Combined Call for Projects Application Informational Webinar

May 9, 2024

TRI-COUNTY REGIONAL PLANNING COMMISSION

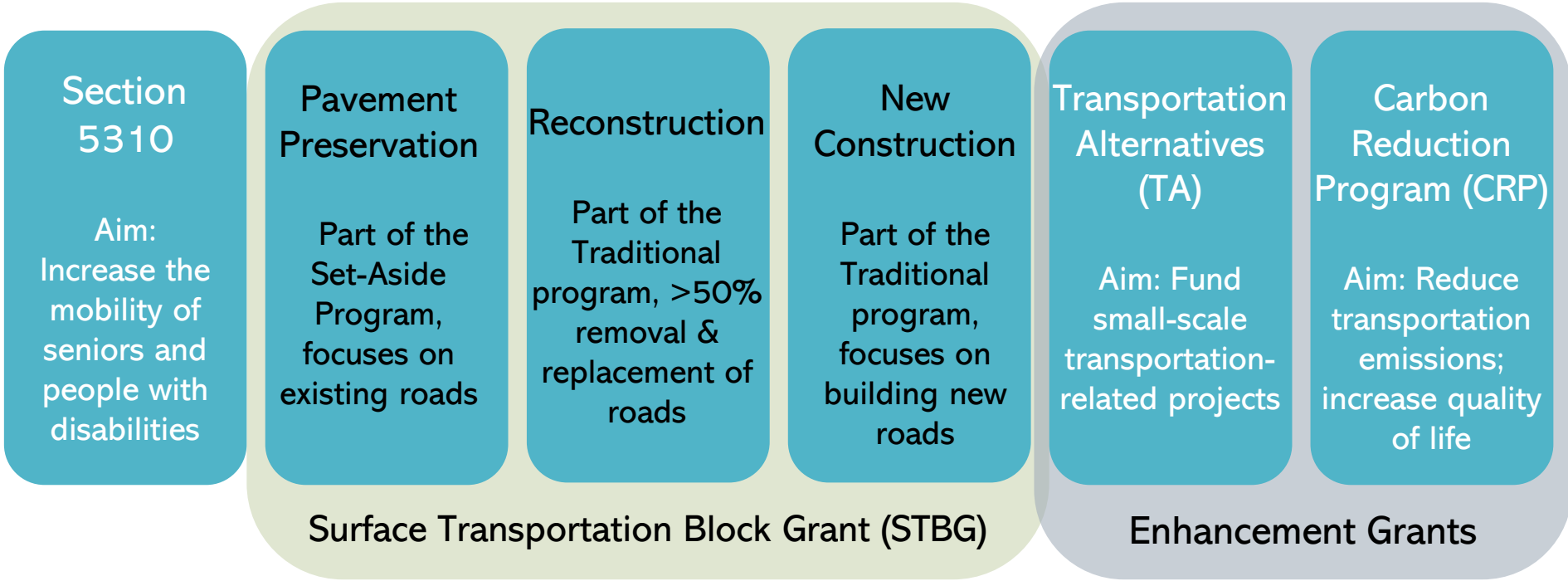
Today's Agenda

- Call for projects overview
- Application walkthrough
  - Example projects: 5310, Combined STBG Pavement Preservation and Enhancement (Transportation Alternatives and Carbon Reduction)
- CMAQ tool for Enhancement projects
  - How it works
  - Troubleshooting
  - Scenarios

Call for Projects Overview

Program details, funding amounts, and process

Call for Projects Overview: Funding opportunities



Local match varies from 20-50%

Allowable combinations

5310 + STBG

5310 + Enhancement

5310 + STBG + Enhancement

STBG + Enhancement

You cannot apply for multiple STBG projects in one application.

Call for Projects Overview: Available funding

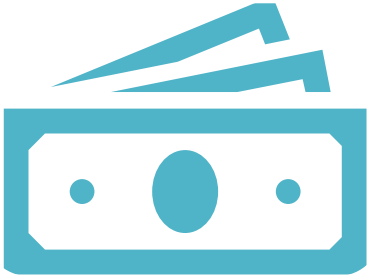
Combined Program Funding Summary

Below is a table outlining the available funding for each program by fiscal year. A total of $11,305,746 is available from all the funding programs.

