

IH 610 (NORTH LOOP)

IH 10 (Katy Freeway) to IH 45 (North Freeway)

Current Conditions

From IH 10 (Katy Freeway) to IH 45 (North Freeway), IH 610 varies from 8-lanes to 14-lanes near the interchange of US 290 and IH 10. This segment of IH 610 connects commuters to and from major north-south and east-west freeways in the area with destinations such as downtown Houston, the Galleria, Uptown, and the Texas Medical Center. IH 610 also accommodates longer trips attempting to circumvent the congestion experienced on major freeways passing directly through downtown Houston. Near the southern end, METRO's Northwest Transit Center operates as a hub for bus transit. Traffic on IH 610 follows a modified traditional inbound/morning and outbound/evening congestion pattern—though both directions experience significant slowdowns during the peak periods.

- Segment Length: 6.2 miles.
- Road Type: 8-lane divided freeway.
- Annual Hours of Delay: 2,090,000.
- Texas Congestion Index: 1.71.
- Commuter Stress Index: 2.06.

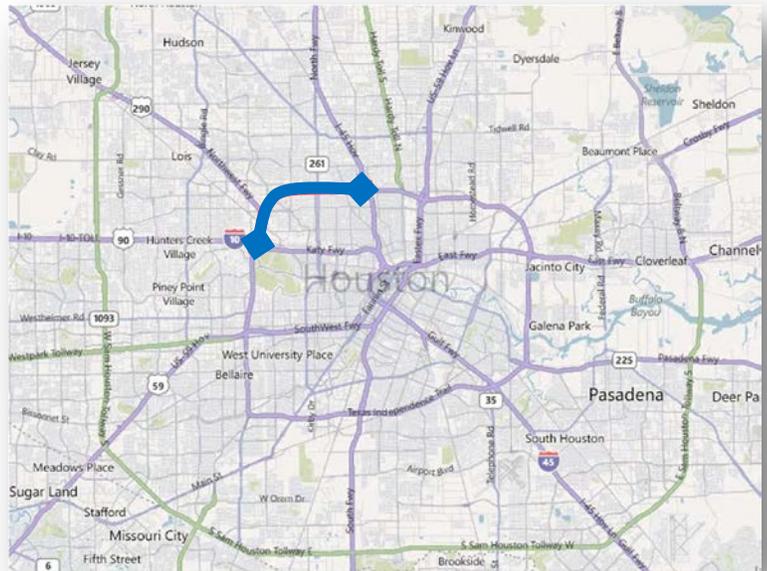
Intelligent Transportation Systems (ITS) infrastructure along this corridor includes:

- Travel time monitoring system covering the entire segment.
- Eight CCTV cameras to aid incident management.
- Four dynamic message signs.
- Seven ramp flow signals.

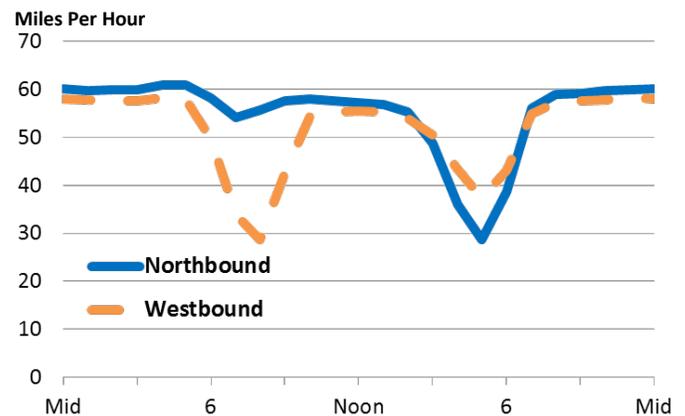
Possible Congestion Causes

This segment of the IH 610 Loop was originally built in 1961 and serves as a connecting route to major freeways, residential neighborhoods, and commercial establishments throughout the corridor.

Slowdowns on this segment are primarily due to high volumes of commuter traffic to/from IH 45



2010 Rank: 13	2013 Rank: 20
Annual Hrs of Delay/Mile: 336,000	
Congestion Time: 7 Hours	
Annual Cost of Delay: \$46.0 Million	
Average Daily Traffic: 177,000 Vehicles	



and US 290, combined with older interchange designs at IH 45 and US 290 which cause traffic to weave multiple lanes over short distances.

In the evening, delays experienced on IH 45 North causes traffic to back up on direct-connectors and the IH 610 mainlines on a daily basis.

In 2011, construction began to reconstruct the IH 610/US 290 interchange and the IH 610

mainlanes between US 290 and IH 10. Traffic has been and will likely continue to be impacted throughout construction.

On the southern end of this segment, southbound traffic is regularly slowed down by downstream congestion on IH 610 through the Galleria. Often this congestion begins at the IH 610/US 59 South interchange and propagates north through this section.

