Submitted on:	January 25, 2024
Revised on:	May 13, 2024
Prepared by:	Simon Lin, EIT, Meghan Macias, TE
To:	City of Hemet
Site:	APN: 465-140-043 and 465-140-042 EPD Project Number 22-030
Subject:	Vehicle Miles Traveled (VMT) Analysis

This technical study evaluates the potential impacts of vehicle miles traveled (VMT) from the proposed development of two warehouse buildings (Project) totaling 1,192,418 square feet. The project is located on a 74.88-acre site located in the western portion of the City of Hemet at the intersection of Warren Road and Simpson Road Avenue.

The Project site plan is shown in Figure 1. As shown in Figure 1, Building 1 would include 838,926 SF of warehouse space and 44,154 SF of office space totaling 883,080 SF. Building 1 would result in a Floor Area Ratio (FAR) of 0.46 and would have a maximum height of 52-feet. Building 2 would include293,871 SF of warehouse space and 15,467 SF of office space totaling 308,338 SF. Building 2 would result in a FAR of 0.42 and would have a maximum height of 52-feet. This VMT analysis is based on the requirements of the *City of Hemet Traffic Impact Analysis Guidelines for CEQA & VMT* (City's Guidelines) (May 2021).

Project Trip Generation

The Project trip generation was analyzed using trip rates from the *TUMF High-Cube Warehouse Trip Generation Study* (WSP, January 29, 2019). Table 1 presents the estimated trip generation for the proposed Project. As shown in Table 1, the proposed Project is estimated to generate approximately 2,539 daily trips, 146 AM (112 inbound and 34 outbound), and 197 PM (55 inbound and 142 outbound) peak hour trips.

