

# Mobility Report 2019



## The New Commute: Work in the Age of COVID-19

The region's response to the pandemic and subsequent mitigation effort has a dramatic effect on travel patterns in the Houston-Galveston area

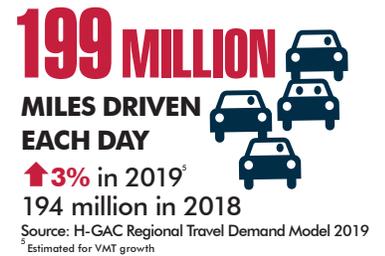
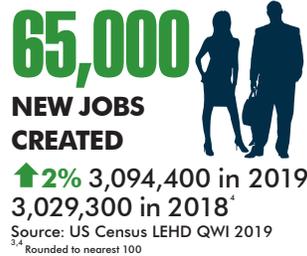
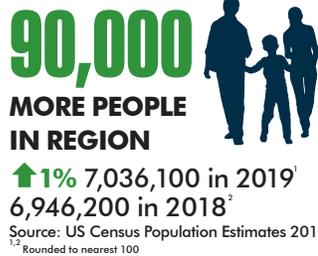
The Houston-Galveston Area Council (H-GAC) is a voluntary association of local governments in the 13-county Gulf Coast Planning Region—an area of 12,500 square miles and seven million people. H-GAC is designated by the State of Texas as the region's Metropolitan Planning Organization for transportation planning in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties.

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Houston-Galveston  
Area Council

# Regional Mobility Trends



The 2019 Mobility Report summarizes key transportation and economic performance indicators that reflect the region's progress toward achieving a safe, reliable, multimodal transportation system. This year, we include a new section that describes the impacts of the COVID-19 pandemic on the regional transportation system. The Houston-Galveston Area Council worked with the U.S. Department of Transportation, the Texas Department of Transportation (TxDOT), and regional transit providers to identify new performance measures and targets to better guide policymakers' investment decisions.

## IMPROVING SAFETY

The safety performance measures focus on the number and rate of fatalities and injuries for drivers and occupants, bicyclists, and pedestrians. In 2019, the number of fatalities increased by 16% to 632, and serious injuries increased by 2% to 3,077. Non-motorized fatalities are up by 19% to 191, and non-motorized serious injuries dropped slightly to 420.

H-GAC continues to work with local governments to improve safety through law enforcement, public outreach, education, and the management of high-volume roadways.

## ASSET MANAGEMENT & OPERATIONS

TxDOT continues to make improvements to its roadway system. The overall condition of the region's infrastructure has remained stable over the past few years. The percentage of TxDOT roadways rated "good or better" increased to 85% in 2018. Bridge conditions, which are evaluated biannually, remain at 81%.

The response time needed to clear a major incident on area freeways

## Improving Safety

### FATALITIES

Number of Fatalities (Rate)  
Per year (Per 100 million VMT)



↑16% (↑7%) in 2019  
602 (1.09) fatalities in 2018

Source: TxDOT 2019

### SERIOUS INJURIES

Number of Serious Injuries (Rate)  
Per year (Per 100 million VMT)



↑2% (↑4%) in 2019<sup>3</sup>  
3,021 (4.26) serious injuries in 2018

Source: TxDOT 2019

<sup>3</sup> Includes only incapacitating injuries

### NON-MOTORIZED FATALITIES

Number of Fatalities  
(Per year)



↑19% in 2019  
160 fatalities in 2018

Source: TxDOT 2019

### NON-MOTORIZED SERIOUS INJURIES

Number of Serious Injuries  
(Per year)



↔ SLIGHT CHANGE in 2019<sup>4</sup>  
422 serious injuries in 2018

Source: TxDOT 2018

<sup>4</sup> Includes only incapacitating injuries

decreased by 5% from 31.8 minutes to 30 minutes, as reported by Houston TranStar. This decrease is due in part to the Gulf Coast Regional Tow and Go™ Program, which launched in May 2018.

Bus vehicle reliability decreased by 12% to 9,684 miles in 2019.

## Asset Management and Operations

### PAVEMENT CONDITION

Percent of Lane Miles  
(Rated Good or Better)



↑1% in 2019  
84% in 2018

Source: TxDOT 2019

### BRIDGE CONDITION

Percent of Bridges  
(Rated Good or Better)



↓2% in 2018  
83% in 2016

Source: TxDOT 2018

### INCIDENT RESPONSE

Time to Clear a Traffic Incident  
(In minutes, excluding heavy trucks)



↓5% in 2018  
31.8 minutes in 2018

Source: Houston TranStar 2019

### BUS VEHICLE RELIABILITY

METRO Buses (Mean distance between mechanical failures in miles)



↓12% in 2019  
11,016 miles in 2018

Source: METRO 2019

### CONGESTION MITIGATION

Travel on the roadway system increased by 3% to an estimated 199 million vehicle miles per weekday. This corresponds to the 65,000 jobs added to the region's economy.



