



# TEXAS DEPARTMENT OF TRANSPORTATION

## ALTERNATIVES ANALYSIS MATRIX



### SPUR 399 EXTENSION - US 75 TO US 380

### CSJs 0364-04-051, 0047-05-058, 0047-10-002

<b>SCREENING/EVALUATION CATEGORY</b> <small>*The No-Build Alternative, constructing no new improvements, is also being considered and data will be included in the Environmental Impact Statement (EIS) documents.</small>		<b>PURPLE ALTERNATIVE</b> <small>Alternative west of the airport</small>	<b>ORANGE ALTERNATIVE</b> <small>Alternative east of the airport</small>	<b>KEY TAKEAWAYS</b>
<b>Purpose &amp; Need</b>	Improve Mobility and Connectivity			Both alternatives would offer acceptable Levels of Service ratings, better connect the arterial network, and enhance connectivity between eastern Collin County and the Dallas metroplex. The Orange Alternative also better connects US 380 and US 75 to the area on the east side of the McKinney National Airport and areas planned for future development.
	Provide Capacity to Support Regional Growth			The Orange Alternative better supports future regional growth by providing approximately 18% more north-south roadway capacity than the Purple Alternative. This is because the Orange Alternative provides a new location freeway in addition to the existing Airport Drive, whereas (for the most part) the Purple Alternative would remove the existing Airport Drive and provides only a freeway. The Orange Alternative better serves regional northbound and southbound traffic by offering more options and an expanded network vehicle volume throughput.
<b>Engineering</b>	Total Alternative Length Along Centerline	4.8 miles	6.25 miles	The Purple Alternative is shorter than the Orange Alternative.
	Major Utility Conflicts	3 major utility conflicts	1 major utility conflict	For this project, TxDOT considers major utility conflicts to be transmission lines and pumping stations from gas, power, electric, water and wastewater utilities. The Orange Alternative would have 2 fewer major utility conflicts.
	Total Bridge Length (miles)	2.2 miles	2 miles	The Orange Alternative would have 0.2 fewer miles in bridged sections.
	Number of New Grade-Separated Interchanges	2 new interchanges	3 new interchanges	The Purple Alternative would have 1 fewer new grade-separated interchange.
	Amount of New Right-of-Way (ROW) Required (acres)	117 acres	233 acres	The Orange Alternative would require approximately twice the amount of acres of new ROW needed for construction compared to what the Purple Alternative would require for construction.
	Airport Access, Airport ROW, and Airspace			Airspace considerations, runway safety areas, aircraft approach, and departure profiles would not be directly affected by either alternative. The Purple Alternative offers 1 main point of access to the Airport from the proposed freeway frontage roads on the west side of the Airport. The Purple Alternative does not provide access to the east side of the Airport and proposed Airport improvements. The Orange Alternative offers 2 main points of access - one on Airport Drive on the west side of the Airport and one from the freeway frontage roads on the east side of the Airport.
Total Project Cost	\$601M	\$706M	Total project cost includes planning, engineering, and design; roadway construction; right-of-way; and utility relocations. TxDOT will continue to work with those major businesses impacted and displaced by the alternatives to better understand the cost of damages and/or business interruption.	



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#### PURPLE ALTERNATIVE

Alternative west of the airport



#### ORANGE ALTERNATIVE

Alternative east of the airport

#### KEY TAKEAWAYS

#### Environmental

##### Residential Displacements

0 displacements

8 displacements

The Orange Alternative would have 8 residential displacements on five parcels. More research is needed to determine if all displacements are occupied.

##### Business Displacements

1 displacement

3 displacements

Impacts are still being evaluated. Possible induced displacements could occur because of access and property development restrictions.

##### Other Displacements

North Texas Municipal Water District's McKinney Wastewater Lift Station, 1 barn or outbuilding

7 barns or outbuildings

There would be major business displacements for both alternatives. The Purple Alternative would displace a newly opened Amazon Delivery Station. The Orange Alternative would displace the newly constructed McKinney Airport Center, which in the future could house multiple businesses and would have to be counted as such by TxDOT. Impacts are still being evaluated.