Figure 1: Project Site Plan

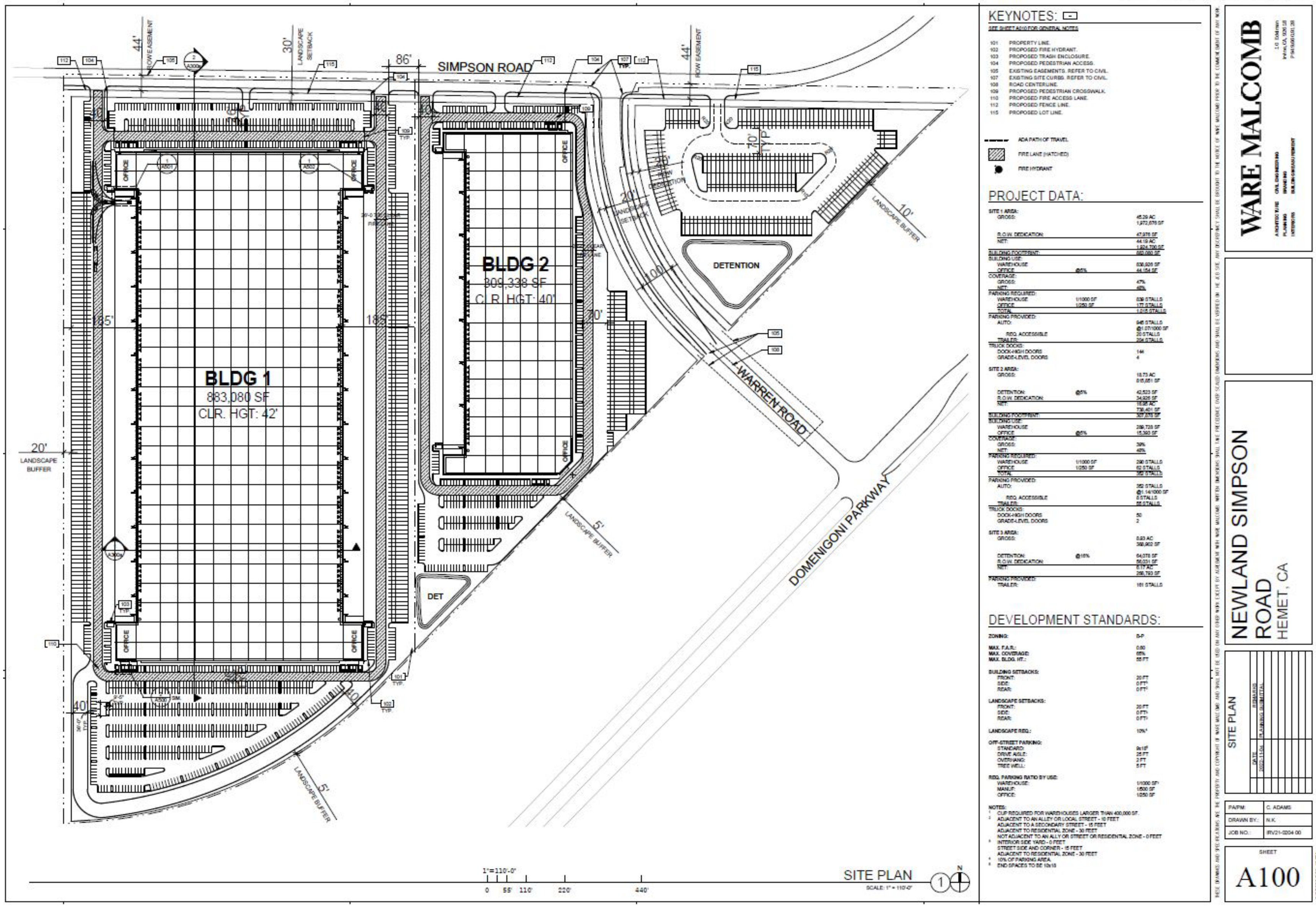


Table 1: Project Trip Generation

					AM Peak Hour			PM Peak Hour		
Land Use			**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates										
High-Cube Transload and Short-Term Storage Warehouse[1]			TSF	2.129	0.094	0.028	0.122	0.046	0.119	0.165
Project Trip Generation Building 1										
Industrial Bulding 1 [1]		883.080	TSF	1,880	83	25	108	41	105	146
Vehicle Mix [1]	***% Daily***	***% AM***	***% PM***							
Passenger Vehicles	82.20%	84.40%	87.30%	1,546	71	20	91	36	92	128
2- Axle Trucks	3.80%	1.10%	1.10%	71	1	0	1	0	1	1
3-Axle Trucks	2.50%	2.20%	2.20%	47	2	1	3	1	2	3
4-Axle Trucks	1.30%	3.30%	3.30%	24	3	1	4	1	4	5
5+-Axle Trucks	10.20%	9.00%	6.10%	192	6	3	9	3	6	9
	100.00%	100.00%	100.00%	1,880	83	25	108	41	105	146
Project Trip Generation Building 2										
Industrial Bulding 2 [1]		309.338	TSF	659	29	9	38	14	37	51
Vehicle Mix [1]	***% Daily***	***% AM***	***% PM***							
Passenger Vehicles	82.20%	84.40%	87.30%	541	24	8	32	12	32	44
2- Axle Trucks	3.80%	1.10%	1.10%	25	0	0	0	0	1	1
3-Axle Trucks	2.50%	2.20%	2.20%	16	1	0	1	0	1	1
4-Axle Trucks	1.30%	3.30%	3.30%	9	1	0	1	1	1	2
5+-Axle Trucks	10.20%	9.00%	6.10%	67	3	1	4	1	2	3
	100.00%	100.00%	100.00%	659	29	9	38	14	37	51
Project Total Passenger Trip Generation				**2,087**	**95**	**28**	**123**	**48**	**124**	**172**
Project Total Trip Generation				**2,539**	**112**	**34**	**146**	**55**	**142**	**197**

TSF = Thousand Square Feet

[1] Trip rates and truck percentages from the TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019.

VMT Background

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to replace Level of Service (LOS) as the appropriate method for evaluating transportation impacts under CEQA. SB 743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. The bill also specified that delay-based LOS could no longer be considered an indicator of a significant impact on the environment under CEQA. In response, the Natural Resources Agency amended the CEQA Guidelines to include new Section 15064.3 - Determining the Significance of Transportation Impacts. That section states that Vehicle Miles Traveled (VMT) is the most appropriate measure of a project's transportation impacts and provides lead agencies with the discretion to choose the most appropriate methodology and thresholds for evaluating VMT. Section 15064.3(c) states that the provisions of the section shall apply statewide beginning on July 1, 2020.

City of Hemet VMT Screening Criteria

The Project is located in the City of Hemet (City). The City Guidelines provide the following screening thresholds to assess whether further VMT analysis is required. If a project meets one of the following criteria, then the VMT impact of the project would be considered less-than significant and no further analysis of VMT would be required:

1. The project is located within a Transit Priority Area (TPA).

2. The project is in a low VMT-generating area.

3. The project type has been identified as local serving project type.

4. The project generates less than 500 daily vehicle trips.

The applicability of each criterion to the project is discussed below:

Screening Criteria 1 - Transit Priority Area (TPA) Screening: As per the City's guidelines, projects located in a TPA may be presumed to have a less than significant impact. This presumption may NOT be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;

2. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);

3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the City of Hemet, with input from SCAG or WRCOG); or

4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

As noted in the City's guidelines, there are no TPA's in the City of Hemet. Furthermore, Building 1 and Building 2 would result in a FAR of 0.46 and 0.42 respectively, which are less than the FAR of 0.75 needed for TPA screening. The Project site has a General Plan land use designation of Mixed Use (MU). The project would require a General Plan Amendment to change the current Land Use designation of MU to Business Park (BP) and therefore the Project is not consistent with the existing General Plan land use within that traffic analysis zone (TAZ). The Hemet General Plan Land Use Plan Exhibit 3.3 and Land Use Designation and Intensities Table 3-2 are attached in Appendix A.

For the reasons noted above, the project would not satisfy the requirements of Screening Criteria 1 – TPA screening.

Screening Criteria 2 - Low VMT Area Screening: The City's guidelines include a screening threshold for projects located in a low VMT generating area. Low VMT generating area is defined as traffic analysis zones (TAZs) with a total daily VMT/Service Population (employment plus population) that is less than the baseline level for the city.

The Project zone is in a low VMT area; however, because the project land use is not consistent with the existing General Plan land use, the land use evaluated by the screening tool within that traffic analysis zone (TAZ) is inconsistent with the project. Therefore, this screening criteria would not be appropriate to use for the project. Therefore, the Project would not satisfy the requirements of Screening Criteria 2 – Low-VMT Area Screening.

Screening Criteria 3 - Project Type Screening: As per the City's guidelines, projects which propose local serving retail (retail projects less than 50,000 square feet) or other local serving uses would have a less than significant impact on VMT. The types of projects considered local serving include K-12 schools, local parks, day care centers, gas stations, banks, hair/nail salon, walk-in medical clinics/urgent care, and community institutions such as libraries, fire stations, etc.

