



# I-345 Feasibility Study

Feasibility Report – August 2022

CSJ: 0092-14-094

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## List of Acronyms

<u>Acronym</u>	<u>Definition</u>
AC	Acres
ASED	Annual Scope & Estimate Documentation Spreadsheet
CAAA	Clean Air Act Amendments of 1990
CBD	Central Business District
CityMAP	Dallas City Center Master Assessment Process
CM	Councilmember
CSJ	Control-section-job
DART	Dallas Area Rapid Transit
DDI	Downtown Dallas Inc.
DEF	Deep Ellum Foundation
DFW	Dallas/Fort Worth
DISD	Dallas Independent School District
DMS	Dynamic messaging signs
EJ	Environmental justice
FAR	Floor Area Ratio
FAQs	Frequently Asked Questions
FONSI	Finding of no significant impact
FY	Fiscal Year
GDPC	Greater Dallas Planning Council
HOA	Homeowners Associations
I	Interstate
iSWM	Integrated Stormwater Management
LOS	Level of service
mph	Miles per hour
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
OD	Origin-destination
PS&E	Plans, specifications, and estimates
RDM	Roadway Design Manual
ROW	Right of way
RTC	Regional Transportation Council
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SIP	State Implementation Plan
SMU	Southern Methodist University
TextITE	Texas District of the Institute of Transportation Engineers
TIF	Tax Increment Financing
TxDOT	Texas Department of Transportation

## 1.0 Introduction

This report documents findings from the Texas Department of Transportation (TxDOT) Dallas District Dallas County Interstate (I) 345 feasibility study.

Working with the City of Dallas, TxDOT initiated this feasibility study in April 2018 to identify a recommended alternative for I-345 within the existing state right of way (ROW). As Dallas County population continues to grow and I-345 reaches its estimated remaining useful service life (approximately 25 years), it is necessary to plan for the future of the roadway. The study will determine the future of I-345 based on the study goals.

The study goals were defined in the initial stages of the feasibility study. They were built upon the TxDOT Dallas City Center Master Assessment Process (CityMAP) study completed in 2016.

### CityMAP Goals

- Mobility
- Connectivity
- Sustainability
- Economic Development

### I-345 Feasibility Study Goals

- Carry forward CityMAP Goals of Mobility, Connectivity, Sustainability and Economic Development
- Have an inclusive, transparent, and collaborative public involvement process
- Work collaboratively with stakeholders
- Review recommendations from previous studies
- Provide the best solution that maintains safety, mobility, and operability
- Defendable results
- Incorporate TxDOT and community goals
- Work towards a recommended alternative

During the study, TxDOT developed and evaluated alternatives, including the No-Build/Leave I-345 As Is scenario, based on study goals and public feedback.

After four years of study, TxDOT publicly announced its recommended alternative in May 2022 at the third and final series of the I-345 Feasibility Study public meetings. The intent of this report is to summarize the four-year feasibility study process for I-345.

The feasibility study will help determine the future of I-345. The next phase is the schematic/environmental analysis of the recommended alternative from the I-345 Feasibility Study. Table 1 - Feasibility Study vs. Schematic/Environmental Analysis summarizes the different components from the feasibility study versus the schematic/environmental analysis.

Table 1 - Feasibility Study vs. Schematic/Environmental Analysis

<b>I-345 Feasibility Study            (estimated completion end 2022)</b> Includes summary of:	<b>Schematic/Environmental Analysis of the            Recommended Alternative for I-345 (TBD)</b> includes:
<ul style="list-style-type: none"> <li>• Alternative Analysis/Preliminary Engineering</li> <li>• Preliminary Traffic Analysis</li> <li>• Evaluation Matrix</li> <li>• High-level Cost Estimate</li> <li>• Public Involvement</li> <li>• Environmental Constraints</li> <li>• Recommended Alternative</li> </ul>	<ul style="list-style-type: none"> <li>• Schematic Design/Detailed Engineering</li> <li>• Traffic Operations/Level of Service</li> <li>• Drainage</li> <li>• Cost/Economic Impacts</li> <li>• Utility Relocations</li> <li>• Community Impacts/Community Cohesion</li> <li>• Natural Resources Impacts</li> <li>• Traffic Noise and Mitigation</li> <li>• Air Quality Impacts</li> <li>• Impacts to Parks and Community Facilities</li> <li>• Cultural Resources</li> <li>• Public Involvement</li> <li>• Environmental Clearance</li> </ul>

## 2.0 Background

### 2.1 Project Objective

The objective of the feasibility study was to perform a needs assessment and analyze potential alternatives. The alternative options could include maintaining the existing I-345 elevated structure, removal of the existing mainlanes and other build alternatives to replace the mainlanes. A feasibility study is one planning tool that TxDOT uses when a project is in the very early stages of development. The feasibility study helps TxDOT determine if the project should move on to more advanced phases of project development such as more in-depth environmental analysis, public involvement, schematic design, safety, traffic analysis, drainage, cost/economic impacts, and utility relocations. The reason this type of study is performed is to identify high level or feasible alternatives, impacts to stakeholders and the public and ultimately a recommended alternative to proceed to the next phase of project development: the schematic/environmental analysis phase of the recommended alternative.

### 2.2 Study Approach

Initially the study approach was defined as four phases:

- **Define** the study approach
- **Develop** the preliminary concepts
- **Refine** reasonable alternatives
- **Deliver** collaborative and defensible study results

See Figure 1 - Study Approach for the components of each phase and an overall timeline of the feasibility study.

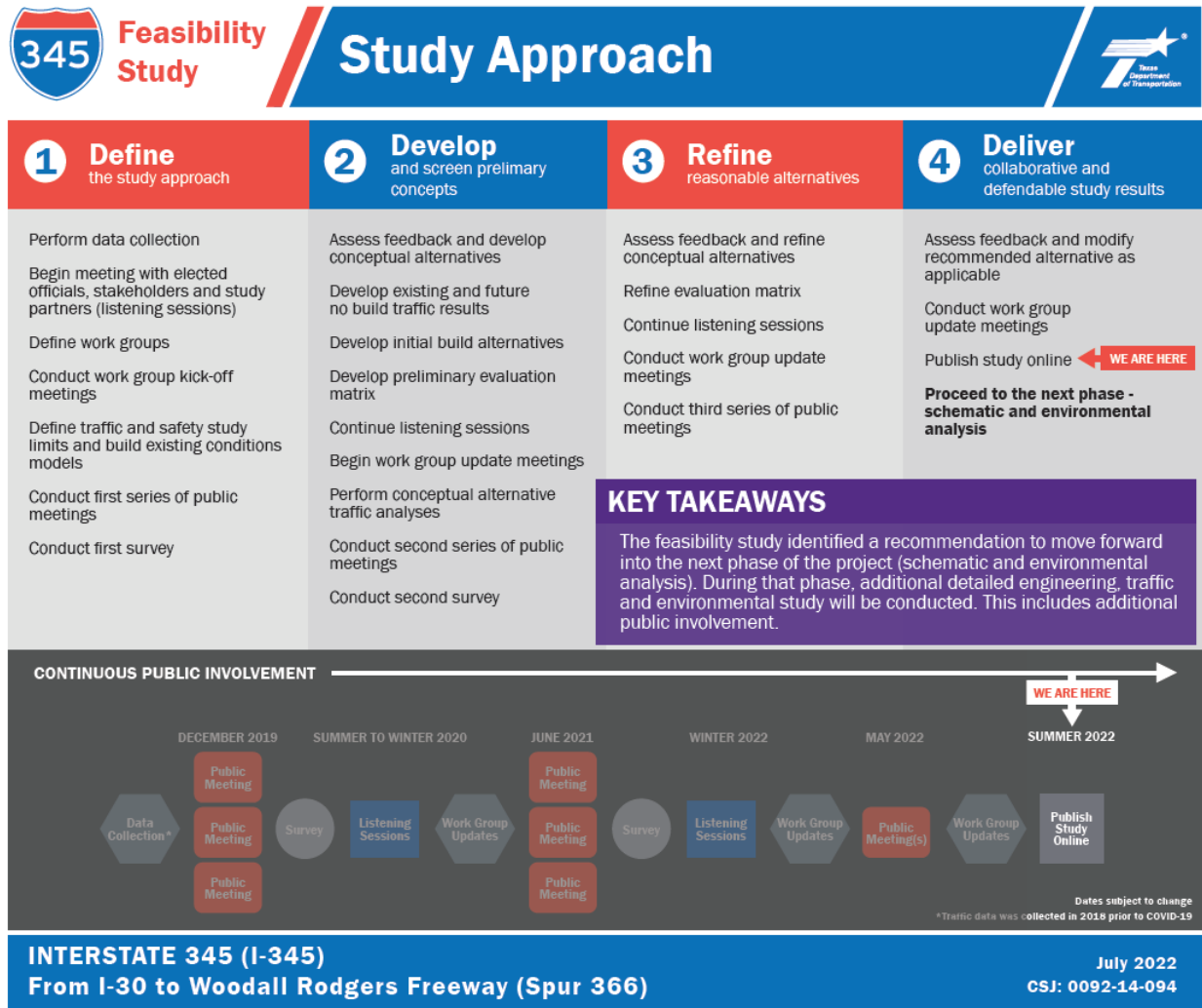


Figure 1 - Study Approach

This feasibility report is the conclusion of the Deliver phase and facilitates the decision by TxDOT whether to proceed into the next phase of the project (schematic and environmental analysis). During that phase, additional detailed engineering, traffic, and environmental study will be conducted, including public involvement.

### 2.3 Study Area

This study focused on identifying a recommended alternative in Dallas County. Figure 2 - Project Location Map displays the feasibility study area. The study area is solely contained within Dallas, Texas from I-30 to Woodall Rodgers (Spur 366). I-345 is the connection on the east side of downtown Dallas between US 75 and I-45.

The I-345 Feasibility Study limits is approximately 1.4 miles. One control-section-job (CSJ) is included in the study area: 0092-14-094.





Figure 2 - Project Location Map

## 2.4 Existing Conditions

I-345 is currently classified as an urban highway with a posted speed limit of 65 miles per hour (mph). The current alignment consists of six thru lanes [three each direction]. The existing I-345 elevated structure was built in 1973. The facility includes direct connections to I-30 and Woodall Rodgers (Spur 366). A \$30 million rehabilitation project was completed in 2016. The existing I-345 bridge is regularly inspected and will be maintained for the duration of its useful service life.

## 2.5 Project History and Previous Studies

Leaders from TxDOT, Dallas County, City of Dallas, and North Central Texas Council of Governments (NCTCOG) identified the need to initiate the I-345 Feasibility Study. During the 2016 CityMAP project, the I-345 corridor was evaluated, along with other highways around the central business district (CBD) of Dallas, to identify potential alternatives to be further developed in a feasibility study. The CityMAP study was a high-level evaluation for “the art of the possible.”

In Chapter 8 “I-345/I-45 Scenarios,” the CityMAP report recommended further analysis of three scenarios: modify, removal and below grade. These three scenarios were carried forward into this feasibility study, otherwise known throughout this study as elevated, removal and depressed

alternatives respectively. The main difference between this feasibility study and the CityMAP results is the traffic analysis approach. The 2016 CityMAP study utilized the 2040 NCTCOG Metropolitan Transportation Plan (MTP) which included the Trinity Parkway. This study refreshed the traffic data to utilize the approved 2045 NCTCOG MTP, which did not include the Trinity Parkway. With each MTP update, NCTCOG revises planned projects, projected demographics, and land use in coordination with the cities across the region.

The I-345 Feasibility Study reviewed the CityMAP study along with the following documents:

- 2013 I-345 Feasibility Study (existing bridge rehabilitation)
- SM Wright (PH I [completed] and PH II [under construction]) (PS&E documents)
- I-30 Canyon (schematic approved December 2020, PS&E under contract)
- I-30 from I-345 to Ferguson (environmental clearance expected end 2022)
- Dallas Area Rapid Transit (DART) D2 (under study)
- I-35E/I-30 interchange “Horseshoe” project (completed)
- I-35E from I-30 to Oak Lawn Avenue “Lowest Stemmons” project (completed)
- Mill Creek Tunnel Drainage Reports/Analysis
- As-built plans
- Existing utilities/survey/ROW
- Environmental constraints
- City of Dallas Complete Streets Plan (2016)
- City of Dallas Vision Zero (2019)
- City of Dallas Design Criteria for I-345 (2021) (presented June 2021 and May 2022 public meetings)
- Downtown Dallas Inc. (DDI) 360 Plan

TxDOT conducted a previous I-345 Feasibility Study that concluded in 2013. The study analyzed nine alternatives<sup>1</sup>, including:

1. No Build/Leave I-345 As-Is
2. Connecting girders to bridge deck
3. Add columns for symmetrical support
4. Strengthen connections
5. Strengthen superstructure by adding girders and bent caps
6. Rapid bridge replacement
7. Fast track superstructure and bent cap replacement
8. Hybrid alternative (combination of alternatives 2-7)
9. Complete facility reconstruction (to be determined with further study)

The proposed evaluation criteria<sup>1</sup> included: 1. Initial capital cost, 2. Ongoing maintenance cost, 3. Construction duration, 4. Structural life expectancy, 5. City Street impact, 6. Local residential impact, 7.

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<sup>1</sup> TxDOT Material presented December 11, 2012, public meeting.

Local business impact, 8. DART impact, 9. Aesthetic impact, 10. Current (2012), and 11. Other applicable criteria.

Ultimately maintenance and rehabilitation to the existing I-345 structure was the recommended alternative from the 2013 feasibility study and \$30 million has been invested in the bridge since.

## 2.6 City of Dallas Complete Streets Plan (2016)

The Dallas Complete Design Streets manual focuses on improving the way the City of Dallas designs and builds streets. The Dallas Complete Streets Vision is to build streets that are safe and comfortable for all users – young and old, pedestrians and wheelchair users, motorists, and bicyclists, bus, and train riders alike. The Complete Street Manual is managed by the Transportation Department on their Complete Streets information page.<sup>2</sup>

Proposed cross street typical sections were coordinated with the City of Dallas. Each street accommodates a 10' wide shared use path for both pedestrian and bicycles along both sides of the city street. Where frontage roads are proposed, a 10' wide shared-use path is proposed where feasible within existing ROW. Where the ROW is constrained, specifically on the west side, along the existing southbound mainlanes by DART, a shared-use path is only proposed along the northbound frontage road. The proposed cross streets alignment and typical section are preliminary and subject to change. Access and safety for pedestrians and bicyclists is a priority for TxDOT, and they are committed to further coordination with the city and stakeholders.

## 2.7 City of Dallas Design Criteria (2021)

The City of Dallas provided design criteria for the development of I-345 in 2021. The city requested that the following design criteria be applied to the scenarios that TxDOT developed for future improvements or reconstruction of I-345. The criteria were developed with the goal of incorporating safety, environmental sustainability, economic vitality, and housing considerations as part of all scenarios.