##### Land Use

Would be closer than the Orange Alternative to residential developments and manufactured home communities

Fewer existing businesses and industrial areas

Would impact existing businesses and industrial development such as Encore Wire, one of the largest employers and taxpayers in McKinney

Land north and east of the Airport are dominated by large open fields, undeveloped tracts, and scattered residences

May restrict future growth along Airport Drive corridor

Could provide for more development on the east side of the Airport

Possible redevelopment could occur


##### Farmland Impacts

131 acres Prime Farmland  
24 acres Statewide Important Farmland


153 acres Prime Farmland  
16 acres Statewide Important Farmland

The Purple Alternative impacts fewer acres of Prime Farmland. The Orange Alternative impacts fewer acres of Statewide Important Farmland. Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food. Statewide Important Farmland is identified as such by the state or local agency. Constructing the Orange Alternative would separate Enloe family-owned farm properties.

##### Community Demographics, Services, and Facilities


 Closer to community facilities, low-income and minority neighborhoods present primarily west of Airport Drive




 Could be perceived as a barrier between the communities and adjacent existing and future parks

Neither alternative directly impacts a community facility or low-income and minority neighborhoods.

##### Visual and Aesthetic Impacts

 Changes resulting from construction of the Purple Alternative would be most noticeable to those living in nearby neighborhoods

 Fewer residences in the area of the Orange Alternative, however, its construction could have greater impacts because it would be a new roadway

Construction of both of the alternatives would change the existing visual environment caused by new location roadways, new grade-separated interchanges, new safety streetlighting, and signage.

##### Archeological Sites, Cemeteries, and Historic Properties

To be determined. Initial results show no direct impact or adverse effect to cemeteries or historic properties that are eligible for inclusion or listed in the National Register of Historic Places (NRHP). TxDOT intends to conduct archeological surveys within the proposed right-of-way following the Public Meeting.

To be determined. Initial results show no direct or adverse effect to cemeteries. TxDOT is continuing to review the potential NRHP-eligibility of properties adjacent to and within the proposed right-of-way. TxDOT intends to conduct an intensive survey for the Enloe Farm property and archeological surveys within the proposed right-of-way following the Public Meeting.



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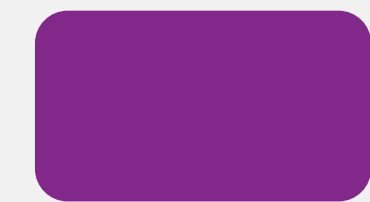


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#### PURPLE ALTERNATIVE

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#### ORANGE ALTERNATIVE

Alternative east of the airport

#### KEY TAKEAWAYS

#### Protected Lands/Parks (Section 4(f), Section 6(f), Chapter 26 properties)

Wilson Creek Greenway/City of McKinney  
Future Parkland/City of McKinney  
Trinity River Greenway/City of McKinney

Wilson Creek Greenway/City of McKinney  
Future Parkland/City of McKinney  
Fairview Soccer Park

Both alternatives affect the Wilson Creek Greenway and future parks being planned by the City of McKinney. The Purple Alternative also affects the Trinity River Greenway. The Orange Alternative also affects a small portion of the Fairview Soccer Park property.

#### Water Features, Section 303(d) Waters, Floodplains (100-year) and Floodways within Proposed ROW

100-year Floodplain = 77.47 acres  
Regulatory Floodway = 37.35 acres

100-year Floodplain = 86.85 acres  
Regulatory Floodway = 43.29 acres

The Orange Alternative impacts more 100-year floodplain and regulatory floodway than the Purple Alternative. Both alternatives could potentially affect the following:  
\*Emergent wetlands \*Forested wetlands \*East Fork of the Trinity River  
\*Wilson Creek (listed section 303(d) waters) \*Several unnamed streams/tributaries \*Farm ponds, ditches, swales

#### Impacts to Vegetation, Habitats, and Species

Areas near the Purple Alternative are more urban in character and have less native vegetation that would be affected.