The project type screening would also apply to projects which generate fewer than 500 daily net new vehicle trips. As shown in Table 1, the Project is forecasted to generate 2,539 daily vehicle trips, which includes 2,087 daily passenger vehicle trips, which is more than 500 daily vehicle trips.

Because the Project does not propose a local serving land use and would generate more than 500 daily net new vehicle trips, the project would not satisfy the requirements of Screening Criteria 3 - Project Type Screening.

Because the Project would not meet any of the City's screening criteria, the Project's impact on VMT would not be considered less-than-significant and an analysis of VMT would be required.

VMT Analysis Methodology

The City's guidelines require use of the Riverside County Model (RIVCOM) for preparation of VMT analysis.

The Project is located within a Traffic Analysis Zones (TAZ), TAZ 731. The potential employment generated by the Project was calculated using a rate of industrial employment per square foot from The County of Riverside General Plan EIR. The land use category 'Light Industrial (LI)' would yield 1 employee per 1,030 square feet. Based on this rate, the proposed Project would have a total of 1,158 employees. The Project employment was entered into Zone 731. All RIVCOM inputs can be found in Appendix B.

The Model includes validated scenarios for 2018 and 2045. These scenarios have been validated using existing traffic counts. The Model was run for the base year (2018) and cumulative year (2045) without and with-project conditions (i.e. four full Model runs).

As noted below under the discussion of significance thresholds, the City's significance threshold is based on both the project generated VMT per service population and Citywide boundary VMT per service population.

VMT Significance Threshold

The significance criteria from the City's guidelines are as follows:

A project would result in a significant project generated VMT impact if either of the following conditions are satisfied:

1. The baseline project generated VMT per service population exceeds the City of Hemet baseline VMT per service population, or

2. The cumulative project generated VMT per service population exceeds the City of Hemet baseline VMT per service population.

The total OD VMT of TAZ 731 was evaluated using the RIVCOM VMT post-processor. To determine VMT per service population, the total OD VMT of TAZ 731 is divided by the service population of TAZ 731 (employment plus population). Data for years between 2018 and 2045 is extrapolated using linear interpolation between the 2018 and 2045 Model output. The City of Hemet Citywide baseline VMT per service population was obtained from the WRCOG VMT Tool for baseline year 2024. All RIVCOM outputs can be found in Appendix B.

The project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

1. The baseline link-level Citywide boundary VMT per service population increases under the plus project condition compared to the no project condition, or

2. The cumulative link-level Citywide boundary VMT per service population increases under the plus project condition compared to the no project condition.

The Hemet link-level boundary VMT was obtained from the RIVCOM model output. All RIVCOM outputs can be found in Appendix B.

According to the City's Guidelines, projects which are inconsistent with the regional RTP/SCS must review the potential for significant impacts under all four of the VMT impact criteria which are listed above. If a project results in a significant impact under any of the four impact criteria, it should present options for feasible mitigation measures to reduce the project impact to a less-than-significant level.

Project VMT Evaluation

The VMT analysis results per the City's significance criteria are shown in Tables 2 and 3.

As shown in Table 2, the Project would have a significant project impact on VMT based on the Citywide average for Service Population under both baseline and opening year conditions. The Project VMT would be 17.3% above the City's threshold under Baseline 2024 conditions and 16.5% above the City's threshold under Opening Year 2026 conditions; therefore, would result in a significant project generated VMT impact. VMT mitigation would be required for the Project.

As shown in Table 3, the Hemet Citywide Boundary VMT per Service Population is lower with the project added under both baseline and opening year conditions; therefore, the Project effect on VMT would result in a less than significant impact.

Table 2: VMT Analysis of Project Impact per City Guidelines

	2018	**Baseline 2024**	**Opening Year 2026**	**2045**
Project Zone VMT	34181	39613	41424	58627
TAZ 731 Population	0	202	269	907
TAZ 731 Employment	1158	1172	1176	1219
TAZ 731 Service Population	1158	1373	1445	2126
Project VMT/SP	29.5	28.8	28.7	27.6
Baseline Threshold[1]	**Baseline Proj VMT/SP**	**% Above/Below Threshold**	**VMT Impact?**	
24.6	28.8	17.3%	Yes	
Baseline Threshold[1]	**Opening Year Proj VMT/SP**	**% Above/Below Threshold**	**VMT Impact?**	
24.6	28.7	16.5%	Yes	

[1]The Baseline and Cumulative Thresholds of 24.6 VMT per service population are based on the City of Hemet Baseline (2024) VMT per service population, which is reflected in the WRCOG VMT Tool.

Table 3: Project Effect on VMT per City Guidelines

	2018	**Baseline 2024**	**Opening Year 2026**	**2045**
Citywide Boundary VMT With Project	813,535	927,694	965,747	1,327,249
Citywide Service Population With Project	104,957	117,343	121,472	160,695
With Project Citywide Boundary VMT/SP	**7.75**	**7.91**	**7.95**	**8.26**
Citywide Boundary VMT No Project	812,204	926,024	963,964	1,324,394
Citywide Service Population No Project	103,799	116,185	120,314	159,537
No Project Citywide Boundary VMT/SP	**7.82**	**7.97**	**8.01**	**8.30**
% Above/Below Threshold	-0.9%	-0.8%	-0.8%	-0.5%
Impact?	**No**	**No**	**No**	**No**

VMT Mitigation Overview

The *City of Hemet Traffic Impact Analysis Guidelines for CEQA & VMT* states that mitigation to reduce VMT impacts could include the following but are not limited to:

- Modify the project's built environment characteristics to reduce VMT generated by the project.
- Implement Transportation Demand Management (TDM) measures to reduce VMT generated by the project.
- Participate in a VMT fee program and/or VMT mitigation exchange/banking program (if they are available) to reduce VMT from the project or other land uses to achieve acceptable levels.

