Transportation Emission Reduction Plan (TERP)

87th Legislature, House Bill 4472
Transportation Planning and Programming Division
September 20, 2024

Texas Department of Transportation

Background

House Bill 4472 from the 87th legislative session included new provisions to expand projects eligible for funding under the Texas Emissions Reduction Plan (TERP), revised allocations from the TERP fund and account, and made other changes to TERP programs. House Bill 4472 amended the Health and Safety Code to require the Texas Commission on Environmental Quality (TCEQ) and the Comptroller of Public Accounts, under TERP, to provide funding for remittance of funds to the state highway fund for use by the Texas Department of Transportation (TxDOT) for congestion mitigation and air quality improvement projects in nonattainment areas and affected counties. This change became effective September 1, 2021.

Sec. 386.057. HEALTH AND SAFETY CODE is amended by adding Subsection (e) to read as follows: (e) Not later than October 1 of each year, the Texas Department of Transportation shall report to the commission the following information for all congestion mitigation and air quality improvement projects in nonattainment areas and affected counties that are planned to be funded, or received initial funding during the preceding 10 years, from money received by the department under this chapter:

1. *projects to mitigate congestion and improve air quality that are currently planned;*
2. *projects to mitigate congestion and improve air quality that have been completed;*
3. *estimated emissions reductions for all planned and completed congestion mitigation projects; and*
4. *estimated cost per ton analysis of reduced emissions of nitrogen oxides, particulate matter, or volatile organic compounds for each congestion mitigation project planned or completed.*

Fiscal Year 2024

During fiscal year 2024, $101,507,599 was transferred from the TERP Fund to the credit of the state highway fund for use by TxDOT on projects to mitigate congestion and improve air quality in non-attainment areas.

From the pool of eligible projects, the full TERP balance was applied to the construction costs of 15 projects in the Austin, Corpus Christi, El Paso, Houston, and San Antonio TxDOT Districts. See Table 1 for project information and details on emission reduction and cost-effectiveness estimates for each project.

Fiscal Year 2024 is the third year that funding from TERP was made available to TxDOT for congestion mitigation and air quality improvement projects. These projects have been funded by other categories established in the Unified Transportation Program (UTP) in previous years.

Table 1: Emission Reduction and Cost-Effectiveness Estimates for projects funded by TERP (FY 2024)

Control Section Job	Project Description	TERP Funds	Analysis Description No Build/Build Scenarios	Project Limits	AADT (Vol/Day)	Emissions Reduced (tons/day)			Projects' Emission Reduction Cost-Effectiveness (dollar/ton)		
						NOx	VOC	PM10	NOx	VOC	PM10
0683-04-022	Rehabilitation of Existing Road – Add Shoulders and Center Turn Lane	$5,736,524.88	The analysis consists of calculating the emission by determining the difference in average traffic delay before and after the added center turn lane.	RM 3238 from RM 12 to SH 71	18,986	0.0000547	0.000005199	0.000001085	$19,979,524	$210,229,064	$1,007,373,477
1557-01-043	Add left turn bays and overlay	$5,571,206.74	The analysis consists of calculating the emission by determining the difference in average traffic delay before and after the added turn bay and overlay.	FM 43 from 4-way stop at FM 665 to W of CR 49	5,757	0.00001614	0.000001586	0.000000301	$53,509,319	$544,740,601	$2,869,299,422
0009-12-219	Ramp revisions, intersection operation improvements, and converting frontage roads to one-way	$16,527,014.11	The emission benefits were based off reduction in idling emissions from reduced on-road delays. The traffic data were collected from TxDOT's Traffic Count Database (TCDS).	IH 30 from SH 205 to West of FM 2642 (Hunt C/L)	84,303 - Mainlanes 21,496 - Frontage Roads	0.0003132	0.00003302	0.000006587	$148,903,604	$1,412,111,710	$7,079,237,125
2964-10-009	Construct 0 TO 2 lane frontage roads (Ultimate 6) including ITS, sidewalks, and turn lanes	$8,823,318.54	The analysis consists of two parts: 1. Traffic Delay Emission: This can be calculated by determining the difference in average traffic delay before and after the intersection and signal improvements. 2. Trip Shift Emission: This can be calculated using the MOSERS Bicycle and Pedestrian Programs Strategy.	SL 9 from Ellis / Dallas County Line to IH 45	3,138	0.0006785	0.0005359	0.0002692	$5,002,341	$6,333,295	$12,608,647
3451-01-040	The operational improv consist of left and right turn lanes, directional islands and medians, and traffic signal improvements	$5,000,000.00	The analysis consists of calculating the emission by determining the difference in average traffic delay before and after the turning lane and intersection improvements.	FM 1281 at Horizon Blvd at Darrington Intersection	26,171	0.0001372	0.00001253	0.00000247	$7,044,158	$77,159,298	$391,391,254