## Congestion Mitigation

**TRAVEL TIME RELIABILITY**  
 Percent of Reliable Person-Miles  
*Interstate (Non-Interstate)*



**BUS ON-TIME PERFORMANCE**  
 METRO Local Bus/Park & Ride Bus  
 (Percent of bus trips)



Travel reliability is when the travel time of a roadway remains consistent. Based on current methodology, 69% of miles traveled on the region's interstate roadways are reliable, up 7% from 2018. The region's non-interstate roadways are more reliable at 80.2%, up by 8%.

Transit ridership in the region decreased slightly to 90 million passenger boardings in 2019 following national trends. Bus on-time performance increased slightly to 76.6%.

## ECONOMIC COMPETITIVENESS

The 2045 RTP identifies truck travel reliability and commute alternative usage as two indicators of economic competitiveness. Truck travel time reliability assesses how reliable freight movement on the interstate is with a high standard of 95% on-time deliveries. The truck travel reliability figure for 2019 is 2.18, which is slightly worse than 2018. This means a truck trip of 30 minutes requires

## Economic Competitiveness

**TRUCK TRAVEL TIME RELIABILITY**  
 95% On-time Delivery  
 (Interstate)



**COMMUTE CHOICE**  
 Use of Alternative Transportation  
 (Percent of regional commuters)



65 minutes for the truck to arrive on-time 95% of the time.

The percentage of the region's commuters who use an alternative mode of transportation to work at least once a week remains unchanged at 20%. This includes transit, vanpool, carpool, biking, walking, and teleworking.

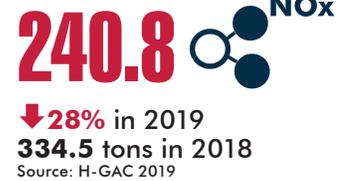
## NATURAL & CULTURAL RESOURCES

H-GAC supports vehicle emissions reductions through funding and promotion of alternative commute options and the accelerated replacement of older diesel vehicles with newer, cleaner models. In 2019, these programs reduced 240.8 tons of NOx. This figure is 28% lower than in 2018 due to less participation in the Clean Vehicles Program.

The region's three-year average of the ozone level increased by 3% to 81 parts per billion (ppb), which remains above the new national ambient air quality standard of 70 ppb.

## Natural and Cultural Resources

**AIR QUALITY**  
 NOx Emission Reductions  
 (In tons per year)



**AIR QUALITY**  
 Ozone Level  
 (In parts per billion)



**LEGEND**

- GREEN** - Positive Effect
- RED** - Negative Effect
- ORANGE** - No Discernible Effect
- ↑ Net Increase
- ↓ Net Decrease
- ↔ Slight or No Net Change