Considering the measures recommended by City's guideline, individual project mitigation measures are recommended to mitigate the project specific VMT impacts. Here, proposed mitigation measures and the effectiveness of such mitigation measures were determined using the methodology provided in California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (hereafter CAPCOA Guidance)[1].

The following mitigation measures are required to mitigate GHG impacts and would also serve to mitigate VMT impacts. The calculated VMT reduction from each measure is shown below under the discussion of VMT Mitigation Analysis.

- T-6: Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)
- T-18: Provide pedestrian network improvements.
    - Sidewalks along the Project frontage is a Project design feature. It should be noted that due to the lack of pedestrian infrastructure in the project area, the sidewalks that will be constructed by the project would not result in a significant reduction in VMT. Therefore, this measure is considered to be a supportive measure and would not result in a significant or measurable reduction in VMT on its own.

VMT Mitigation Analysis

The VMT reduction from the TDM measures above is calculated using the following equations:

- T-6 Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring): A = B * C * D, where B = Percent of employees eligible for program, C = Percent reduction in vehicle mode share of employee commute trip (baseline 26% for the San Francisco-Oakland-Hayward area), D = Adjustment from vehicle mode share to commute VMT

A mandatory CTR program includes monitoring and reporting requirements and can result in a decrease in VMT of up to 26 percent. The potential 26% VMT reduction is based on the *Genentech South San Francisco Campus TDM and Parking Report*, November 2014 Survey, prepared by Nelson Nygaard. The Nelson Nygaard study tracks the yearly effectiveness of the Genentech TDM program and includes data from 2006 to 2014. This data indicates a 26% reduction in drive alone commute trips resulting from implementation of the TDM program.

Table T-3.1 in the CAPCOA Guidance shows the average transit and vehicle mode share by core statistical area. This is the percentage of commuters who travel to and from work using transit or personal vehicle for different areas throughout the state of California. The baseline vehicle mode share for the San Francisco-Oakland-Hayward area, which includes the Genentech campus, is 86.96%, while the baseline vehicle mode share for the Riverside-San Bernardino-Ontario area, which includes the Project site, is 96.88%. By accounting for the difference in vehicle mode share within these areas, the effectiveness of a CTR program

[1] California Air Pollution Control Officers Association (CAPCOA), *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*, December 2021.

can be calculated, and thus a similar CTR program in the Riverside-San Bernardino-Ontario area would be 11.4% less effective than the San Francisco-Oakland-Hayward area. This is due to various factors, including (1) a lower availability of transit; (2) longer commute distances, making bicycle commuting less feasible and/or attractive to commuters; and (3) higher overall automobile mode share. Taking these factors into consideration, it is possible that a similar CTR program to the Genentech program could reduce commute VMT by up to 23%, rather than 26% as experienced in South San Francisco. It should also be noted that a CTR Program would only affect commute VMT, which per CAPCOA is approximately 60% of overall VMT. Therefore, the overall VMT reduction associated with implementation of a CTR program would be 13.82%, not 23%. The section below would discuss in detail how a VMT reduction of 13.82% could be achieved for the Project.

VMT Mitigation Measures

The Project would implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring) (CAPCOA Measure T-6) to encourage employees carpooling, taking transit, and biking to work. 100% of employees would be eligible to participate in all identified measures. The mandatory CTR program must include all other elements (i.e., CAPCOA Measures T-7 through T-11) described for the voluntary program (Measure T-5) plus include mandatory trip reduction requirements (including penalties for non-compliance) and regular monitoring and reporting to ensure the calculated VMT reduction matches the observed VMT reduction.

The specific components of the mitigation measure are discussed further below:

1. Implement Commute Trip Reduction Marketing (CAPCOA Measure T-7). A CTR Marketing strategy includes information sharing and marketing to promote and educate employees about their travel choices to the employment location. This measure would require an on-site employee transportation coordinator and commuter information services, and on-site or online transit pass sales.
2. Provide Ridesharing Program (CAPCOA Measure T-8). Incentives for carpooling or vanpooling such as priority parking spaces and/or a daily or monthly stipend for participants. Additional incentives for carpool and/or vanpool drivers could also be provided. Preferred parking for carpool or vanpool vehicles.
3. Implement Subsidized or Discounted Transit Program (CAPCOA Measure T-9). This measure will provide subsidized or discounted, or free transit passes for employees and/or residents. Reducing the out-of-pocket cost for choosing transit improves the competitiveness of transit against driving, increasing the total number of transit trips and decreasing vehicle trips. This decrease in vehicle trips results in reduced VMT and thus a reduction in GHG emissions.
4. Provide End-of-Trip Bicycle Facilities (CAPCOA Measure T-10). This measure includes installation and maintenance of end-of-trip facilities for employee use that facilitate bicycling to work. Facilities could include bike parking, bike lockers, personal lockers, and shower facilities.
5. Provide Employer-Sponsored Vanpool (CAPCOA Measure T-11). This measure will implement an employer-sponsored vanpool service. Vanpooling is a flexible form of public transportation that provides groups of 5 to 15 people with a cost-effective and convenient rideshare option for commuting. The mode shift from long-distance, single-occupied vehicles to shared vehicles reduces overall commute VMT, thereby reducing GHG emissions.
6. Mandatory trip reduction requirements (including penalties for non-compliance) and regular monitoring and reporting to ensure the calculated VMT reduction matches the observed VMT reduction. (CAPCOA Measure T-6).

