of considerations were used to assess these alternatives. A number of approaches exist for evaluating alternatives. For this analysis, the alternative's likely ability to meet the described categories was assigned a score ranging from one to four, with four being the highest (or best).

Summary: Of all the alternatives, Alternative C was determined to meet the project's purpose and need best and is the most compatible with current planning efforts in Oklahoma City while minimizing overall negative environmental impacts.

## Purpose and Need

The purpose of constructing the Crosstown Boulevard is to complete the I-40 Crosstown Relocation Project in a way that is consistent with the I-40 Crosstown Expressway EIS, and makes sense with the changes that have happened in Oklahoma City since 2002. A primary purpose of the Crosstown Boulevard is to help restore connections that were lost when I-40 was relocated south to its current location. As a result, the Crosstown Boulevard should be easy to drive with little delay which allows for easy access for conducting downtown business while accommodating the planned vision of the downtown area.

**The ROD stipulates that the Crosstown Boulevard's general purpose is to provide additional access points into downtown Oklahoma City from the old I-40 right-of-way while meeting engineering and design standards for ODOT and Oklahoma City.** Alternatives A, B and C all provide additional access points into downtown from Western Avenue to E.K Gaylord Boulevard, while Alternative D would utilize the local network to distribute traffic from the I-40 Crosstown Expressway at Western Avenue and E.K. Gaylord Boulevard. Additionally, Alternative C has received the support of Oklahoma City, and would comply with current planning initiatives identified by MAPS 3.

Alternative C was ranked the highest (four) in terms of meeting the Purpose and Need of the project because it would provide the greatest access into downtown while promoting opportunities for pedestrian and bicyclists. It would also be consistent with the *Core to Shore Plan* (2008), and supported by Oklahoma City. Alternative B was ranked higher than Alternative A because the roadway section would be narrower, but both were ranked lower than Alternative C because of the extended bridge would not be consistent with local planning initiatives. Alternative D ranked the lowest (one) because it does not provide efficient movement of traffic into and through the downtown, and does not support planning initiatives adopted by Oklahoma City.

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## Stakeholder Objectives

**Project stakeholders are those who are affected by the project, either directly or indirectly, feel they would be affected, and public and agency officials.** During the EA process, the public outreach efforts included four public meetings which were attended by nearly 700 people and resulted in almost 500 written comments. Public comments varied from the first meeting to the last meeting but overall, the top three themes included: make the Crosstown Boulevard bicycle and pedestrian friendly; be consistent with current Oklahoma City plans and studies and provide opportunities for economic development.

Based on stakeholder comments, Alternative D was ranked the highest (four). The ranking was based on the desire of many public commenters to utilize the existing street grid and to maximize the amount of land available for redevelopment. In addition, many stakeholders were opposed to the long elevated structure that would interfere with downtown views, reminiscent to the old I-40 Crosstown Expressway that was included in Alternatives A and B. Alternative C was ranked next (three) because it would provide the best traffic flow and provide more efficient access into downtown. In addition, as a result of the multi-purpose trail, Alternative C would also provide the opportunities for pedestrians and bicyclists when compared to all the other alternatives.

Alternative B was ranked higher than Alternative A (which was ranked lowest [one]) because it would perform relatively well with traffic flow, however, the long bridge would limit the views into the downtown. Alternative B would provide for on-street parking and bicycle lanes in the downtown area and would accommodate pedestrians while reducing the overall width of the Crosstown Boulevard when compared to Alternative A.

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## Consistency With Local Planning Efforts

Alternatives A, B and C would be consistent with the area MAPS 3 plans, would support new land development consistent with the *Core to Shore Plan*, and provide improved access for various transportation modes including walking, and bicycling. A large portion of the *Core to Shore Plan* (Oklahoma City 2008) planning area lies within the EA study area, and the would be expected to provide necessary access and related improvements accommodating current and planned development that supports walkability and multimodal uses.

Alternative C was ranked as the highest (four) in regard to consistency with local planning efforts because of its narrowed footprint (four-lanes), shorter bridge at Western Avenue; the multi-purpose trails between Western Avenue and the Bricktown Canal. It also has the support of Oklahoma City. Alternatives A and B were given intermediate rankings (three) because both support MAPS 3 initiatives, but not as fully as Alternative C, primarily because of the length of the bridge over Western Avenue. Alternative D was ranked as the least (one) consistent with the local planning efforts, but it would provide the greatest amount of leftover right-of-way (27.4 acres) from the old I-40 location which could be used for redevelopment.