- 1.0 Minimize the footprint of I-345 and related ramps to the extent possible in applicable scenarios to maximize future development potential along the corridor and reconnect neighborhoods. For the elevated scenario, consider running Cesar Chavez under I-345 north of Pacific to minimize ROW and create new opportunities for economic development along I-345.
- 2.0 Incorporate a D2 subway connection across TxDOT ROW in the I-345 scenarios, in line with the March 24, 2021, City Council resolution.
- 3.0 Avoid creating any new barriers between neighborhoods and seek opportunities to reconnect Downtown with Deep Ellum and Bryan Place, the State-Thomas neighborhood with the Arts District, the Cedars area with Fair Park and Carpenter Park with surrounding neighborhoods.
- 4.0 Seek to limit the presence of on/off [entrance/exit] ramp connections to the city street grid along the I-345 corridor between Live Oak Street and Canton Street in applicable scenarios to increase walkability between Downtown and Deep Ellum.

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<sup>2</sup> The Complete Streets Manual was adopted by the Dallas City Council in January 2016:  
<https://dallascityhall.com/departments/transportation/Pages/complete-streets.aspx>

- 5.0 On/off [entrance/exit] ramps should follow an urban configuration and tie into or become part of the city street network.
- 6.0 I-345 scenarios should tie seamlessly into Woodall Rodgers Freeway [Spur 366], US 75, I-30, and I-45 with the least impact possible to neighborhood connectivity and surrounding development.
- 7.0 Incorporate complete streets and urban design elements on all new and reconstructed city streets.
- 8.0 In line with the City's Vision Zero [2019] resolution, seek to enhance safety for all modes of transportation in all scenarios.
- 9.0 Allow for strategic decking/air-right [capping] development opportunities in a depressed configuration.
- 10.0 Integrated Stormwater Management (iSWM) standards should be used to mitigate stormwater concerns. Any required underground water storage infrastructure should be seamlessly integrated into the surrounding area and be environmentally friendly.

## 2.8 Regional Planning (2045 MTP)

The NCTCOG is a voluntary association of, by and for local governments and was established to assist local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development. NCTCOG serves a 16-county region of North Central Texas, which is centered around the two urban centers of Dallas and Fort Worth. NCTCOG has over 230 member governments including 16 counties, numerous cities, school districts and special districts. The NCTCOG serves as the Metropolitan Planning Organization (MPO) for regional transportation planning in the Dallas/Fort Worth (DFW) area.

The Regional Transportation Council (RTC) is the independent transportation policy body of the MPO and is comprised of elected officials and appointed staff representing the counties, municipalities, and transportation providers in the region. Since the early 1970s, MPOs have had the responsibility of developing and maintaining a Metropolitan Transportation Plan (MTP). The MTP is a federally mandated document that serves to identify transportation needs and guides federal, state, and local transportation expenditures.

The MTP includes over 70 policies set by the RTC to help guide the development, implementation, and operation of transportation projects. For example, RTC policy FT3-008 encourages the early preservation of ROW in recommended corridors, and FT3-009 encourages the preservation of existing ROW in all freeway corridors to accommodate future transportation needs.

The 2045 MTP is the defining vision or plan for transportation systems and services in the DFW area. Serving as a guide for the expenditure of State and federal funds through the year 2045, the plan addresses regional transportation needs that are identified through forecasting current and future travel demand, developing and evaluating system alternatives and selecting those options which best meet the mobility needs of the region.

Transportation plans such as the 2045 MTP, according to the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) metropolitan planning regulations, must be

“fiscally constrained,” that is, based on reasonable assumptions about future transportation funding levels. Because the DFW area is designated as moderate nonattainment areas for the 8-hour ozone standard, the Clean Air Act Amendments 1990 (CAAA) requires the transportation plan to be in conformity with the State Implementation Plan (SIP) for air quality to demonstrate that projects in the MTP meet air quality goals.

Important to **note is the I-345 Feasibility Study utilized the approved 2045 MTP. The 2016 CityMap study utilized a preliminary 2040 MTP**, which has different traffic forecasts, proposed projects, and demographics for the region. As mentioned previously, the 2040 MTP included the Trinity Parkway project which has since been removed for further consideration as a projected project.

## 2.9 Adjacent Projects

Within the study area, there are numerous existing and planned transportation facilities that provide access and circulation. In the 2045 MTP, NCTCOG identified future regional roadway corridors for which a need exists.

The I-345 Feasibility Study started with the 2045 MTP regional model, and refined it based on the latest adjacent corridor updates. Figure 3 - Adjacent Corridor Updates illustrates the adjacent projects that were updated/verified for consistency with the latest plan in the 2045 MTP traffic model. TxDOT worked with NCTCOG to incorporate the latest projects, including I-345, into the latest MTP (2045 MTP Update).





Figure 3 - Adjacent Corridor Updates

### 3.0 Understanding Future Needs

#### 3.1 Population Growth

Dallas County had a 2020 population of 1,348,890. Dallas is currently growing at a rate of 0.13% annually and its population has increased by 12.4% since the 2010 census, which recorded a population of 1,200,350.

The DFW area is one of the fastest growing in the country. The 13-county DFW metro area has a population of 6.8 million, which is the 7<sup>th</sup> largest metro area in the United States. In the past 30 years, the DFW population has more than doubled.<sup>3</sup>

#### 3.2 Existing and Projected Travel Demand

The average daily traffic on I-345 in 2019 was approximately 180,000 vehicles per day. By 2045, it is anticipated the average daily traffic will increase to approximately 206,000 vehicles per day. That is a

<sup>3</sup> According to the World Population review website: <https://worldpopulationreview.com/us-cities/dallas-tx-population>

14% percent increase in the number of daily vehicles on I-345 between I-30 and Woodall Rodgers (Spur 366).

More information about travel demand analysis conducted under this study is available in Section 5.5 (Traffic Analysis) and Section 6.2 (Traffic Analysis Summary).

### 3.3 Physical and Environmental Constraints

Alternatives and safety improvements in the existing I-345 corridor are constrained by existing ROW, including residential and commercial land uses, community resources and environmental constraints. New developments are expected to be constructed adjacent to the existing I-345 corridor.

The environmental project area was defined as an area approximately 0.2 mile on each side of the existing I-345 ROW between I-30 and Woodall Rodgers (Spur 366). The project area extends approximately 2.2 miles in a southeasterly-northwesterly direction and totals approximately 610 acres. The physical and environmental constraints located within the project area include:

- Three DART railway crossings and two stations (Deep Ellum and Pearl/Arts District)
- Two schools (Uplift Luna Preparatory and Notre Dame School of Dallas)
- Three places of worship (Saint Peter the Apostle Catholic Church, Fellowship Church and SoupMobile Church)
- One cemetery (Calvary Cemetery)
- Six existing parks (Bark Park Central, Griggs Park, John W. Carpenter Plaza, Deep Ellum Urban Gardens, F.A.R.M. Urban Park and Julius Schepps Park) and one future park, Carpenter Park (currently under construction)
- Four Texas Historical Markers (Original 1902 site of the Coca-Cola Bottling Company of Dallas, Junction of the Texas & Pacific Railway and the Houston & Texas Railway, Moorland YMCA Building and William Sidney Pittman); and two NRHP properties (Dallas High School Historic District and the Grand Lodge of the Colored Knights of Pythias)
- 18 potential hazardous materials sites within the project area (14 leaking petroleum storage tanks and 4 petroleum storage tanks) (subject to further investigation and field verification)
- Approximately 49% of the total population within the environmental study area is composed of minority populations
- Approximately 34% of the total population within the environmental study area has a median household income below the 2022 established national poverty level of \$27,750

An environmental constraints map was created and displayed at the public meetings. The map was used by the engineering team to avoid, minimize, and mitigate any impacts to physical and environmental constraints. See Figure 4 - Environmental Constraints Map and Appendix A for the final environmental constraints report.

To meet the feasibility study goals of mobility, connectivity, sustainability, and economic development as part of the evaluation matrix, the following environmental considerations were included:

- Access, including compatibility with local and regional planning goals

- ROW – potential effects on public/private ROW – **NOTE, there was no new proposed ROW with any of the alternatives evaluated during the feasibility study**
- Potential Surplus ROW – amount of potential surplus ROW that could result in development (final surplus ROW to be determined during schematic and environmental analysis)
- Parks (outside and inside State ROW) – potential effects on parks and recreation areas
- Community impacts – potential effects to existing adjacent communities and communities beyond downtown in the region
- Sustainable design – minimize maintenance costs through sustainable design elements
- Property impacts – potential for property value increase/economic development and tax revenue impacts
- Potential cap locations – potential for development over the freeway, if applicable

The above is not a complete list of the alternative evaluation matrix criterion/objectives. See Section 6.0, Alternative Evaluation/Comparison for the alternative evaluation summary.

The feasibility study was completed to help determine the future of I-345. The next phase is the schematic/environmental analysis of the recommended alternative from the I-345 Feasibility Study. Additional environmental analysis will be part of that phase, building upon the feasibility study, including:

- Socio-economic/Community – potential effects to environmental justice (EJ) populations, community facilities, community cohesion, accessibility
- Traffic Noise – potential effects on the noise environment/sensitive receivers
- Land Use – potential changes in land use
- Air Quality – potential effects on air quality
- Natural Resources – potential effects on vegetation, floodplains, farmland, wooded areas, waters quality, wetlands, Waters of the U.S.
- Cultural Resources – potential effects to historic and archeological resources
- Hazardous Materials – potential effects to existing hazardous materials sites
- Construction Impacts – disruption of regional traffic, phased construction impacts
- Utility Impacts – disruption of utility services
- Public Involvement – additional public meetings will be held with the opportunity for public comment



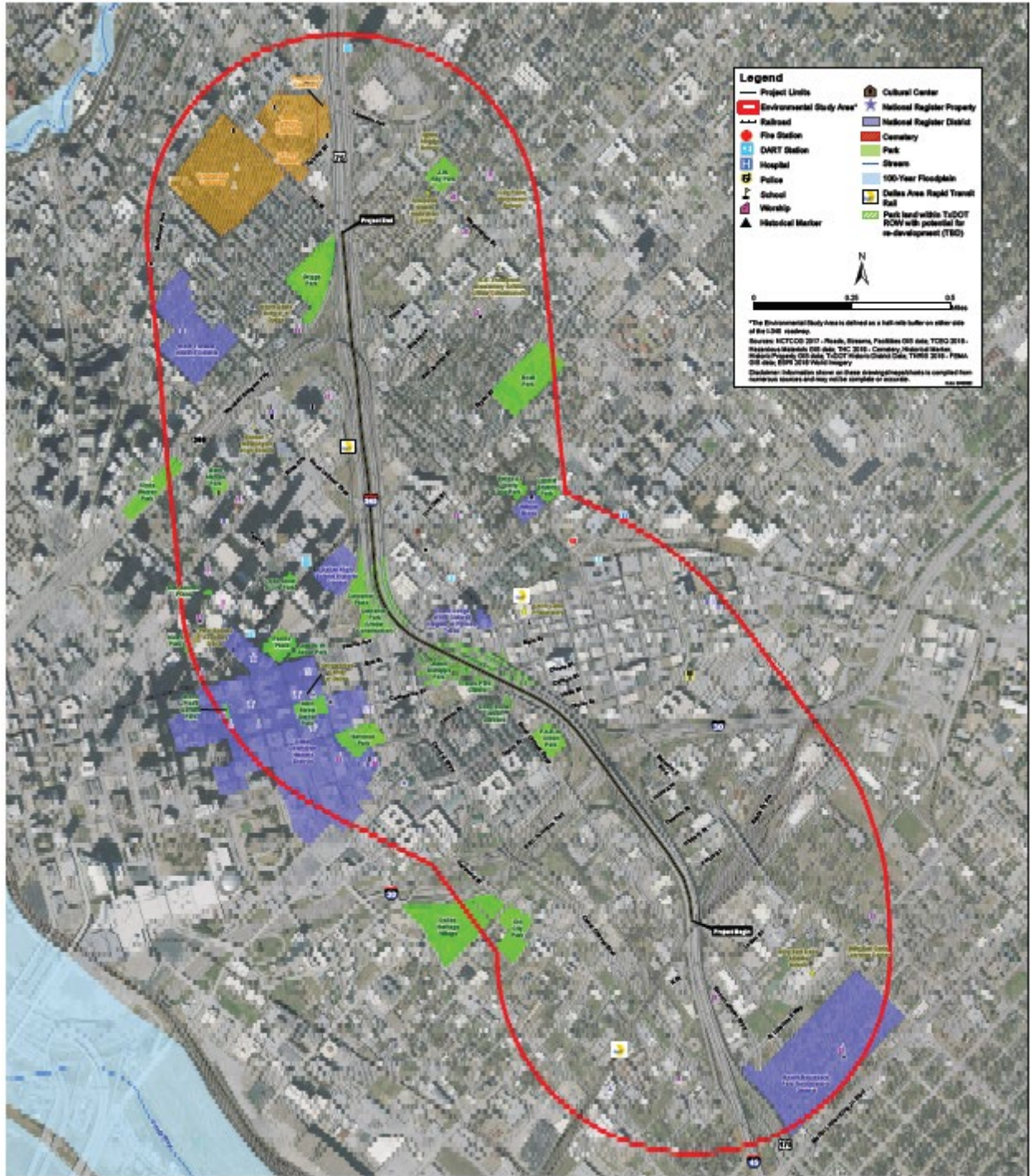


Figure 4 - Environmental Constraints Map

### 3.4 Safety

The existing I-345 corridor between I-30 and Woodall Rodgers (Spur 366) does not meet the latest TxDOT Roadway Design Manual (RDM)<sup>4</sup> standards.

All build alternatives considered as part of the I-345 Feasibility Study meet the latest RDM guidelines.

## 4.0 Public Involvement

One of TxDOT's study goals was to conduct an inclusive, transparent, and collaborative public involvement process throughout the I-345 Feasibility Study.

Carrying forth the CityMAP efforts, public involvement and stakeholder outreach were conducted and used to inform TxDOT throughout this feasibility study. Input is one of many factors that TxDOT considers when making decisions about the future of I-345. TxDOT was able to engage, inform and obtain feedback from the public.

### 4.1 Public Involvement Plan

A public involvement plan (PIP) was developed at the beginning of the feasibility study in 2018 to meet the study goal to conduct an inclusive, transparent and collaborate public involvement process.

Highlights of the approach include:

- Stakeholder Meetings, including elected officials
- Agency Coordination, including NCTCOG, City of Dallas and DART
- Public Meetings (three series: December 2019, June 2021, and May 2022)
- Newsletters
- Frequently Asked Questions (FAQs)
- Community Meeting

### 4.2 Stakeholder Meetings

A critical component of the I-345 Feasibility Study was receiving input from key stakeholders. The I-345 team scheduled one-on-one meetings, or "listening/briefing sessions," to gain an understanding of current thoughts and concerns related to the study. In total, the team spent more than 160 hours with more than 100 stakeholders as part of 104 meetings. The stakeholder meetings included 30 meetings with elected officials.

Over a three-year period beginning in May 2020, meetings were conducted to allow stakeholders the opportunity to communicate ideas regarding the future of I-345. The meeting agendas typically included an introduction, meeting purpose and expectations, a study overview and status update and an open discussion for questions and answers. At the close of the meeting, TxDOT requested attendees to provide suggestions for additional outreach.

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<sup>4</sup> TxDOT Roadway Design Manual (revised May 2022): <http://onlinemanuals.txdot.gov/txdotmanuals/rdw/rdw.pdf>

Stakeholders included elected officials, neighborhood associations, homeowners’ associations (HOA), churches, hospitals, large employers, schools and first responders. A list of stakeholder meetings held between 2020 and 2022 is included in Table 2 - Stakeholder Meetings.