Some other causes for congestion in this segment include:

- High travel demand (traffic volume), which extends beyond typical peak hours.
- Presence of three freeway to freeway interchanges (IH 610 and IH 10, IH 610 and US 290, and IH 610 and IH 45).
- Older ramp design and discontinuous frontage roads at the interchange of IH 610 North and IH 45 North.
- Short ($\frac{1}{4}$ to $\frac{1}{2}$ mile) ramp spacing.

Projects in Progress or Completed

US 290 Program – Project K

Project K is one of three projects that comprise the full reconstruction of the US 290/IH 610 interchange. Project K will build a direct connector ramp from eastbound US 290 to IH 10. This will significantly reduce weaving caused by traffic along IH 610 moving between US 290 and IH 10. Project K was the first US 290 Program project to start construction because removal of US 290 to IH 10 traffic will alleviate congestion once reconstruction of the IH 610 mainlanes restarts. Project K started construction in June 2011 and is anticipated to complete in 2016.

US 290 Program – Project J-1

Project J-1 will construct a direct connector from IH 10 to outbound US 290, complimenting the improvements of Project K. This direct connector ramp will have a similar impact to traffic as the inbound US 290 to IH 10 direct connector ramp. Similar to the inbound ramp, this direct connector will remove a significant volume of weaving traffic off the IH 610

mainlanes in preparation for their reconstruction. Project J-1 began construction in February 2013 and is anticipated to complete in 2016.

US 290 Program – Project J-2

Project J-2 will be the last of the three projects comprising the reconstruction of the US 290 interchange. Project J-2 will include the reconstruction of the IH 610 mainlanes. Project K is anticipated to start construction in early 2014 and be complete in 2016.

IH 610 North and IH 45

TxDOT is currently in the contracting process for a project to repair the IH 610 mainlanes at the interchange with IH 45. Another recently completed project repaved the IH 610 mainlanes between Ella Boulevard and Airline Drive. Most of the other portions of IH 610 along the North Loop have already been repaved in recent years, making the interchange with IH 45 the oldest portion of the roadway.

Incident Clearance

SAFEClear, the City of Houston's rapid clearance program, provides quick response and towing of crashed and disabled vehicles, reducing secondary crashes and congestion. More than 60 private contractor tow trucks rapidly respond to all incidents. Before 2010, approximately two-thirds of all incidents were detected by roving tow trucks and 90 percent were detected and cleared within 20 minutes by SAFEClear. However, effectiveness of this program was reduced in the summer of 2010 when city budget cuts caused a \$50 fee to be instituted for the previously free tows. Average incident clearance time (from tow authorization to clear) increased from 14 minutes in 2010 to 27 minutes in 2011.

TxDOT, METRO, and Harris County operate fewer than a dozen Motorist Assistance Program (MAP) pickup trucks as a free assistance program to provide minor aid to stranded motorists. The program also reduces traffic congestion and improves highway safety. In

addition, a heavy tow truck contract allows quick removal of large trucks.

The Houston TranStar traffic and emergency management center is the coordination hub for all incident management. TranStar is a consortium of four agencies: TxDOT, the City of Houston, METRO, and Harris County. Traffic incidents are detected, verified, and the public is notified through the ITS system. When an incident is verified, dispatch and response are coordinated amongst the agencies involved.

Travel Options

The Houston-Galveston Area Council's (H-GAC) Commute Solutions program funds, promotes, and provides administrative support to various commute alternative projects. The program provides public education to commuters and employers on the available commuting options in the region and the benefits of using alternative transportation modes. The Commute Solutions program also provides literature and public outreach on carpooling, vanpools, transit, guaranteed ride home, teleworking, alternate work schedules, and parking management.

Shared Commuting

NuRide is an online rideshare marketing program that provides ride matches and rewards users for recording their alternative commute trips (i.e., ridesharing, bus, rail, telecommute, walk, bike, and compressed work week). The H-GAC NuRide program is the nation's largest ridematching rewards program, with over 20,247 registered riders. Since its inception in June 2005, the program has resulted in 6.68 million fewer car trips preventing 77,118 tons of emissions.

NuRide reports 2.14 million public transportation trips, 4.29 million carpool and vanpool trips, 99,935 walking trips, and 169,994 biking trips.

METRO operates the STAR Vanpool program, ranked as the third largest vanpool program nationally by passenger trips and passenger

miles in the 2012 American Public Transportation Association (APTA) Fact Book.

Flexitime

Many employers offer flexible work schedules, with around 350 employers participating annually in the Flex in the City Program.

Incentive Driven TDM Programs

Many large companies in the Texas Medical Center, the Energy Corridor, and downtown subsidize all or part of their employees' vanpool or transit commuting costs.

Twenty-five companies are voluntarily participating in the Commute Champion Program enabling H-GAC to document emission reductions related to their commuter benefits. Additionally, 38 companies and 17 local governments are participating in the Clean Air Champion Program in which they voluntarily provide information enabling H-GAC to document their regional efforts to decrease emissions.

