FAQ - US 380 Collin County Feasibility Study

June 11, 2019

1. What is the current status of the project?

TxDOT announced its recommended alignment in early May 2019 at public meetings and is working to finish the feasibility study for Collin County. The presentation from the public meetings which includes a graphic map of the recommended alignment can be viewed here. Detailed route maps of the recommended alignment by segment are available here. A public meeting summary and final feasibility study report are currently under development.

2. Why is the study being conducted?

Collin County has seen significant growth in its population and is projected to see even more in the future. TxDOT is working with local and regional partners to find ways to accommodate this growth. Current and future residents throughout the county will need access to additional mobility options to keep up with travel demand due to population growth. This feasibility study has confirmed the need for an east-west freeway in the County by 2045.

3. Why can't we just keep what we have on US 380?

US 380 through Collin County is currently a 4 to 6 lane arterial roadway. Existing congestion on US 380 in rush hours are rated in engineering terms, as having an "F" level of service. This means that the number of vehicles on the road, exceed the capacity of the roadway, causing a significant drop in travel speeds and an increase in congestion or delay in traffic.

US 380 has seen a 30% increase in the number of vehicles on the road in Collin County from 2010 to 2016. Areas such as Western McKinney and Princeton have shown as much as 45 to 50 percent increase in traffic volumes during this period. These areas, and others, are only expected to see more and more traffic congestion as the number of vehicles on the road increases. According to the Texas Demographic Center, the population of Collin County is projected to increase 166% between 2018 to 2040. As population in and around Collin County grows, east-west travel demand will continue to increase.

Lastly, the Collin County Commissioners Court identified US 380 as one of several priority roadway projects for study as a Limited Access Roadway or Freeway in 2016. Leaders from Collin County, North Central Texas Council of Governments (NCTCOG), and TxDOT agreed to develop a Strategic Roadway Plan for the County. TxDOT was tasked with studying US 380.

4. What are the next steps?

A public meeting summary and final feasibility study report are currently under development and expected to be complete this summer/fall. The final report will suggest how the recommended alignment is split into independent projects and prioritized. TxDOT and its

partners will then immediately start with the highest priority projects and proceed with conducting environmental studies and a design schematic.

It is likely that the improvements recommended during this feasibility study for the corridor will be broken up into multiple individual projects, which could advance at different paces depending on need and availability of funding. Any individual project that is developed would have independent utility from the other segments and logical start and end points.

5. What does TxDOT mean by environmental studies?
Depending on the area being covered by those individual projects, the environmental studies could be evaluated using different classifications. Environmental studies for projects coming out of this feasibility study would likely be classified as either an environmental assessment, also called an EA, or as an environmental impact statement, also called an EIS.

An EA would most likely be used for areas along the existing US 380 where we do not expect significant impacts. An EA typically takes 1 to 2 years to complete.

An EIS would most likely be used for the areas where a freeway is proposed in a new location or where significant environmental impacts are anticipated. An EIS typically takes 2 to 4 years to complete.

6. What alignments will be considered in environmental studies?
It is important to note that other viable alignments or changes to alignments can still be considered during these environmental studies. *This includes the proposed green alignment running along the existing US 380. This will NOT include alignments presented by others that are more impactful than the ones already presented.*

For an EIS, the study must include an assessment of all alternatives considered, and it is possible that the best alternative identified during that evaluation could differ from the recommended alignment from the feasibility study.

The environmental studies and design schematic phase is followed by final design and right-of-way acquisition. The project development process would end with phased construction.

It will most likely take 10 to 20 years before most of the projects are constructed. It is possible that the highest priority areas could start construction in 6 to 9 years.

7. What factors will be considered in environmental studies?
Key factors that were studied during the feasibility study will be studied more in-depth during the Environmental Impact Study. These include but are not limited to: engineering analysis, traffic analysis, safety, right-of-way impacts including impacts and displacements, existing and planned developments, existing and planned utilities, cost, natural and cultural resources, endangered species, land use and parkland, water resources and floodplains, hazardous

materials, social and community impacts, and public input. To the extent possible, TxDOT will use information/analysis from the feasibility study.

8. Wouldn't construction of the Collin County Outer Loop or building out other planned roads in the County accommodate this growth?
We have found that if we do nothing, US 380 will continue to experience a failing level of service in the future, even if we built all the planned roadways in Collin County including the Outer Loop that is being planned by Collin County. Therefore, a US 380 freeway is needed to relieve congestion.

9. Hasn't TxDOT already completed a feasibility study for US 380?
The previous feasibility study conducted by TxDOT focused on the current US 380 alignment only. TxDOT did not develop or evaluate other freeway alignments as a part of this study.

