

**Attachment A:
Air Quality Emissions Calculations and
FTA Greenhouse Gas (GHG) Emissions Calculator Results**

Existing Conditions (2022) Estimated Air Emission Calculations

Table 1: 2022 Existing Conditions Estimated Regional Vehicles Miles Traveled (VMT)

2022 Existing Conditions VMT and Unit Conversion Factors	
System Linked trips	N/A
System Unlinked trips	N/A
Project total trips	N/A
Change in passenger miles traveled (miles)	N/A
Average vehicle occupancy	1.1
2022 Existing Daily Vehicle Miles Traveled (VMT) (miles)	61,958,037.28
2022 Existing Annual VMT (miles)	20,136,362,114.70
Annualization Factor (days)	325.00
Gram (1g) to Pound (lbs)	0.0022046
Gram (1g) to Metric Ton	0.0000010

Sources: 2022 Roadway Inventory Annual Reports (txdot.gov) and 2045-RTP-Summer-Update.pdf (campotexas.org)

Notes: VMT in the region would be expected to increase 127% from the 2022 (about 62 million VMT) to 2045 No-Build (about 140 million VMT). Data are based on CAMPO Travel Demand Model for year 2045 forecast and TXDOT, Roadway Inventory Annual Report of year 2022. Region includes 6 county of Travis, Burnet, Williamson, Hays, Bastrop, Caldwell. Travis county VMT is about 50% of the region VMT.

Table 2: Existing Conditions (2022) Estimated Daily and Annual Emissions in Pounds and Metric Tons (based on existing VMT)

Pollutant	Grams per Mile	Daily Emissions in Pounds	Annual Emissions in Pounds	Daily Emissions in Metric Tons	Annual Emissions in Metric Tons
*Volatile Organic Compounds (VOCs)	0.22	29,914.07	9,722,072.84	13.57	9.00
Exhaust CO	2.54	347,494.95	112,935,859.79	157.62	51,226.91
Exhaust NOx	0.24	32,919.14	10,698,719.42	14.93	4,852.86
Exhaust PM _{2.5}	0.01	682.97	221,965.13	0.31	100.68
Brake Wear PM _{2.5}	0.00	409.78	133,179.08	0.19	60.41
Tire Wear PM _{2.5}	0.00	273.19	88,786.05	0.12	40.27
Total PM_{2.5}	0.01	1,365.94	443,930.27	0.62	201.36
**Exhaust CO₂	480.59	65,645,266.14	21,334,711,496.39	29,776.23	9,677,273.86
***EPA CO_{2e}	391.00	53,408,225.90	17,357,673,418.32	24,225.59	7,873,317.59
Energy Consumption (Btu/mile)	0.01	819.56	266,358.16	0.37	120.82

Sources: U.S. Bureau of Transportation Statistics Table 4-43 and U.S. Environmental Protection Agency, Office of Transportation and Air Quality Oct. 13, 2023.

Notes:

- Average Emissions calculated using BTS 2030 Estimated National Average Vehicle Emissions Rates per Vehicle by Vehicle Type
- *Volatile Organic Compounds (VOCs) are represented by Total Hydrocarbons (HC) and include exhaust and evaporative emissions.
- **Exhaust CO₂ emission factor of 480.59 grams per mile is provided by the US Bureau of Transportation Statistics Table 4-43
- ***EPA CO_{2e} emission factor of 391 grams per mile is provided by the U.S. Environmental Protection Agency
- Equation: 8.89×10^{-3} metric tons CO₂/gallon gasoline \times 1/22.9 miles per gallon car/truck average \times 1 CO₂ or [CH₄] or [N₂O/0.993]
- CO₂ conversion to metric tons = 3.91×10^{-4} metric tons CO_{2e}/mile
- For electric vehicles, total HC and exhaust CO, NOx, PM_{2.5} and CO₂ g/mile values are zero
- Btu = British thermal unit;
- CO = carbon monoxide;
- CO₂ = carbon dioxide;
- HC=hydrocarbons;
- NOx= nitrogen oxides;
- PM_{2.5} = particulate matter with diameter \leq 2.5 micrometers;
- Estimates are by calendar year. Vehicle types are defined as follows: light-duty vehicles (passenger cars); light-duty trucks (two axle, four tire); buses (school, transit and other); heavy-duty vehicles (trucks with more than two axles or four tires); motorcycle (highway only).
- Emissions factors are averages based on the national average age distributions, vehicle activity (speeds, operating modes, vehicle-miles traveled fractions, starts and idling), temperatures, humidity, inspection/maintenance and antitampering programs, and average gasoline fuel properties in that calendar year.
- Gasoline-electric hybrids are accounted for in the values for gasoline vehicles.
- BTS Table 4-43 was generated using MOVES4, the U.S. Environmental Protection Agency's mobile source emissions factor model. More information on MOVES is available at /www.epa.gov/moves.

