

Frequently Asked Questions (FAQs)

SH 121 from FM 423 to U.S. 75

Public Meeting Focus Area: SH 121/U.S. 75 Interchange

NTTA

Following are FAQs about the North Texas Tollway Authority's proposed design and safety enhancements to the SH 121/U.S. 75 interchange.

Q: Why is the NTTA proposing design and safety enhancements to the interchange?

A: The proposed design and safety enhancements would allow cars to travel through the interchange rather than stopping at traffic lights. Motorists would access the frontage roads and u-turn lanes by traveling on non-stop, circular connections called loop ramps. The proposed grade separated interchange design and safety enhancements remove four at grade intersections with signal lights between the SH 121 and U.S. 75 frontage roads.

A traffic analysis of the proposed frontage road loop ramp connections shows that cars would drive smoothly and continuously during peak hours. There would be no breakdown in the flow of traffic. The grade separated loop ramp frontage road configuration would improve safety.

Q: What do you mean by “grade separated” and “at grade?”

A: The term “grade separated” refers to the situation in which the junction of two or more roads is aligned at different heights (grades) so traffic flow is uninterrupted when the roads cross each other. A grade separated junction is called an interchange. If there is no grade separation, the roadway junction is considered “at grade” and is called an intersection.

Q: How do you know that grade separated interchanges are safer?

A: Our engineers were guided by industry standards when designing the interchange enhancements:

- “Grade separation does provide a significant benefit to the operations of through movements given that conflicts with opposing and adjacent traffic are eliminated. The reduction of conflicts also improves safety performance.” (Signalized Intersections: Informational Guide, page 264, Federal Highway Administration, August 2004)
- “The greatest efficiency, safety and capacity are attained when the intersecting travelways are grade separated.” (A Policy on Geometric Design of Highways and Streets, page 743, AASHTO, 2004)

Q: What happens to interchange ramps under the proposed design and safety enhancements?

A: The grade separated frontage road intersections would allow the U.S. 75 mainlanes and frontage roads to be reconstructed near existing grade. This would allow the mainlane ramps to be reconfigured to eliminate short weaving segments with the U.S. 75 direct connecting ramps.

- “Because considerable turbulence occurs throughout weaving sections, interchange designs that eliminate weaving entirely or at least remove it from the main facility are desirable.” (A Policy on Geometric Design of Highways and Streets, page 819, AASHTO, 2004)

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In addition, the proposed design enhancements maintain the ramp movements to local cross streets that were approved in the 2005 design. The physical location of these ramps would shift to improve the flow of traffic located on the mainlanes and frontage roads.

- The proposed design enhancements would also add three ramps, including a northbound SH 121 exit ramp between Hardin Boulevard and Shelby Drive; a northbound U.S. 75 exit ramp north of Ridgeview Drive; and an exit ramp from the northbound SH 121 direct connecting ramp that would provide access to the northbound U.S. 75 frontage road and Eldorado Parkway.
- Two-lane direct connecting ramps are proposed to help carry the large volumes of traffic projected to travel from northbound SH 121 to northbound U.S. 75 as well as from southbound U.S. 75 to southbound SH 121.
- The proposed enhancements provide separate direct connecting ramps for northbound and southbound U.S. 75 traffic traveling to southbound SH 121. Providing separate SH 121 connections improves traffic flow by eliminating the merger of the two U.S. 75 traffic streams prior to entering southbound SH 121.

Q: Have you done traffic studies on the proposed ramp configuration?

A: Yes, traffic analysis of the proposed ramp configurations for the project shows no breakdown of traffic flow or any bottleneck problems during peak traffic hours on the mainlanes.

Q: Will you take any private property for these changes?

A: No. No additional right-of-way would be required because the right-of-way footprint established by the 2005 approved design also accommodates the revised layout. Some utility easements will be necessary. In addition, the proposed design enhancements would require revised control-of-access locations. The revised control-of-access locations allow for future driveway locations for adjacent property owners. (This means that some undeveloped parcels would have to make minor changes to their future driveway locations.)

Q: Are there any environmental impacts associated with the proposed enhancements to the interchange?

A: The proposed design enhancements satisfy the project's need and purpose while minimizing environmental and socio-economic impacts. There would be no significant environmental impacts anticipated from implementation of the design enhancements to the SH 121/U.S. 75 interchange. Mitigation measures were developed during previous environmental documentation associated with the 2005 approved design and would be undertaken to minimize any likely environmental impacts.

Environmental resources evaluated for impacts associated with the proposed enhancements to the interchange were grouped into four categories: natural resources, land use, community, and other resources. Examples of potential effects identified related to the design enhancements include:

- Minimization of impacts to waters of the U.S., including wetlands; water quality; and vegetation;
- Overall improved traffic operations associated with the proposed design enhancements;
- Disadvantages to traveling through the loop ramp include increased travel distances for simple left-turn maneuvers;

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- The design enhancements are not expected to result in exceedance of air quality standards, because the design enhancements, in comparison to the approved design, would not result in any meaningful changes in traffic volumes, vehicle mix, location of existing roadways, or any other factor that would cause an increase in emissions.
- Although no additional right-of-way would be required by the design enhancements, changes in control of access locations and multiple access points, such as driveways and ramp locations, would be required. However, the design enhancements would not cause a loss of driveway access to any property.

In summary, the beneficial effects of the project, such as improved traffic flow, reduced cost, and reduced construction duration, make the project both necessary and desirable.

Q: Have you coordinated with local cities on this?

A: Absolutely. The city of McKinney, city of Allen and town of Fairview all have passed resolutions supporting the NTTA's proposed design and safety enhancements to the SH 121/U.S. 75 interchange.

Q: How will construction affect me?

A: The proposed enhancements do not require U.S. 75 to be depressed, meaning that significant excavation would not be required because the reconstruction would occur near existing grade. (By comparison, the interchange design approved in 2005 would require excavating as much as 25 feet down into the existing grade.)

Under the proposed enhancements, the alignment changes to SH 121 would allow for improved mobility during construction.

The proposed design enhancements would decrease construction time and minimize the impacts to the driving public during construction.

Q: When will construction begin?

A: Construction of the SH 121/U.S. 75 interchange is currently scheduled to begin in the fall of 2008, with the interchange expected to open to the public by January 2011.

Q: I have an opinion that I would like to make known. How do I do that?

A: There is a court reporter present to record verbal comments. In addition, comment cards are available for written comments. And, after the formal presentation this evening, there will be an opportunity for the public to ask questions or make statements at the microphone. Finally, you may also submit written comments by mail or e-mail. Written comments may be mailed to Corridor Manager, Re: SH 121 Segment 4, NTTA, 5900 W. Plano Parkway, Suite 100, Plano, Texas 75093 or e-mailed to SH121@ntta.org. All comments must be postmarked or e-mailed by June 30, 2008, to be included in the public record.