

US 290 (NORTHWEST FWY)

FM 1960 (SH 6) to FM 529 (Spencer Road)

Current Conditions

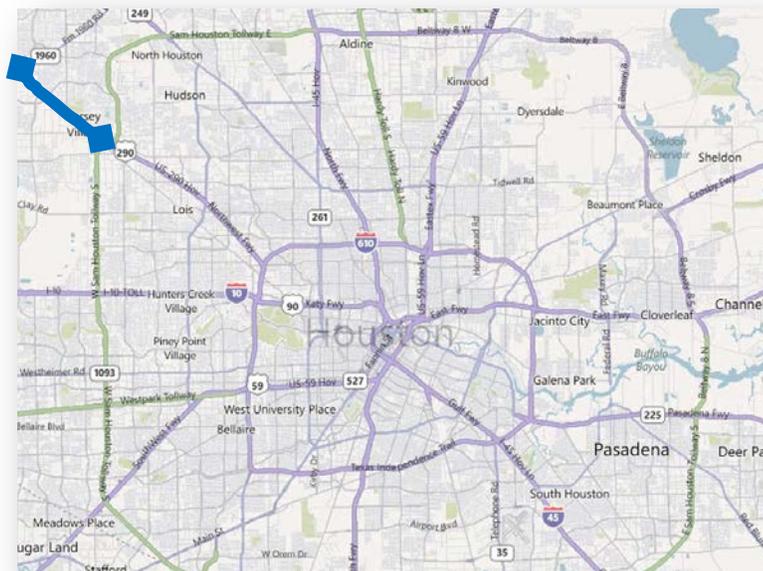
From FM 1960 (SH 6) to FM 529 (Spencer Road), US 290 (Northwest Freeway) has 9-lanes, with three general purpose lanes and one auxiliary lane in each direction and a one-lane barrier-separated reversible High Occupancy Vehicle (HOV) lane in the middle. Near FM 529 this segment widens to four general purpose lanes as US 290 approaches the interchange with Beltway 8. The segment is abutted for most of its length by a Union Pacific Railroad corridor running parallel to and south of US 290. METRO's Northwest Station park-and-ride facility is located just south of West Road with a T-ramp connection to the HOV lane. Just north of Eldridge Parkway, the barrier-separated reversible HOV facility ends and is replaced by separated lane in each direction.

The FM 1960 to FM 529 segment of US 290 primarily serves to connect commuters from the suburban northwest to major activity centers. Traffic on US 290 follows a traditional inbound/morning and outbound/evening congestion pattern with the heaviest congestion during the morning period.

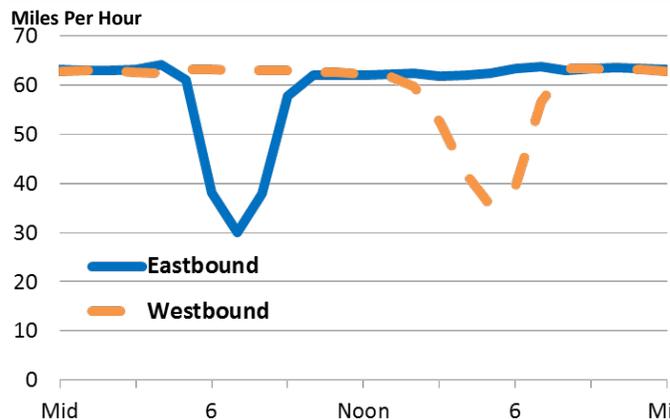
- Segment Length: 3.8 miles.
- Road Type: 9-lane divided freeway.
- Annual Hours of Delay: 914,000.
- Texas Congestion Index: 1.62.
- Commuter Stress Index: 2.08.

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

- Travel time monitoring system covering the entire segment.
- Four closed-circuit television (CCTV) cameras to aid incident management, including one motion camera.
- Three dynamic message signs.
- Five flow signals.