FY	CRP	Section 5310	STBG - Traditional	STBG - Preservation	TA
2023		$ 9,798.00			
2024	$ 594,496.00	$ 168,681.00			$ 585,160.00
2025	$ 594,496.00				$ 585,160.00
2026					
2027			$3,508,557.60	$ 877,139.40	
2028			$3,508,557.60	$ 877,139.40	
Total	$1,188,992.00	$ 175,040.00	$7,017,115.20	$1,754,278.80	$1,170,320.00

Submission requirements

Application questions (Google Form)



Budget (Excel Workbook)*

Supporting Documents (PDF)*

Could include:

- Local match documents
- Project location map
- Letters of support

*Submitted via email to funding@tricountyrpc.org

All three are required for one submission.

For multiple projects, submit multiple separate applications.

Application Review Process

- A subcommittee will review the applications based on the specified criteria
  - See p. 20-46
  - Grading criteria are one element of the selection process
- September 2024

Project Scoring and Evaluation Criteria

The scoring and evaluation criteria included in the application are below.

Section	Possible Points					
	CRP	Sec. 5310	STBG – New const.	STBG – Preserv.	STBG – Reconst.	TA
Request	10	20	10	10	5	10
Applicant	0	20	0	0	0	0
Proposed	10	45	5	5	5	10
Regional PL Docs	10	15	10	0	5	10
Public Involvement	10	0	10	20	5	10
Existing Conditions	0	0	15	40	40	0
Multi-Modal	20	0	20	0	10	20
Sustainability	15	0	5	0	5	15
Regional Significance	25	0	25	25	25	25
Total	100	100	100	100	100	100

Application Example Walkthrough

Example single and combined project

Example Project: Sidewalk to transit stop

- The intersection of Oak and Pine streets has a bus stop that is not accessible.

  This project will build a sidewalk extending from an adjoining block.
- Applying for Section 5310 funds

Example Project: Road update w/bike lane

- Central Street will be milled & overlaid with a protected bike line on one side
- Applying for STBG Pavement Preservation and Enhancement funds

CMAQ Emissions Toolkit Demonstration

for Bicycle, Pedestrian, & Shared Micromobility Calculations

CMAQ Bicycle, Pedestrian, and Shared Micromobility Toolkit

- **Bike & Pedestrian Improvements Calculator**: focuses on the emission reductions created by diverting passenger vehicle trips to bicycle or pedestrian trips
    - *Done by improving the quantity and quality of non-motorized trips and increasing the ease of use*
- **Shared Micromobility Projects Calculator:** focuses on the emission reductions caused by diverting the use of motorized trips to shared micromobility devices
    - *Ex., Bikeshare and scooter-share programs*

What can these calculators evaluate?

Addition of New Infrastructure

- Sidewalks
- Dedicated Bicycle Infrastructure
- Multi-use Paths

Improvements to Existing Systems/Infrastructure

- Mid-block Crossings
- Wayfinding
- Bike sharing or bike parking systems

For More Information

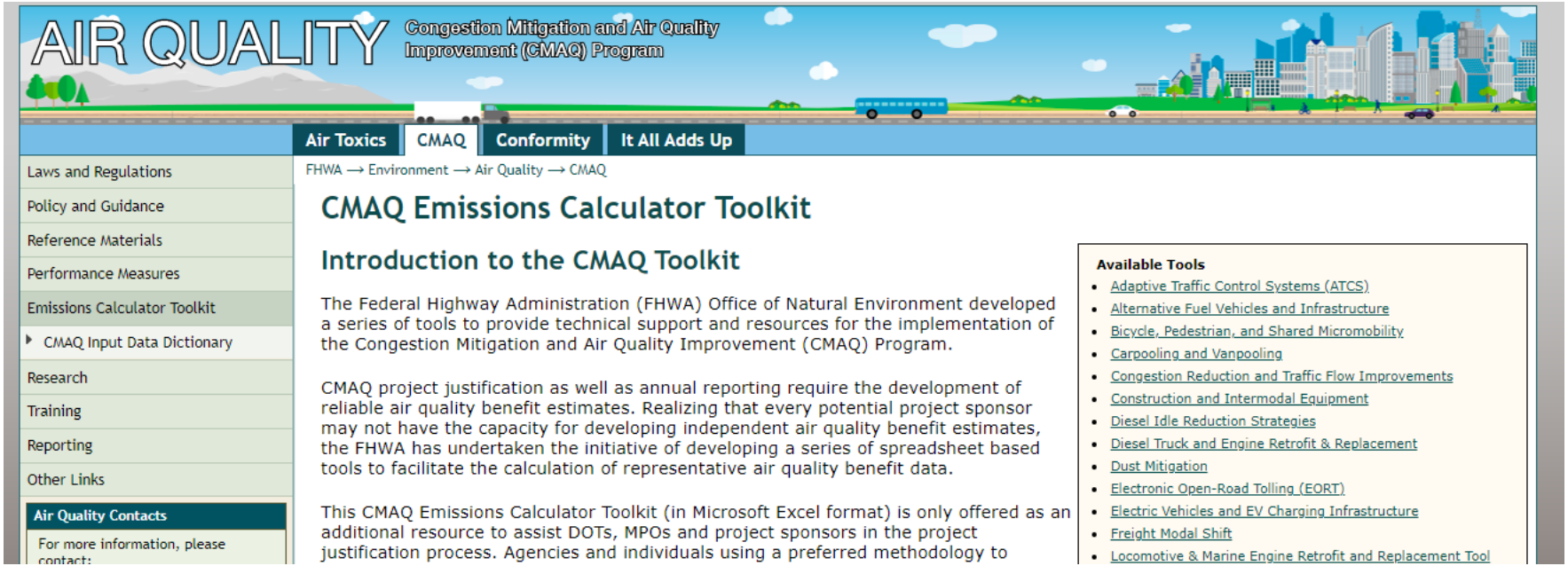
Visit the CMAQ Emissions Calculator Website at:
https://www.fhwa.dot.gov/environment/air_quality/cmaq/toolkit/