2045 No Build Alternative Estimated Air Emission Calculations

Table 3: 2045 No Build Alternative Vehicle Miles Traveled Summary Data

2045 No Build Alternative STOPS data and Conversion Factors	
System Linked trips	109,200.00
System Unlinked trips	151,000.00
Project total trips	N/A
Change in passenger miles traveled	N/A
Average vehicle occupancy	1.1
2045 No Build Daily VMT (miles)	141,074,241.89
2045 No Build Annual VMT (miles)	45,849,128,613.11
Annualization Factor (days)	325.00
Gram (1g) to Pound (lbs.)	0.0022046
Gram (1g) to Metric Ton	0.0000010

Sources: 2022 Roadway Inventory Annual Reports (txdot.gov) and 2045-RTP-Summer-Update.pdf (campotexas.org)

Notes: VMT in the region would be expected to increase 127% from the 2022 (about 62 million VMT) to 2045 No-Build (about 140 million VMT). Data are based on CAMPO Travel Demand Model for year 2045 forecast and TXDOT, Roadway Inventory Annual Report of year 2022. Region includes 6 county of Travis, Burnet, Williamson, Hays, Bastrop, Caldwell. Travis county VMT is about 50% of the region VMT.

Table 4: 2045 No Build Alternative Estimated Daily and Annual Emissions in Pounds and Metric Tons based on 2045 No Build VMT

Pollutant	Grams per Mile	Daily Emissions in Pounds	Annual Emissions in Pounds	Daily Emissions in Metric Tons	Annual Emissions in Metric Tons
*Volatile Organic Compounds (VOCs)	0.22	68,112.31	22,136,499.40	30.90	10,040.96
Exhaust CO	2.54	791,222.40	257,147,280.67	358.89	116,640.18
Exhaust NOx	0.24	74,954.64	24,360,257.33	34.00	11,049.64
Exhaust PM _{2.5}	0.01	1,555.08	505,399.53	0.71	229.25
Brake Wear PM _{2.5}	0.00	933.05	303,239.72	0.42	137.55
Tire Wear PM _{2.5}	0.00	622.03	202,159.81	0.28	91.70
Total PM_{2.5}	0.01	3,110.15	1,010,799.06	1.41	458.49
**Exhaust CO₂	480.59	149,469,811.53	48,577,688,747.83	67,798.45	22,034,495.17
***EPA CO_{2e}	391.00	121,606,902.20	39,522,243,215.91	55,160.03	17,927,009.29
Energy Consumption (Btu/mile)	0.01	1,866.09	606,479.44	0.85	275.09

Sources: U.S. Bureau of Transportation Statistics Table 4-43 and U.S. Environmental Protection Agency, Office of Transportation and Air Quality Oct. 13, 2023.

Notes:

- Average Emissions calculated using BTS 2030 Estimated National Average Vehicle Emissions Rates per Vehicle by Vehicle Type
- *Volatile Organic Compounds (VOCs) are represented by Total Hydrocarbons (HC) and include exhaust and evaporative emissions.
- **Exhaust CO₂ emission factor of 480.59 grams per mile is provided by the US Bureau of Transportation Statistics Table 4-43
- ***EPA CO_{2e} emission factor of 391 grams per mile is provided by the U.S. Environmental Protection Agency
- Equation: 8.89×10^{-3} metric tons CO₂/gallon gasoline \times 1/22.9 miles per gallon car/truck average \times 1 CO₂ or [CH₄] or [N₂O/0.993]
- CO₂ conversion to metric tons = 3.91×10^{-4} metric tons CO_{2e}/mile
- For electric vehicles, total HC and exhaust CO, NOx, PM_{2.5} and CO₂ g/mile values are zero
- Btu = British thermal unit;
- CO = carbon monoxide;
- CO₂ = carbon dioxide;
- HC=hydrocarbons;
- NOx= nitrogen oxides;
- PM_{2.5}= particulate matter with diameter \leq 2.5 micrometers;
- Estimates are by calendar year. Vehicle types are defined as follows: light-duty vehicles (passenger cars); light-duty trucks (two axle, four tire); buses (school, transit and other); heavy-duty vehicles (trucks with more than two axles or four tires); motorcycle (highway only).
- Emissions factors are averages based on the national average age distributions, vehicle activity (speeds, operating modes, vehicle-miles traveled fractions, starts and idling), temperatures, humidity, inspection/maintenance and antitampering programs, and average gasoline fuel properties in that calendar year.
- Gasoline-electric hybrids are accounted for in the values for gasoline vehicles.
- BTS Table 4-43 was generated using MOVES4, the U.S. Environmental Protection Agency's mobile source emissions factor model. More information on MOVES is available at /www.epa.gov/moves.