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## Environmental Resources

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Based upon the EA evaluation, the affects to environmental resources are summarized below:

- Business and Residential changes - Since the alternatives lie primarily within existing transportation right-of-way, the Crosstown Boulevard would have minimal effect on residents and businesses. No residences or businesses would have to move because of the Crosstown Boulevard.
- Environmental Justice - All of the alternatives would have similar affects to environmental justice populations. No alternative would cause disproportionately high and adverse effects on minority or low-income populations. Alternatives B and C would provide improved pedestrian and bicycle facilities, a beneficial impact to EJ populations.
- BNSF Railway Corridor - All the alternatives would create an opening under BNSF Railway Corridor, but none would prevent future potential light rail development in the corridor. In addition, ODOT determined that none of the alternatives would result in an adverse impact on the Santa Fe Railroad Historic District.
- Parks - No alternative would create a “use” of a park according to Section 4(f) of the US DOT act of 1966; however, Alternatives A, B and C would be most consistent with the downtown park planned under MAPS 3.
- Bike and Pedestrians - Alternative A would be the least pedestrian and bicyclist friendly because of its higher vehicle travel speed limits and generally longer intersection crossing distances. Alternative D would be the most pedestrian friendly through the area because of lower speed limits and the shortest intersection crossing distances for pedestrians. It would not, however, create additional pedestrian sidewalks. Alternative C would be pedestrian and bicyclist friendly between Western Avenue and E.K. Gaylord Boulevard resulting from the lower speed limit, shorter intersection crossing distances, provision of mid-block crossings and the proposed multi-purpose trails between Western Avenue and the Bricktown Canal.
- Noise - All the alternatives would result in noise impacts to two sites, however, noise mitigation is not reasonable or feasible based on ODOT noise policy (2011).
- Air Quality - None of the alternatives would be expected to affect regional air quality levels, or would be predicted to cause a violation of air quality standards.



- **Visual** - Alternatives A and B would both increase and decrease in visual quality because the long bridge would disrupt views, while the remaining portion of the old I-40 Crosstown Expressway right-of-way would be improved. Alternative C would have the most beneficial effects by improving the old I-40 Crosstown Expressway right-of-way and reducing visual encroachments with the shorter bridge. Alternative D would not include further improvements to the existing I-40 Crosstown Expressway right-of-way, and not change regional visual quality.
- **Hazmat** - All of the alternatives would likely affect sites with hazardous materials. During construction, if petroleum or chemical odors or staining were to be observed, contaminated materials would be managed in accordance with state and federal regulations.
- **Safety** - Alternative D would have more intersections with unacceptable LOS for 2040 compared to Alternatives A, B, and C and likely result in slower response times for emergency services. Alternative C has the lowest number of intersections with unacceptable LOS, would be the best for traffic operations and likely result in quicker response times for emergency services.
- **Energy** - Alternative A would require the most energy to construct (233,000 mBtu) while Alternative D would require the least (56,200 mBtu).

In terms of environmental resources, all of the alternatives are relatively comparable. However, Alternative C was ranked highest (four) because it would provide the best balance between vehicles, bikes and pedestrians and it also would provide the greatest potential to improve visual quality among the four alternatives. Alternative D was ranked the lowest (one) because of it would have the most intersections with unacceptable LOS among the alternatives and not change regional visual quality of downtown, but it would require the least amount of energy to construct.

## Costs

To estimate project construction costs, engineers divided the project into sections. Table 12 shows these sections and cost estimates. These costs include constructing Crosstown Boulevard and the intersections; the intersecting roadway costs cover costs to the end of the intersection limits. For comparison purposes, the construction costs reflect concrete pavement for roadways.

Table 13. Estimated Construction Costs				
Alternative	West Connection (\$)	Western to E.K. Gaylord Boulevard (\$)	East of E.K. Gaylord Boulevard (\$)	Total (\$)
A	\$8.5 million	\$37.4 million	\$16.1 million	\$62.0 million
B	\$8.5 million	\$32.3 million	\$16.1 million	\$56.9 million
C	\$8.5 million	\$14.9 million	\$16.1 million	\$39.5 million
D	\$8.5 million	\$9.2 million	\$16.1 million	\$33.8 million
Source: MacArthur Associated Consultants, LLC. 2014				

In terms of estimated construction cost, Alternative D would be the lowest, thus was ranked the highest (four) among the four alternatives. Alternative A was ranked the lowest (one) because of the cost for the 1,600-foot long bridge and the width of the roadway, which made the costs higher than Alternatives B, C or D.