## SUMMARY

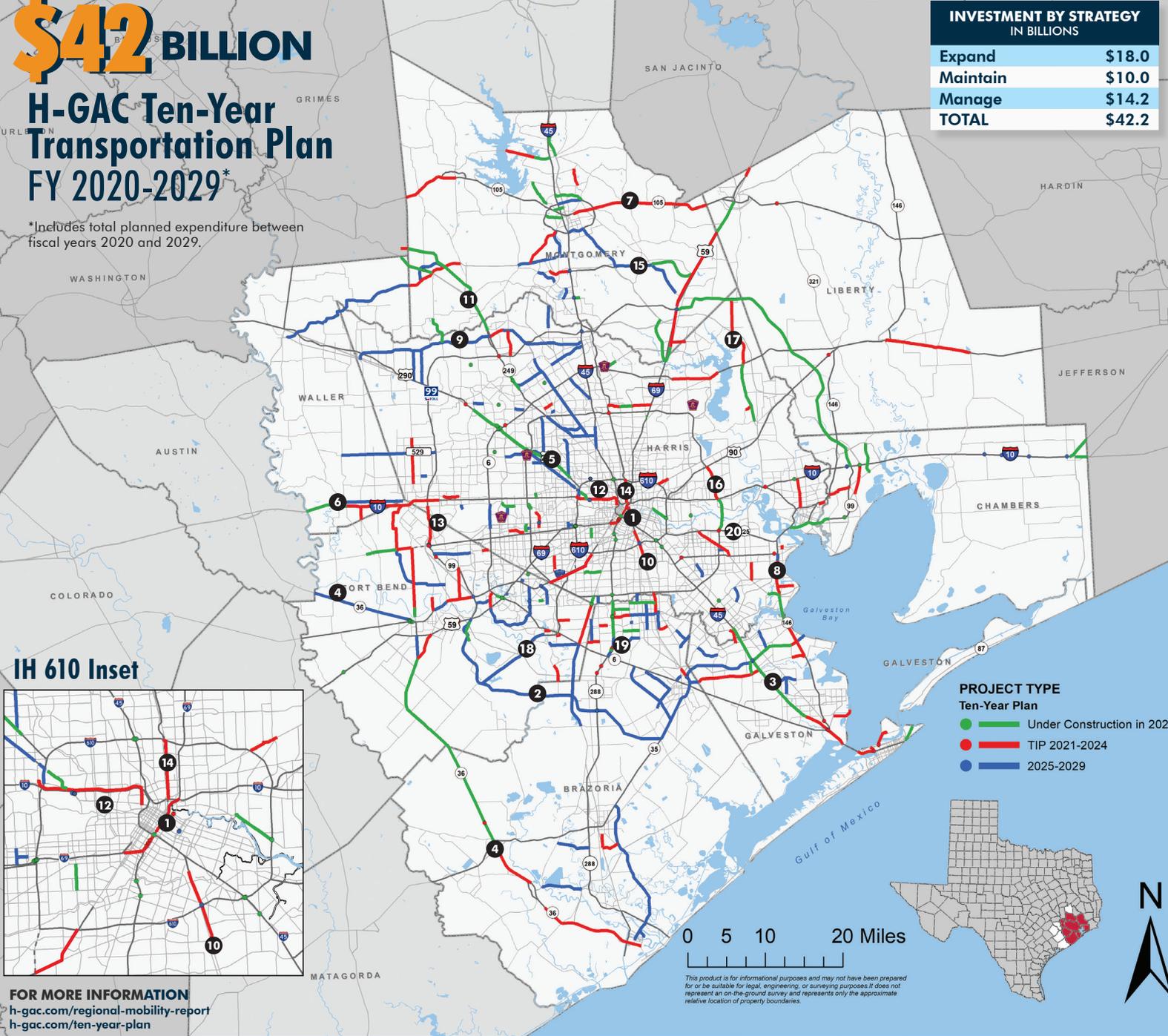
The Houston-Galveston region depends on a safe, efficient, and reliable transportation system to maintain its economic success and overall quality of life. This report provides a snapshot of what we're doing well and where we can improve. Stakeholders and policymakers may use this report as guide on where to target investments in future transportation improvement projects. For additional transportation performance measures, visit [h-gac.com/regional-mobility-report](http://h-gac.com/regional-mobility-report).

# \$42 BILLION

## H-GAC Ten-Year Transportation Plan FY 2020-2029\*

\*Includes total planned expenditure between fiscal years 2020 and 2029.

INVESTMENT BY STRATEGY IN BILLIONS	
Expand	\$18.0
Maintain	\$10.0
Manage	\$14.2
<b>TOTAL</b>	<b>\$42.2</b>



### IH 610 Inset



**FOR MORE INFORMATION**  
[h-gac.com/regional-mobility-report](http://h-gac.com/regional-mobility-report)  
[h-gac.com/ten-year-plan](http://h-gac.com/ten-year-plan)