2010 Rank: 25	2013 Rank: 32
Annual Hrs of Delay/Mile:	239,000
Congestion Time:	7 Hours
Annual Cost of Delay:	\$20.6 Million
Average Daily Traffic:	155,000 Vehicles



Possible Congestion Causes

One major cause of congestion in this segment is its proximity and relationship to Beltway 8. Commuters from the suburban northwest travel this segment in order to access alternatives which originate at or near Beltway 8. The US 290 interchange with Beltway 8 connects commuters to Bush International Airport (to the north) and the energy corridor (to the south). The

interchange also serves as the origin of alternative route options (primarily IH 10) for commuters heading to destinations inside the IH 610 loop such as downtown, the Galleria, and the Texas Medical District.

Another cause of congestion on this segment is the lack of a viable parallel alternative to US 290 between FM 1960 and FM 529. Inside Beltway 8, Hempstead Road offers a parallel alternative to US 290 congestion. Hempstead Road ends just south of FM 529 and no comparable option exists between FM 529 and FM 1960.

In addition to the congestion imposed by through traffic, the FM 529 and FM 1960 are both major arterial routes in the area. FM 529 has been renamed the “manufacturing corridor” in recent years due to the high number of manufacturing plants and oil/gas companies established or relocated to the area. This industrial growth has introduced considerable truck traffic to US 290 in this area. On the other hand, FM 1960 land use is characterized by substantial residential development lying immediately behind commercial retailers and restaurants abutting FM 1960. This also produces significant volume to and from US 290 throughout the day.

Other contributing factors to congestion in this area include:

- Large traffic volumes due to the rapid growth of Cypress and other suburban northwest communities.
- Relatively high number of crashes and traffic incidents.
- Lack of inside shoulders to expedite accident clearance.

Projects in Progress or Completed

US 290 Program – Project F

Project F will widen the US 290 mainlanes and reconstruct frontage roads from east of FM 529 to Eldridge Parkway. The ultimate configuration will include four mainlanes, one auxiliary lane and a 2- to 3-lane continuous frontage road in both directions, as well as a 3-lane barrier-

separated reversible managed lane facility in the median. This section of US 290 will also include reconstruction of the T-ramp providing access to Metro’s Northwest Station park-and-ride facility. Project K was awarded in March 2013 for \$57.9 million. Construction completion is anticipated for 2015.

US 290 Program – Project E

Project E will widen US 290 mainlanes from Eldridge Parkway to Telge Road. The ultimate section will include four mainlanes, one auxiliary lane and a 2-lane frontage road in both directions, as well as a 3-lane barrier-separated managed lanes facility in the median. To alleviate congestion at the FM 1960/SH 6 interchange with US 290, northbound traffic from SH 6 will be able to enter the US 290 mainlanes via direct connectors which follow the existing ROW of Hempstead Road. The remaining Hempstead ROW will be reconfigured to two lanes with a reversible ramp providing direct access to the US 290 managed lanes. West of this ramp, the US 290 managed lanes facility will reduce to two lanes. Project E is anticipated to be awarded in 2013 and construction completion is anticipated for 2016.

Corridor Transit Service

METRO’s Northwest Station park-and-ride facility is located in the FM 1960 to FM 529 corridor, south of West Road at Castlebridge. Three lines carry passengers from the park-and-ride into Houston’s central business district.

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.

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 freely 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 operates 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).

Access Management Studies

The SH 6 (FM 1960) Access Management Studies, sponsored by H-GAC, included a study of transportation improvements in several corridors along SH 6, including the northern section of SH 6/FM 1960 and FM 529 access management. The project affects SH 6 from north of IH 10 at Park Row to SH 6/FM 1960 and Mills Road as well as FM 529 from Greenhouse Road to US 290. The goal of the study is to improve the safety, mobility and quality of life for the people who travel this corridor.

The study suggests several access management tools including:

- Coordinated traffic signals, enforcement of signal spacing.
- Construction of alternative access roads.
- Additional travel lanes.
- Transit access.
- Modified land use patterns to reduce demand on roadways system (transit-oriented development (TOD), mixed use development).