## Traffic Flow

The traffic analyses examined the intersection operations for each alternative and the adjacent intersections. The analyses covered the morning and evening rush hours for 2015 and 2040. Traffic analysts rate the working operations based on LOS. For intersections, average vehicle delay time converts to a resulting LOS. In general, a LOS A refers to a free-flowing condition, with LOS B through F referring to progressively congested intersections. LOS E refers to an intersection that is approaching failure, and LOS F is considered a failing condition. For the analysis, the total number of intersections with at least one intersecting leg measuring LOS E or F, including morning and evening peak traffic hours was determined. Traffic engineers divided this total by the total number of intersections in each alternative. This allowed the failing LOS intersections to be expressed as a percentage of the total intersections. Table 14 summarizes the results.

Table 14. Traffic Summary		
Alternative	2015 (Percent of LOS E and F Intersections)	2040 (Percent of LOS E and F Intersections)
A	40	67
B	57	70
C	36	64
D	46	74
Source: MacArthur Associated Consultants, LLC 2014		

Alternative C would have the lowest percentage of failing intersections and has the most advantageous traffic operations of the four alternatives for both 2015 and 2040 and was ranked as the highest (four). Alternative D would have the highest number of failing intersections by 2040 and was ranked as the lowest (one).

## Right-of-Way

One factor of potential concern among the Crosstown Boulevard alternatives would be required right-of-way for construction, operation, and/or maintenance. A primary goal established by stakeholders was the desire to keep the improvements inside the old I-40 right-of-way to minimize the amount of land acquired for the project. It should be noted that no alternative requires the relocation of people or businesses, however, Alternatives A, B and C would include an alignment change to the existing Western Avenue, diverting it to Classen Boulevard between Reno Avenue and Sheridan Avenue. This alignment would require approximately 0.3 acre of commercial right-of-way between Western Avenue and Classen Boulevard, north of California Avenue.

As a result of the above discussion, Alternatives A, B and C were all ranked the same (three). This level of ranking was given because the alignment change to Western Avenue is supported by Oklahoma City. The alternative that would not require any additional right-of-way would be Alternative D, which was ranked the highest (four).

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## Ease Of Construction

Constructability means how easy or difficult project construction would be. The bridge included in Alternatives A and B would create a constructability challenge. Although the above-ground portion of the old I-40 structure was removed, the underground components remain in place. As a result, construction of the foundation for the new bridge in Alternatives A and B would have to avoid the foundation of the old I-40 Crosstown Expressway Bridge. Removing the old foundations and rebuilding the new bridge piers may require additional changes to the local street grid. As a result, avoiding the foundation of the old I-40 Crosstown Expressway Bridge would require additional time and expense to construct.

Alternative C would be constructed over existing utilities (water, gas, sanitary sewer, and storm sewer) under the west bridge abutments. Relocating these utilities or constructing the bridge abutment would be complex, but more manageable than the bridge piers associated with Alternatives A and B.

Alternative D would be located within the existing local street grid. In general, conflict with utilities in the local street network would be greater because Alternatives A, B and C would be constructed in currently undeveloped old I-40 right-of-way where detailed utility plans exist. The unanticipated conflicts with existing utilities could result in unexpected costs and construction delays.

As a result of the above discussion, Alternative C was ranked as the highest (four) because the shorter bridge could be built with minimal disruption to the downtown street grid. Alternative D was given a slightly lower ranking (three) because of the issues concerning building within the existing right-of-way of local streets. Alternatives A and B were both ranked the lowest (one) because of the complexity involved with the new bridge foundations.

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## Traffic During Construction

Roadway construction under existing traffic operations often disrupts and inconveniences area motorists, pedestrians, cyclists and businesses. Although all four alternatives include some segments that would be constructed in locations where traffic would be affected, a large segment of Alternatives A, B and C would be located in areas currently closed to traffic (because no roadway exists in the old I-40 right-of-way). As a result, these areas could be constructed without adversely affecting traffic or businesses. This means Alternatives A, B and C have the least impacts to travelers and businesses.