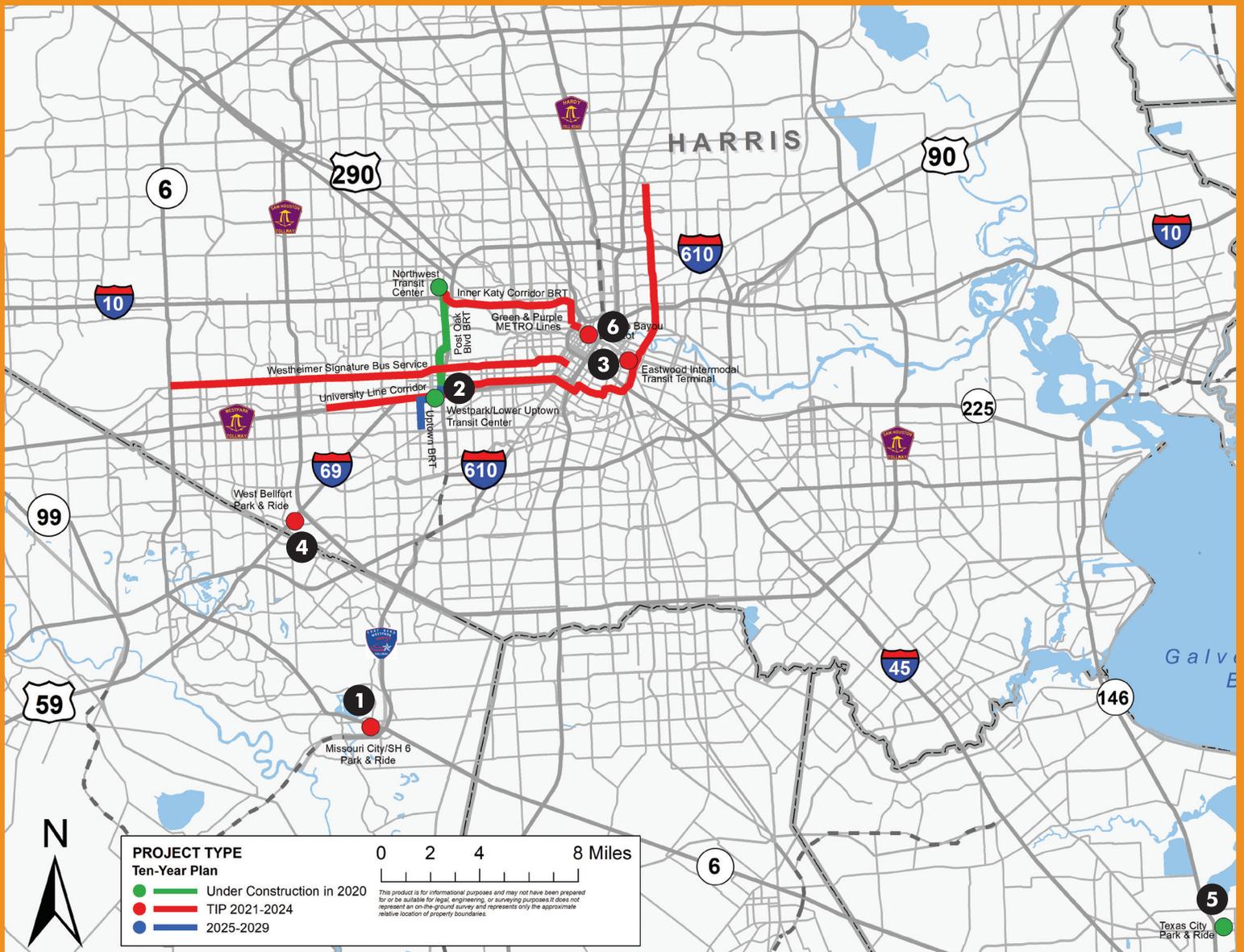
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# Top 20 Roadway Investments FY 2020-2029

## IN MILLIONS

PROJECT	COST
1 IH 45 NORTH - North Houston Highway Improvement Project	\$4,350
2 SH 99 GRAND PARKWAY SEGMENTS B & C	\$1,800
3 IH 45 SOUTH	\$959
4 SH 36	\$720
5 HEMPSTEAD HIGHWAY	\$610
6 IH 10 WEST	\$550
7 SH 105 EAST	\$453
8 SH 146	\$437
9 FM 1488 & MAGNOLIA BYPASS	\$378
10 SH 35	\$375

PROJECT	COST
11 SH 249 TOLLWAY EXTENSION	\$327
12 IH 10 WEST BUS RAPID TRANSIT	\$316
13 SH 99 GRAND PARKWAY SEGMENT D	\$313
14 HARDY TOLL ROAD DOWNTOWN EXTENSION	\$309
15 SH 242/ FM 1314/ FM 1485	\$298
16 BELTWAY 8 EAST	\$260
17 FM 2100	\$249
18 FORT BEND TOLLWAY EXTENSION	\$241
19 SH 288	\$175
20 SH 225	\$143