TxDOT did study potential solutions for US 380 from the east side of the Denton County line through Prosper and McKinney, and up to FM 1827, not county-wide. Roadway options considered ranged from making no new improvements, to constructing grade separated intersections, to constructing freeway alignments.

Ultimately, the previous study recommended that a freeway along US 380 "provides the best mobility and safety, and addresses the long term needs of the communities". The study being currently conducted is a next step to this previous study completed in 2016.

10. How did TxDOT decide what alignment to recommend?
A wide variety of factors have been studied and analyzed to determine the impact that any future improvements would have. See the list of what has been analyzed here and scroll to page 12.

TxDOT has outlined the major deciding factors considered for each segment the public meeting presentation you can find here.

11. Why did TxDOT not recommend a green alignment from Coit Road and FM 1827?
TxDOT recommended a red alignment over a green alignment based on the following:

- The red alignments have significantly fewer business impacts and displacements than the green alignment. See the differences in the evaluation matrix for this section here scroll to page 20. In making recommendations for which alignments are advanced for detailed evaluation under the next phase of the study process (the environmental study phase), agencies are required to assess the effects of their proposed actions on the human and natural environment. In compliance with the National Environmental Policy Act (referred to as NEPA), TxDOT must consider options to avoid or minimize displacements of residences and businesses, to the extent possible. Avoiding and minimizing effects on other features and resources, and providing mitigation where appropriate, will also be assessed in making a final project decision.

- The red alignment would add a freeway in addition to the existing US 380, which in turn is better for regional mobility.
- The red alignments are expected to support and sustain economic growth and have a less negative effect on city revenues.
- The green alignments are estimated to cost around $1.2 to $2.2 billion dollars. The red alignments are estimated to cost between $830 and $970 million dollars.

12. How did TxDOT compare the red alignment options in and between Prosper and west McKinney? Why did you recommend the red A alignment?

TxDOT considered many alignments in this area. There is no alignment in this area without impacts. Red alignments A, B and E were ones that had the least amount of impacts.

All three alignments avoid directly impacting the neighborhoods of Tucker Hill, Stonebridge, Heatherwood and Whitley Place; Erwin Park; several cemeteries; and existing and planned schools.

The red A alignment is the only alignment that does not affect ManeGait Therapeutic Horsemanship and its ability to function. ManeGait is a unique facility that helps children and adults with physical, emotional, cognitive, sensory, and behavioral disabilities. ManeGait also provides therapy programs to support wounded military veterans. The facility serves 150 riders per week and has 1,400 active volunteers that complete 4,500 hours of service each year. Public comment has helped in identifying the facility as a key community resource. Over 10% of comments received during the comment period in October 2018 referenced concerns about impacts to this facility. TxDOT received even more comments related to ManeGait at the March 2019 meeting with affected property owners. TxDOT considers the daily operations and special events held at this location to be essential services for at least *two vulnerable and protected status populations – the disabled and children.* See more about ManeGait in question 13.

The red A alignment affects fewer acres of planned development than the red B alignment. This is an important consideration by TxDOT because often challenges arise after an alignment has been determined and developments continue to be built in areas designated as future right-of-way.

Impacts on a community, including how a transportation improvement physically affects residential neighborhoods, commercial centers, and public facilities is given consideration during the environmental phase of the study.

TxDOT considered that the red A alignment does not run through any existing neighborhoods. It does run alongside the north side of the Stonebridge neighborhood and south side of Tucker Hill where the existing US 380 currently is. It runs along the floodplain on the east side of Tucker Hill and as the new location alignment travels north.

Red B & E alignments would impact a significant community resource in ManeGait. The red B alignment would separate an existing commercial area at Custer Road and US 380 and the red E alignment would impact a portion of the Walnut Grove neighborhood.

13. Why was ManeGait Therapeutic Horsemanship a factor in TxDOT's decision-making?
TxDOT evaluated the current ManeGait facility and did an initial environmental review of impacts to this community facility. TxDOT considers the daily operations and special events held at this location to be important services for at least *two vulnerable and protected status populations – the disabled and children*. TxDOT avoided selecting any alignment impacting ManeGait because of potential impacts to the community facility and the services it provides to vulnerable populations.

More in-depth analyses and documentation will be completed for the existing and anticipated social and environmental impacts during environmental studies, which also includes opportunities for public input.