Areas near the Orange Alternative have more native vegetation, including grasslands, wooded corridors along streams, and land used for agriculture that would be affected.

Coordination is ongoing with the Texas Parks & Wildlife Department and the US Fish & Wildlife Service to obtain concurrence on the type of effect the project may have on habitats in the project area and on their use by federal and state-protected species including freshwater mussels, migratory birds, and other resident wildlife.

#### Hazardous Materials

20 sites with potential to affect the project

16 sites with potential to affect the project

The Orange Alternative has 4 fewer sites with any potential to affect the project than the Purple Alternative.

### Environmental

#### Air Quality

To be determined

To be determined

Air quality is a measure of how clean or polluted the air is in the project vicinity. Any impacts would likely be similar since the EPA designated Collin County as marginal non-attainment for the 2015 ozone National Ambient Air Quality Standard (NAAQS). The proposed project is also forecasted to carry fewer than 140,000 vehicles per day in 2045, the threshold triggering detailed air quality analyses. TxDOT will evaluate how the project impacts air quality after the Public Meeting and provide results at the Public Hearing. Studies will be conducted to determine if the project is compliant with regional and federal air quality standards. Studies will consider fuel types and usage, new vehicle technologies, vehicle idling and traffic congestion, and air emissions during construction.

#### Traffic Noise

To be determined

To be determined

Traffic Noise Analysis will be conducted after TxDOT assesses public input from this meeting for any feasible changes that can be made to the schematic design. Existing sound level measurements will be collected at noise sensitive areas adjacent to the alternatives. Noise modeling software will also predict what noise would be expected in 2050. Noise abatement measures are evaluated if traffic noise impacts are identified. Results will be presented at the Public Hearing.

#### Induced Growth

To be determined

To be determined

Induced growth involves identifying what likely land use changes and development could occur in the project area as a result of the improved mobility and connectivity the proposed project would provide. Typically, induced development could be the development of gas stations, truck stops, and hotels in the vicinity of the new roadway. As an example, should the Orange Alternative be constructed, the new roadway along the proposed Airport expansion could attract new intermodal freight hubs or distribution centers that need highway and airport access. Induced growth or development can have both positive and negative effects – it can be a positive for tax base and employment growth but negative for things like impacts to air quality, traffic noise, and natural resources.

#### Reasonably Foreseeable and Cumulative Effects

To be determined

To be determined

TxDOT must also consider how the environment in the project area could be affected by the Spur 399 project, together with other current and future reasonably foreseeable local and regional transportation projects, and other non-roadway projects. Assessment of cumulative impacts is still under evaluation as it is typically conducted closer to the conclusion of the study process. Examples of transportation projects that may be considered are the other US 380 improvement projects, SH 5 improvements and expansion, and FM 546 realignment and expansion. Other non-roadway projects that would be considered are future utility/waterline projects, McKinney National Airport expansion, and Encore Wire's facility expansion.

### Public Input

#### Input/Comments/Feedback/Acceptance

During the Feasibility Study, McKinney was strongly opposed to a freeway west of the Airport. During EIS agency scoping, Texas Parks and Wildlife Department noted a preference for an alignment utilizing existing transportation corridors and the least impact to floodplains, wetlands, streams, and habitat for wildlife and aquatic species.

McKinney and Fairview supported an option on the east side of the Airport shifted approximately 2,000 feet north of the proposed Feasibility Study alignment. Collin County provided a resolution during the Feasibility Study in support for the northern extension of the Airport's runway as it would allow for a Spur 399 extension to the east of the Airport.

Information shown is only for positions provided by local governments and agencies in the project area. It is important to note that since the schematic design for the alternatives are only now being made available for the public, many of the local governments and agencies will require time to review information before providing official positions or resolutions.