## Transit Investments FY 2020-2029 IN MILLIONS

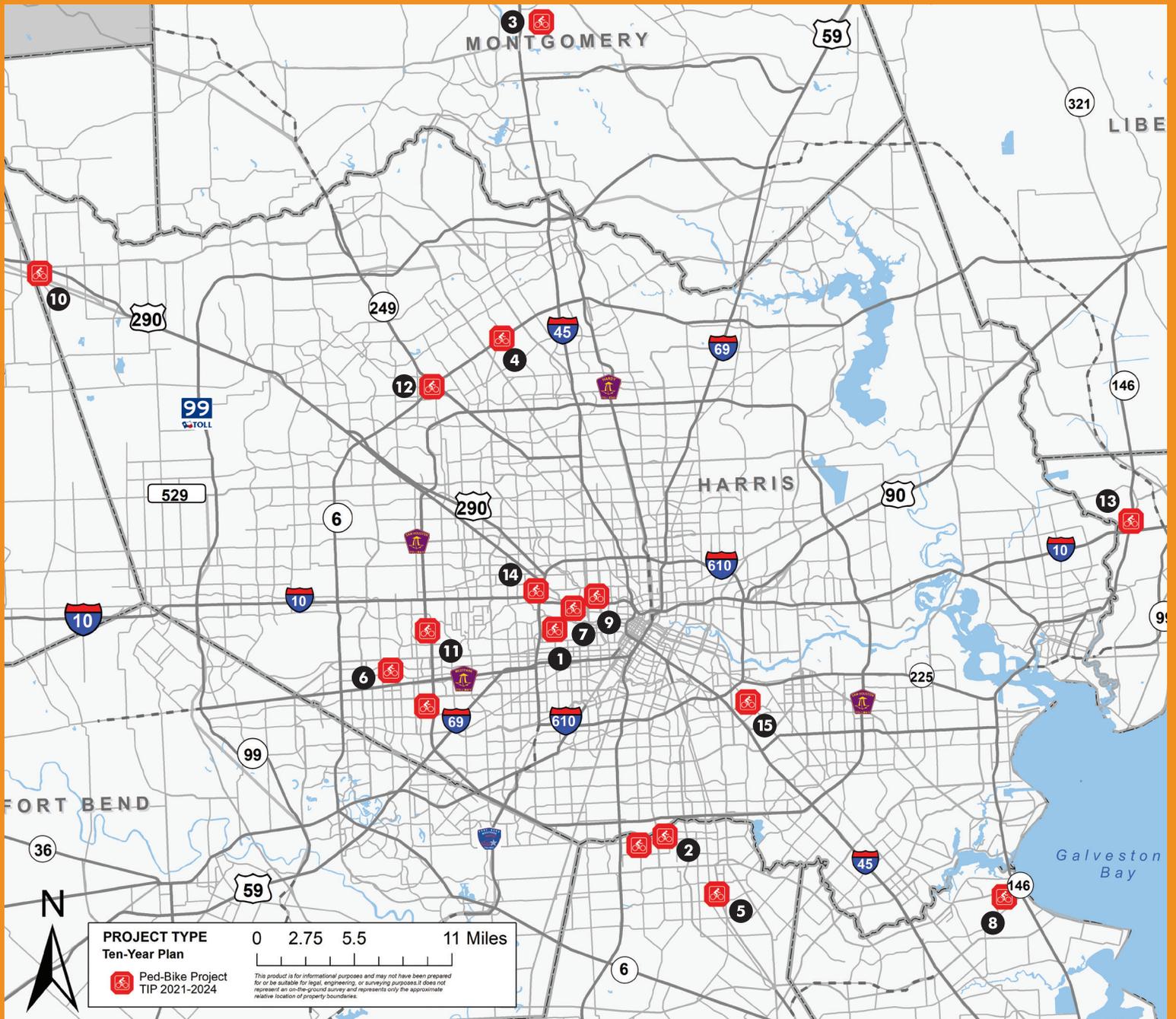
Several important expansions of the region's transit network occurred in 2019. METRO continued construction of the Post Oak Busway, which will be the region's first dedicated bus rapid transit (BRT) facility when it opens in August 2020. Fort Bend County Transit inaugurated a new administration and operations facility in Richmond, which will provide capacity to expand transit services county-wide. Harris County Transit began operation of several new bus routes in northeast Harris County, bringing transit service to a high-need area of the region. New park-and-ride service from Conroe to downtown Houston and the Texas Medical Center began operation, expanding the region's commuter services. Connect Transit is building a new park-and-ride facility in Texas City.

Perhaps the most notable milestone of 2019 was the METRONext Moving Forward Plan, a long-range transit plan by METRO that was overwhelmingly approved by voters in November

PROJECT	COST
1 CONSTRUCT SH 6 PARK & RIDE IN SIENNA PLANTATION	\$42
2 CONSTRUCT UPTOWN MULTIMODAL TRANSIT CENTER	\$27
3 EASTWOOD INTERMODAL TRANSIT TERMINAL (LEASE 250 PARKING SPACES)	\$96
4 WEST BELLFORT PARK & RIDE MODIFICATIONS	\$79
5 CONSTRUCT TEXAS CITY PARK & RIDE	\$6
6 BUFFALO BAYOU DAY LOT	\$4

2019. The \$3.5 billion plan includes significant expansions of light rail, bus rapid transit commuter bus and local bus services throughout the METRO service area. The METRONext plan was developed in parallel with H-GAC's High Capacity Transit Task Force, which envisions significant transit improvements across the eight-county region between now and 2045.

Several near-term METRONext projects appear in the Transit Investment map above, including a grade-separated BRT facility along IH-10 between the west loop and downtown, a new signature bus service along Westheimer, an at-grade BRT facility extending along Westpark, Richmond, Alabama and Lockwood from Westchase to Tidwell, and improvements to several park-and-ride and transit centers.



# Pedestrian-Bicycle Investments FY 2021-2024

## IN MILLIONS

The 2045 Active Transportation Plan was approved by the TPC. It establishes the vision for the region over the course of the next 25 years. "Pedestrians and bicyclists of all ages and abilities can travel conveniently and comfortably in all communities using connected, well-maintained networks of walkways and bikeways." Throughout the collaborative process, five key goals were identified: prioritize safety, ensure equity, connect the system, maintain and monitor, and encourage use. Implementation will continue well into 2020.