For access to:

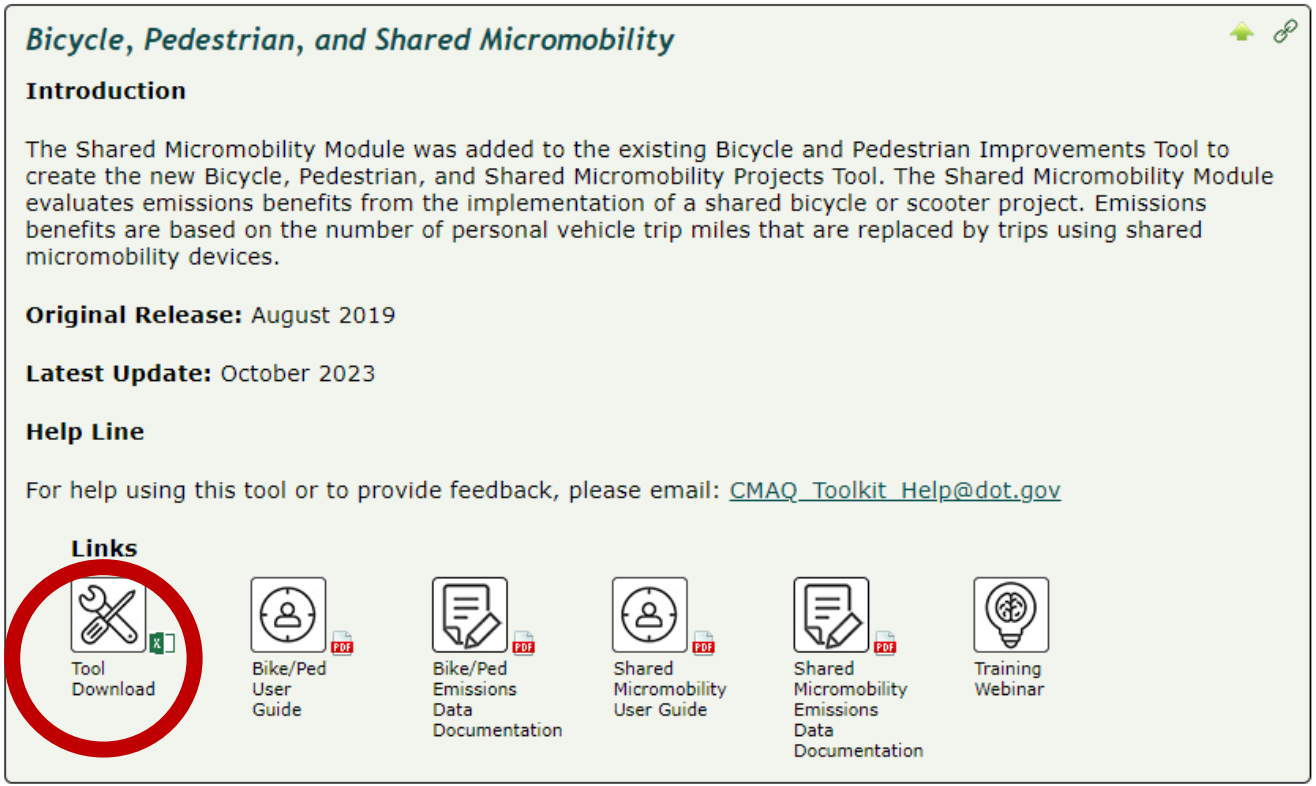
- Toolkit access
- User Guides
- Training Webinars
- MOVES/Emission model documentation