2045 Build Alternative Estimated Air Emission Calculations

Table 5: 2045 Build Alternative STOPS Model Output Summary Data

2045 Build Alternative STOPS data and Conversion Factors	
System Linked trips	121,700.00
System Unlinked trips	168,100.00
New Transit Trips	12,540.00
Project total trips	28,500.00
Change in passenger miles traveled	68,200.00
Average vehicle occupancy	1.1
2045 Build Alternative Daily VMT (miles)	141,012,276.89
2045 Build Alternative Annual VMT (miles)	45,828,989,988.11
Annualization Factor (days)	325.00
Gram (1g) to Pound (lbs.)	0.00
Gram (1g) to Metric Ton	0.00
Daily Change/Reduction in VMT	61,965.00
Annual Change/Reduction in VMT	20,138,625.00

Sources: STOPS Model, 2022 Roadway Inventory Annual Reports (txdot.gov) and 2045-RTP-Summer-Update.pdf (campotexas.org)

Notes: VMT in the region would be expected to increase 127% from the 2022 (about 62 million VMT) to 2045 No-Build (about 140 million VMT). Data are based on CAMPO Travel Demand Model for year 2045 forecast and TXDOT, Roadway Inventory Annual Report of year 2022. Region includes 6 county of Travis, Burnet, Williamson, Hays, Bastrop, Caldwell. Travis county VMT is about 50% of the region VMT.

Table 6: 2045 Build Alternative Estimated Daily and Annual Emissions in Pounds and Metric Tons based on 2045 Build VMT

Pollutant	Grams per Mile	Daily Emissions in Pounds	Annual Emissions in Pounds	Daily Emissions in Metric Tons	Annual Emissions in Metric Tons
*Volatile Organic Compounds (VOCs)	0.22	68,082.39	22,126,776.23	30.88	10,036.55
Exhaust CO	2.54	790,874.87	257,034,332.12	358.74	116,588.95
Exhaust NOx	0.24	74,921.72	24,349,557.41	33.98	11,044.79
Exhaust PM _{2.5}	0.01	1,554.39	505,177.54	0.71	229.14
Brake Wear PM _{2.5}	0.00	932.64	303,106.52	0.42	137.49
Tire Wear PM _{2.5}	0.00	621.76	202,071.02	0.28	91.66
Total PM_{2.5}	0.01	3,108.78	1,010,355.08	1.41	458.29
**Exhaust CO₂	480.59	149,404,158.89	48,556,351,638.78	67,768.67	22,024,816.81
***EPA CO_{2e}	391.00	121,553,487.97	39,504,883,591.87	55,135.80	17,919,135.09
Energy Consumption (Btu/mile)	0.01	1,865.27	606,213.05	0.85	274.97

Sources: U.S. Bureau of Transportation Statistics Table 4-43 and U.S. Environmental Protection Agency, Office of Transportation and Air Quality Oct. 13, 2023.