To comply with components 1, 2 and 3, tenants of the project could participate in the IE Commuter program (iecommuter.org). IE Commuter is a program of the Riverside County Transportation Commission (RCTC) and the San Bernardino County Transportation Authority (SBCTA). The IE Commuter program includes rideshare matching, reimbursed guaranteed ride home, commuter incentives for participation and vanpool subsidies.

To comply with components 4 and 5, the Project would incorporate design features that provide reserved preferential parking spaces for car-share, carpool, and ultra-low or zero emission vehicles. Provision of on-site facilities to provide end of trip services for bicycling such as secure bike parking and storage lockers would also be implemented.

To comply with component 6, the program would utilize reporting tools that comply with SCAQMD Rule 2202, which applies to employers over 500 employees. Information about the program and a sample Commute Activity Report are attached. IE commuter also provides a website for employee participants to track their participation and reporting tools for employers.

The supporting documents for VMT mitigation measures are attached in Appendix C.

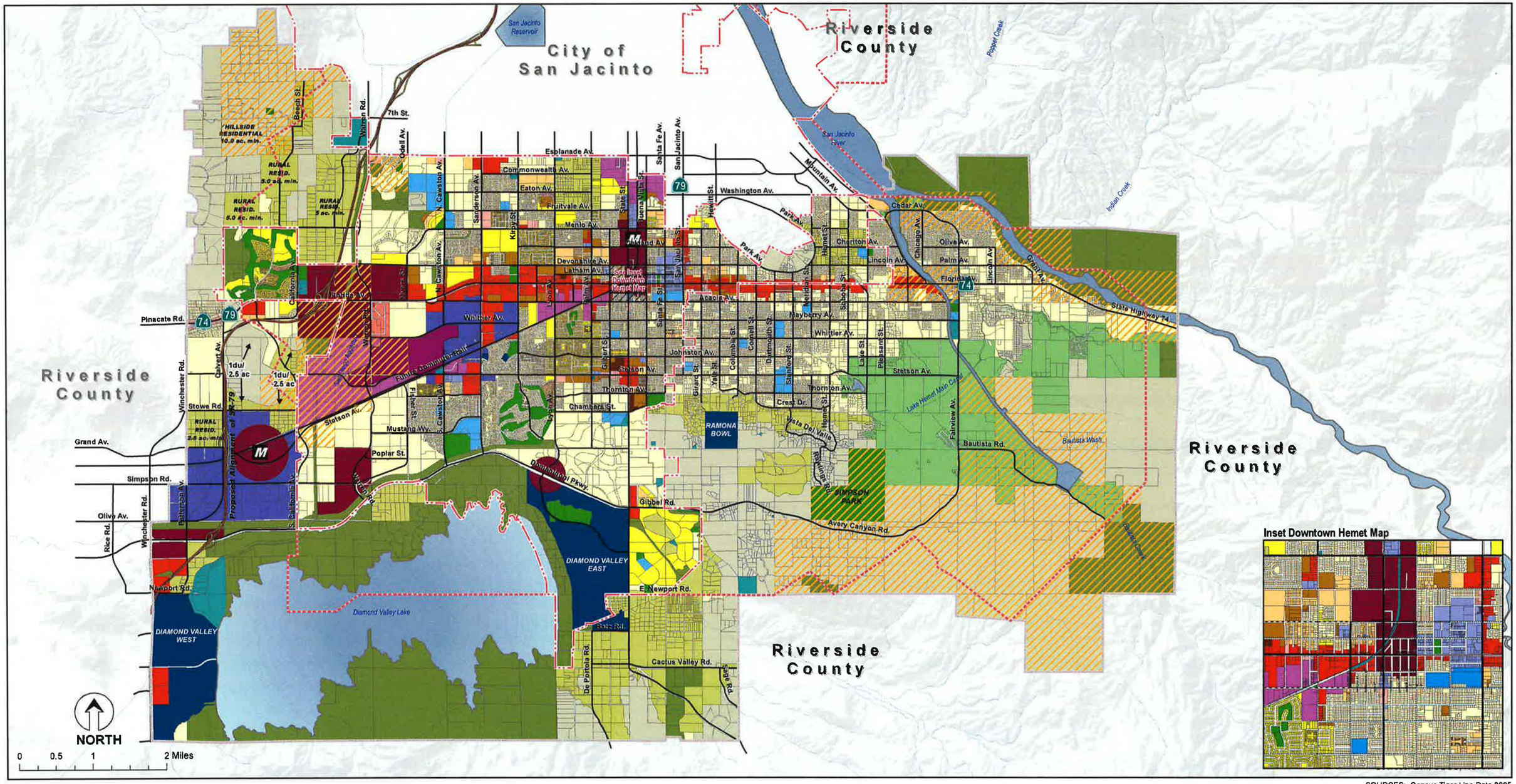
VMT Mitigation Conclusion

As seen in Table 2, the project OD VMT/Service Population is forecast to be 17.3% above the City's significance threshold under Baseline 2024 conditions and 16.5% above the City's significance threshold under Opening Year 2026 conditions.

