

Table 1. Reliability and Congestion Actual Performance and Targets

Performance Measure	Desired Trend	2026 Target	2026 Actual	2026 Target Met?	2026 Baseline	2028 Target	2030 Target
Interstate Reliability	↑	71%	65%	✗	65%	62%	57%
Non-Interstate Reliability	↑	77%	78%	✓	78%	76%	73%
Truck Travel Time Reliability Index	↓	2.2	1.9	✓	1.9	2.0	2.0
Peak Hour Excessive Delay Houston Urban Area	↓	17.0	17.9	✗	17.9	19.0	20.0
Peak Hour Excessive Delay The Woodlands-Conroe Urban Area	↓	8.0	15.4	✗	15.4	16.0	18.0
Non-Single Occupant Vehicle Travel Houston Urban Area	↑	27.0%	29.3%	✓	29.3%	30.0 %	30.0%
Non-Single Occupant Vehicle Travel The Woodlands-Conroe Urban Area	↑	24.0%	28.3%	✓	28.3%	30.0 %	30.0%

Table 2. Congestion Mitigation Air Quality Actual Performance and Targets

Performance Measure	Desired Trend	2026 Target	2026 Actual	2026 Target Met?	2026 Baseline	2028 Target	2030 Target
Emission Reductions of NO _x (kg/day)	↑	601.465	172.542	✗	195.260	330.710	36.025
Emission Reductions of VOC (kg/day)	↑	172.864	72.432	✗	21.893	369.980	47.281

NO_x = Nitrogen Oxides

VOC = Volatile Organic Compounds

Resolution 2026-23
ATTACHMENT 2

**CMAQ Performance Plan
Baseline Performance Period Report
(2026-2029)**



Houston Galveston Area Council

September 25, 2026

Introduction

The Moving Ahead for Progress in the 21st Century Act in 2012, the Fixing America's Surface Transportation Act in 2015, and the Infrastructure Investment and Jobs Act in 2021 charged metropolitan planning organizations (MPOs) and state departments of transportation with developing performance measure targets to assist the Federal Highway Administration (FHWA) in assessing roadway conditions in a consistent manner and to improve the performance of the National Highway System (NHS). The purpose of this Baseline Performance Period Report is to document the baseline conditions related to transportation projects funded by the Congestion Mitigation and Air Quality Improvement Program (CMAQ) at the Houston Galveston Area Council (HGAC) and to set two- and four-year performance targets for the following three federal measures:

- Peak Hour Excessive Delay (PHED) Measure
- Non-Single Occupancy Vehicle (Non-SOV) Travel Measure
- On-Road Mobile Source Emission Reductions Measure

The two- and four-year targets for 2028 and 2030 established herein were approved by the HGAC Transportation Policy Council with regional stakeholder input and in collaboration with the Texas Department of Transportation (TxDOT), HGAC subcommittees, and other regional MPOs throughout Texas. This report details the methodology and targets set for the four-year performance period from 2026 to 2029, and the analyses of baseline conditions for the performance measures above are documented in the following pages.

Traffic Congestion Measures

The two performance measures that relate to traffic conditions are the PHED and non-SOV travel measures, where PHED measures traffic congestion and non-SOV travel measures the extent to which travelers use transportation modes other than driving alone. Due to regional population distribution, the region is required to undertake target setting analyses for both urban areas within the HGAC region. These two regions are the Houston Urban Area and The Woodlands-Conroe Urban Area.

Peak Hour Excessive Delay (PHED)

Traffic congestion is measured by the annual hours of PHED per capita on the NHS. According to the definitions associated with the PHED measure,¹ *excessive delay* is the additional time spent in congested conditions as characterized by a speed threshold of 20 miles per hour (mph) or 60% of the posted speed limit, whichever is greater, and the *peak period* is defined as weekdays from 6 AM to 10 AM and 3 PM to 7 PM. For example, on a roadway segment with a posted speed limit of 60 mph, the excessive delay would be the time spent driving at or below a speed of 36 mph (i.e., 60% of 60 mph).

