



## 1 How is TxDOT evaluating alternatives?

The **evaluation process** is summarized in the following steps:

- Develop evaluation criteria based off the study goals, stakeholder feedback and previous public involvement. Note: the preliminary criteria could be expanded as the study progresses.
- Gather data to compare alternatives qualitatively or quantitatively to the no build/leave I-345 as-is.
- Present a summary evaluation matrix.
- Iterate based on public input.
- Identify a recommended alternative that best achieves the study goals and objectives.
- Summarize the process in the feasibility study report.

See the following for more information regarding the evaluation matrix process throughout the I-345 Feasibility Study. **The following categories** were identified as the initial basis (criteria) for evaluating the alternatives:

- Mobility
- Connectivity
- Sustainability
- Economic Development
- Cost

## 2 What is an evaluation matrix?

An **evaluation matrix** is a tool used to review alternatives and objectively compare them to the no build/leave I-345 as-is alternative according to various evaluation criteria. The comparisons are used to identify a recommended alternative.

### Definitions:

**Connectivity** - how the transportation system provides access to essential services and other destinations

**Construction Cost** - the total cost of the work to the owner of all elements of the project, including the cost at current market rates of labor and materials furnished by the owner and designer

**Economic Development** - the process by which the economic well-being and quality of life of a community, or an individual are improved according to targeted goals and objectives

**Mobility** - the ability to get from one place to another using one or more modes of transport to meet daily needs


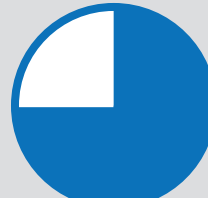
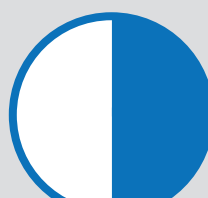

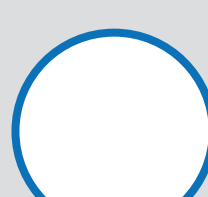
**Sustainability** - meeting the needs of transportation projects without compromising on future development, long-range economic goals and environmental resources

**Qualitative** - Relating to, measuring, or measured by the quality of something rather than its quantity.

**Quantitative** - Relating to, measuring, or measured by the quantity of something rather than its quality.

## 3 What criteria rating scale was used?

The **criteria rating scale used** in this comparative evaluation of alternatives includes five levels of degree called Harvey balls. Harvey balls are small pie charts or ideograms used to visualize information commonly used for comparison. Harvey balls have been used to depict what degree a specific item meets the requirements of a criterion. The following are the five types of Harvey balls used in the I-345 alternative evaluation summary table:

-  Full circle signifies exemplary, or highly meets the criteria
-  Three quarters circle signifies good, or mostly meets the criteria
-  Half circle signifies adequate, or neutral/ no change
-  Quarter circle represents inadequate, or sometimes meets the criteria
-  Empty circle represents poor performance, or does not meet the criteria





# Feasibility Study

# Evaluation Matrix



\*Note: No new ROW would be required with any of the proposed alternatives. This includes no impacts to natural resources (wetlands, streams, farmland, wooded areas or floodplains) or cemeteries.

\*\*N/A = Not applicable

Criteria Rating Scale in comparison to the No Build/Leave I-345 As-is

Does not achieve criteria	Sometimes meets criteria	Neutral/No Change	Mostly meets criteria	Highly meets criteria