To log in

Visit the CMAQ Emissions Calculator Website at:
https://www.fhwa.dot.gov/environment/air_quality/cmaq/toolkit/



Scroll down to applicable project type



If needed: Enable macros

Your computer may block macros needed to run this program. Enable them by following these steps on the Microsoft Support website.

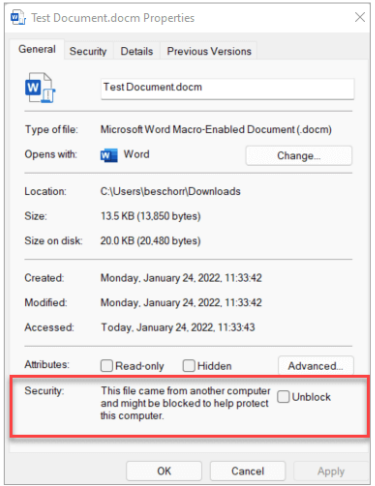
If you're sure the file is safe and want to unblock macros

There are a few different ways to do it, depending on your situation.

Unblock a single file

In most cases you can unblock macros by modifying the properties of the file as follows:

1. Open Windows File Explorer and go to the folder where you saved the file.
2. Right-click the file and choose **Properties** from the context menu.
3. At the bottom of the **General** tab, select the **Unblock** checkbox and select **OK**.



Scenario #1

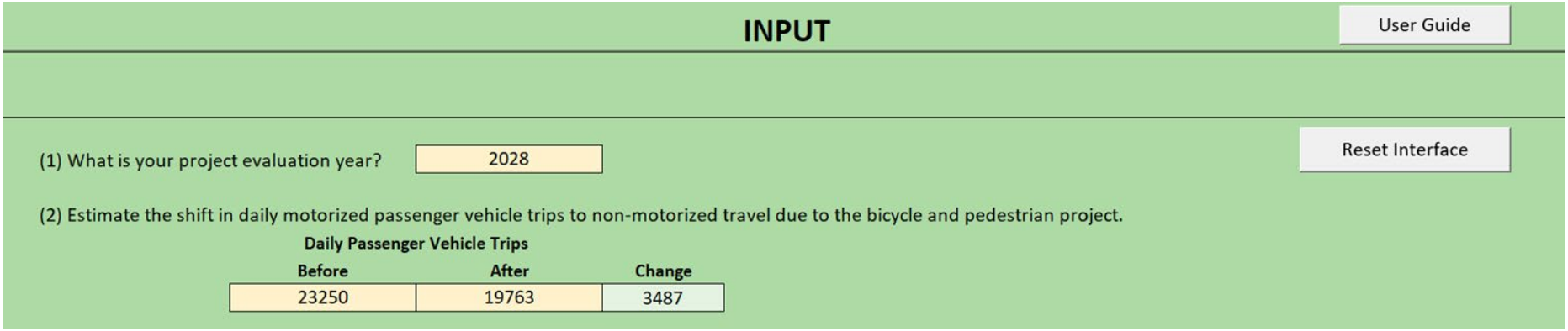
A travel survey finds that a two-lane road through town handles 25,000 **daily work trips on average**, 93% **of which are taken by personal automobiles**. However, the survey notes that 54% of auto commuting trips take less than 15 minutes, suggesting that many of these short trips could be taken by non-motorized modes instead.

The municipality is considering a project involving the **installation of several miles of protected bicycle and pedestrian infrastructure** along the existing road that would encourage bicycle and pedestrian usage in the area. Travel behavior analysis estimates the **total trip diversion could be as high as** 15%**.** The project evaluation year would be 2028.

Given the scenario, we will use the Bicycle & Pedestrian Improvements Calculator to determine emission reductions.