For Alternatives A, B and C, Western Avenue will be realigned with Classen Boulevard. Alternative C would involve the reconstruction of a portion of Reno Avenue, as requested by Oklahoma City. These areas would be constructed in phases and would affect local traffic. During construction, portions of some local streets and intersections with the Crosstown Boulevard would be closed. Area access would be maintained by providing detours to the adjacent street network through a Maintenance of Traffic Plan developed during final design. The



duration of closures will be minimized to the greatest extent possible. Alternative D would be constructed completely within existing city streets and would have the biggest negative effect on traffic and businesses during construction.

Based on the above discussion, Alternatives A, B and C could be sequenced to minimize overall impacts to traffic during construction, and were ranked the same (two). Alternative D was ranked as the lowest (one) in terms of all the alternatives because it would be constructed within existing streets and would have the greatest disruption to people and businesses during construction.

## Alternatives Ranking

An alternative's likely ability to meet the above-described categories was assigned a score ranging from one to four, with four being the highest (or best). The scores were then totaled in a decision matrix. The alternative with the highest total would best meet the study objectives overall. Table 15 provides these results. Explanation of the scoring of each category was provided above.

Alternative	Purpose and Need	Stakeholder Objectives	Consistency with Locally Adopted Plans	Environmental Resources	Costs	Traffic Flow	Right-of-Way	Ease of Construction	Traffic During Construction	Total
A	2	1	3	2	1	3	3	1	2	18
B	3	2	3	3	2	2	3	1	2	21
C	4	3	4	4	3	4	3	4	2	31
D	1	4	1	1	4	1	4	3	1	20

Source: ODOT, Parsons Brinckerhoff and MacArthur Associated Consultants, LLC. 2014

As indicated in the Table 15, Alternative C has the highest total score. After reviewing the criteria and considering them in a decision matrix, Alternative C would best meet the project purpose and need, as well as the engineering and design standards for ODOT and Oklahoma City and minimizes negative environmental impacts. As a result, ODOT, FHWA and Oklahoma City identify Alternative C as the Preferred Alternative for the Crosstown Boulevard.

## What Commitments Have Been Made To Minimize Project Impacts?

Throughout the ongoing I-40 Crosstown Expressway Project ODOT has made efforts to avoid, minimize or mitigate impacts to both the natural and human environment. These efforts have been documented in the FEIS/ROD Mitigation/Commitment Listing (as of February 29, 2012) ([Appendix N](#)). These efforts will continue through the design and construction of the Crosstown Boulevard.

In addition to mitigation measures that were committed to as part of the I-40 Crosstown Expressway EIS/ROD, the following measures are identified specifically for the Crosstown Boulevard:

- During detailed design, ODOT will coordinate with Oklahoma City, using the city's planning process, to identify the location of the multi-purpose trails along both sides of the Crosstown Boulevard extending between Western Avenue and the Bricktown Canal. Oklahoma City's process would provide consistency with current downtown planning efforts.
- If subsurface archaeological materials are exposed during construction, the Contractor and Resident Engineer will notify the ODOT Department Archeologist in accordance with Section 202.04(a), Standard Specifications for Highway Construction.
- A Maintenance of Traffic Plan for the Crosstown Boulevard will be developed and coordinated with Oklahoma City and the general public prior to any road closures.
- Coordination with both the BNSF Railway and Amtrak will occur during detail design and construction of the Crosstown Boulevard.
- During final design, ODOT and Oklahoma City will evaluate the feasibility of measures to minimize unsafe mid-block pedestrian crossings in the area of the City Rescue Mission.

## List of Appendices

[Appendix A](#) - Purpose and Need Statement

[Appendix B](#) - Concept Study Report

[Appendix C](#) - Agency Coordination Summary

[Appendix D](#) - Natural Resources and Floodplain Technical Memorandum

[Appendix E](#) - Social and Community Technical Memorandum

[Appendix F](#) - Section 106 (Cultural Resources) Information

[Appendix G](#) - Bicycle and Pedestrian Technical Memorandum

[Appendix H](#) - Noise Analysis Technical Report

[Appendix I](#) - Air Quality Technical Memorandum

[Appendix J](#) - Visual Technical Report

[Appendix K](#) - Hazardous Materials Information

[Appendix L](#) - Indirect and Cumulative Impact Technical Report

Appendix M - [August 21, 2012 Public Meeting Summary](#)

[December 3, 2012 Public Meeting Summary](#)

[June 18, 2013 Public Meeting Summary](#)

[May 7, 2014 Public Meeting Summary](#)