With implementation of the Project design features and mitigation measures, the total ODVMT per service population of the Project would be reduced by 13.82%. Therefore, the total ODVMT per service population of the Project in baseline conditions with mitigation incorporated would still be higher than the threshold and as such, the VMT would not be reduced to a level of insignificance. In conclusion, the Project's VMT impacts would remain significant and unavoidable with mitigation incorporated.

If you have any questions, please feel free to contact me at techservices@epdsolutions.com or at (949) 794-1180.

APPENDIX A - Hemet General Plan Land Use Plan Exhibit 3.3 and Land Use Designation and Intensities Table 3-2



SOURCES: Census Tiger Line Data 2005
Urban Crossroads 2011

LEGEND

- Hemet City Boundary
- Planning Area
- Sphere of Influence
- River/Lake
- Creek/Canal
- Railroad
- Metrolink (General Location)

Land Use Designations

- RR Rural Residential (0.0 - 2.0 du/ac)
- HR Hillside Residential (0.0 - 0.5 du/ac)
- LDR Low Density Residential (2.1 - 5.0 du/ac)
- LMDR Low Medium Density Residential (5.1 - 8.0 du/ac)
- MDR Medium Density Residential (8.1 - 18.0 du/ac)
- HDR High Density Residential (18.1 - 30.0 du/ac)
- VHDR Very High Density Residential (30.1 - 45.0 du/ac)
- NC Neighborhood Commercial (FAR 0.35)
- CC Community Commercial (FAR 0.40)
- RC Regional Commercial (FAR 0.50)
- MU Mixed Use (Varies)
- ARPT Airport
- OP Office Professional (FAR 2.0)
- BP Business Park (FAR 0.60)
- I Industrial (FAR 0.45)
- QP/C Quasi-Public/Cultural
- PF Public Facilities
- SCH School
- P Park/Recreation
- OS Open Space
- A Agriculture

Environmental Management Area

- Areas subject to MSHCP criteria

Last Updated:
GPA 19-001 May 14, 2019

Figure 2.1
LAND USE PLAN
Hemet General Plan

Land Use Inputs

	Light Industrial
SF/Employee[1]	1,030
Total SF	1,192,418
Total Employees	1,158

[1] the County of Riverside General Plan EIR, date

Model Run SED		
	TAZ	731
	Manuc Emp	579
	Trans Emp	579

number of employees per square foot of developed use, or the number of employees per acre of designated land use. Factors utilized for the County's proposed General Plan analysis are summarized in Table 3.G.

Table 3.G - Employment Factors

Land Use Designation	Employment Factor
Commercial Retail (CR)	1 employee/500 square feet
Commercial Tourist (CT)	1 employee/500 square feet
Commercial Office (CO)	1 employee/300 square feet
Light Industrial (LI)	1 employee/1,030 square feet
Heavy Industrial (HI)	1 employee/1,500 square feet
Business Park (BP)	1 employee/600 square feet
Agriculture	0.05 employee/acre
Land Use Designation	Employment Factor
Open Space - Mineral Resources	0.03 employee/acre
Open Space - Recreation	0.15 employee/acre

No Project 2018

RIVCOM_TAZ.ID	Area	ACRES	RIVCOM_`CITY	TIER2_SCAG	RIVCOM_TAZ.TAZ	ScenarioSE.ID	ScenarioSE.TAZ	Households	SFDU	MFDU	TotPop	HHPopula	GQPopula	TotEmp	Agricultur	Constructi	Manufacti	Wholesale	Retail	Transport	Informatic	FIRE	Professior	Education	ArtEnt	OthServic	PubAdmin	K8Enrollm	G912Enro	CollegeEn
731	0.507453	324.7206	Riverside	HEMET	43347100	731	731	731	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