The 2026 baseline for the PHED measure in the Houston Urban Area is 17.9 hours, more than four hours higher than the 2022 baseline of 13.5 hours but only one hour above the 2018 baseline. As noted in the Full Performance Period Progress Report² for the second performance period, these baseline values have been influenced by the reduction in vehicle trips during the COVID-19 pandemic and the rebound in vehicle miles traveled (VMT) since then. Additionally, even after adjusting the four-year target upward from 16.0 to 17.0 hours to account for the adverse impacts of rapid regional population growth on excessive delay (e.g., increases in VMT, more roadway construction zones, etc.), the Houston Urban Area was unable to meet the four-year target of 17.0 hours in 2026. Therefore, HGAC chose to set the two- and four-year targets for 2028 and 2030 PHED at 19.0 and 20.0 hours, respectively.

¹ [23 CFR §490.705](#)

² [CMAQ Performance Plan: Full Performance Period Progress Report \(2022-2025\)](#)

Similarly, the 2026 baseline for the PHED measure in The Woodlands-Conroe Urban Area is 15.4 hours, which is nearly double the 2022 baseline of 8.0 hours and an increase of 6.4 hours in PHED between the 2024 and 2026 target years. Although the PHED measure has also increased over the two previous performance periods in the Houston Urban Area, the magnitude of this increase in The Woodlands-Conroe has been much more dramatic. As a result, HGAC chose to set the two- and four-year targets for 2028 and 2030 at 16.0 and 18.0 hours, respectively.

As shown in Table 1, the PHED measure continues to exhibit the opposite of the desired trend, as indicated by the increases between the baseline and target values in both urban areas. When compared to the first and second performance periods, the baselines and targets for the third performance period are the highest overall, which is particularly worth noting since a decrease in PHED indicates improvement.

Table 1. Baseline Condition and Targets for the PHED Measure

Performance Measure: Annual PHED Hours per Capita	2026 Baseline	2028 Target	2030 Target
Houston Urban Area	17.9	19.0	20.0
The Woodlands-Conroe Urban Area	15.4	16.0	18.0

A decreased value indicates improvement.

Non-Single Occupant Vehicle (Non-SOV) Travel

The non-SOV travel measure is computed as the percent of the working population that do not travel alone to work in a car, van, or truck and measures the percentage of commuters who use public transit, ridesharing, bicycling, or telecommuting. Based on federal procedures, three data collection methods are available to calculate this measure. For the current performance period, HGAC selected the method that uses data from the ACS Journey to Work dataset. ACS data is aggregated in five-year bins.

The 2026 baseline non-SOV travel measure for the Houston Urban Area is 29.3%, which accounts for an increase of over 8.0% from the 2022 baseline of 21.4% and illustrates the impact of the COVID-19 pandemic on traffic congestion in the region. Indeed, the percentage of non-SOV travel has been steadily increasing since 2021 in the Houston Urban Area, with carpooling back to pre-pandemic levels and telecommuting doubling between 2022 and 2026. Since non-SOV travel is anticipated to continue increasing, HGAC chose to set both the two- and four-year targets for 2028 and 2030 at 30.0%, reflecting a continued but slowing increase in non-SOV travel in the region after the pandemic.

Similarly, the 2026 baseline non-SOV measure for The Woodlands-Conroe Urban Area is 28.3%, which is higher than the 19.7% observed for the baseline in 2022, the 20.0% two-year target that was set for 2024, and the adjusted four-year target of 24.0% for 2026. While non-SOV travel continues to increase in the urban area, the increase is owed almost entirely to the share of telecommuters more than tripling between 2018 and 2026. Accordingly, both the two- and four-year targets for 2028 and 2030 are 30.0%. While the non-SOV measure could continue to increase beyond this level, setting an achievable target acknowledges, for example, that the slow retreat from telework may cause some commuters to return to the use of an SOV. Specific details about the non-SOV baseline conditions and target setting for the Houston and The Woodlands-Conroe Urban Areas can be found in Table 2.

Table 2. Baseline Condition and Targets for the Non-SOV Travel Measure

Performance Measure: Percent of Non-SOV Travel	2026 Baseline	2028 Target	2030 Target
Houston Urban Area	29.3%	30.0%	30.0%
The Woodlands-Conroe Urban Area	28.3%	30.0%	30.0%

On-Road Mobile Source Emissions Measures

The CMAQ On-Road Mobile Source Emission Reductions measures are the two- and four-year cumulative reported emission reductions for all projects funded with CMAQ funds for the ozone precursors nitrogen oxides (NO_x) and volatile organic compounds (VOC) for the fiscal years of 2026 through 2029. HGAC staff developed an initial estimate of on-road mobile source emission reductions related to CMAQ-funded projects within the HGAC service area using the Transportation Improvement Program (TIP) for federal fiscal years 2026 through 2029. The emission benefits for these projects were then summed in kilograms per day (kg/day) to develop a base estimate of two- and four-year targets before applying a *project delivery success rate* to the base estimate to determine the final two- and four-year targets.