Notes:

- Average Emissions calculated using BTS 2030 Estimated National Average Vehicle Emissions Rates per Vehicle by Vehicle Type
- *Volatile Organic Compounds (VOCs) are represented by Total Hydrocarbons (HC) and include exhaust and evaporative emissions.
- **Exhaust CO₂ emission factor of 480.59 grams per mile is provided by the US Bureau of Transportation Statistics Table 4-43
- ***EPA CO_{2e} emission factor of 391 grams per mile is provided by the U.S. Environmental Protection Agency
- Equation: 8.89×10^{-3} metric tons CO₂/gallon gasoline \times 1/22.9 miles per gallon car/truck average \times 1 CO₂ or [CH₄] or [N₂O/0.993]
- CO₂ conversion to metric tons = 3.91×10^{-4} metric tons CO_{2e}/mile
- For electric vehicles, total HC and exhaust CO, NOx, PM_{2.5} and CO₂ g/mile values are zero
- Btu = British thermal unit;
- CO = carbon monoxide;
- CO₂ = carbon dioxide;
- HC=hydrocarbons;
- NOx= nitrogen oxides;
- PM_{2.5} = particulate matter with diameter \leq 2.5 micrometers;
- Estimates are by calendar year. Vehicle types are defined as follows: light-duty vehicles (passenger cars); light-duty trucks (two axle, four tire); buses (school, transit and other); heavy-duty vehicles (trucks with more than two axles or four tires); motorcycle (highway only).
- Emissions factors are averages based on the national average age distributions, vehicle activity (speeds, operating modes, vehicle-miles traveled fractions, starts and idling), temperatures, humidity, inspection/maintenance and antitampering programs, and average gasoline fuel properties in that calendar year.
- Gasoline-electric hybrids are accounted for in the values for gasoline vehicles.
- BTS Table 4-43 was generated using MOVES4, the U.S. Environmental Protection Agency's mobile source emissions factor model. More information on MOVES is available at www.epa.gov/moves.

Comparison of 2045 No Build and Build Alternative: Estimated Air Emission Calculations Based on 2045 Change in Vehicle Miles Traveled

This section summarizes the comparison of the 2045 Build and No Build Alternatives STOPS data and the estimated air emissions associated with the difference between the 2045 Build and No Build VMT

Table 7: Comparison of 2045 Build and No Build Alternatives STOPS Model Output Summary Data and Conversion Factors

STOPS Model Metrics	2045 No Build Alternative	2045 Build Alternative	Difference between 2045 Build and No Build Alternatives
System Linked trips	109,200.00	121,700.00	12,500.00
System Unlinked trips	151,000.00	168,100.00	17,100.00
New Transit Trips	N/A	12,540.00	12,540.00
Project total trips	N/A	28,500.00	28,500.00
Change in passenger miles traveled	N/A	68,200.00	68,200.00
Average vehicle occupancy	1 .1	1 .1	1 .1
Daily VMT (miles)	141,074,241.89	141,012,276.89	-61,965.00
Annual VMT (miles)	45,849,128,613.11	45,828,989,988.11	-20,138,625.00
Annualization Factor (days)	325.00	325.00	325.00
Gram (1g) to Pound (lbs.)	0.0022046	0.0022046	0.0022046
Gram (1g) to Metric Ton	0.0000010	0.0000010	0.0000010

Sources: STOPS Model, U.S. Bureau of Transportation Statistics Table 4-43 and U.S. Environmental Protection Agency, Office of Transportation and Air Quality Oct. 13, 2023.

Table 8: Summary of Comparison of 2045 Build and No Build Alternatives Air Emissions in Pounds

Pollutant	Emission Factor (grams per mile)	2045 No Build Annual Emissions (Pounds)	2045 Build Annual Emissions (Pounds)	Difference between 2045 Build and No Build Alternatives (Pounds)
VOCs	0.22	22,136,499.40	22,126,776.23	-9,723.17
CO	2.54	257,147,280.67	257,034,332.12	-112,948.55
NO _x	0.24	24,360,257.33	24,349,557.41	-10,699.92
Total PM _{2.5}	0.01	1,010,799.06	1,010,355.08	-443.98
***EPA CO_{2e}	391.00	39,522,243,215.91	39,504,883,591.87	-17,359,624.04

Sources: STOPS Model, U.S. Bureau of Transportation Statistics Table 4-43 and U.S. Environmental Protection Agency, Office of Transportation and Air Quality Oct. 13, 2023.