TxDOT policy is informed by - and designed to comply with - several Federal statutes, regulations, executive orders, and policies that guide the department's actions as a recipient of federal funds. Those applicable to community impact assessments as listed in the Federal Highway Administration's, "Community Impact Assessment: A Quick Reference for Transportation" include:

- National Environmental Policy Act of 1969 (NEPA) (42 USC 4321-4335)
- Sections 174 and 176(c) and (d) of the Clean Air Act of 1970, as amended in 1977 and 1990 (42 U.S.C. 7504, 7506(c) and (d) and 40 CFR part 93)
- Uniform Relocation Assistance and Real Property Acquisition Policies Act (1970, referred to as the "Uniform Act,") as amended in 1987
- 23 CFR 771, Environmental Impact and Related Procedures (1987)
- Federal surface transportation authorization laws from the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) onward
- Executive Order 12898 on Environmental Justice for Low Income and Minority Populations (1994); U.S. Department of Transportation Order 5610.2(a), FHWA Order 6640.23A, and FTA Circular 4703.1 on Environmental Justice (updated 2012)
- Farmland Protection Policy Act (1981), as amended in 1994 (7 USC 4201-4209)
- Americans with Disabilities Act (1990) as amended in 2008 (42 USC 126)
- Section 504 of the Rehabilitation Act of 1973
- The Older Americans Act (1965), as amended (2016) (42 U.S.C. 6101)
- Executive Order 13166 on Improving Access to Services for Persons with Limited English Proficiency (2000)

23 USC 109(h), Federal-Aid Highway Act of 1970 provides that the U.S. DOT:
…assure that possible adverse economic, social, and environmental effects relating to any proposed project on any Federal-aid system have been fully considered in developing such project, and that the final decisions on the project are made in the best overall public interest,

taking into consideration the need for fast, safe and efficient transportation, public services, and the costs of eliminating or minimizing such adverse effects and the following:
(1) air, noise, and water pollution;
(2) destruction or disruption of man-made and natural resources, aesthetic values, community cohesion and the availability of public facilities and services;
(3) adverse employment effects, and tax and property value losses;
(4) injurious displacement of people, businesses and farms; and
(5) disruption of desirable community and regional growth.

TxDOT works with the Federal Highway Administration (FHWA) and other federal agencies to comply with the National Environmental Policy Act (NEPA) and uses the TxDOT environmental compliance process for state and local projects, where TxDOT is the state approval authority. TxDOT complies with all FHWA NEPA procedures, specified in Title 43, Chapter 2 of the Texas Administrative Code.

14. Why did TxDOT recommend the red D alignment over the red C alignment?
Many of the driving factors for recommending the red D alignment over the red C alignment in Northeast McKinney are driven by the alignments that they are connected to south of US 380, the green A and B alignments.

The red D and green B alignments provide a more direct connection to the green B alignment south of US 380 and west of the airport.

Reasons why TxDOT recommends the red D plus the green B alignment combination.

- Red D plus green B has fewer residential impacts and displacements than red C plus green A
- Green B encroaches on fewer park parcels than green A
- Green B carries more traffic than green A

The combination of red D with green A or red C with green B was considered but would be challenging and would not provide a direct connection.

The green A alignment would also impact Cornerstone Ranch which serves as a group home and provides day programs for specific populations including persons with disabilities. The green A alignment would impact multi-family housing and a church on the Cornerstone Ranch property.

15. Is the recommended alignment TxDOT presented in May 2019 the final alignment?
No. TxDOT must conduct more environmental studies and develop a design schematic before determining the final alignment and starting the process to acquire right of way.

Based on analysis done to date, TxDOT does not foresee changing the recommended alignment. However, TxDOT is required by the federal government to look at all viable

alignments as a part of an EIS. *For another alignment to become the recommended alignment, it would have to be determined that it was less impactful or that impacts could be mitigated to be less impactful than the recommended alignment.*

16. Could the recommended alignment change?
It could change, however, the initial analysis done in the feasibility study suggests that is unlikely. For example, TxDOT has been asked if it is likely that the recommended alignment would change from red to green in the Coit Road to FM 1827 section. Based on the analysis that has been done to date, TxDOT does not foresee that this would occur because it must consider options to avoid or minimize displacements of residences and businesses, to the extent possible. Currently there is a large difference in the number of displacements of businesses being displaced by the green alignments and the red alignments. See here and scroll to page 20.

Avoiding and minimizing effects on other features and resources, and providing mitigation where appropriate, will also be assessed in making a final project decision.

17. Could public input or input from cities or Collin County change the recommended alignment?
Public input or input from one city will not on its own change TxDOT's recommended alignment. The final alignment for this study and a similar study being done in Denton County, will serve as an additional major east-west roadway for the region and not just one city and county.

TxDOT does prefer to work with local governments to find ways to address mobility issues in their areas. There is more work and study to be done and TxDOT plans to continue to work with local governments to determine an option with the fewest impacts.

18. What is the schedule for the next phases? When does construction start?
TxDOT expects to complete the feasibility study this summer/fall.