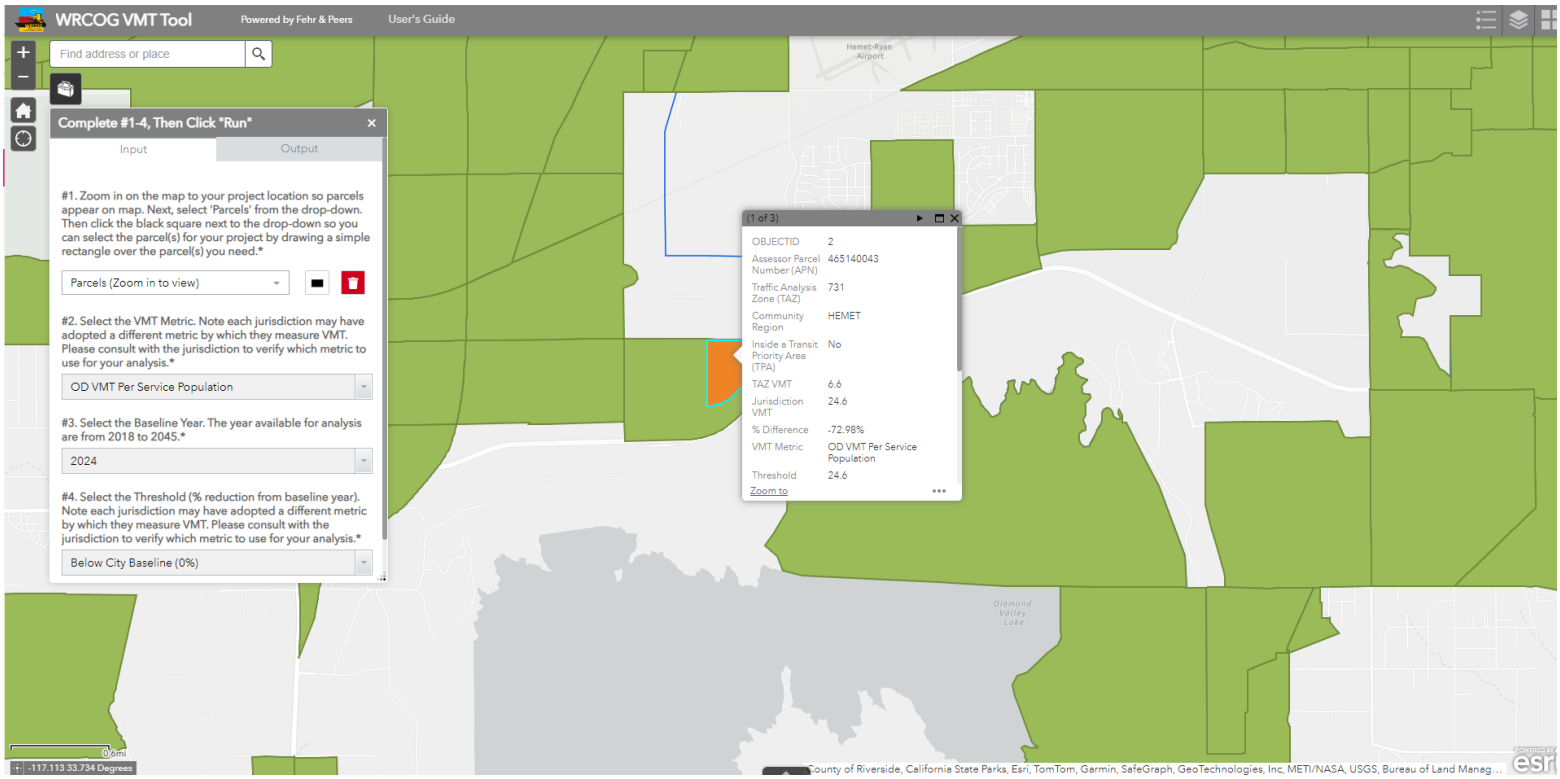
No Project 2045

RIVCOM_TAZ.ID	Area	ACRES	RIVCOM_`CITY	TIER2_SCAG	RIVCOM_TAZ.TAZ	ScenarioSE.ID	ScenarioSE.TAZ	Households	SFDU	MFDU	TotPop	HHPopula	GQPopula	TotEmp	Agricultur	Constructi	Manufacti	Wholesale	Retail	Transport	Informatic	FIRE	Professior	Education	ArtEnt	OthServic	PubAdmin	K8Enrollm	G912Enro	CollegeEn
731	0.507453	324.7206	Riverside	HEMET	43347100	731	731	731	566	71	495	907	907	0	61	0	0	0	0	15	0	0	3	12	1	21	9	0	0	0	0

Incremental SED for RIVCOM

RIVCOM_TAZ.ID	Area	ACRES	RIVCOM_`CITY	TIER2_SCAG	RIVCOM_TAZ.TAZ	ScenarioSE.ID	ScenarioSE.TAZ	Households	SFDU	MFDU	TotPop	HHPopula	GQPopula	TotEmp	Agricultur	Constructi	Manufacti	Wholesale	Retail	Transport	Informatic	FIRE	Professior	Education	ArtEnt	OthServic	PubAdmin	K8Enrollm	G912Enro	CollegeEn
731								0	0	0	0	0	0	1158	0	0	579	0	0	579	0	0	0	0	0	0	0	0	0	0