Table 2 - Stakeholder Meetings

Year	Month	Day	Stakeholder
2020	May	8	Congressman Colin Allred/Brian Duckworth
		11	Dallas City Councilmember (CM) David Blewitt
		12	Dallas City CM Lee Kleinman
		14	Dallas City CM Jaime Resendez
		14	Senator Royce West
		15	Senator Nathan Johnson
		21	Dallas Mayor Pro Tem Adam Medrano
		22	Congresswoman Eddie Bernice Johnson/Kenneth Nealy
		26	Dallas County Commissioner Dr. Theresa Daniel
		27	State Representative Lorraine Birabil
		27	State Representative Carl Sherman
		27	State Representative Toni Rose
		28	Dallas County Judge Clay Jenkins
		2020	June
5	Billingsley Company		
8	Zahra Design		
10	Matthews Southwest		
12	Westdale		
15	Dallas Regional Chamber		
15	Dallas Independent School District (DISD)		
17	The Real Estate Council		
17	St. Philip’s School and Community Center		
22	Downtown Dallas, Inc. (DDI)		
23	Friends of Fair Park		
24	Regional Black Contractors Association		
25	Southern Methodist University (SMU)		
30	Malouf Interests		
2020	July	30	42 Real Estate
		7	Trammell Crow
		7	Deep Ellum Foundation (DEF)
		8	All Star Drayage

Table 2 continued next page

Year	Month	Day	Stakeholder
2020	July	8	Dallas Fire & Rescue
		8	South Dallas/Fair Park Transportation Coalition
		9	Spectra/Fair Park First
		13	Sheraton Dallas
		17	Dallas City CM Carolyn King Arnold
		17	UTSW Campus
		21	South Dallas/Fair Park Faith Coalition
		23	Revitalize South Dallas
		23	State Representative Rhetta Bowers
		23	Coalition for a New Dallas
		27	AT&T Performing Arts Center and Wylie Theater
		29	Dallas Citizens Council
		29	Regional Hispanic Contractors Association
		2020	Aug
6	Dallas City CM Cara Mendelsohn		
6	Imagining Freedom, Session 1 of 2		
11	Alberta Blair - Dallas County		
12	Jubilee Park and Community Center		
13	Dolphin Heights Neighborhood Association		
18	Frazier Revitalization		
26	CitySquare		
30	Dallas Hispanic Chamber		
30	Coalition of African American Pastors and Golden Gate Church		
2020	Sept	9	Dallas Museum of Art
		11	Paul Quinn College
		16	Dallas College
		19	Imagining Freedom, Session 2 of 2
		21	South Fair Community Development Corp.
2020	Nov	11	AIA & Preservation Dallas
		11	Stratford Land & Prologis
		13	OakLawn Committee & Junius Heights
		13	Options Real Estate & CityPlace
		16	Weitzman Group
		16	Dallas Housing Authority & TR Hoover Community Development
		17	Dallas City CM Adam McGough
		17	Greenway Investment

Table 2 continued next page



Year	Month	Day	Stakeholder
2020	Nov	17	Booker T Washington High School
		18	Texas Instruments
		18	MetroTex Assoc. Realtors
		19	Donald Payton
		20	St. Luke's Comm. United Methodist & First Presbyterian Church of Dallas
		20	American Airlines Center
		20	Dallas Leadership Foundation
		20	Dallas Black Dance Theatre
		30	Dallas City CM Paula Blackmon
		2020	Dec
1	Criswell College		
2	CBRE		
3	Donald Payton		
4	Dallas Black Dance Theatre		
14	True Lee Baptist Church		
2022	Jan	25	Greater Dallas Planning Council (GDPC)
		28	DDI
2022	Feb	15	First Presbyterian Church of Dallas
		16	Coalition of African American Pastors and Golden Gate Church
		16	St. Luke's Comm. United Methodist
		28	St. Philip's School and Community Center
2022	Apr	11	Michael Grace, City of Ferris Economic Development Chief
2022	May	23	Senator Royce West
		23	Dallas City CM Jesse Moreno
		23	Dallas CM Jaynie Schultz
		23	Dallas CM Paula Blackmon
		23	Dallas CM Omar Narvaez
		24	Dallas County Comm. John Wiley Price
		24	Dallas County Comm. Dr. Theresa Daniel
		24	Dallas County Judge Clay Jenkins
		24	Dallas CM Paul Ridley
		24	Dallas CM Adam Bazaldua
2022	July	18	DEF
		20	DDI
2022	Aug	1	Best Southwest Partnership
		2	Parks for Downtown Dallas

### 4.3 Agency Coordination

Throughout the study, the team coordinated with the City of Dallas, NCTCOG and DART on a regular basis. TxDOT also met with the Civil Rights Division of TxDOT, based out of Austin, Texas. Table 3 - Agency Coordination includes the date and agency attendees at the meetings held in 2019, 2020, 2021 and 2022.

Table 3 - Agency Coordination

Year	Month	Day	Agency
2019	July	25	City of Dallas
2020	April	2	City of Dallas and NCTCOG
		6	NCTCOG
		15	City of Dallas and NCTCOG
		20	NCTCOG
		22	NCTCOG
		29	City of Dallas and NCTCOG
2020	July	7	NCTCOG
		20	City of Dallas and NCTCOG
	Aug	13	City of Dallas and NCTCOG
	Sep	21	City of Dallas, NCTCOG and DART
	Oct	19	City of Dallas and NCTCOG
		26	NCTCOG
2020	Nov	16	City of Dallas and NCTCOG
2020	Dec	11	City of Dallas and NCTCOG
2021	Feb	2	City of Dallas and NCTCOG
2021	Mar	4	City of Dallas, NCTCOG and DART
		10	TxDOT Civil Rights Division
2021	April	2	City of Dallas, NCTCOG and DART
		13	City of Dallas and NCTCOG
		14	NCTCOG
		15	TxDOT Civil Rights Division
		16	City of Dallas, NCTCOG and DART
		19	NCTCOG
		21	NCTCOG
		27	City of Dallas and NCTCOG
		28	NCTCOG
		29	TxDOT Civil Rights Division
		30	City of Dallas and NCTCOG
2021	May	5	NCTCOG

Table 3 continued next page

Year	Month	Day	Agency
2021	May	7	City of Dallas, NCTCOG and DART
		10	City of Dallas and NCTCOG
		12	NCTCOG
		19	NCTCOG
		26	NCTCOG
		28	City of Dallas, NCTCOG and DART
2021	June	3	NCTCOG
		9	NCTCOG
		14	NCTCOG
		15	NCTCOG
2021	July	27	DART
		30	City of Dallas, NCTCOG and DART
2021	Nov	18	NCTCOG
2022	Jan	24	City of Dallas and NCTCOG
	Feb	24	NCTCOG
	Mar	7	City of Dallas and NCTCOG
	April	12	NCTCOG
		25	DART
2022	June	21	City of Dallas - Presentation to Council
2022	July	28	NCTCOG

#### 4.4 Public Meetings

Three rounds of public meetings were hosted by TxDOT. All public meeting materials and summaries, including comment response matrices, are posted at [345study.com](http://345study.com) and [www.keepitmovingdallas.com/I345](http://www.keepitmovingdallas.com/I345).

For all meetings, a 15-day advanced notice was sent out prior to the public meeting dates. The notice was sent to elected officials (mail and email) and recipients in the mailing list (by mail and email). The mailing list includes adjacent property owners, HOAs, adjacent businesses, chambers, previous public meeting attendees and any of the public that requested to be added to the mailing list. The I-345 mailing list includes over 2,500 addresses/emails.

The notice was also advertised in local newspapers 15-days in advance of the public meetings. Newspaper advertisements included The Dallas Morning News, Al Día, Focus Daily News, Dallas Weekly, Dallas Examiner, Dallas Post Tribune, and the North Dallas Gazette.

TxDOT also utilized social media, including Facebook, Twitter and NextDoor and dynamic message signs (DMS) to communicate meeting information along I-45, I-30, and US 75.

Staff was available at the public meetings to answer questions. Translation was offered in the public meeting notices upon request. At each public meeting, at least one staff member was able to communicate in Spanish. Their nametag was marked “Habla español.” Copies of the meeting material were available at the public meetings and online. Business cards with the meeting website and contact information were available at all locations.

A minimum 15-day comment period was provided after each public meeting. The public meeting summaries are available in the appendices and online.

#### 4.4.1 Series No. 1 (December 2019)

The first round of public meetings was held to present and receive feedback on the study’s purpose and possible options for improvements. No proposed build alternatives were presented in December 2019. There were three meetings held: meeting #1 took place on Dec. 2, 2019, at the St. Philips School and Community Center, meeting #2 took place on Dec. 3, 2019, at CityPlace Conference Center and meeting #3 took place on Dec. 5, 2019, at the Sheraton Hotel in downtown Dallas. The meetings were scheduled in no order or priority over the others and the public was invited to attend any or all the meetings. The public comment period was 15 days.

A total of 686 people attended the meetings. The series received 1,362 survey responses, 130 written comments and 15 verbal comments. Figure 5 illustrates a pie chart based on the 849 survey comments where the public gave input for the preferred alternatives for further study. It was not required to provide all responses; not all survey respondents provided input on the preferred alternative.

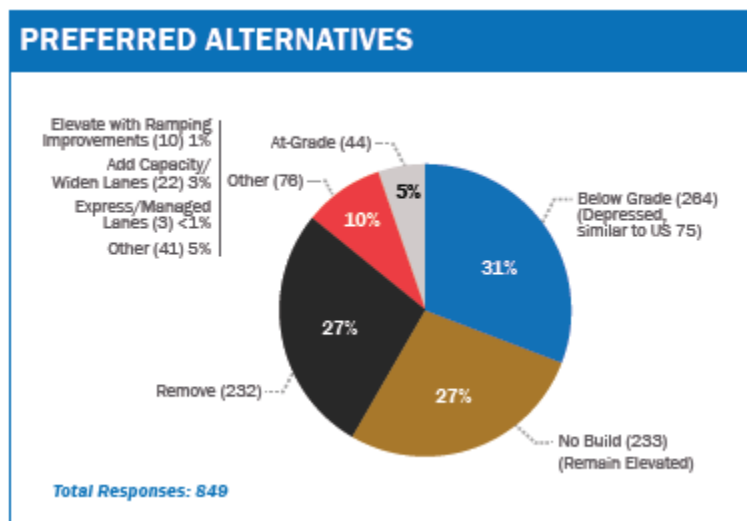


Figure 5 - Public Meeting No. 1 Survey Results on Preferred Alternatives for Further Study

The key takeaway from this series of meetings was that there was an even three-way split for public preference on alternatives to further evaluate as the feasibility study progresses. More than 70% of respondents suggested further analysis of the alternatives presented in the 2016 CityMAP study.

The first public meeting series (Dec. 2019) summary can be found in Appendix C.



#### 4.4.2 Series No. 2 (June 2021)

The second round of public meetings was held to present and get feedback on five alternatives: the No Build/Leave I-345 As-Is alternative and four build alternatives. There was a virtual option and two in-person meetings held on the same date: June 22, 2021. Meeting #1 took place at the Dallas Farmers Market and meeting #2 took place at St. Philips School and Community Center. The public was invited to attend online and either or both in-person meetings. The public comment period was 30 days.

A total of 140 people attended the meetings. The series received 1,023 survey responses, 174 written comments, 47 verbal comments and six email comments. Approximately 7,400 viewed the webpage and YouTube presentation online. Four position letters were received: Deep Ellum Foundation, Greater Dallas Planning Council, Southeast Dallas Now and Downtown Dallas, Inc. Figure 6 illustrates two pie-charts based on the 1,251 survey responses. The first demonstrates a “highway or no highway” preference. The second takes the 66% (or 820) of the responses that want a highway to determine which alternative was preferred.

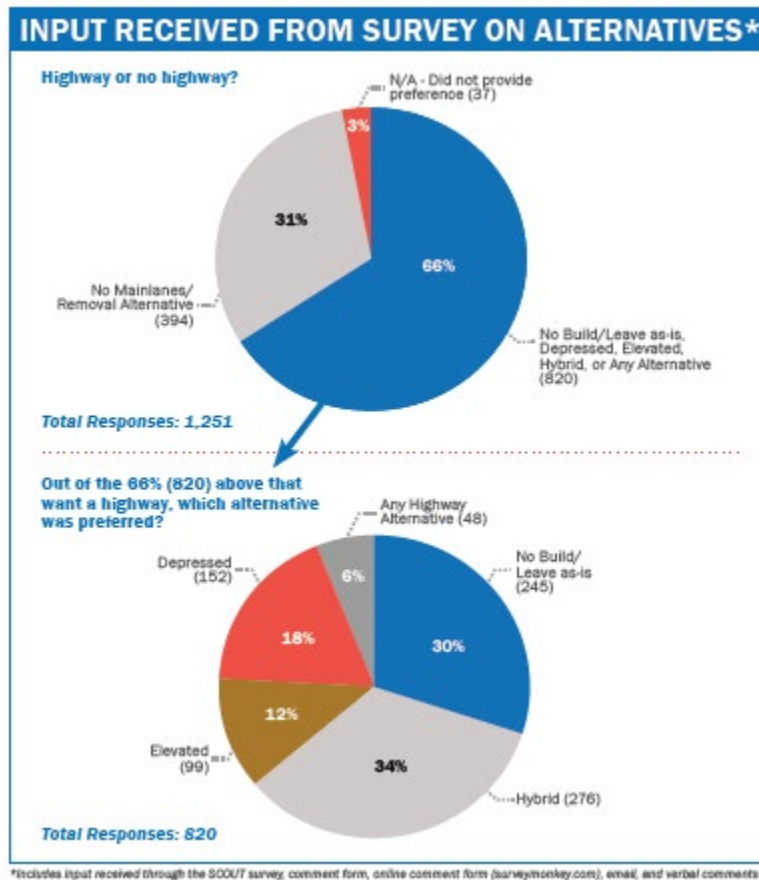


Figure 6 - Public Meeting No. 2 Survey Results on Preferred Alternatives for Further Refinement

There were five common themes we heard from the public comments:

- Community Cohesion

- Impacts between South, Southern and North Dallas
- Traffic Concerns
- Economic Development Potential
- Pedestrian Safety

The key takeaway from the second series of public meetings is that more than 66% of respondents stated that they preferred a highway alternative (some version of I-345 mainlanes) versus a removal alternative. Of those that preferred a highway alternative, over 50% of respondents stated that they preferred a below grade/depressed alternative or the hybrid with refinements to address the five common themes.

The second public meeting series (June 2021) summary can be found in Appendix D.

#### 4.4.3 Series No. 3 (May 2022)

The third and final round of public meetings was held to present and get feedback on the recommended alternative. There was a virtual option and two in person meetings held. Meeting #1 took place on May 22, 2022, at the St. Philips School and Community Center, and meeting #2 took place on May 24, 2022, at the Sheraton Hotel in downtown Dallas. The public was invited to attend online and either or both in-person meetings. The public comment period was 30 days.

A total of 104 people attended the meetings. Twenty-nine comments were received at the public meeting, 151 comments were provided electronically via SurveyMonkey, one comment was mailed, and 19 comments were emailed. Approximately 3,133 viewed the webpage and YouTube presentation online. Three position letters were received from Deep Ellum Foundation, Downtown Dallas, Inc., and Parks for Downtown Dallas.