Notes:

- Average Emissions calculated using BTS 2030 Estimated National Average Vehicle Emissions Rates per Vehicle by Vehicle Type
- *Volatile Organic Compounds (VOCs) are represented by Total Hydrocarbons (HC) and include exhaust and evaporative emissions.
- **Exhaust CO₂ emission factor of 480.59 grams per mile is provided by the US Bureau of Transportation Statistics Table 4-43
- ***EPA CO_{2e} emission factor of 391 grams per mile is provided by the U.S. Environmental Protection Agency
- Volatile organic compound emission rates are equal to total hydrocarbons in Table 4-43 (Bureau of Transportation Statistics 2023); Total hydrocarbons includes exhaust and evaporative emissions.
- Calculation for daily pollutant reductions in pounds = Emission Factor in grams per mile x 61,965 daily VMT x 0.002205 pounds/ per gram. For example, daily reduction of volatile organic compounds in pounds = 0.219 grams per mile x 61,965 daily VMT x 0.002205 pounds per gram = 29.92 pounds per day
- Calculation for annual pollutant reduction in pounds = Emission Factor in grams per mile x 20,138,625 annual VMT x 0.002205 pounds/ per gram. For example, annual volatile organic compounds = 0.219 grams per mile x 20,138,625 daily VMT x 0.002205 pounds/ per gram = 9,723.17 pounds per year
- Calculation for carbon monoxide = 2.544 grams per mile x 61,965 daily VMT x 0.002205 pounds per gram = 347.53 pounds per day
- Calculation for nitrogen oxides = 0.241 grams per mile x 61,965 daily VMT x 0.002205 pounds per gram = 32.92 pounds per day
- Total PM_{2.5} includes Exhaust PM_{2.5} = 0.005 grams per mile, 0. 683 pounds per day, 221.99 pounds per year; Brake Wear PM_{2.5} = 0.003 grams per mile, 0.410 pounds per day, 133.19 pounds per year; and Tire Wear PM_{2.5} = 0.002 grams per mile, 0. 273 pounds per day, 88.79 pounds per year
- Calculation for Total PM_{2.5} = 0.010 grams per mile x 61,965 daily VMT x 0.002205 pounds per gram = 1.37 pounds per day, 443.98 pounds per year.

Table 9: Summary of Comparison of 2045 Build and No Build Alternatives Air Emissions in Metric Tons

Pollutant	Emission Factor (grams per mile)	2045 No Build Annual Emissions (Metric Ton)	2045 Build Annual Emissions (Metric Ton)	Difference between 2045 Build and No Build Alternatives (Metric Ton)
VOCs	0.22	10,040.96	10,036.55	-4.41
CO	2.54	116,640.18	116,588.95	-51.23
NO _x	0.24	11,049.64	11,044.79	-4.85
Total PM _{2.5}	0.01	458.49	458.29	-0.20
***EPA CO_{2e}	391.00	17,927,009.29	17,919,135.09	-7,874.20

Sources: STOPS Model, U.S. Bureau of Transportation Statistics Table 4-43 and U.S. Environmental Protection Agency, Office of Transportation and Air Quality Oct. 13, 2023.

Table 10: Estimated Upstream, Downstream, and Net GHG Emissions for the 2045 Build Alternative

Pollutant	Annual VMT Reduction in Miles	Annual Upstream GHG Emissions in MTCO _{2e}	Annual Downstream GHG Emissions in MTCO _{2e}	Net GHG Emissions in MTCO _{2e}
2045 Build Alternative	20,138,625	3,103	(4,164)	(1,061)

Source: FTA Transit Greenhouse Gas Emissions Estimator.

Note: GHG = greenhouse gases; MTCO_{2e} = metric tons of carbon dioxide equivalent

Welcome to the FTA's Transit Greenhouse Gas Emissions Estimator, version 3.0

OVERVIEW

The Federal Transit Administration's (FTA's) Transit Greenhouse Gas (GHG) Emissions Estimator v3.0 is a spreadsheet tool that allows users to estimate the partial lifecycle GHG emissions and energy use associated with the construction, operations, and maintenance phases of projects across select transit modes. Users input general information about a project, and the tool calculates annual GHG emissions and energy use by project phase. Total annual GHG emissions for a transit project is the sum of amortized construction emissions, annual maintenance emissions, and annual operations emissions, minus annual displaced emissions. The tool also calculates the total GHG emissions and energy use by project phase over the analysis period selected.

The Estimator was developed in connection with FTA's Greenhouse Gas Emissions from Transit Projects Programmatic Assessment (2016). Although the tool lacks the precision that may be attainable by using more complex emission models or route-specific ridership estimates, it provides a resource to generate coarse but informative estimates of GHG emissions and energy use for a broad range of transit projects. In no case is the use of this tool mandatory, and transit agencies should work with FTA Regions to determine whether to conduct project-specific analyses of GHG emissions and the best approach for doing so.