Criterion	Objective	No Build/Leave I-345 As-Is	Depressed	Removal	Elevated	Hybrid	Key Takeaway	
Mobility	Vehicles	Minimize impacts to corridor mobility on the freeways and local roads						Due to the changes in access with each proposed build alternative, traffic patterns will change traffic volumes on various freeways and local roads.
	Bicycle/Pedestrian	Improve bicycle/pedestrian mobility						All proposed build alternatives would improve bicycle and pedestrian mobility.
	Transit	Accommodate existing transit facilities and known future proposed transit projects						All proposed build alternatives would accommodate existing transit and the proposed DART D2 alignment. The Removal alternative would have an at-grade crossing with the existing transit facility because of the increased traffic on local roads. With the Removal alternative, DART might have to consider grade separations to improve transit and vehicle operations and safety.
Connectivity	Access between freeways	Freeway to freeway connections						The Depressed, Elevated and Hybrid alternatives maintain the I-345 freeway system between I-30 and Woodall Rodgers Freeway (Spur 366). The Removal alternative severs the freeway connection.
	Access between freeways and local roads	Freeway to local road connections						I-345 has 16 existing access points (ramps). The Depressed alternative maintains 13 of the 16 access points. The Removal alternative severs the connection of I-345 to local roads. The Elevated alternative maintains 7 and the Hybrid alternative maintains 9 of the 16 access points.
	Access between local roads	Local road connections						In all proposed build alternatives, no new connections are proposed, however, the Taylor Street connection is severed. The Depressed alternative, in addition to Taylor Street, severs Canton Street and Good Latimer Expressway. The Removal alternative, in addition to Taylor Street, severs Canton Street.
	Bicycle/Pedestrian	Improve bicycle/pedestrian facility connections						All proposed build alternatives improve bicycle and pedestrian connections along proposed cross streets or frontage roads where applicable. The Depressed alternative does not maintain a connection across Good Latimer Expressway on the southern end of the study limits.
Sustainability	Agency Coordination	Respond to City of Dallas design guidance and DART D2 future plans						The alternatives were coordinated with the City of Dallas, NCTCOG and DART. The Hybrid alternative is the only proposed build alternative that meets all of the criteria received to date.
	Right of Way (ROW)*	Avoid additional ROW* and displacements	N/A**					All proposed build alternatives avoid additional ROW and would not result in any displacements.
	Parks outside State ROW	Avoid impacts to parks, recreational areas, and public usage facilities like parking, including existing and future amenities, outside existing State ROW	N/A					No additional ROW would be required and there would be no impacts to parks or recreational areas located outside of State ROW.
	Parks and public usage inside State ROW	Avoid impacts to parks, recreational areas, and public usage facilities like parking, including existing and future amenities within existing State ROW	N/A					The Elevated alternative would not result in permanent impacts to the existing public facilities within State ROW. The Depressed, Removal and Hybrid alternatives would result in permanent impacts to public facilities within the State ROW, including Julius Schepps Park, Bark Park Central, and Carpenter Park extension and existing parking lots.
	Communities	Minimize impacts to existing adjacent communities (Downtown/Deep Ellum)						The No Build/Leave I-345 As-Is alternative is perceived as a barrier between Downtown and Deep Ellum. The Depressed and Hybrid alternatives would depress the mainlanes and improve the local road connections at grade, including adjacent bicycle and pedestrian accommodations. The Removal alternative replaces the existing highway with local streets, including adjacent bicycle and pedestrian accommodations. The Elevated alternative would be similar to the No Build/Leave I-345 As-Is alternative, but when reconstructed would allow for better connectivity under the mainlanes, including bicycle and pedestrian accommodations.
		Minimize impacts to existing communities beyond downtown						The No Build/Leave I-345 As-Is, Depressed, Elevated and Hybrid alternatives maintain the connection from South Dallas to North Dallas. The Removal alternative removes the connection and the communities would have to adjust travel patterns to alternate routes.
	Sustainable Design	Minimize maintenance costs through sustainable design elements						The No Build/Leave I-345 As-Is alternative requires significant maintenance to extend the life of the existing structure. The Removal alternative would have the least maintenance costs being an at-grade solution but will increase maintenance on local roads due to the increase in traffic volumes on the local roads. The Elevated alternative would have maintenance costs to inspect and repair any structural deficiencies over time. The Depressed and Hybrid alternatives could have significant maintenance costs to accommodate current DART D2, which requires storm water detention and a pump station. Any potential capping could also add maintenance costs dependent on the type of proposed amenities (TBD).
Potential Surplus ROW	Amount of potential surplus ROW that could result in development (to be determined) (in acres)	N/A					All of the proposed build alternatives have potential for surplus ROW.	
Economic Development	Property Values Impacts	Property values at buildout due to potential for economic development (2020 dollars)						All of the proposed build alternatives have potential to increase property values at buildout; however, increased property values could result in higher property taxes which may negatively affect some residents and businesses.
	Property Tax Revenue Impacts	Annual incremental property tax revenue at buildout (2020 dollars)						All of the proposed build alternatives have potential to result in annual incremental property tax revenue at buildout; however increased property taxes could negatively affect some residents and businesses.
	Potential Cap Locations	Provides opportunity for potential development of capping over freeway						Ratings include both surplus ROW and potential development on top of the freeway.
Construction Cost	Cost (\$)	Preliminary, approximate construction cost (2020 dollars)	N/A	\$\$\$	\$	\$\$	\$\$\$	It is estimated that the cost of the alternatives would be approximately: depressed, \$1B; elevated \$650M; removal, \$400M; and hybrid, \$1B. There is significant cost associated with the Depressed and Hybrid alternatives. The higher cost is associated with depressing the highway and relocation of existing utilities.





# How Did We Get Down to One Alternative?



## KEY TAKEAWAY

Each alternative has pros and cons in multiple areas of evaluation. Below are the key reasons why each alternative was removed from further consideration and why the recommended alternative is the Hybrid Alternative.

**NB**

**No Build/  
Leave I-345 As-Is**

The existing bridge can only be maintained for so long to stay safe and operational. The cost to maintain the existing bridge will continue to increase over time. Eventually it will become too costly to maintain and replacement will be needed.

**D**

**Depressed  
Alternative**

Severing Good Latimer Expressway and Canton Street does not meet the City of Dallas Design Guidelines and is not favorable by the position papers received from stakeholders.

**R**

**Removal  
Alternative**

The impacts to regional traffic with the removal alternative are significant. Based on public feedback, this option was eliminated to continue to provide a connection of mainlanes between south and southern Dallas and north Dallas.

**EI**

**Elevated  
Alternative**

The existing elevated highway is perceived as a barrier between communities. While the proposed elevated has a smaller footprint and could be built back different, the alternative has been eliminated to provide better community cohesion.

**H**

**Hybrid  
Alternative**

This alternative is the best compromise to combine elements from the other alternatives based on public feedback. Based on input, changes have been made to the hybrid alternative to develop refinements to what is now the “recommended alternative”.