The five common themes observed in comments from the previous meeting (June 2021) remained relevant (percentages below indicates percent of comments by theme).

- Community Cohesion (34%)
- Impacts between South, Southern and North Dallas (15%)
- Traffic Concerns (27%)
- Economic Development Potential (22%)
- Pedestrian Safety (and multimodal, 31%)

Additionally, this round of comment responses included Cost and Environmental Concerns, which were mentioned in 12.5% and 9% of the comments, respectively.

The key takeaway from the third series of public meetings is that 52% of respondents supported the recommended alternative (with further study/refinements in the schematic and environmental phase) versus a removal alternative (41%). 7% of respondents preferred the No Build/Leave I-345 As-Is alternative.

The third public meeting series (May 2022) summary can be found in Appendix E.

## 4.5 Newsletters

Newsletters were created and sent out periodically throughout the feasibility study to the mailing/email list including:

- Spring (April) 2020 Newsletter (English)
- Summer (August) 2020 Newsletter (English/Spanish)
- Winter (December) 2020 Newsletter (English/Spanish)
- Spring (March) 2021 Newsletter (English/Spanish) with FAQ (English/Spanish)
- Winter (February) 2022 Newsletter (English/Spanish)

During the feasibility study (in Spring 2020), the comment was received to translate the newsletter to Spanish. The newsletters distributed are available for reference in Appendix F.

## 4.6 Frequently Asked Questions (FAQs)

Frequently asked questions (FAQs) were developed to support the second and third series of public meetings. There were often included in the newsletters as well. An FAQ sheet was also mailed out with the Spring 2021 newsletter and is included in both the Newsletter and FAQ appendices. Following the third public meeting series in May 2022, FAQs were posted online and social media. The FAQs distributed are available for reference in Appendix G.

## 4.7 Community Meeting

At the request of the Best Southwest Partnership, a stakeholder meeting was held on August 1, 2022, at the Dallas College Cedar Valley Campus in Lancaster, TX from 11 a.m. to 1 p.m. The Best Southwest Partnership was formed in 1986 by 4 cities: Cedar Hill, DeSoto, Duncanville and Lancaster. In 2021, there are 10 city partners and 17 other partners that include hospitals, colleges and universities, banks, utilities, and other businesses, all interested in improving the quality of life in this region, thereby promoting economic development.

Presentations were given at 11 a.m. and noon to give an overview of the feasibility study and next steps. Some of the materials from the May 2022 public meeting series were available for review to summarize the study to date. The key takeaway from this meeting was the importance of maintaining the connection between South, Southern and North Dallas.

# 5.0 Alternative Analysis

## 5.1 Other Modes of Transportation

The possibility that other modes of transportation besides roadways could improve mobility in the region was considered.

Pedestrian and bicycle facilities such as sidewalks and shared use paths (for both pedestrian and bicycles) were included in the feasibility study alternative analysis and will be incorporated in the future to allow for pedestrians and bicyclists to utilize the I-345 corridor. However, bicycle/pedestrian facilities cannot alone relieve congestion.

The region is also evaluating existing and future passenger rail corridors, including the DART D2 project.

## 5.2 Adjacent Project Coordination

The I-345 Feasibility Study team coordinated with the I-30 Canyon and I-30 East Corridor from I-345 to Ferguson Road segments to not preclude either the I-345 or I-30 project alternatives. Both engineering design teams considered geometric design, constructability, phasing, throw-away construction to minimize impacts/overlap between the projects and reduce cost. The I-30 and I-345 projects are likely on different construction timelines which was taken into consideration.

The engineering team also considered alternatives as the DART D2 project progressed and different alternatives were developed. **None of the proposed build alternative preclude the future DART D2 alignments.** TxDOT also considered the existing DART crossings in the I-345 State ROW throughout alternative development. TxDOT and DART are committed to working together to meet both agencies' goals and objectives.

A preliminary drainage evaluation was conducted to verify gravity drainage of any below-grade or depressed alternatives in coordination with the city's existing and proposed drainage projects. Based on the latest DART D2 plans (April 2022), the proposed I-345 build alternatives will gravity drain, meaning no pump station will be required to drain the corridor. A detailed drainage analysis will be part of the next phase.

## 5.3 No Build/Leave I-345 As-Is Alternative

The No Build/Leave I-345 As-Is alternative means no new improvements/reconstruction other than routine inspection and maintenance as needed to maintain the existing bridge. Eventually the existing bridge will reach the end of its useful service life and will need to be removed and/or replaced.

At the second and third series of public meetings, a rendering was presented to illustrate the No Build/Leave I-345 As-Is Alternative. At the third series of public meetings, pros and cons were added to the renderings to note key takeaways based on the common themes provided by the public. See Figure 7 - No Build/Leave I-345 As-Is Rendering.

The public gave feedback that the existing or No Build/Leave I-345 As-Is alternative does not provide safe pedestrian or bicycle facilities and is perceived as a barrier between communities.

The existing bridge is safe and is inspected at a minimum every year to evaluate maintenance needs. Eventually the cost of maintaining the bridge will warrant replacement.

 **Feasibility Study** **No Build / Leave I-345 As-Is Alternative** 

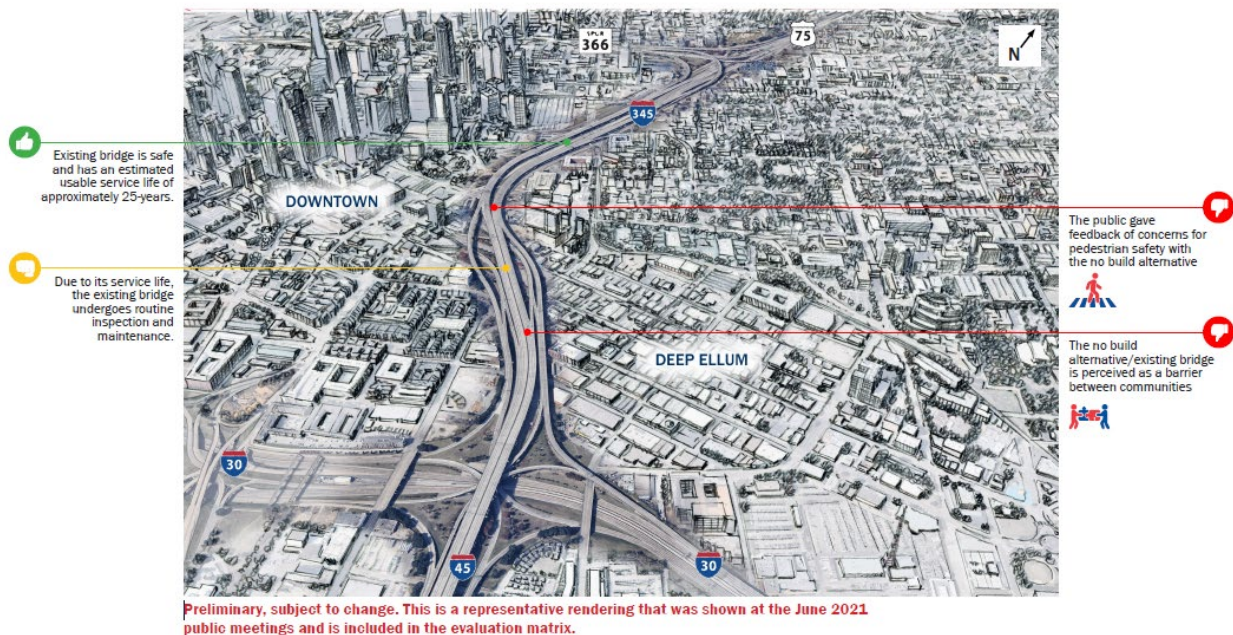


Figure 7 - No Build/Leave I-345 As-Is Rendering

The No Build/Leave I-345 As-Is Alternative maintains the mainlane connection between South, Southern and North Dallas.

## 5.4 Build Alternatives

### 5.4.1 Depressed

A depressed or below grade (as referred to in CityMAP) alternative was developed. The depressed alternative is like US 75 meaning mainlanes are below ground with discontinuous frontage roads along either side and city streets over the top at ground level. Ten-foot (10)' shared-use paths are proposed along the cross streets and discontinuous frontage roads where feasible within existing ROW.

At the second and third series of public meetings, a rendering was presented to illustrate the Depressed Alternative. At the third series of public meetings, pros and cons were added to the renderings to note key takeaways based on the common themes provided by the public. See Figure 8 – Depressed Alternative Rendering.

The Depressed Alternative does allow for strategic decking/air-right development opportunities, consistent with the City of Dallas Design Criteria (2021). It maintains the mainlane connection between South, Southern and North Dallas.





Feasibility Study

# Depressed Alternative

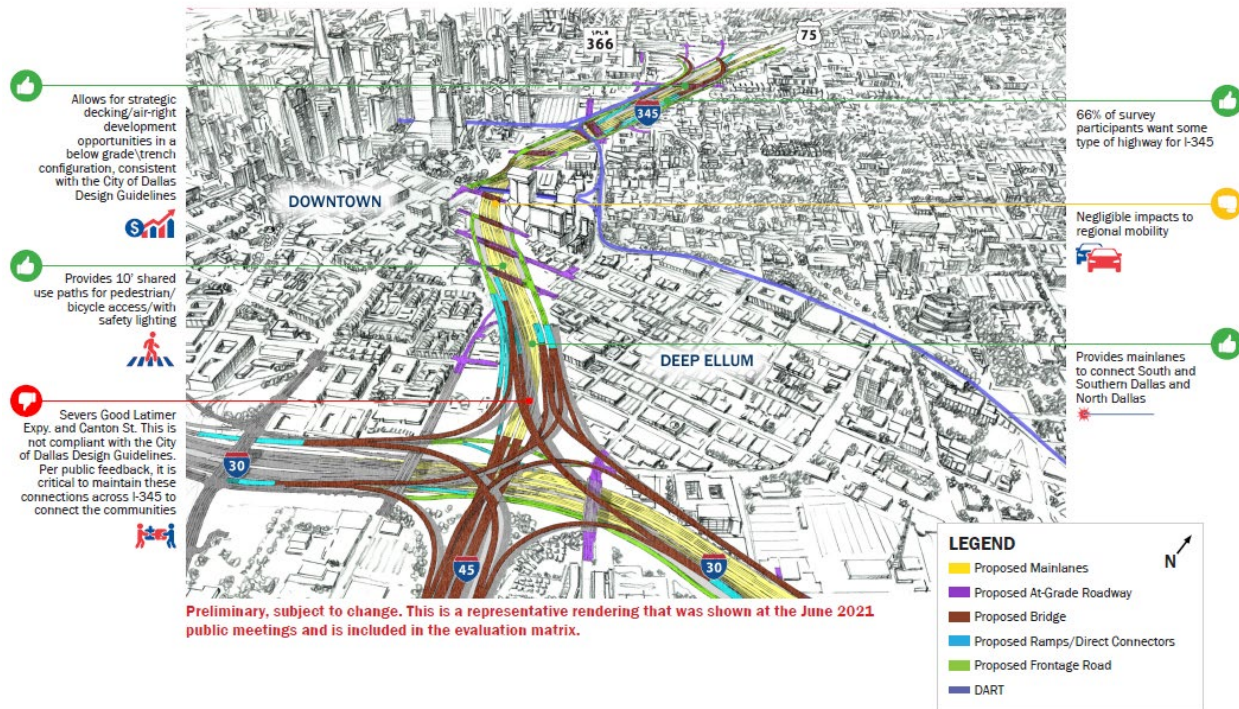


Figure 8 – Depressed Alternative Rendering

To implement discontinuous frontage roads, several city streets were severed, including Good Latimer and Canton, with this alternative. The skews at the existing cross streets, such as Main, Elm and Commerce, are not desirable. Severing Good Latimer Expwy. And Canton St. is not consistent with the 2021 City of Dallas provided Design Criteria. There are negligible impacts to regional traffic mobility<sup>5</sup> in 2045 with the depressed alternative during the peak periods when compared to the No Build/Leave I-345 As Is alternative.

### 5.4.2 Removal

The existing mainlanes would be removed and the city street grid system would be enhanced (like the removal scenario proposed in CityMAP). Ten-foot (10)' shared-use paths are proposed along the city streets where feasible within existing ROW.

<sup>5</sup> TxDOT Material presented May 2022 public meetings. See travel time exhibits (Station 5 – Traffic) available online: <https://www.keepitmovingdallas.com/I345>

At the second and third series of public meetings, a rendering was presented to illustrate the Removal Alternative. At the third series of public meetings, pros and cons were added to the renderings to note key takeaways based on the common themes provided by the public. See Figure 9 – Removal Alternative Rendering.

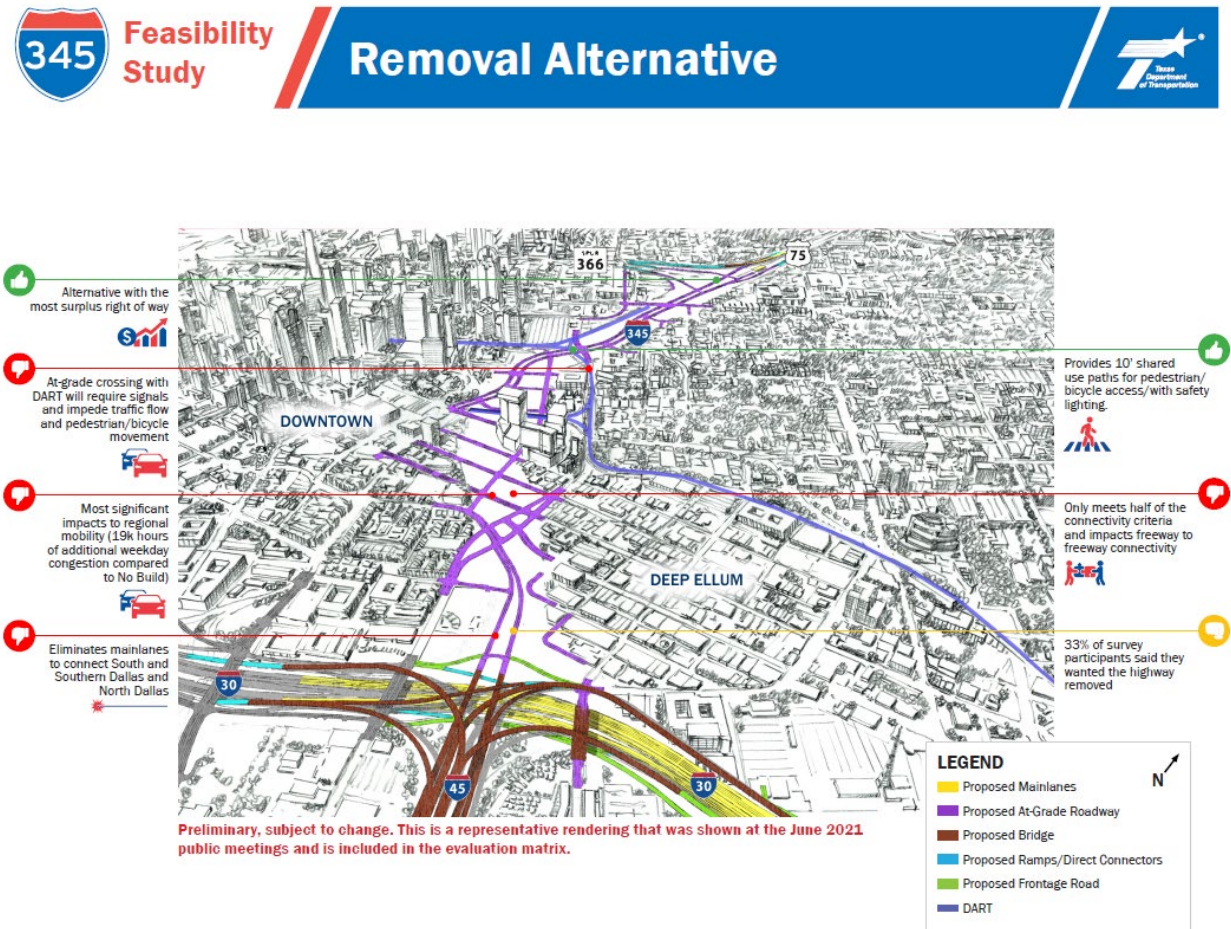


Figure 9 – Removal Alternative Rendering

The Removal Alternative does provide the most surplus ROW compared to the other build alternatives. Cesar Chavez and Good Latimer Expwy. serve as the main north-south thoroughfares. The Removal Alternative severs the mainlane connection between South, Southern and North Dallas. There would be an at-grade crossing with the existing DART line that would impede traffic flow and pedestrian/bicycle movement.