NAVIGATING THE TOOL

The tool asks users to enter information associated with four different elements of a project - Construction; Facility Operations; Vehicle Operations and Maintenance, and Displaced Emissions. Users can navigate to the different data input screens using the buttons on the main calculator page or by clicking the individual tabs. To begin, click the "GHG Calculator" tab.

ADDITIONAL INFORMATION

Refer to the accompanying user guide for detailed instructions on how to use the tool, as well as information about the GHG emissions factors, data sources, and assumptions used in the tool. The User Guide is available on the FTA Environmental Programs website.

FTA's TRANSIT GREENHOUSE GAS EMISSIONS ESTIMATOR

The tables below summarize the construction, facility operations, vehicle operations and maintenance, and displaced emissions inputs for the project. Users can navigate to the different data input screens using the associated buttons. Once the inputs are added, scroll to the Results section below to view results.

1. Select State	TX	2. Enter Analysis Period (years)	50
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Calculate Results

Construction Information

Structured Parking Spots	<input type="text" value="300"/>	Transit Mode:	Underground	Miles of New Track/Alignment			Miles of Converted or Upgraded Track/Alignment	Number of Stations		
			Elevated	At-Grade	Catenary	Underground	Elevated	At-Grade		
Surface Parking Lot Spots	<input type="text" value="300"/>	Light Rail or Streetcar		1.08	10.00	12.00				15
Trees Removed	<input type="text" value="50"/>									

Facility Operations Information

Transit Mode	Building Type	Facility Square Footage
Light Rail or Streetcar	Maintenance/Storage Facility	298,510.00
Light Rail or Streetcar	Station	3,675.00
Light Rail or Streetcar	Station	3,675.00
Light Rail or Streetcar	Station	3,675.00
Light Rail or Streetcar	Station	3,675.00

Vehicle Operations & Maintenance Information

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Light Rail or Streetcar	Electric	ERCT	854,685

Displaced VMT

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Sedan/Auto	Gas		20,138,625

RESULTS

Calculate Results

Summary Results

GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Annual	3,103	-4,164	-1,061
Total Analysis Period	155,134	-208,209	-53,074

Energy Use (mmBTU)

	Upstream	Downstream	Total
Annual	-3,460	-65,525	-68,985
Total Analysis Period	-172,988	-3,276,248	-3,449,237

Detailed Results

GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	2,123	96	2,218
Transitway Maintenance	0	49	49
Facility Operations	0	2,327	2,327
Vehicle Operations	2,551	0	2,551
Vehicle Maintenance	0	10	10
Displaced Emissions	1,571	6,646	8,217
Cumulative Emissions	3,103	-4,164	-1,061

Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	9,794	549	10,344
Transitway Maintenance	0	498	498
Facility Operations	0	18,743	18,743
Vehicle Operations	1,085	1,059	2,144
Vehicle Maintenance	0	0	0
Displaced Emissions	14,339	86,375	100,713
Cumulative Emissions	-3,460	-65,525	-68,985

Annual Results

GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	106,148	4,777	110,925
Transitway Maintenance	0	2,448	2,448
Facility Operations	0	116,341	116,341
Vehicle Operations	127,527	0	127,527
Vehicle Maintenance	0	513	513
Displaced Emissions	78,541	332,287	410,828
Cumulative Emissions	155,134	-208,209	-53,074

Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	489,717	27,462	517,178
Transitway Maintenance	0	24,921	24,921
Facility Operations	0	937,150	937,150
Vehicle Operations	54,230	52,948	107,177
Vehicle Maintenance	0	0	0
Displaced Emissions	716,935	4,318,728	5,035,663
Cumulative Emissions	-172,988	-3,276,248	-3,449,237

Total Analysis Period

FACILITY OPERATIONS

[Return to Calculator](#)

1. Select Transit Mode:	2. Select Facility Type	3. Enter Size (Square Footage) of Facility
Light Rail or Streetcar	Maintenance/Storage Facility	298,510
Light Rail or Streetcar	Station	3,675
Light Rail or Streetcar	Station	3,675
Light Rail or Streetcar	Station	3,675
Light Rail or Streetcar	Station	3,675
Light Rail or Streetcar	Station	3,675
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