PROJECT	COST
1 CONSTRUCT HIKE & BIKE TRAIL	\$14
2 CONSTRUCT CLEAR CREEK TRAIL	\$11
3 CONSTRUCT BIKE LANES	\$9
4 CONSTRUCT ADA ACCESSIBLE SIDEWALKS	\$89
5 SAFE ROUTES TO SCHOOL	\$49
6 CONSTRUCT MULTI-USE TRAIL AND AMENITIES	\$39
7 CONSTRUCT MEMORIAL PARK BICYCLE PEDESTRIAN CONNECTION	\$39
8 CONSTRUCT BIKE LANE	\$3
9 CONSTRUCT MKT-WHITE OAK BAYOU BICYCLE PEDESTRIAN CONNECTION	\$3
10 CONSTRUCT ADA RAMP AND SIDEWALKS	\$2
11 CONSTRUCT DEERWOOD SHARED USE PATH	\$1
12 CONSTRUCT SHARED USE PATH	\$1
13 CONSTRUCT CONCRETE SIDEWALKS & ACCESSIBLE CURB RAMPS	\$1
14 RECONSTRUCT AND WIDEN SIDEWALKS	\$1
15 CONSTRUCT PED/BIKE BRIDGE OVER SIMS BAYOU	\$.7

# The Impact of Covid-19 on Regional Mobility

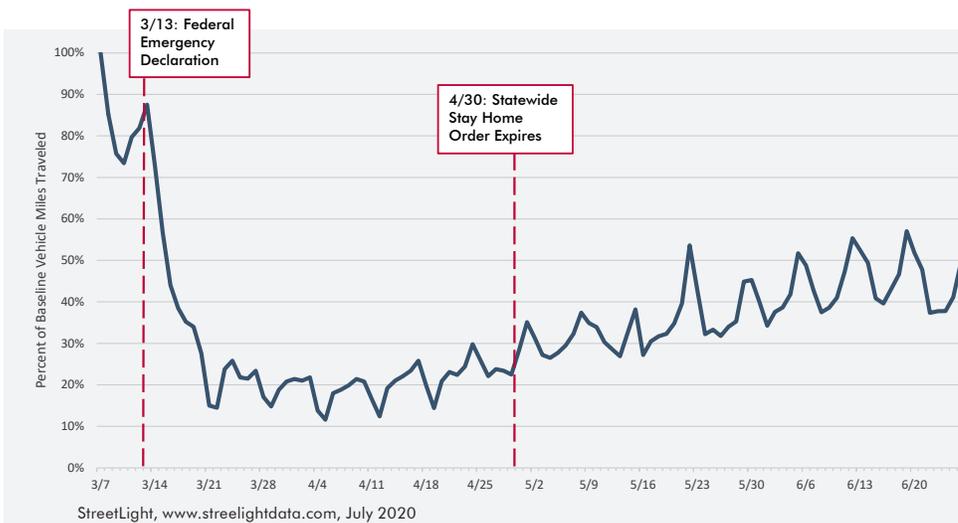
Although the data presented in the Mobility Report covers 2019, additional information is provided to examine the impact of the COVID-19 pandemic on the regional transportation system during the first half of 2020. The region's response to the pandemic and subsequent mitigation efforts, such as social distancing guidelines, stay home orders, and mandatory closure of businesses, has had a dramatic effect on travel patterns in the Houston-Galveston area over the last several months.