There are significant impacts to regional traffic mobility. The removal alternative is predicted to increase the weekday congestion in 2045 by 19,000 hours compared to the No Build/Leave I-345 As-Is



alternative. See Figure 10 for the graphic presented June 2021 and May 2022 public meetings. This analysis was provided by NCTCOG (June 2021).

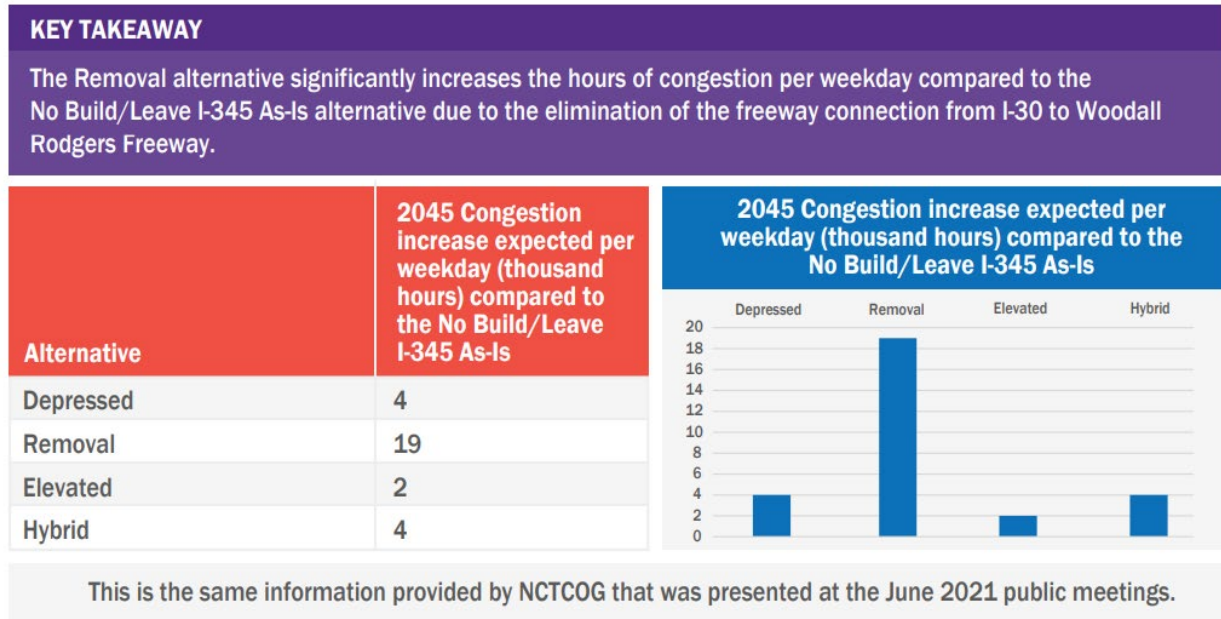


Figure 10 - 2045 Regional Traffic Model Summary, 2045 congestion increase per weekday

To analyze the traffic impacts in a different way, TxDOT compared travel time impacts between zones during the peak periods compared to the No Build/Leave I-345 As-Is alternative<sup>6</sup>. The removal alternative is predicted to increase travel times during the peak periods<sup>7</sup> between 10-60% (depending on origin-destination zones) compared to the No Build/Leave I-345 As-Is alternative in 2045.

### 5.4.3 Elevated

Some of the public would like to keep I-345 elevated (the modify scenario from CityMAP). Because the bridge ultimately will reach the end of its estimated service life, an elevated alternative was considered. The elevated alternative is like what exists now, being an elevated bridge, but with a smaller footprint, aesthetic improvements, and enhanced city streets underneath at ground level. Ten-foot (10)' shared-use paths are proposed along the city streets where feasible within existing ROW.

<sup>6</sup> TxDOT Material presented May 2022 public meetings. See travel time exhibits (Station 5 – Traffic) available online: <https://www.keepitmovingdallas.com/I345>

<sup>7</sup> The peak periods are the morning and evening “rush hours”. The AM peak period is between 6:30-9am and the PM peak period is 3-6:30pm.



At the second and third series of public meetings, a rendering was presented to illustrate the Elevated Alternative. At the third series of public meetings, pros and cons were added to the renderings to note key takeaways based on the common themes provided by the public. See Figure 11 – Elevated Alternative Rendering.

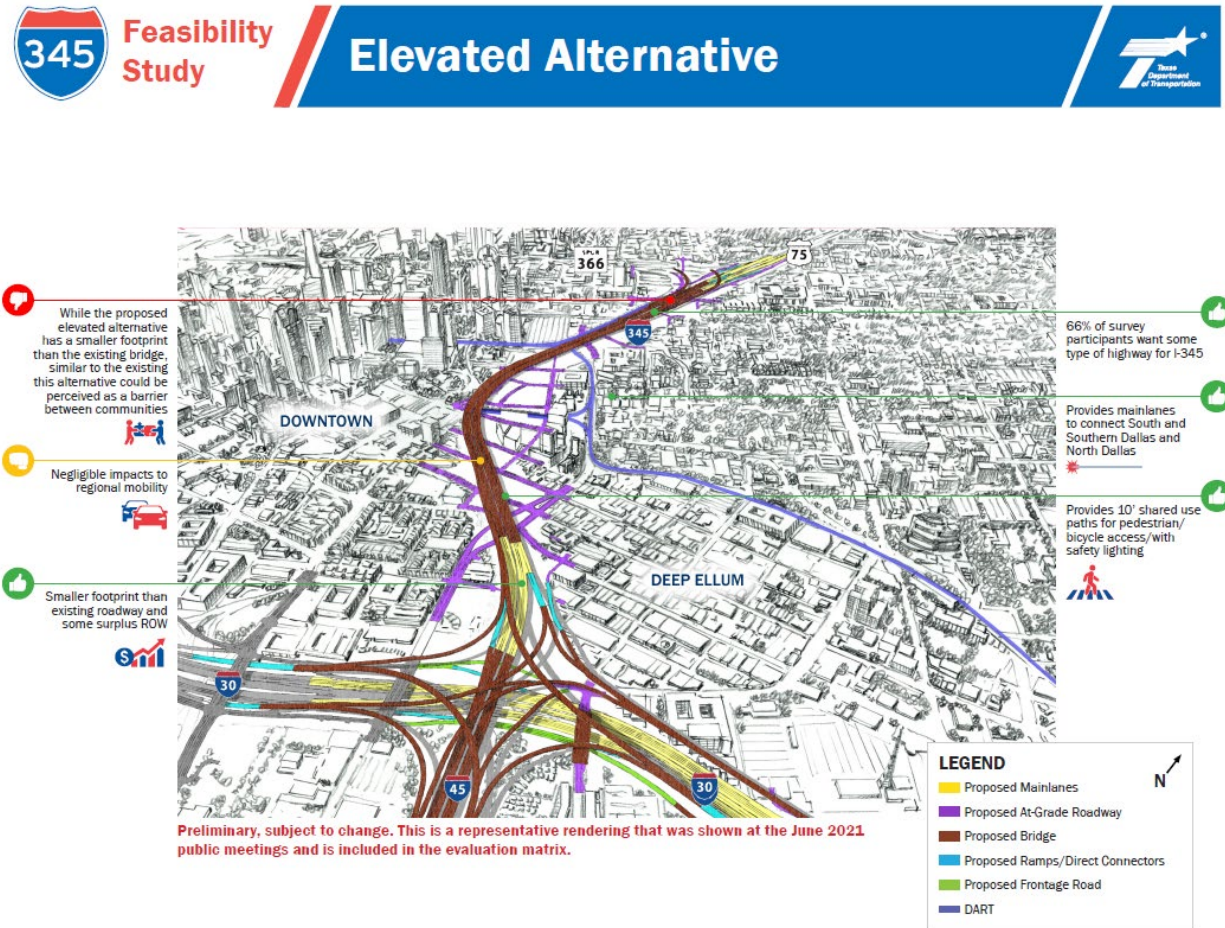


Figure 11 – Elevated Alternative Rendering

The Elevated Alternative maintains the mainlane connection between South, Southern and North Dallas. There are negligible impacts to regional traffic mobility<sup>8</sup> in 2045 with the elevated alternative during the peak periods when compared to the No Build/Leave I-345 As Is alternative.

#### 5.4.4 Hybrid

A hybrid Alternative was developed to combine the best elements from the depressed and removal alternatives based on public feedback and coordination with the City of Dallas. The hybrid alternative is like US 75 meaning mainlanes are below ground however, there are no frontage roads along either side.

<sup>8</sup> TxDOT Material presented May 2022 public meetings. See travel time exhibits (Station 5 – Traffic) available online: <https://www.keepitmovingdallas.com/I345>

Cross streets are proposed over the top at ground level. Ten-foot (10') shared-use paths are proposed along the cross streets where feasible within existing ROW.

At the second and third series of public meetings, a rendering was presented to illustrate the Hybrid Alternative. At the third series of public meetings, pros and cons were added to the renderings to note key takeaways based on the common themes provided by the public. See Figure 12 - Hybrid Alternative Rendering.

The Hybrid Alternative does allow for strategic decking/air-right development opportunities, consistent with the City of Dallas Design Criteria (2021). It maintains the mainlane connection between South, Southern and North Dallas. There are negligible impacts to regional traffic mobility<sup>9</sup> in 2045 with the hybrid alternative during the peak periods when compared to the No Build/Leave I-345 As Is alternative.

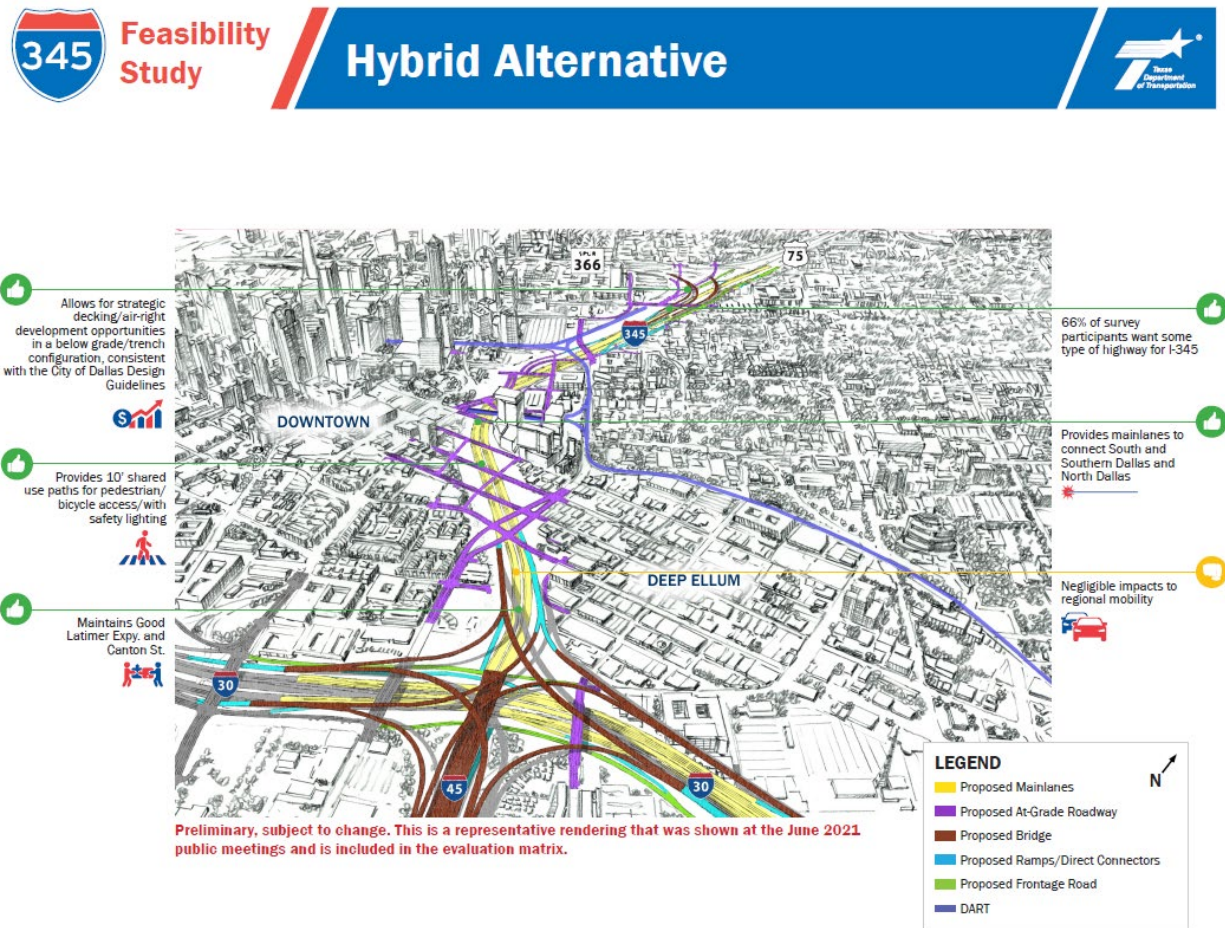


Figure 12 - Hybrid Alternative Rendering

<sup>9</sup> TxDOT Material presented May 2022 public meetings. See travel time exhibits (Station 5 – Traffic) available online: <https://www.keepitmovingdallas.com/I345>

The Hybrid Alternative varies from the Depressed Alternative in that it does not propose frontage roads, and it maintains the connection over the mainlanes of all the cross streets (except Taylor), including Canton St. and Good Latimer Expwy.

## 5.5 Traffic Analysis

### 5.5.1 Traffic Study Area

The traffic study area includes the network from NCTCOG’s Regional Travel Model, 2045 MTP, generally within the boundaries of I-635 to the north and east, I-20 to the south, and Loop 12 to the west. This area is shown below in Figure 13 - Traffic Study Area. Since I-345 is a regional connection serving traffic through downtown Dallas, this large study area was included to assess impacts of the proposed alternatives on the regional transportation network.

