TEXAS DEPARTMENT OF TRANSPORTATION

ALTERNATIVES ANALYSIS MATRIX

EXEMPLARY: Highly Meets Criteria

GOOD: Mostly Meets Criteria

ADEQUATE OR NEUTRAL: No Change

INADEQUATE: Sometimes Meets Criteria

POOR: Does Not Meet Criteria

SPUR 399 EXTENSION - US 75 TO US 380

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

SCREENING/EVALUATION CATEGORY	METRIC	PURPLE ALTERNATIVE West of the airport	ORANGE ALTERNATIVE East of the airport	NO-BUILD ALTERNATIVE	KEY TAKEAWAYS
Water Resources	Acres of Jurisdictional Wetlands	0 total acres of jurisdictional wetlands	0 total acres of jurisdictional wetlands	No permanent fill would be placed within jurisdictional wetlands.	The Orange Alternative impacts more 100-year floodplain and regulatory floodway than the Purple Alternative. Both alternatives would 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 Both alternatives cross two impaired waterways. Based on the 60% schematic design and the current hydraulic analysis, neither build alternative would require an IP due to each individual crossing impact being below the IP threshold. Both Build Alternatives could be permitted under Nationwide Permit with Pre-Construction Notification.
	Linear Feet of Rivers/Streams	767 total linear feet of rivers/streams	2,997 total linear feet of rivers/streams		
	Acres of Forest/Prairies and Grasslands	24 acres of forest/9 acres of prairies and grasslands	67 acres of forest/54 acres of prairies and grasslands		
		Would not require an Individual Section 404 Permit (IP)	Would not require an IP		
	Water Features, Section 303(d) Waters, Floodplains (100-year) and Floodways within Proposed ROW	78 acres of 100-year floodplain 37 acres of regulatory floodway	87 acres of 100-year floodplain 43 acres of regulatory floodway	N/A	
Protected Species	Protected Species and their Potential Habitats	Potential stop-over habitats (not nesting/breeding) for black rail bird and whooping crane are present, and are of low-quality. No effect on either species is expected. 3 perennial stream crossings would be potential habitats for state-listed mussel species 4 wooded habitat crossings would be potential habitats for bats classified as Species of Greatest Conservation Need (SGCN)	Potential stop-over habitats (not nesting/breeding) for black rail bird and whooping crane are present, and are of low-quality. No effect on either species is expected. 4 perennial stream crossings would be potential habitats for state-listed mussel species 14 wooded habitat crossings would be potential habitats for bats classified as SGCN	SH 5 crosses Wilson Creek and US 380 crosses the East Fork Trinity River and several of its tributaries. US 380 passes through wooded habitats associated with the East Fork Trinity River.	Because a portion of the Orange Alternative is located in more wooded, less developed areas with water resources, it would be more impactful than the Purple Alternative to protected species and their potential habitats.
Engineering	Total Alternative Length Along Centerline	4.8 miles	6.25 miles	N/A	The Purple Alternative is shorter than the Orange Alternative. The Orange Alternative would have 0.2 fewer miles in bridged sections. The Purple Alternative would have one fewer new grade-separated interchange. These items are important when considering project costs while also avoiding substantial environmental impacts. For example, bridges are used to avoid water resources.
	Total Bridge Length	2.2 miles	2 miles		
	New Grade-Separated Interchanges	2 new grade-separated interchanges	3 new grade-separated interchanges		
	Minimize Major Utility Conflicts and Construction Delays	5 major utility conflicts/relocations North Texas Municipal Water District (NTMWD) North McKinney Lift Station, NTMWD North McKinney Phase III 72" water pipeline, NTMWD Wilson Creek Transfer Force Mains, NTMWD McKinney Landfill Boundary Repermitting, Atmos 20" gas, additional NTMWD improvements preparing for construction. Would require four to five years of design and construction prior to taking existing utilities out of service to avoid an interruption of services in McKinney, Melissa, Anna, Allen, Fairview, and Plano. Cost for major utility relocation is estimated at $185 Million (M). Total cost for major and minor utilities is estimated to be $191M.	2 major utility conflicts/relocations NTMWD McKinney Landfill Boundary Repermitting and Atmos 20" gas line. Would require two years of design and construction prior to taking existing utilities out of service. Cost for major utility relocation is estimated at $6M. Total cost for major and minor utilities is estimated to be $15M.	No utilities would require relocation	Due to the additional time needed to design and construct critical water infrastructure, construction of the Purple Alternative will take three years more to construct than the Orange Alternative.