The project delivery success rate was developed by comparing the emission reductions planned in the TIP for the two previous performance period cycles (i.e., 2018 through 2025) with actual emission reductions recorded in the CMAQ Public Access System (PAS) during the same period. Applying this ratio helps to account for challenges in moving programmed TIP projects toward receiving final federal obligation, a problem that has previously resulted in difficulties meeting our regional performance measure goals during the first and second performance period cycles. Project scheduling or letting delays, project cancellations, and project funding changes to non-CMAQ funding sources are some of the challenges that occur most frequently in moving TIP projects toward federal obligation. For this initial estimate, projects in Federal fiscal years 2018 through 2025 with emission reductions in kilograms per day (kg/day) were summed to determine an estimate of the 2026 baseline for the development of two- and four-year performance targets for 2028 and 2030. These baseline and target values can be found in Table 3.

Table 3. Baseline Condition and Targets for the CMAQ Measures

Performance Measure: Emission Reductions	2026 Baseline	2028 Target	2030 Target
NO _x (kg/day)	195.260	330.710	36.025
VOC (kg/day)	21.893	369.980	47.281

Description of CMAQ Projects

HGAC coordinates with local stakeholders to select CMAQ projects for deployment in the Houston-Galveston-Brazoria ozone nonattainment area. These projects are selected to meet the program goals of reducing congestion and/or reducing emissions of ozone precursor pollutants. Emissions estimates for these projects are estimated by HGAC using methodologies developed as part of the Texas Guide to Accepted Mobile Source Emission Reduction Strategies (MOSERS). In cases where no practical MOSERS methodology exists, verified past emission reduction performance is used to create an emissions reduction estimate. The results from these analyses are then uploaded into the CMAQ PAS upon the obligation of funding to projects and are accounted for in the expected emission reduction benefits outlined in Table 4. To simplify reporting, projects are grouped in the table based on general categories HGAC uses to report project types in the TIP.

HGAC is not required to report benefits for pollutants other than NO_x and VOC. As such, Table 4 reports only on these pollutants. Benefits for later years in the reporting period tend to be lower than in earlier years due to regional fleet turnover.

Table 4. Expected Benefits of CMAQ Projects in the Houston-Galveston Region (2026-2029)

Project Type	MPOID	Project Description	Year of Anticipated CMAQ Obligation	NO _x Benefit (kg/day)	VOC Benefit (kg/day)	PHED Benefit	Non-SOV Benefit
Traffic Flow Improvements	17088	Install ITS equipment and infrastructure on FM 1960	2026	0.584	0.701	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	17090	Install Continuous Turn Lane, Milled Edge Line Rumble Strips on SH 288	2026	0.540	1.088	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	17100	New ITS equipment and infrastructure on SS 10	2026	0.01	0.01	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	18020	Install 5G, CCTV, dynamic message signs, and loop detector sensors.	2026	0.700	0.400	Yes – Reduces peak hour delay	No
Bicycle & Pedestrian	18029	Install new shared-use paths where none currently exist.	2026	0.026	0.423	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Transit	18260	Regional Transit Fare Collection System	2026	0.600	0.570	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Traffic Flow Improvements	18404	Install new ITS equipment and infrastructure	2026	0.010	0.020	Yes – Reduces peak hour delay	No
Bicycle & Pedestrian	18501	Install new sidewalks where none currently exist.	2026	0.920	0.210	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Air Quality	18851	Regional Vanpool	2026	70.400	14.530	Yes – Reduces peak hour delay	Yes – increases non-SOV travel