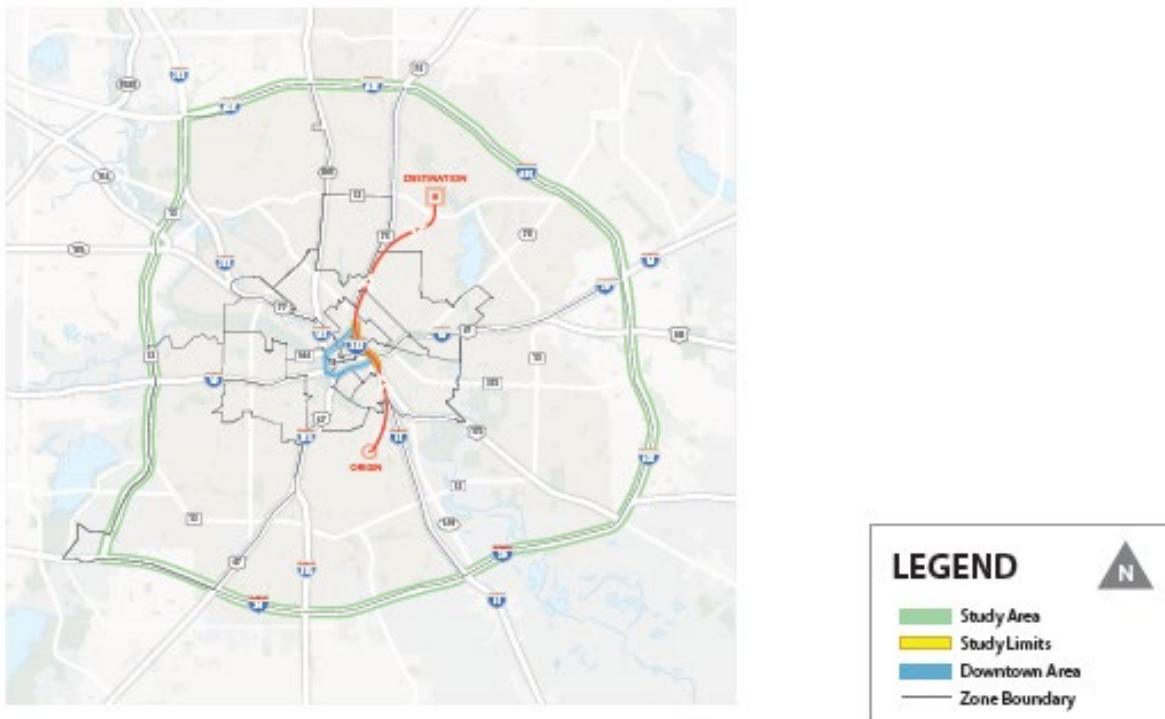


Figure 13 - Traffic Study Area

It allowed the study team to assess how travel patterns change throughout the Dallas region as well as how the proposed alternatives impact other major highways and city streets based on traffic that utilize I-345 daily and at peak periods (AM/PM rush hours).

### 5.5.2 Existing Traffic (2018)

Traffic data, including existing traffic counts, were collected in 2018, prior to the COVID-19 pandemic.



### 5.5.3 Origin Destination Data (2017-2018)

A key to evaluating the alternatives is to understand the travel patterns of current users of I-345 within the study area, and into and out of the study area. The information is not limited to the I-345 study limits. Changes within the I-345 Feasibility Study could potentially impact other freeways, arterials, and local roads within the study area.

Origin-destination data represents movement from an origin (starting point) to a destination (ending point). Origin-destination data is sourced from smart phones and in-vehicle navigation systems. TxDOT does not know exactly where a trip originates or is destined to. The data is based on zones as outlined in the map within the study area boundary. TxDOT respects the privacy of the traveling public.

Origin-destination data was collected over a six-month period from fall 2017 to spring 2018.

### 5.5.4 Future Traffic (2045)

NCTCOG's Regional Travel Model 2045 MTP was used to evaluate the alternatives. The study team calibrated the 2045 MTP model using the 2018 traffic counts and the latest plans for adjacent projects. The projects that were adjusted based on the latest plan development (May 2021) included:

- SM Wright (PH I (completed) and PH II (under construction))
- I-30 Canyon (schematic approved December 2020, PS&E under contract)
- I-30 from I-345 to Ferguson (environmental clearance expected end 2022)
- DART D2 (under study)
- I-35E/I-30 interchange "Horseshoe" project (completed)
- I-35E from I-30 to Oak Lawn Avenue "Lowest Stemmons" project (completed)

See Figure 3 - Adjacent Corridor Updates for a map of the adjacent projects included in the subarea model.

## 6.0 Alternative Evaluation/Comparison

### 6.1 Traffic Analysis Summary

The study team calibrated the 2045 MTP model using the 2018 traffic counts and the latest plans for adjacent projects. The calibrated build alternative traffic models were provided to NCTCOG to validate TxDOT's results. Figure 10 - 2045 Regional Traffic Model Summary, 2045 congestion increase per weekday illustrates the findings of NCTCOG analysis to compare the build alternatives to the No Build/Leave I-345 As-Is alternative to quantify the increase in congestion by 2045 per weekday. This graphic was presented at the second (June 2021) and third (May 2022) series of public meetings.

The key takeaway is the Removal Alternative significantly increases the hours of congestion per weekday compared to the No Build/Leave I-345 As-Is alternative due to the elimination of the freeway connection from I-30 to Woodall Rodgers Freeway. The existing city street grid network cannot accommodate the traffic that is diverted when I-345 mainlanes do not exist.

To compare traffic impacts a different way, utilizing the NCTCOG 2045 MTP, the route choice for vehicle trips occurring between pre-determined origin-destination pairs were identified. Figure 14 - Origin and Destination Distribution of Thru Traffic Northbound on I-345 is a representative example of the data that can be sourced from the origin-destination (OD) dashboard tool. This is one of the three OD exhibits presented at the second (June 2021) and third (May 2022) public meetings. The OD exhibits are available online, along with all the public meeting materials.

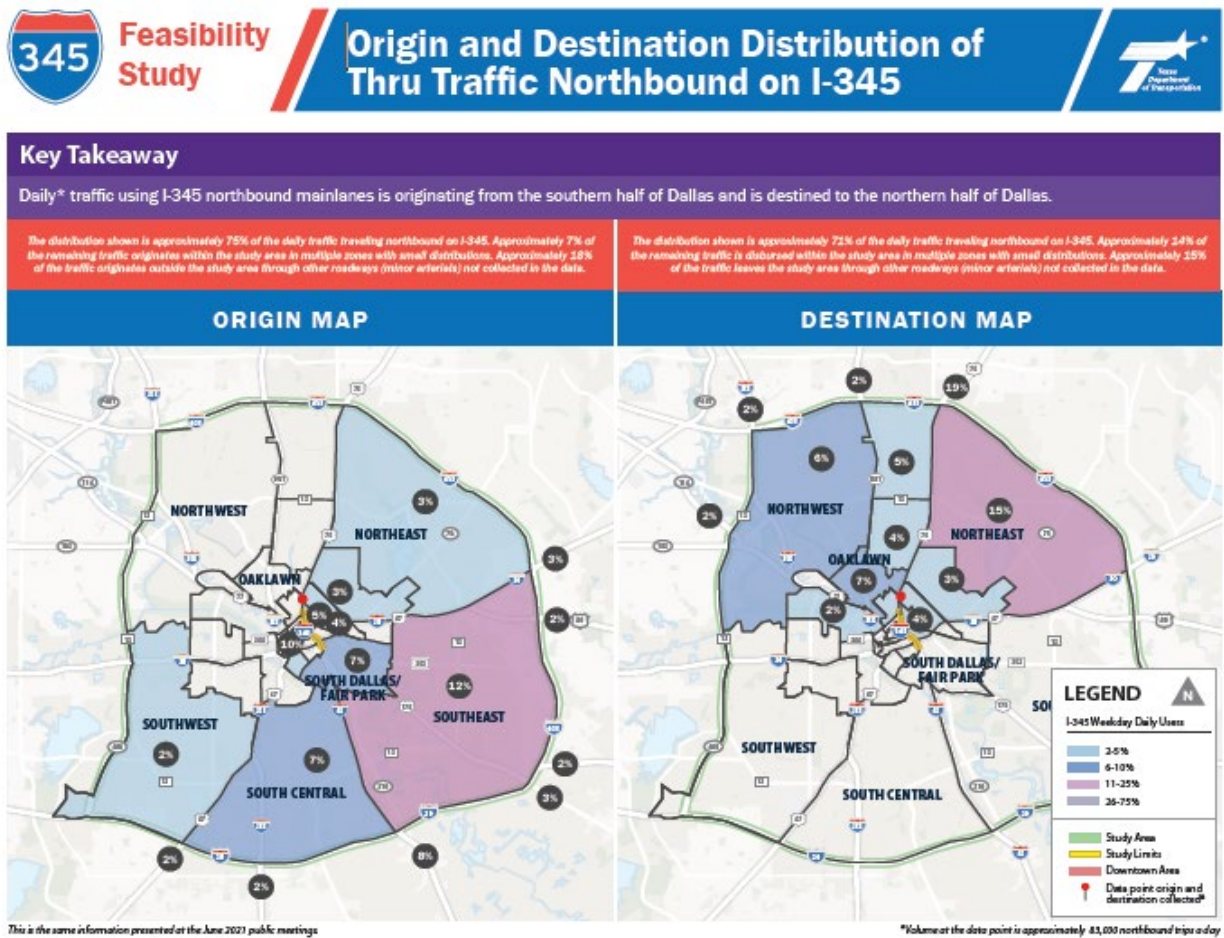


Figure 14 - Origin and Destination Distribution of Thru Traffic Northbound on I-345

The resulting travel time on each model link that comprised the route choice between selected OD pairs were summed for a total travel time for each OD pair. This process is often referred to as Select Link Analysis and was conducted for each of the alternatives. This process allows planners to compare the build alternatives to each other as well as against a no-build scenario.

The travel time percent change is an average percent change of 2045 projected travel times when compared to the No Build/Leave I-345 As-is alternative.

Figure 15 - 2045 Travel Time, Round Trip between South Central and North is an example of the travel time exhibits presented at the third (May 2022) public meetings. There were 10 travel time exhibits shown at the public meetings and they are available online.

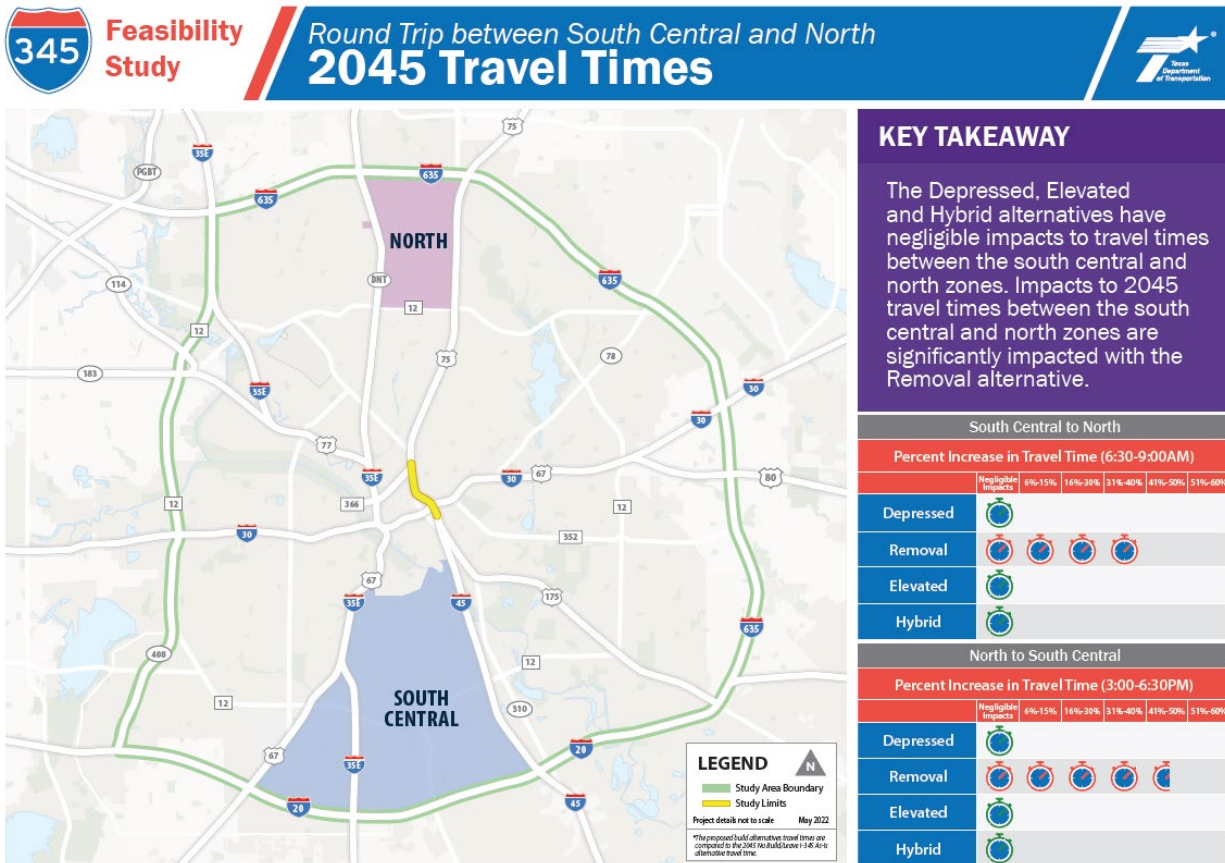


Figure 15 - 2045 Travel Time, Round Trip between South Central and North

The impacts to travel times are consistent as different OD pairs were evaluated between zones. The key takeaway is the Depressed, Elevated, and Hybrid alternatives have negligible impacts to travel times between the zones. Impacts to 2045 travel times between zones are significantly impacted with the Removal alternative. This conclusion is consistent with NCTCOG’s analysis.

## 6.2 Economic Analysis

An economic analysis was prepared in June 2021 to compare the build alternatives to the No Build/Leave I-345 As-Is alternative in advance of the June 2021 public meetings.

The data sources were Tax Increment Financing (TIF) District Annual Reports Fiscal Year (FY) 2018-2019<sup>10</sup>, Dallas County Appraisal District Shapefile, and Dallas County Assessor. This economic analysis

<sup>10</sup> City Center TIF District FT 2018-2019 Annual Report, 2020, Accessed from: <https://www.dallascodev.org/DocumentCenter/View/653/City-Center-TIF-District-Annual-Report-FY-2018-2019-PDF>

estimated the incremental development value and property tax revenue at build out based on land area, floor area ratio (FAR), land use mix, construction costs and tax rate for each of the build alternatives. Because all land identified as developable for each alternative was converted from transportation use, all development value associated with these parcels was considered incremental over the No-Build/Leave I-345 As-Is alternative.

The I-345 Feasibility Study economic analysis compares the economic impact of four build alternatives between I-30 and Woodall Rodgers (Spur 366) in Dallas, Texas. This analysis accounted for the potential parcels of land that would be developable because of each of the build alternatives. The property value and incremental annual property tax revenue at buildout (in 2020 dollars) was calculated and is shown in Table 4 – Economic Impact by Alternative.