The corridor will then be separated into independent projects and proceed with conducted environmental studies and a design schematic. Environmental studies can take between 1 and 4 years, depending on if the study is classified as an EA or EIS.

TxDOT would then need to complete final design, develop construction plans/cost estimates and coordinate utilities. This phase generally takes 1 to 2 years.

It will most likely take 10 to 20 years before most of the projects are constructed. It is possible that the highest priority areas could start construction in 6 to 9 years.

19. How was noise evaluated as apart of this study?
Noise measurements and preliminary traffic noise modeling were performed for select areas along the recommended alignment. The presentation boards can be found here and scroll to boards 8 and 9.

The noise chart presented existing, future no-build, future build and two sound wall scenarios.

The existing sound levels were measured at an accessible location near noise sensitive receivers during morning and afternoon peak traffic hours.

The future scenarios were modeled at residential receiver locations. The sound modeling for all future scenarios incorporates topography, the project, and other Collin County planned roadways to provide an overall estimate of traffic sound levels in the area.

The future no-build scenario was modeled using 2045 traffic data and roadway alignments. In many areas the traffic volumes and number for lanes increased significantly but the roadway elevation remained relatively consistent with existing conditions.

The future build scenario for US 380 was modeled using 2045 traffic volume projections and roadway layouts. The highway is currently planned to be depressed in some locations; this may cause a reduction in sound impacts. Additionally, the 2045 traffic volumes on some Collin County planned roadways will be less if US 380 is constructed as a freeway.

All these factors (topography, project traffic, other traffic, etc.) incorporated into the model provide an estimate of the cumulative traffic sound levels at the receiver, which can vary from scenario to scenario and location to location.

More traffic noise analysis is required to be completed during environmental studies after a schematic has been prepared. The study would be conducted in accordance with federal regulations and *TxDOT's Guidelines for Analysis and Abatement of Roadway Traffic Noise*. Based on the findings, noise abatement barriers would be proposed for locations that meet federal and TxDOT criteria in terms of noise reduction, cost and constructability. The results of the traffic noise study and the locations and characteristics of any proposed noise barriers would be shared with the community before preparing the final design.

20. How was traffic projected for the alignments?

TxDOT analyzed roadway options presented using NCTCOG's 2045 travel demand model, which is a regionally accepted traffic model and was recently updated in 2018.

This model projects future traffic volumes and travel patterns in the DFW region by combining population forecasts, cities' future land use plans, and common origins/destinations. Many cities' future land use plans contain new commercial areas which will bring more jobs and people to the area.

This 2045 model assigns trips based on population density by county and by traffic survey zone (TSZ). More information on TSZs and the distribution of population including population and employment density maps can be found here.

Project team traffic engineers analyzed average travel speed, local and regional delay per vehicle, directional splits, traffic volumes, and other metrics in the AM and PM peak periods for alignment segments. The project team and NCTCOG staff performed multiple thorough reviews of the models and model results before asserting which alignments performed better than others.

TxDOT's objective in evaluating multiple alignments using the 2045 travel demand model is to ensure that the US 380 project is an effective project – locally and regionally. The benefit of a well-functioning US 380 extends beyond the paved limits of the highway – it attracts traffic from local city streets thereby reducing congestion on those streets and shortening the travel time it takes to get from one place to another within and through Collin County. This attractiveness is what we call travel demand.

21. What did TxDOT conclude about alignments through its traffic analysis?
We have found that if we do nothing, US 380 will continue to experience a failing level of service in the future, even if we built all the planned roadways in Collin County including the Outer Loop that is being planned by Collin County.

The traffic analysis shows that one freeway option should be constructed to accommodate future projected growth by 2045.

While the green alignment attracts more traffic than the red alignments on US 380, the red alignment, being a new location highway, still maintains the existing US 380 roadway in central Collin County. Therefore, evaluating how US 380 and local streets work together as a system, the red alignments are more effective than the green alignments in increasing mobility.

We found that the red alignments will reduce more regionwide traffic congestion than the green alignments. This is measured by hours of congestion relief as compared to the no-build option. These hours represent the amount of time each freeway option saved individuals from sitting in traffic. *Within the region, the green alignment relieves 50,000 hours of congestion per day while the red alignment relieves 66,000 hours of congestion per day. The red alignments reduce congestion 16,000 hours per day more than the green alignments, which offers greater benefits to Collin County and carries more total east/west volume than the green alignments. When comparing the dollar value of time benefits annually, the red alignments would save you $515 million where the green alignments would only save $390 million in comparison to the no-build alternative.*

More information on traffic analysis can be found here scroll to pages 8 and 9 and here scroll to board 12.