The following inputs are needed for this calculator:

Item	User Input	Units
(1)	Project evaluation year	---
(2)	Daily individual motorized trips (before & after)	One-way trips
(3a)	One-way trip distance source	---
(3b)	Typical Trip Distance	Miles one way
(3b)	Distribution of trip distances	---



Project Evaluation Year: 2028

- The year in which the project will be fully implemented.

Daily Passenger Vehicle Trips Before: 23,250

- The number of average work trips taken by a personal automobile
- (25,000 average daily work trips * 93% personal automobile use) = 23,250 average work trips that utilize personal automobiles

Daily Passenger Vehicle Trips After: 19,763

- The expected number of daily work trips taken by personal automobile after project implementation.
- (23,250 daily work trips that utilize personal automobiles * 15% trip diversion) = 19,763 average work trips with personal automobile usage after project implementation

(3a) Select the data type used for entering the typical one-way trip distance of passenger vehicles below:

Trip Distance Source	
Distribution	<- Fill National Values

(3b) If you selected "Average" above, enter the typical one-way trip distance. If you selected "Distribution" above, enter the typical distribution of one-way trip distances.

Typical Trip Distance (miles one way)
2.0129

Distribution of Trip Distances (daily fraction per mileage bin)					
x < 1	1 ≤ x < 2	2 ≤ x < 3	3 ≤ x < 4	4 ≤ x ≤ 5	Sum
20.65%	37.26%	20.43%	13.47%	8.19%	100.0%

Trip Distance Source of Passenger Vehicles: Distribution

Distribution of Trip Distances:

$x<1$ = 21%

$1 \leq x < 2$ = 37%

$2 \leq x < 3$ = 20%

$3 \leq x < 4$ = 13%

$4 \leq x \leq 5$ = 8%

- National Values have been used in this demonstration, however, it is recommended that you use local trip distribution/average. This will give more accurate results.

Emission Reductions of Scenario #1

Pollutant	Total
Carbon Monoxide (CO)	18.488
Particulate Matter ≤2.5 µm (PM2.5)	0.064
Particulate Matter ≤10 µm (PM10)	0.312
Nitrogen Oxides (NOx)	0.711
Volatile Organic Compounds (VOC)	0.62
Carbon Dioxide (CO2)	2,384.51
Carbon Dioxide Equivalent (CO2e)	2,395.832
Total Energy Consumption (MMBTU/day)	32.215

* Units in kg/day unless otherwise noted

Scenario #2

An MPO is looking to improve a current bike/ped regional trail by expanding the trail into nearby towns before the end of 2026. Using a travel demand model to look at existing travel patterns in the region, it is determined that the **number of motorized passenger vehicle trips would drop by 670 per day** (60% of which is pedestrian trips and 40% of which is bike trips). The total motorized passenger vehicle trips would **drop from** 17,000 **trips to** 16,330 after the trail is implemented.

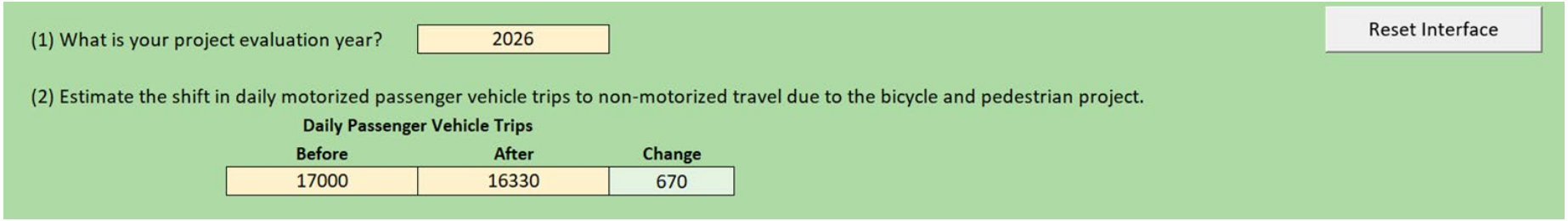
The MPO used their travel demand model to determine the **average length of a bicycle trip for the region was** 3.2 miles and the **average length of a pedestrian trip was** 0.9 miles.

Given the scenario, we will use the Bicycle & Pedestrian Improvements Calculator and use the same inputs as the previous scenario.