Teleworking

Approximately 170,000 of the trips recorded by the NuRide program are telecommuter trips.

Guaranteed Ride Home Programs

The GRH program provides emergency rides home to transit and rideshare users to address one of the main concerns of those who leave their car at home. All registered users of METRO bus and STAR vanpool riders, registered TREK Express users, and Fort Bend County Transit users have access to three free rides home per calendar year.

Houston Area Transit Service

METRO provides local and express bus service via 97 routes, serving approximately 233,068 average daily boardings (weekday – FY 2013). METRO also operates 32 park-and-ride routes serving approximately 29,200 average daily boardings (weekday – FY2012). METRO runs light rail transit along a 7.5-mile section serving downtown, the Texas Medical Center, and the Reliant Center with 37,650 average daily

boardings (weekday – FY2013). METRO plans to add two new light rail lines (University and Uptown).

Corridor Transit Service

METRO offers bus service in different parts of the corridor but none follow the North Loop freeway very closely. There are two transit centers along this portion of IH 610, the Northwest Transit Center and the Heights Transit Center. The Northwest Center is located on the northwest corner of the IH 10 and IH 610 interchange, and serves as an origin and destination for the HOV lanes on US 290 and managed lanes on IH 10. In total, it is a stop for 16 of METRO's bus routes, while the Heights Center serves five bus routes.

Part of the expansion of the METRO Rail system plan includes an extension of the current Red Line Route northward alongside IH 45 to near the interchange between IH 610 North and IH 45 at the Northline Transit Center/HCC Station. This light rail line would serve as the primary transit connection to downtown and other Houston attractors through its connections with other planned lines in the system.

2011-2014 Transportation Improvement Program

The most significant projects in the Houston-Galveston Area Council's Transportation Improvement Program (TIP) are the five new light rail lines for METRO. The TIP refers to the Uptown Line as a light rail line, contradicting other reports stating it will be a BRT service. This contradiction seems to imply that the long term intent for the line is to convert the right-of-way to light rail service.

2035 Regional Transportation Plan

The Houston-Galveston Area Council published an update to the 2035 Regional Transportation Plan in 2007. The plan includes projects such as a downtown intermodal terminal, 81 miles of light rail, 84 miles of commuter rail transit, and ten new transit facilities. While the plan has a regional focus rather than a corridor focus, its

recommendations echo other efforts planning for more transit investment.

Next Steps

IH 45 North EIS Study

As part of the IH 45 North highway improvement project, the interchange of IH 610 and IH 45 is expected to be redesigned and reconstructed. The primary objective of the evaluation is to assess the needs of the area and evaluate the possible alternatives that can be constructed, as well as a no-build option. For details on this study, visit the project website at <http://www.ih45northandmore.com>.

North Houston Corridor Study

This study between TxDOT, The Woodlands, and the FHA will look at the 16-mile corridor spanning from the interchange at US 59 and SH 288 to the interchange at IH 45 and Beltway 8 North. While this corridor is mostly away from the North Loop, the interchange between IH 45 and IH 610 North will be one of the areas examined as part of the study. The project will look at the current conditions of the various roadways along the corridor and propose improvements for them accordingly.

Heights-Northside Mobility Study

The City of Houston is currently in the public input stage of a mobility study concerning the area to the southeast of the corridor, Heights-Northside. The purpose of the study is to identify long range projects which promote mobility through a multi-modal classification of the street system. Therefore, this effort considers all transportation modes rather than only focus on automobile traffic.

Support for Aggressive Incident Management

The Motorist Assistance Program (MAP) has assisted with minor repairs and stalled vehicles for 20 years. SAFEClear, the City of Houston's rapid clearance program has been successful, since 2005, in reducing incident clearance times and improving safety. Crash reductions between 10 and 15 percent were reported for the first four years of the program. Recent funding cuts

have mandated that motorists have to pay for the tow, and the tows have been made optional. The number of tows has, therefore, been reduced by approximately 70 percent. Dedicated funding resources or a different operating strategy should be found for programs such as MAP and SAFEClear to advance incident management strategies.

Feasibility Study for Implementation of Active Traffic Management Strategies

Improving the operation of the existing freeway allows the greatest return on the roadway investment. An active traffic management feasibility study could identify freeway locations that may benefit from operational treatments such as dynamic rerouting, dynamic traveler information, and variable speed limits.

Evaluation of Travel Option Strategies

A feasibility study to examine potential benefits and implementation strategies for travel options in the corridor could prove beneficial. Travel option strategies include, but are not limited to, flex-time, carpooling, and employer sponsored vanpooling, transit, and parking incentives. Additionally, the study could include an assessment of current programs that offer such travel options to determine regional best practices and opportunities for coordination.