Table 4 – Economic Impact by Alternative

2020 \$, Millions	Depressed	Removal	Elevated	Hybrid
Property Value at Buildout	\$960	\$1,702	\$915	\$1,247
Annual Incremental Property Tax Revenue at Buildout	\$2.6	\$4.6	\$2.5	\$3.4

Source: Study Team (June 2021)

This information helped guide the Harvey ball ratings shown in the evaluation matrix.

### 6.3 Potential Surplus ROW

There is **no new proposed ROW** with any of the build alternatives considered. In fact, there is surplus ROW available as shown in Table 5 for each alternative. The surplus ROW was calculated in acres (AC). For the depressed and hybrid alternatives, the potential capping area in AC was calculated. Note there is no funding identified for potential capping areas and the funding would be provided by the City of Dallas or others.

Table 5 - Potential Surplus ROW for Build Alternatives (June 2021 Alternatives)

Alternative	Potential Surplus ROW (AC)	Potential Capping Area (AC)	Total Potential Development Area (AC)
Depressed	5.4	8.8	14.2
Removal	25.2	N/A	25.2
Elevated	15.2	N/A	15.2
Hybrid	8.7	9.7	18.4

Source: Study Team (May 2022)

This information helped guide the Harvey ball ratings shown in the evaluation matrix.

## 6.4 Preliminary Cost Estimates

Cost estimates were prepared for each of the build alternatives using TxDOT’s Annual Scope & Estimate Documentation Spreadsheet (ASED) and TxDOT’s Statewide unit bid prices (statewide 12-month average bid prices). Utility relocations were based on a percentage of construction cost (30%). A 30% contingency was added to the cost estimate to account for feasibility study level quantities. **There is no new proposed ROW on any of the build alternatives so there would be no additional ROW costs.**

The higher cost of the depressed and hybrid alternatives can be attributed to building the mainlanes below grade or underground. There is significant cost for cut face retaining walls and utility relocations.

Table 6 - Approximate Construction Cost (\$ millions)

Alternative	Approximate Construction Cost (\$ millions)
Depressed	\$1,000
Removal	\$400
Elevated	\$650
Hybrid	\$1,000

Source: Study Team (June 2021)

Detailed utility cost or a utility conflict matrix was not prepared during the I-345 Feasibility Study. In the next phase, schematic and environmental analysis, a detailed utility conflict matrix and associated costs will be prepared. Note: there is no funding identified at this time for construction or utility relocations.

## 6.5 Evaluation Matrix

An evaluation matrix was developed considering all the study information, including study goals, traffic analysis, economic analysis, potential surplus ROW, cost, environmental constraints, and public feedback. 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.

The evaluation process is summarized in the following steps:

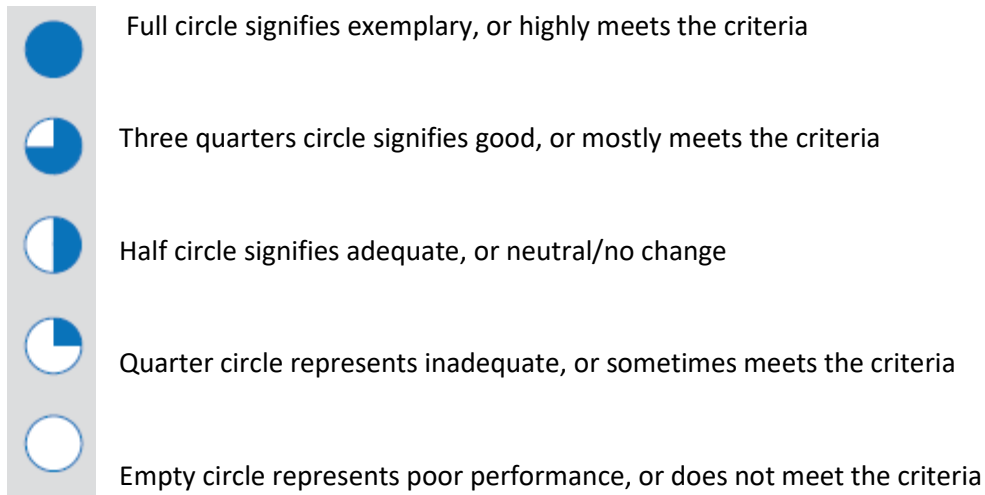
- Develop evaluation criteria based off the study goals, stakeholder feedback and public involvement
- Gather data to compare alternatives qualitatively (relating to, measuring, or measured by the quality of something rather than its quantity) or quantitatively (relating to, measuring, or measured by the quantity of something rather than its quality) to the No build/Leave I-345 As-Is Alternative
- 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



The study goals were defined in the initial stages of the feasibility study and used for the evaluation matrix criterion:

- Mobility – the ability to get from one place to another using one or more modes of transport to meet daily needs
- Connectivity – how the transportation system provides access to essential services and other destinations
- Sustainability – meeting the needs of transportation projects without compromising on future development, long-range economic goals, and environmental resources
- 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
- 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

The criteria scale used in the comparative evaluation of alternatives includes five levels of rating using “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:



The evaluation matrix was presented at the second and third series of public meetings. See Figure 16 – Alternative Evaluation Matrix A larger version of the evaluation matrix is available online.

*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 A-Is					Key Takeaway	
			Does not address criteria	Addresses needs criteria	Meets/No Change	Mostly meets criteria	Highly meets criteria		
Criterion	Objective	No Build/Leave I-345 A-Is	Depressed	Removal	Elevated	Hybrid			
Mobility	Vehicles	Minimize impacts to corridor mobility on the freeway 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 alternative would improve bicycle and pedestrian mobility.	
	Transit	Accommodate existing transit facilities and known future proposed transit projects	🟢	🟢	🟡	🟢	🟢	All proposed build alternative would accommodate existing transit and the proposed DART GO 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 expansions to improve transit and vehicle operations and safety.	
Connectivity	Access between freeways	Freeway to freeway connections	🟡	🟡	🟢	🟡	🟡	The Depressed, Elevated and Hybrid alternative maintain the I-345 freeway system between I-30 and Woodall Rodgers Freeway (Loop 386). 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 alternative 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 GO 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 related to date.	
	Right of Way (ROW)*	Avoid additional ROW* and displacements	N/A**	🟢	🟢	🟢	🟢	All proposed build alternative 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 alternative would result in permanent impacts to public facilities within the State ROW, including Julius Scheepers Park, Bark Park Center, and Carpenter Park, extension and existing parking lots.	
	Communities	Minimize impacts to existing adjacent communities (Downtown/Dewey Square)	🟡	🟡	🟢	🟡	🟡	The No Build/Leave I-345 A-Is alternative is perceived as a barrier between Downtown and Deep Ellum. The Depressed and Hybrid alternative would preserve the maintenance 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 A-Is alternative, but when reconstructed would allow for better connectivity under the maintenance, including bicycle and pedestrian accommodations.	
		Minimize impacts to existing communities beyond downtown	🟡	🟡	🟢	🟡	🟡	The No Build/Leave I-345 A-Is, Depressed, Elevated and Hybrid alternative 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 A-Is alternative require significant maintenance to extend the life of the existing structures. 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 volume on the local roads. The Elevated alternative would have maintenance costs to impact and repair any structural deficiencies over time. The Depressed and Hybrid alternative could have significant maintenance costs to accommodate current DART GO, which require storm water detention and a pump station. Any potential seepage could also add maintenance costs dependent on the type of proposed amenities (TOD).	
	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 alternative have potential for surplus ROW.	
	Economic Development	Property Values Impacts	Property value at buildout due to potential for economic development (2020 dollars)	🟡	🟢	🟢	🟡	🟢	All of the proposed build alternative have potential to increase property value 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 alternative 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 seeping over freeway	🟡	🟢	🟢	🟡	🟢	Findings include both surplus ROW and potential development on top of the freeway.	
Construction Cost	Cost (\$)	Preliminary approximate construction cost (2020 dollars)	N/A	\$55	\$	\$5	\$55	It is estimated that the cost of the alternative would be approximately: depressed: \$13; elevated: \$650M; removal: \$402M; and hybrid: \$13. 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.	

Figure 16 – Alternative Evaluation Matrix

The traffic and economic analysis were more complex than what can be represented in a Harvey ball rating. There was further description to explain the traffic and economic analysis completed as part of the feasibility study that guided the Harvey ball ratings.

### 6.6 How did TxDOT get down to one alternative?

Each alternative has pros and cons in multiple areas of evaluation. Below shown in Figure 17 - How did TxDOT get down to one alternative? (Presented at May 2022 public meetings) are the key reasons why each alternative was removed from further consideration, and why the recommended alternative is the hybrid alternative with refinements.

 **Feasibility Study** // **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.

<b>NB</b>	<b>No Build/ Leave I-345 As-Is</b>	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.
<b>D</b>	<b>Depressed Alternative</b>	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.
<b>R</b>	<b>Removal Alternative</b>	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.
<b>EI</b>	<b>Elevated Alternative</b>	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.
<b>H</b>	<b>Hybrid Alternative</b>	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".

Figure 17 - How did TxDOT get down to one alternative? (Presented at May 2022 public meetings)

## 7.0 Recommended Alternative

After the June 2021 public meetings, TxDOT evaluated the public feedback and, in coordination with the City of Dallas, refined the hybrid alternative to develop the recommended alternative. Refinements included:

1. Revised westbound connection between Hall St. and Good Latimer Expy. from one-way to two-way
2. Removed median on Good Latimer Expy.
3. Minimized impacts to Carpenter Park
4. Refined for revised DART D2 alignment
5. Swiss Ave. no longer connected to Cesar Chavez Blvd.
6. 2-lane southbound frontage road at Ross Ave. and two-lane exit to Live Oak St./ Cesar Chavez Blvd. revised to one-lane to accommodate DART D2 refinements

These refinements were made based on input from the City of Dallas, DART, stakeholders, and public comments. The numbers correspond to the recommended alternative roll plot available online. There are numbered callouts to point to the areas that were revised from the June 2021 hybrid alternative to become the May 2022 recommended alternative.

The recommended alternative traffic and economic impacts mirror those of the hybrid alternative. The cost of the recommended alternative is approximately \$1 billion, comparable to the depressed and hybrid alternatives.

The recommended alternative maintains the mainlanes to provide connectivity between South, Southern and North Dallas. The proposed mainlanes are below grade or underground, with city street connections over the top or on the ground. Ten (10)' shared-use paths are along the proposed cross streets for bicycle and pedestrian access. There is potential for capping areas identified below.

### 7.1 Your Input Mattered!

To close out the goal of an exclusive, transparent, and collaborative public involvement process throughout the feasibility study, TxDOT revisited the common themes from the public meeting comments. See Figure 18 - Your Input Matters! (Presented at the May 2022 public meetings) for the challenges and solutions that were solved throughout the feasibility study process and implemented in the recommended alternative.

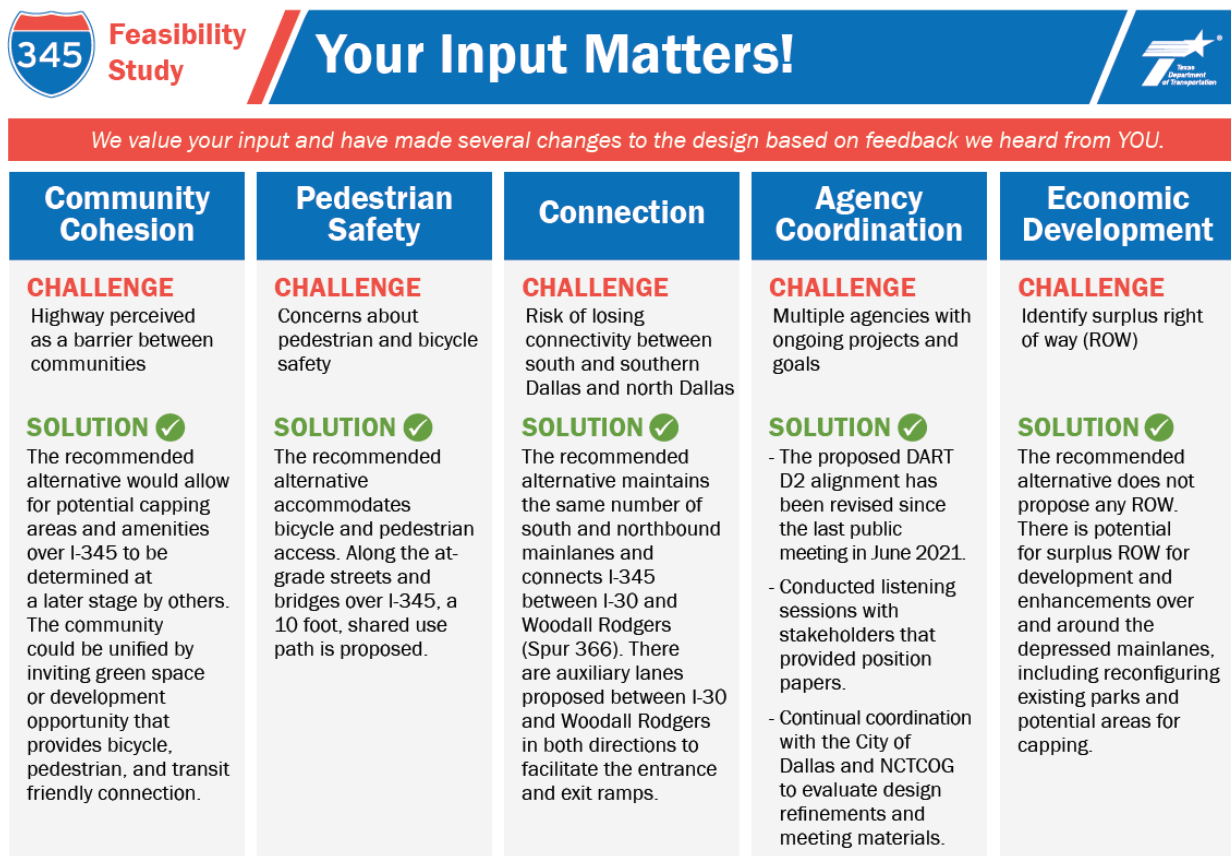


Figure 18 - Your Input Matters! (Presented at the May 2022 public meetings)



## 7.2 Potential Surplus ROW

The recommended alternative provides 8.7 acres of potential surplus ROW and 9.0 acres of potential capping areas/future decking for a total area of 17.7 acres.

Table 7 – Potential Surplus ROW for Recommended Alternative (May 2022 Alternative)

Alternative	Potential Surplus ROW (AC)	Potential Capping Area (AC)	Total Potential Development Area (AC)
Recommended	8.7	9.0	17.7

The potential capping areas for the recommended alternative are shown below in Figure 19 - Potential Capping Areas (Recommended Alternative).