## VEHICULAR TRAVEL

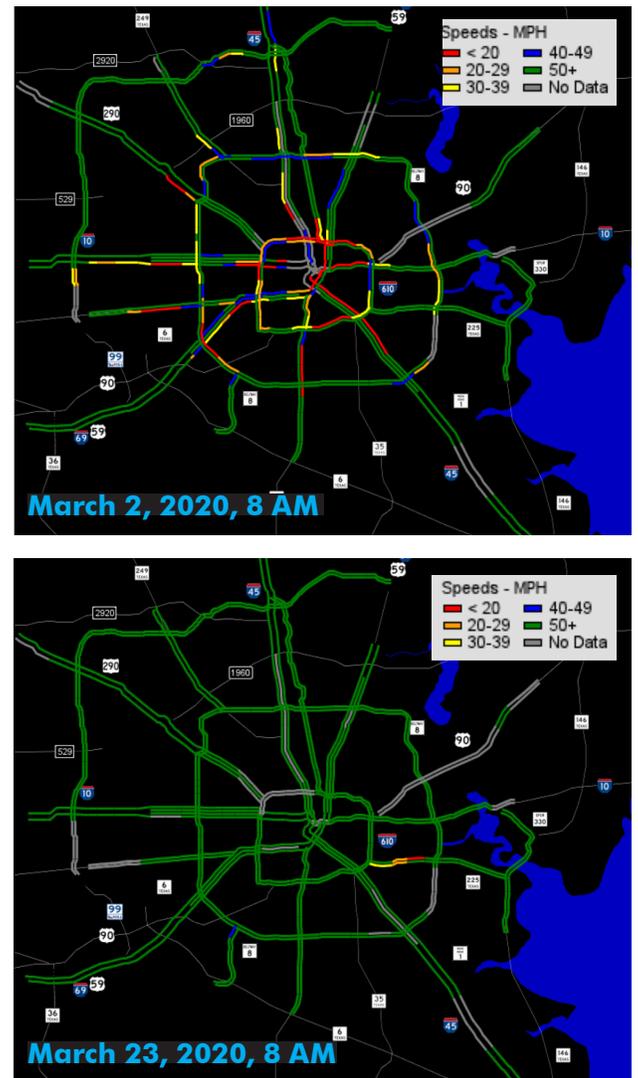
The Houston-Galveston Area Council's Transportation Department monitors regional travel volumes with a platform that collects travel data from GPS capable devices. Figure 1 illustrates the percentage of daily vehicle miles traveled (VMT) as compared to the baseline date of March 7. Following the issuance of a federal emergency declaration on March 13 and declaration of Texas public health disaster on March 19, there was a sharp decline in daily VMT throughout the region.

With the March 19 Texas public health disaster declaration came prohibition of groups larger than 10, closure of gyms, bars, and schools, and change to takeout only at restaurants. From this date onward, the region sustained traffic volumes significantly lower than baseline as mitigation measures continued. Regional travel declined 70% to nearly 90% of baseline volumes through the end of April, when the statewide stay home order expired. Since initiating Phase I of the reopening of Texas on May 1, there has been a steady rise in regional travel. However, even as most businesses reopened to some capacity as Phase II began on May 18, travel in the region has remained approximately 50% lower than pre-pandemic volumes.

**Figure 1: Percent of Baseline Vehicle Miles Traveled**



**Figure 2: Freeway Speeds Before & After COVID-19**



Houston TranStar, [http://traffic.houstontranstar.org/map\\_archive](http://traffic.houstontranstar.org/map_archive)

As a result of decreased vehicular volumes, travel speeds throughout the region have increased. Comparing the first Monday of March – before the region's first case of COVID-19 – to the third Monday – after state and federal emergency health declarations – most major freeways experienced congestion-free speeds.



## TRANSIT RIDERSHIP

Transit agencies in the Houston-Galveston region continued operations amid the pandemic with numerous mitigation measures taken to reduce the spread of COVID-19. Examples of such measures include temporary suspension of fare collection, blocking seats to ensure social distancing of passengers, operator use of personal protective equipment, and enhanced cleaning of service vehicles. The six transit providers in the region averaged a year-over-year regional transit ridership decline of 25% during March. However, by April, year-over-year ridership declined by nearly 60%, as seen in Figure 3. During the first full month of statewide stay home measures, The Woodlands experienced the most dramatic decline in ridership with a 96% decrease compared to April 2019. Harris County was the least impacted with only a 9% decrease. In May, ridership trends were similar to April, with some services like The Woodlands Express, METRO, Connect Transit, and Fort Bend Transit experiencing a slight uptick in ridership, yet others experienced slightly less ridership. Overall, the decline in regional transit ridership decreased from 58% in April to 53% in May.