Project Type	MPOID	Project Description	Year of Anticipated CMAQ Obligation	NO _x Benefit (kg/day)	VOC Benefit (kg/day)	PHED Benefit	Non-SOV Benefit
Air Quality	18853	Clean Vehicles Program	2026	395.390	10.790	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Air Quality	18854	Commuter and transit pilot program	2026	31.870	47.710	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Air Quality	19043	Replace 25 diesel buses, acquire five diesel buses for spare fleet, and acquire two diesel buses for new run times on existing route	2026	4.737	0.300	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Traffic Flow Improvements	19184	Install new ITS equipment citywide	2026	0.250	0.100	Yes – Reduces peak hour delay	No
Bicycle & Pedestrian	19191	Construct shared-use path and two bicycle and pedestrian bridges along Brays Bayou on Keegans Trail	2026	0.070	0.070	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Transit	19192	New transit maintenance facility	2026	3.040	1.000	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Air Quality	19238	Replace two Lynchburg Ferry diesel engines with diesel hybrid engines	2026	11.890	0.478	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
2026 Emissions Total (kg/day)				521.033	78.401		

Project Type	MPOID	Project Description	Year of Anticipated CMAQ Obligation	NO _x Benefit (kg/day)	VOC Benefit (kg/day)	PHED Benefit	Non-SOV Benefit
Transit	15549	Expansion of Northline Transit Center	2027	0.050	0.010	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Air Quality	17138	Ride matching and travel demand management software and outreach	2027	106.510	22.000	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Traffic Flow Improvements	18035	Signal timing, intersection and turn-lane improvements on SL 8 frontage road	2027	4.500	1.800	Yes – Reduces peak hour delay	No
Transit	18924	Park & Ride lease near SH 6 and Fort Bend Pkwy toll road	2027	3.040	1.000	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Traffic Flow Improvements	19020	Construct dual left-turn lanes from SH 146 NB to IH 10 EB	2027	0.160	0.060	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	19069	Install new ITS equipment in Missouri City	2027	0.468	0.189	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	19182	Install dual left-turn lanes and right-turn lane at Pearland Pkwy and Barry Rose-Hughes	2027	0.425	0.172	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	19237	Add new fiber connections to non-connected intersections	2027	1.730	0.530	Yes – Reduces peak hour delay	No

Project Type	MPOID	Project Description	Year of Anticipated CMAQ Obligation	NO _x Benefit (kg/day)	VOC Benefit (kg/day)	PHED Benefit	Non-SOV Benefit
Traffic Flow Improvements	19339	Construct new traffic signal at Seawall Blvd and 33 rd St	2027	0.032	0.006	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	19361	Construct Traffic Management Center for City of Mont Belvieu	2027	0.250	0.220	Yes – Reduces peak hour delay	No
2027 Emissions Total (kg/day)				117.165	25.987		

Project	MPOID	Project Description	Year of Anticipated CMAQ Obligation	NO _x Benefit (kg/day)	VOC Benefit (kg/day)	PHED Benefit	Non-SOV Benefit
Bicycle & Pedestrian	155	Install new sidewalks and shared-use paths, and new transit assets	2028	0.014	0.158	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Bicycle & Pedestrian	10132	Install new shared-use paths	2028	0.067	0.070	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Bicycle & Pedestrian	10133	Install new shared-use paths	2028	0.128	0.131	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Traffic Flow Improvements	17062	Construct new wireless traffic signal communication system	2028	1.750	0.430	Yes – Reduces peak hour delay	No
2028 Emissions Total (kg/day)				1.959	0.789		

Project	MPOID	Project Description	Year of Anticipated CMAQ Obligation	NO _x Benefit (kg/day)	VOC Benefit (kg/day)	PHED Benefit	Non-SOV Benefit
Traffic Flow Improvements	10334	Two managed lanes	2029	0.055	0.001	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	13864	Two managed lanes	2029	0.006	0.041	Yes – Reduces peak hour delay	No
Air Quality	15310	Regional Vanpool promotional activities	2029	70.400	14.530	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
Traffic Flow Improvements	17041	Construct ramp providing access to US 290 HOV/HOT	2029	2.350	16.970	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	17045	Install new ITS equipment on FM 2920	2029	0.070	0.020	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	17067	Construct RR underpass at Navigation and Commerce and close at-grade crossings	2029	0.880	0.210	Yes – Reduces peak hour delay	No
Traffic Flow Improvements	17112	Construct grade separation on Gessner over Westheimer	2029	0.012	0.011	Yes – Reduces peak hour delay	No
Bicycle & Pedestrian	19173	Install new sidewalks where none exist	2029	0.050	0.045	Yes – Reduces peak hour delay	Yes – increases non-SOV travel
2029 Emissions Total (kg/day)				73.823	31.828		