In 2007, H-GAC also sponsored a US 290 access management study from the 610 Loop to FM 2920. The purpose of the study was to identify transportation measures that would improve public safety and traffic flow, reduce motorist delay, enhance air quality, and improve pedestrian and bicycle access. The study



proposed no-build, freeway, managed facility, and transit alternatives.

Planning Efforts to Date

Population along the US 290 corridor is projected to increase by 29% between 2010 and 2040. Several enhancement efforts are underway along US 290 known as the “US 290 Program,” administered by TxDOT. The Harris County Toll Road Authority has recently provided \$400 million to TxDOT’s \$1.4 million in order to expedite completion of the Interim Managed Lanes Project. Estimated cost of the ultimate improvements, including construction of the Hempstead Tollway, is \$4.7 billion.

These efforts include:

- Reconstruction of US 290 mainlanes and frontage roads from IH 610 to Senate Avenue. Widening of existing mainlanes west of Senate Avenue.
- Four general purpose lanes and one auxiliary lane in both directions from IH 610 to FM 1960.
- Two to three lane frontage roads in each direction throughout the corridor.
- A 3-lane barrier-separated reversible managed lane facility on US 290 mainlanes.
- Two non-tolled frontage road lanes in each direction along the Hempstead Tollway from 610 Loop to Beltway 8.
- Bicycle and pedestrian improvements.
- Transition of METRO operations to the new Hempstead Tollway facility.

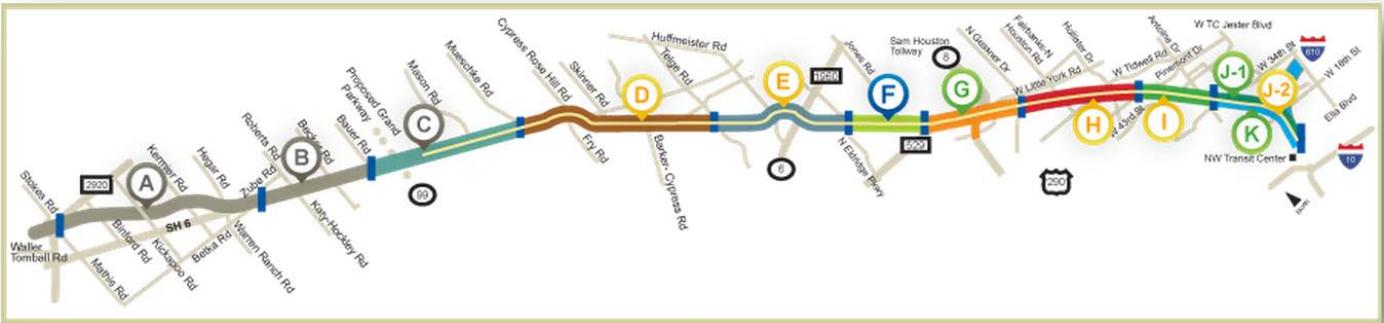


Figure 1. US 290 Managed Lanes - Segment Map

- Proposed high-capacity transit corridor located along the Hempstead Tollway.

Work began on the above projects in 2011; US 290 Program completion is currently 2017.

Figure 1 shows an overview of the US 290 managed lanes program. A different letter represents each project along US 290. Projects G, K, and J-1 are under construction. The US 290 Program hosts a website, www.my290.com, which has a complete listing of projects, including contract amounts. For their efforts on US 290, TxDOT recently won a 2013 ARTBA Pride Award for Best Public Outreach.

US 290 will also receive \$6.5 million from locally designated federal funds for intersection improvements, including dedicated turn lanes at FM 1960.

Next Steps

Commuter Rail

In late 2011, The Gulf Coast Rail District received an update on conceptual engineering for a commuter rail project along the US 290 corridor with the terminus at the 610 Loop. Without linking to Houston’s central business district, Klotz Associates initially projected ridership as 2,640 daily boardings. With a link to downtown by 2035, daily ridership will reach 18,816. The projected cost is \$290.7 million for the 2019 build (stopping at the 610 Loop). It will cost an additional \$254 million to connect the new rail line to the central business district.

Support for Aggressive Incident Management

The Motorist Assistance Program 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.