## METRO STAR VANPOOL

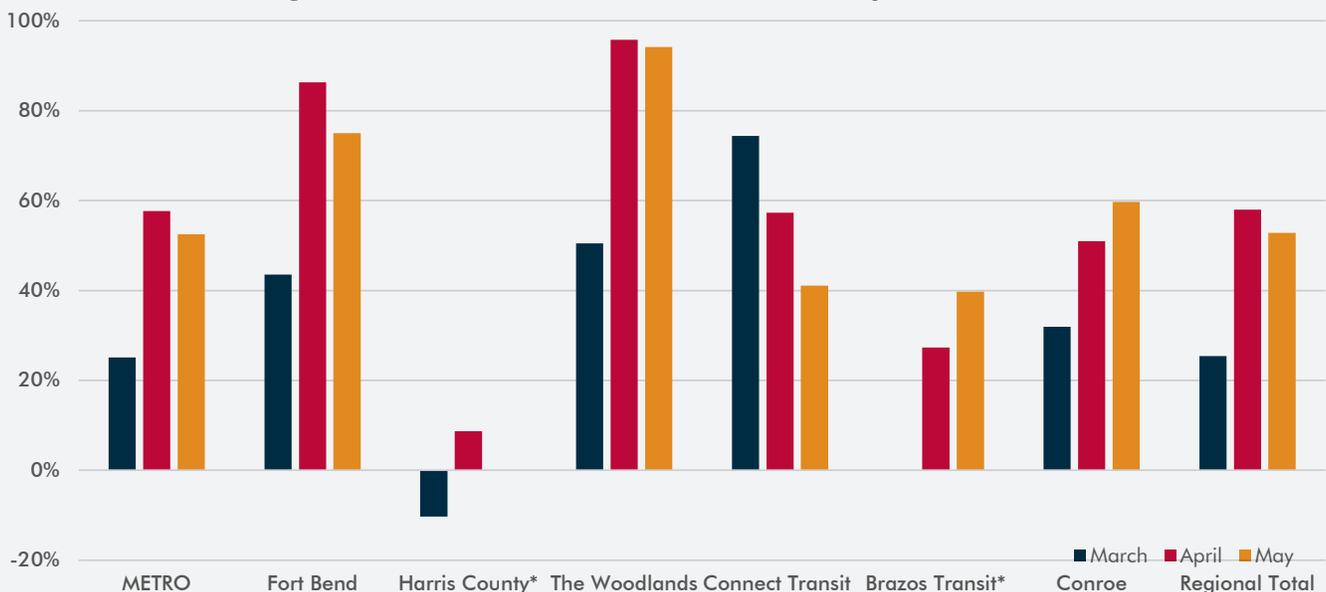
Prior to the pandemic, METRO Star, the regional vanpool program, operated 532 vanpool routes (February 2020). In March, many routes suspended

operations when Harris County and the City of Houston issued “stay home, work safe” orders, and employers responded by closing offices and having many employees work from home. However, essential workers in healthcare, government, and other industries have continued to rely upon vanpool for their commute. As of June, METRO Star has 168 active vanpool routes and 276 vanpools on hold. In addition, 91 vanpools were terminated due to rider loss from layoffs, work furloughs, employer benefit policy changes, and other COVID-19 related reasons.

METRO Star has responded by offering special financial programs to assist vanpool groups that have lower ridership at this time. One example is METRO Star’s “Hold My Van” program, which gives workers the option of not riding (and not paying) until they return to work. This helps vanpoolers avoid financial burdens associated with a service they may not need right now.

To help ensure vanpool participants feel comfortable and safe as they return to work, METRO Star has distributed vanpool sanitizing kits to all active groups to promote routine disinfection of frequently touched surfaces in the vehicle. The service provider has also issued guidelines for vanpool groups to encourage social distancing during their commute. These procedures have been met with positive reception by vanpool groups.

**Figure 3: Percent Decrease in Transit Ridership 2019 to 2020**



\*Data unavailable for Harris County Transit (May), Brazos Transit District (March)

## ACTIVE TRANSPORTATION

Active transportation – which is defined as traveling for work and recreation by walking and bicycling – has significantly increased since the onset of the pandemic. This has become especially apparent in the Greater Houston region, as indicated by a significant uptick in the use of its bayou greenway trails. To better understand how pedestrian and bicycle facilities are being used, H-GAC has installed permanent counters along the Brays Bayou Trail – which runs through Hermann Park, MacGregor Park, Gus Wortham Golf Course, and Mason Park – the Columbia Tap Trail – located in Houston’s Third Ward neighborhood – and the White Oak Bayou Trail – which runs from the Houston Heights area northwest to Greater Inwood.

The sensors found that the Brays Bayou Trail experienced a 286% increase in cyclists and pedestrians between January and July 2020. The Columbia Tap Trail witnessed an increase in usage of 120%. The White Oak Bayou Trail experienced a 198% increase. Also, B-Cycle, a Houston-area bike share organization, recently reported two months of record-breaking usage of its bike share stations. Month-by-month comparisons show an even more dramatic increase. For example, in July 2020 alone, the Brays Bayou Trail saw an increase of 1,426.2%. More information about these figures and the permanent pedestrian and bicyclist counters is available at [www.h-gac.com/pedestrian-bicyclist-planning/counters.aspx](http://www.h-gac.com/pedestrian-bicyclist-planning/counters.aspx).

H-GAC has responded to this increased demand with the continuation and implementation of new programs through 2020 and beyond. The recently-approved 2045 Active Transportation Plan provides strategic direction that will take into account the increased usage of the region’s existing bike network. The network map is being revised to provide a quick, user-friendly method for planning transportation projects. In addition, H-GAC will be providing a bicycle safety program throughout the region over the next year to increase comfort and confidence of the new rider and seasoned pro alike. The pedestrian/bicycle counter program is also ramping up to better serve the region by providing additional permanent counters and a more robust mobile counter loan program.



**Figure 4: Increase in Bicycle Ridership on Brays Bayou, Columbia Tap, and White Oak Trails 2019 to 2020**