[November 13, 2014 Public Hearing Summary](#)

[Appendix N](#) - FEIS/ROD Mitigation/Commitment Listing (February 29, 2012)



## References

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- American Association of State Highway and Transportation Officials. 2014:  
[http://environment.transportation.org/center/products\\_programs/reports/quality\\_enviro\\_docs.aspx](http://environment.transportation.org/center/products_programs/reports/quality_enviro_docs.aspx).
- Cardinal Engineering, June 2012. *Initial Site Assessment for Excavation and Construction of the Old Interstate 40 Crosstown Boulevard, Oklahoma City, Oklahoma*.
- Federal Highway Administration (FHWA), Department of Transportation. 2010. Code of Federal Regulations, Title 23 Part 772, *Procedures for the Abatement of Highway Traffic Noise*. Document 23 CFR 772. July 2010.
- Federal Highway Administration (FHWA). 1998. Order 6640.23, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. December 2, 1998.
- Federal Highway Administration (FHWA). 2002. *Interstate 40 - Crosstown Expressway from I-235 to Meridian Avenue Oklahoma City, Oklahoma FHWA-OK-EIS-01-(1)-F, Record of Decision*. May 2002.
- Federal Highway Administration (FHWA). 2012. *Interim Guidance Update on Air Toxic Analysis in NEPA*. December 2012.
- Federal Highway Administration (FHWA). 1988. *Visual Impact Assessment for Highway Projects*. Publication No. FHWA-HI-88-054.
- Hargreaves Associates. 2013. *MAPS 3 Downtown Park Master Plan*.
- Macarthur Associated Consultants, LLC. 2014. *Crosstown Boulevard Concept Study*.
- Oklahoma City. 2000. *OKC Plan 2000 – 2020*.
- Oklahoma City. 2008. *Core to Shore Plan: A Redevelopment Framework*. Accessed at:  
[http://www.okc.gov/Planning/coretoshore/resources/CoreToShorePlan\\_2008.pdf](http://www.okc.gov/Planning/coretoshore/resources/CoreToShorePlan_2008.pdf)
- Oklahoma Department of Commerce, Oklahoma State Data Center. 2013. *2012 Demographic State of the State Report*.
- Oklahoma Department of Transportation (ODOT). 2011. Policy Directive *Highway Noise Abatement C-201-3* (ODOT Noise Policy). July 13, 2011.
- Parsons Brinckerhoff. 2014. *Crosstown Boulevard Social and Community Technical Memorandum*.
- Parsons Brinckerhoff. 2014a. *Indirect and Cumulative Impact Technical Report*.



Parsons Brinckerhoff. 2014b. *Noise Analysis Technical Report*.

Parsons Brinckerhoff. 2014c. *Air Quality Technical Memorandum*.

Parsons Brinckerhoff. 2014d. *Public Meeting Summary – August 21, 2012*

Parsons Brinckerhoff. 2014e. *Public Meeting Summary – December 3, 2012*

Parsons Brinckerhoff. 2014f. *Public Meeting Summary – June 18, 2013*

Parsons Brinckerhoff. 2014g. *Public Meeting Summary – May 7, 2014*

Transportation Research Board. 2010. *Highway Capacity Manual*.

US Census Bureau. 2010. US 2010 Census data.

US Department of Energy. 1995 *Assessment of Energy Impacts of Improving Highway-Infrastructure Materials*.

## List Of Acronyms And Abbreviations

ADT – Average Daily Traffic	EA – Environmental Assessment	NEPA – National Environmental Policy Act
APE – Area of Potential Effect	EIS – Environmental Impact Statement	ODOT – Oklahoma Department of Transportation
AST – Above Ground Storage Tank	EJ – Environmental Justice	ROD – Record of Decision
BNSF - Burlington Northern Santa Fe	FEIS – Final Environmental Impact Statement	SHPO – State Historic Preservation Officer
CEQ – Council on Environmental Quality	FHWA – Federal Highway Administration	U.S.C. – United States Code
CFR – Code of Federal Regulations	ISA – Initial Site Assessment	UST – Underground Storage Tank
CO – Carbon Monoxide	LOS – Level of Service	
CRP – Cultural Resources Program	MAPS 3 – Metropolitan Area Projects 3	
DEIS – Draft Environmental Impact Statement	NAC – Noise Abatement Criteria	

## Who Prepared The EA And Technical Reports?

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