Control Section Job	Project Description	TERP Funds	Analysis Description No Build/Build Scenarios	Project Limits	AADT (Vol/Day)	Emissions Reduced (tons/day)			Projects' Emission Reduction Cost-Effectiveness (dollar/ton)		
						NOx	VOC	PM10	NOx	VOC	PM10
3538-01-034	Multiple intersection improvements, shoulder improvements, and drainage improvements	$9,910,681.89	The analysis consists of calculating the emission by determining the difference in average traffic delay before and after the added left-turn and right-turn lanes.	SH 242 from FM 1488 to IH 45	25,950	0.0007966	0.00008017	0.00001612	$8,114,884	$80,636,508	$401,122,001
1259-01-044	Reconstruct and widen from 2 to 4 lanes with continuous left turn lane	$9,301,771.83	Emissions benefits are based on expected reductions in idling emissions from reduced on-road delays. The traffic data were collected from TxDOT's Traffic Count Database (TCDS).	FM 1097 from west of Blueberry Hills Rd. to Lake Conroe Hills Dr.	11,280	0.00003083	0.000003102	6.236E-07	$87,485,680	$869,333,436	$4,324,452,724
1685-01-092	Intersection improvements and approaches to add raised median, dual left and right turn lanes and bicycle/pedestrian accommodations	$8,258,222.42	The analysis consists of two parts: 1. Traffic Delay Emission: This can be calculated by determining the difference in average traffic delay before and after the intersection change. 2. Trip Shift Emission: This can be calculated using the MOSERS Bicycle and Pedestrian Programs Strategy."	FM 1960 at Eldridge Parkway	54,183	0.0005881	0.000295	0.00002781	$4,183,958	$8,340,833	$88,464,170
0111-03-059	Reconstruct and widen to 4 lanes with raised medians, intersection improvements, signal improvements & ped access	$5,826,810.23	The analysis consists of two parts: 1. Traffic Delay Emission: This can be calculated by determining the difference in average traffic delay before and after the intersection and signal improvements. 2. Trip Shift Emission: This can be calculated using the MOSERS Bicycle and Pedestrian Programs Strategy.	FM 521 from SH 6 to FM 2234	17,417	0.0006469	0.000385	0.000144	$21,298,172	$35,785,685	$95,676,400
0912-73-223	Pedestrian, Sidewalks & Curb Ramps - Reconstruction of sidewalks- Statewide Curb Ramp Program	$3,676,253.77	The analysis consists of calculating the emission reduction by using the MOSERS Bicycle and Pedestrian Programs Strategy.	Various locations in Dickinson & Texas City on SH 3, FM 517 & FM 1765	N/A	0.000461	0.00029	0.000036	$1,550,890	$2,464,187	$19,665,311

Control Section Job	Project Description	TERP Funds	Analysis Description No Build/Build Scenarios	Project Limits	AADT (Vol/Day)	Emissions Reduced (tons/day)			Projects' Emission Reduction Cost-Effectiveness (dollar/ton)		
						NOx	VOC	PM10	NOx	VOC	PM10
0111-08-124	Pavement repair, diamond grinding, mill, 1.5 inch overlay and add sidewalks	$1,197,202.46	The analysis consists of calculating the emission reduction by using the MOSERS Bicycle and Pedestrian Programs Strategy.	SH 288 from 2nd Street to SH 36	N/A	0.000475	0.000301	0.000052	$554,812	$874,751	$5,086,957
0253-04-138	Expand to 6 lane expressway with frontage roads -4 general purpose & 2 HOV lanes	$8,709,288.00	The no-build scenario is a four-lane freeway, and the build scenario considers a six-lane freeway with two HOV lanes. Emission benefits calculated for HOV-lane (decrease in single occupancy vehicle trips) and speed improvements in general purpose (GP) lanes.	US 281 from Loop 1604 to Bexar/Comal County Line	90,245	0.037	0.007	0.007	$615	$3,089	$3,365
2452-03-113	Expand from 4 to 10 lane expressway - including 2 HOV - special use lanes & from 4 to 4 FR lanes. Intersection operational improvements including turnarounds.	$5,145,667.74	The analysis consists of two parts: 1. Traffic Delay Emission: This can be calculated by determining the difference in average traffic delay before and after the intersection and signal improvements. 2. On-road emission reduction: This can be calculated using the MOSERS HOV Facilities Strategy.	SL 1604 from US 281 to Redland Rd.	107,904	0.001754	0.000997	0.00003568	$8,965,753	$15,773,592	$440,778,174
1268-01-013	Expand from 2 to 4 lanes with medians, turn lanes, sidewalk and bike lanes	$4,110,504.76	The analysis consists of two parts: 1. Traffic Delay Emission: This can be calculated by determining the difference in average traffic delay before and after the intersection and signal improvements. 2. Trip Shift Emission: This can be calculated using the MOSERS Bicycle and Pedestrian Programs Strategy.	FM 1103 from IH 35 to Guadalupe C/L	14,141	0.0005095	0.0003201	0.00001979	$763,828	$1,215,516	$19,661,945
0016-05-120	Intersection operational improvements including turn lanes	$3,713,131.94	The analysis consists of calculating the emission by determining the difference in average traffic delay before and after the turning lane, direction islands, and traffic signal improvements.	IH 35 at FM 725	21,678	0.00006537	0.000007234	0.000001381	$13,187,604	$119,157,785	$624,063,261