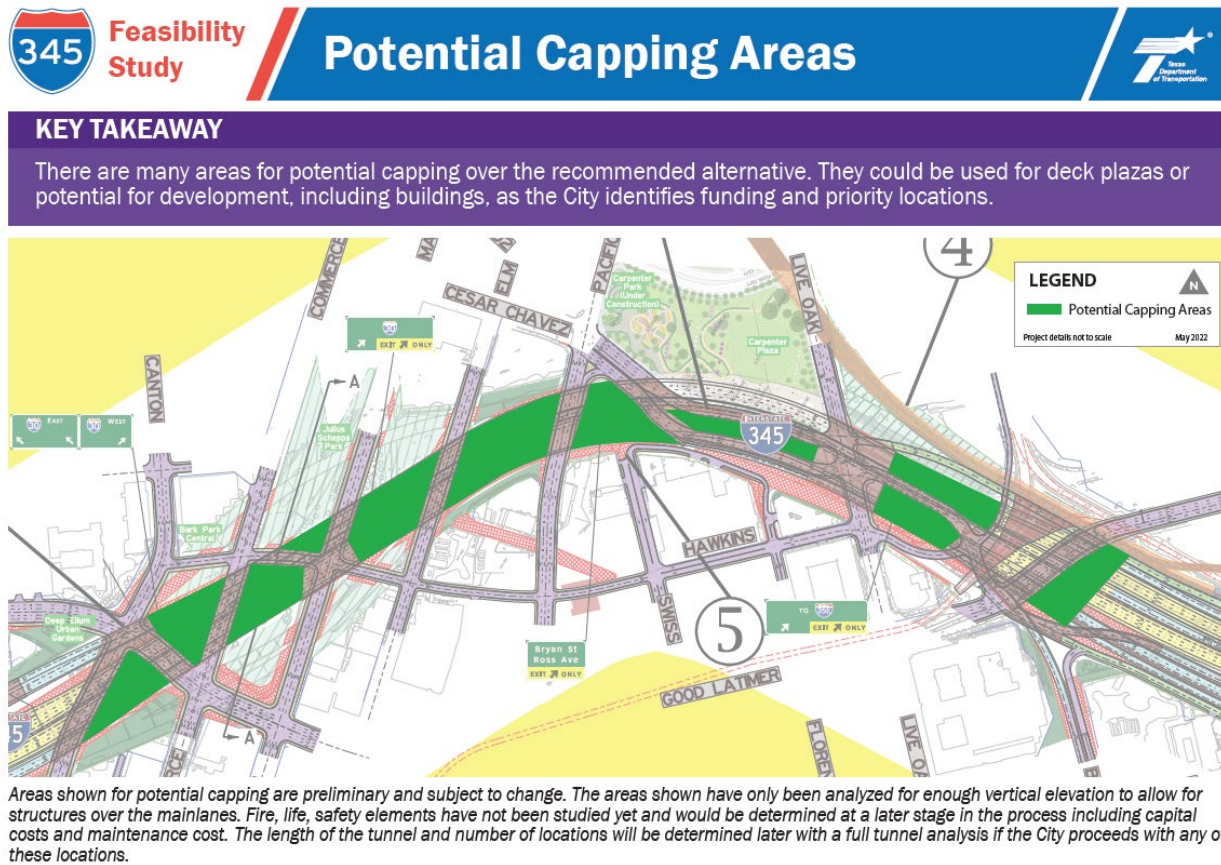


Figure 19 - Potential Capping Areas (Recommended Alternative)

Potential capping areas could be used for deck plazas or air-right development over the proposed mainlanes. Amenities could include urban green space, wide sidewalks, parks, grassy lawns, shrubbery, benches, central gathering spaces and even buildings. At bridge/cross street level, it will be difficult to tell that there is a highway below grade and that the capping area is on a bridge. See Figure 20 -



Potential Capping Examples for examples around the country, including Dallas’s Klyde Warren Park. The potential capping opportunity could unify the community inviting green space or development to provide pedestrian, bicycle and transit-friendly connections over the vehicular traffic that will use I-345 daily.

**345 Feasibility Study** **Potential Capping Examples** 

**KEY TAKEAWAY**

There are many opportunities for amenities over I-345 to be determined at a later stage by others.



Since I-345 is located on the east side of Downtown Dallas between the Central Business District and Deep Ellum, some of the goals of the feasibility study are connectivity and economic development potential.

The recommended alternative proposes mainlanes that are below grade. The cross streets can be connected over the top with potential for capping areas, similar to the examples shown. Amenities could include urban green space, wide sidewalks, parks, grassy lawns, shrubbery, benches, central gathering spaces, and even buildings. At bridge/cross street level, it will be difficult to tell that there is a highway below grade and that the capping area is on a bridge.

**The community could be unified by inviting green space or development opportunity that provides a pedestrian, bicycle, and transit-friendly connection over the vehicular traffic that will use I-345 daily.**

Figure 20 - Potential Capping Examples

Note: there is no funding identified for potential capping areas and any future funding would be provided by the City of Dallas and/or others.

**7.3 3D Renderings**

At the third (May 2022) and final series of public meetings, 3D renderings were presented to illustrate the recommended alternative. See Figure 21 to Figure 23. A drive-through/flyover video (approx. 3 minutes) is also available online. The areas that could potentially be capped are not shown in the figures below. The City of Dallas will prioritize capping areas and secure funding as the project progresses into future phases.

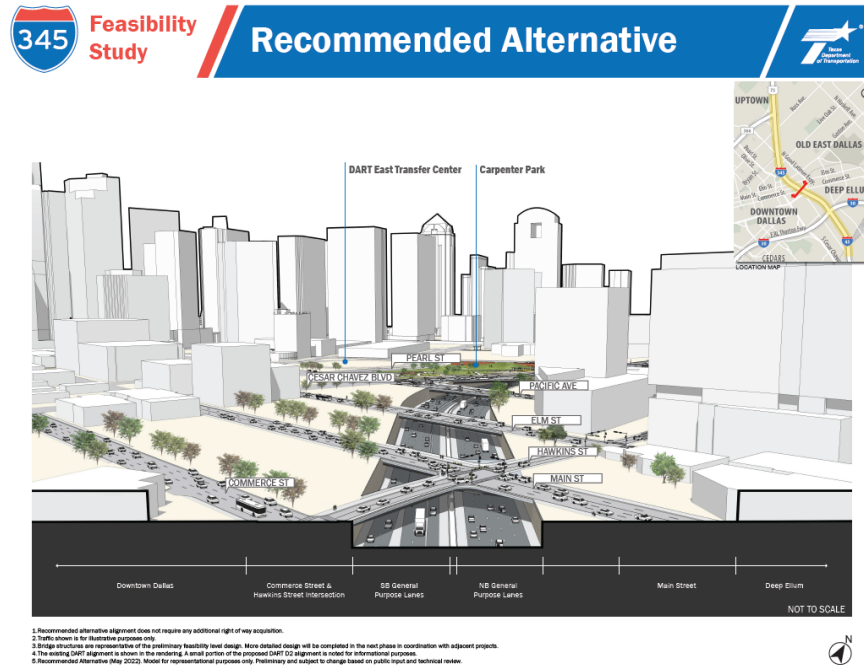


Figure 21 - Recommended Alternative 3D Rendering Facing North Towards Main and Elm Streets

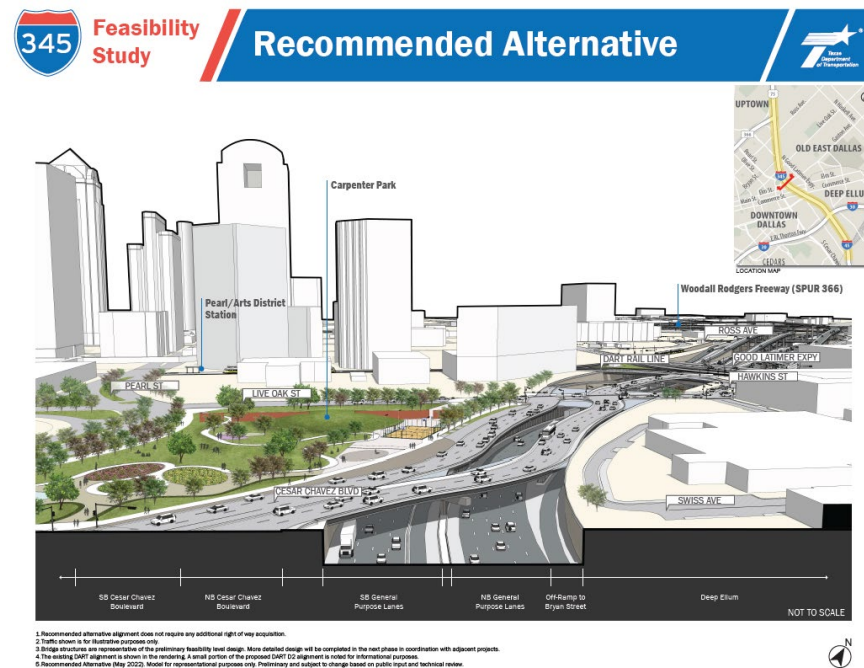


Figure 22 - Recommended Alternative 3D Rendering Facing North Towards Cesar Chavez Blvd.

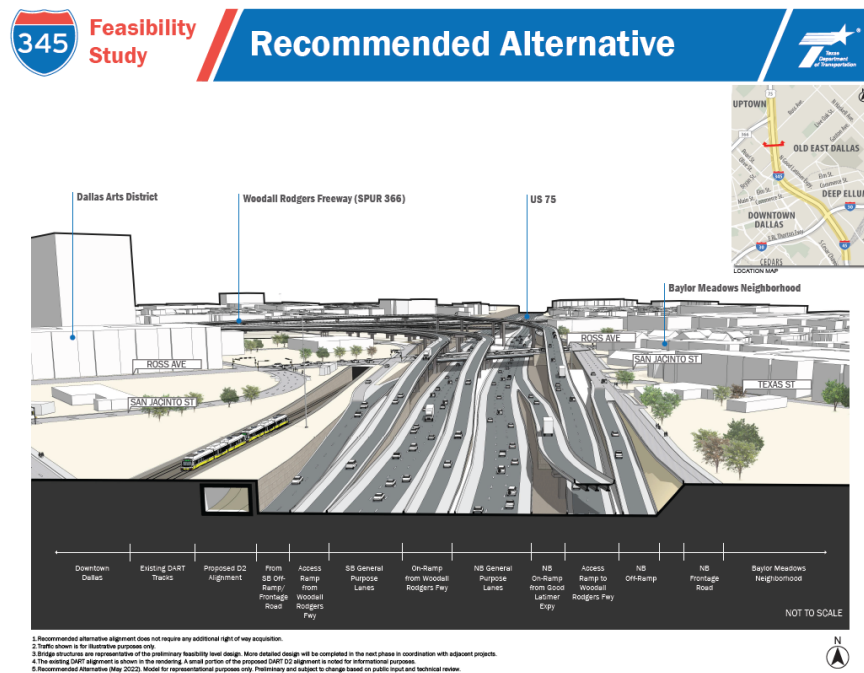


Figure 23 - Recommended Alternative 3D Rendering Facing North Towards Woodall Rodgers (Spur 366)

The 3D renderings are available online with the public meeting materials.

## 8.0 Implementation Plan/Next Steps

The feasibility study is one of the first steps or phases to getting started to determine the future of I-345. The next phase is the schematic/environmental analysis of the recommended alternative from the I-345 Feasibility Study. Table 1 - Feasibility Study vs. Schematic/Environmental Analysis summarizes the different components from the feasibility study versus the schematic/environmental analysis.

The schematic/environmental analysis is expected to start in 2023. There will be additional opportunity for public involvement. It will follow the National Environmental Policy Act (NEPA) process and do a deeper dive in to the recommended alternative, where items such as engineering, traffic, cost, safety, and environmental impacts (including air and noise) will be further analyzed.

During the schematic/environmental process, utility conflicts and relocations will be identified. The timing and cost of utility impacts is not yet known. This process could take some time to coordinate with the multiple utility providers within the State ROW.

As utility relocations are being done, detailed plans, specifications, and estimates (PS&E) will be developed for construction. Once approved, the project will be “ready to let” or available for the construction industry to bid on. The project must be fully funded prior to letting. After the letting process is complete, a project can begin construction. It is estimated to take approximately five years to build the recommended alternative and ultimately be open to traffic. Figure 24 - Just Getting Started (Presented at May 2022 public meetings) shows the project roadmap from feasibility study to project

completion or the new facility open to traffic. The final timeline is to be determined; however, the estimated useful service life of the existing bridge is approximately 25-years with yearly inspection and maintenance as needed. A larger exhibit is available online.

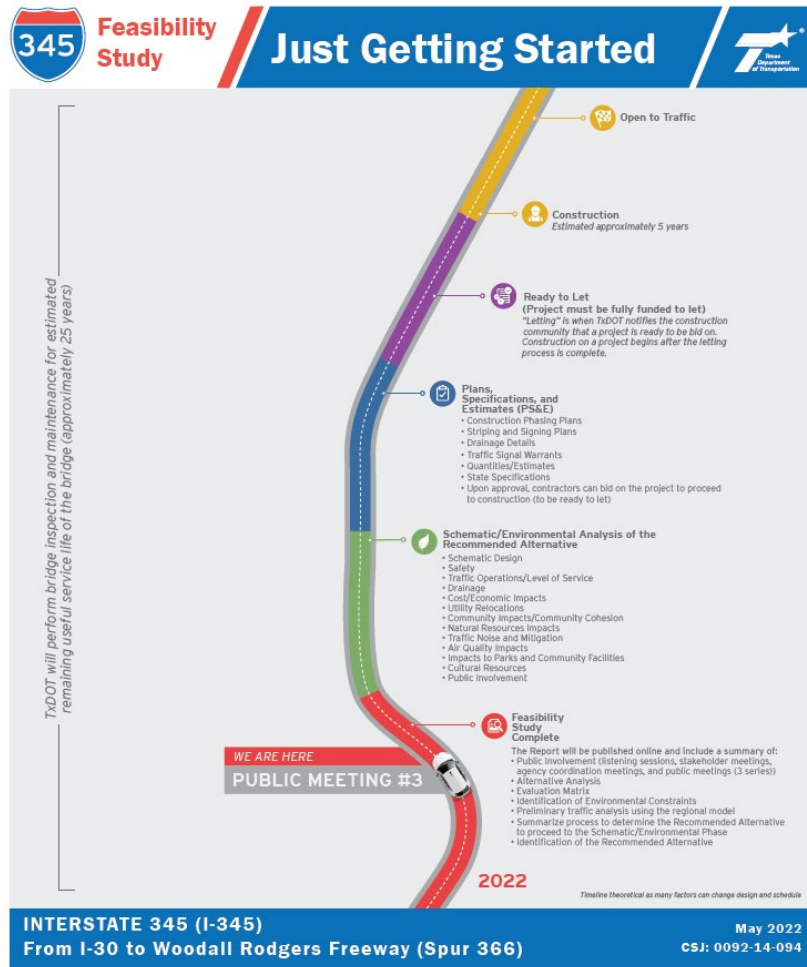


Figure 24 - Just Getting Started (Presented at May 2022 public meetings)

## 9.0 TxDOT Contact Information

Visit [www.keepitmovingdallas.com/I345/](http://www.keepitmovingdallas.com/I345/) and [www.345study.com/](http://www.345study.com/) to view study materials.

Questions can be sent to:  
 Grace Lo, TxDOT I-345 Project Manager  
 Phone: (214) 320-6100  
 Email: [345study@txdot.gov](mailto:345study@txdot.gov)



Figure 25 - QR code to I-345 website