Item	User Input	Units
(1)	Project evaluation year	---
(2)	Daily individual motorized trips (before & after)	One-way trips
(3a)	One-way trip distance source	---
(3b)	Typical Trip Distance	Miles one way
(3b)	Distribution of trip distances	---

Note: When calculating the emission reductions from non-motorized trips, bike and pedestrian trips must be calculated separately.

Calculate Bike Emissions Reductions First



Project Evaluation Year: 2026

- The year in which the project will be fully implemented.

Daily Passenger Vehicle Trips Before: 17,000

- The daily average motorized vehicle trips before project implementation.

Daily Passenger Vehicle Trips After: 16,330

- The expected number of motorized vehicle trips after implementation of the project.
- (17,000 – 670, the drop in number of motorized passenger vehicle trips) = 16,330

(3a) Select the data type used for entering the typical one-way trip distance of passenger vehicles below:

Trip Distance Source	
Average	<- Fill National Values

(3b) If you selected "Average" above, enter the typical one-way trip distance. If you selected "Distribution" above, enter the typical distribution of one-way trip distances.

Typical Trip Distance (miles one way)	Distribution of Trip Distances (daily fraction per mileage bin)					
	x < 1	1 ≤ x < 2	2 ≤ x < 3	3 ≤ x < 4	4 ≤ x ≤ 5	Sum
3.2						

Trip Distance Source: Average

Typical Trip Distance (miles one way): 3.2 miles

- Local data was used in this example, however National Averages can be used if local data is unavailable.
- Local data will produce more actual results.

Save Data in Excel to Reference Later

OUTPUT

Pollutant	Total
Carbon Monoxide (CO)	6.059
Particulate Matter ≤2.5 µm ($PM_{2.5}$)	0.020
Particulate Matter ≤10 µm (PM_{10})	0.095
Nitrogen Oxides (NOx)	0.261
Volatile Organic Compounds (VOC)	0.190

Carbon Dioxide (CO_2)	751.924
Carbon Dioxide Equivalent (CO_2e)	754.963
Total Energy Consumption (MMBTU/day)	10.156

Now Calculate Pedestrian Emissions Reductions

Reset Interface

(1) What is your project evaluation year? 2026

(2) Estimate the shift in daily motorized passenger vehicle trips to non-motorized travel due to the bicycle and pedestrian project.

Daily Passenger Vehicle Trips		
Before	After	Change
17000	16330	670

(3a) Select the data type used for entering the typical one-way trip distance of passenger vehicles below:

Trip Distance Source	
Average	<- Fill National Values

(3b) If you selected "Average" above, enter the typical one-way trip distance. If you selected "Distribution" above, enter the typical distribution of one-way trip distances.

Typical Trip Distance (miles one way)	Distribution of Trip Distances (daily fraction per mileage bin)					
	x < 1	1 ≤ x < 2	2 ≤ x < 3	3 ≤ x < 4	4 ≤ x ≤ 5	Sum
0.9						

The majority of the data will remain the same.

Typical Trip Distance (miles one way): 0.9 miles

Pedestrian Emissions Reductions

Pollutant	Bike Total	Pedestrian Total
Carbon Monoxide (CO)	6.059	2.092
Particulate Matter ≤2.5 µm (PM2.5)	0.02	0.007
Particulate Matter ≤10 µm (PM10)	0.095	0.029
Nitrogen Oxides (NOx)	0.261	0.101
Volatile Organic Compounds (VOC)	0.19	0.087
Carbon Dioxide (CO2)	751.924	220.15
Carbon Dioxide Equivalent (CO2e)	754.963	221.903
Total Energy Consumption (MMBTU/day)	10.156	2.977

* Units in kg/day unless otherwise noted

A weighted average must now be calculated using the percentage of motorized trips that are now bike or pedestrian trips.

- (bike emission * 0.4) + (pedestrian emission * 0.6) = emission reduction of pollutant

Emission Reductions of Scenario #2

Pollutant	Total Emission Reduction
Carbon Monoxide (CO)	3.6788
Particulate Matter ≤2.5 µm (PM2.5)	0.0122
Particulate Matter ≤10 µm (PM10)	0.0554
Nitrogen Oxides (NOx)	0.165
Volatile Organic Compounds (VOC)	0.1282
Carbon Dioxide (CO2)	432.8596
Carbon Dioxide Equivalent (CO2e)	435.127
Total Energy Consumption (MMBTU/day)	5.8486

* Units in kg/day unless otherwise noted

Q&A