VMT Baseline Threshold from WRCOG

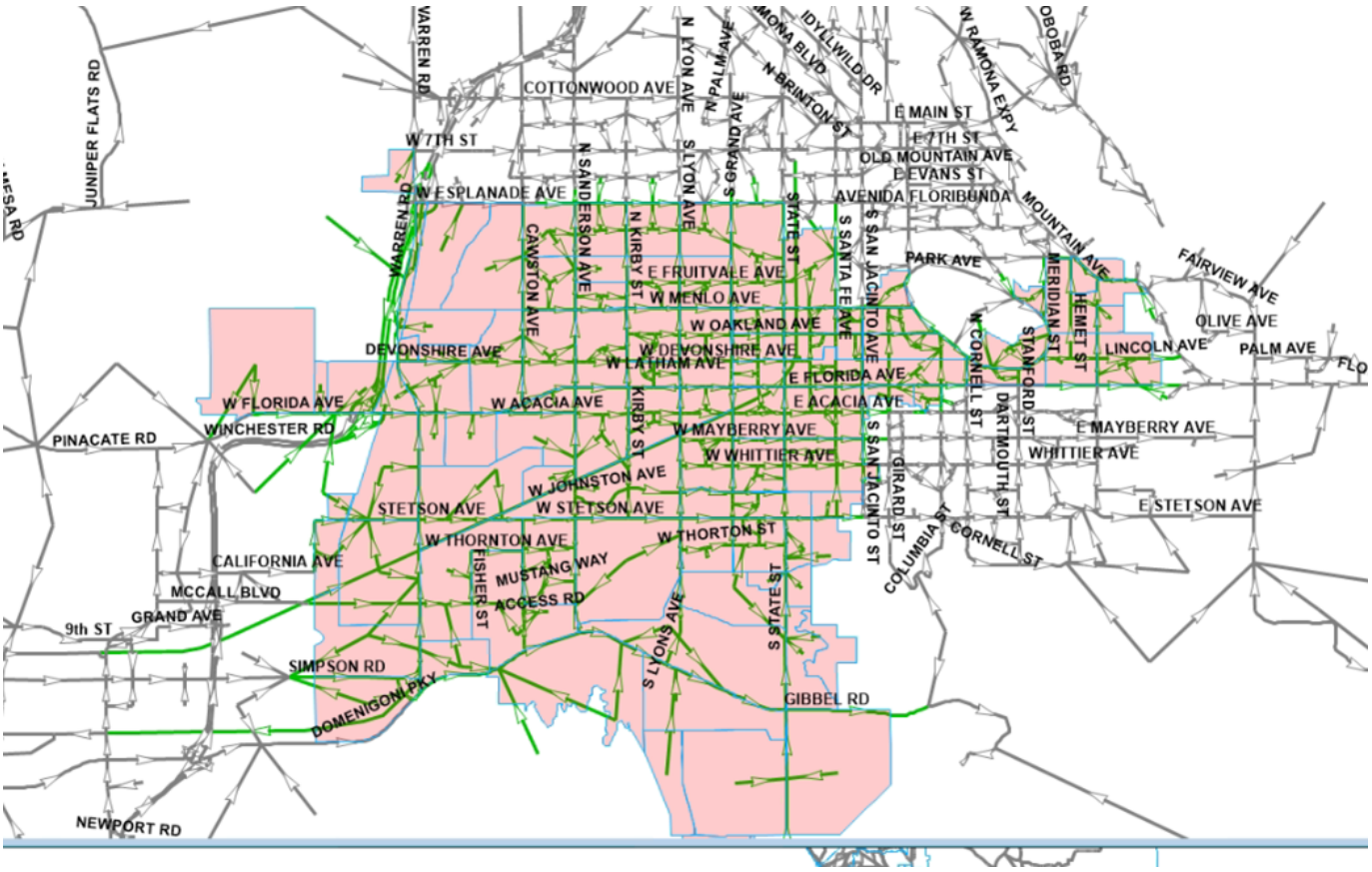


VMT Outputs

Scenario: D:\rivcom_model\scenarios\22_030_Simpson_BY18															
TAZ	Daily_H	Daily_H	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Populat	Employ	Enrollm
731	0	25149.63	13317.1	14587.94	0.965274	3141.675	3147.721	11.72931	16458.77	17735.67	12.69459	19.42272	0	1158	0

Scenario: D:\rivcom_model\scenarios\22_030_Simpson_FY45															
TAZ	Daily_H	Daily_H	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Daily_T	Popula	Employ	Enrollm
731	16109.9	24143.63	25797.12	26185.83	21.65515	3345.484	3333.677	12.41827	29142.6	29519.51	34.07341	14.32451	907	1219	0

Boundary VMT Area



2018 Boundary VMT Outputs

[20r16by_links].ID	643	1.38E+09	100629	2824396	2152586	1112861
Dir	643	0	0	0	0	0
Length	643	151.7133	0.002308	1.402508	0.235946	0.173051
[20r16by_links].ABLANES	643	2454	1	9	3.816485	3.641464
[20r16by_links].BALANES	643	2454	1	9	3.816485	3.641464
[20r16by_links].POSTEDSPEED	643	18910	15	60	29.40902	11.79632
[20r16by_links].HOV	643	0	0	0	0	0
[20r16by_links].WALK	643	643	1	1	1	0
[20r16by_links].DRIVE	643	643	1	1	1	0
[20r16by_links].TRUCK	643	643	1	1	1	0
[20r16by_links].HOV_FLAG	0					
[20r16by_links].COUNTY	432	1728	4	4	4	0
[20r16by_links].TOLL_LINK	0					
[20r16by_links].TOLL_FLAG	0					
[20r16by_links].[AB TOLLV AM DA]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV AM DA]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV AM SR2]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV AM SR2]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV AM SR3]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV AM SR3]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV PM DA]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV PM DA]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV PM SR2]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV PM SR2]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV PM SR3]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV PM SR3]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV OP DA]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV OP DA]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV OP SR2]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV OP SR2]	128	0	0	0	0	0
[20r16by_links].[AB TOLLV OP SR3]	128	0	0	0	0	0
[20r16by_links].[BA TOLLV OP SR3]	128	0	0	0	0	0
[20r16by_links].AB_AM_NONRV_PRELOAD	643	1532.41	0	52.42583	2.38322	9.414247
[20r16by_links].BA_AM_NONRV_PRELOAD	643	2621.823	0	165.406	4.077486	24.21255
[20r16by_links].AB_OP_NONRV_PRELOAD	643	2495.375	0	116.0879	3.880832	17.7904
[20r16by_links].BA_OP_NONRV_PRELOAD	643	2941.367	0	139.2027	4.574444	21.22621
[20r16by_links].AB_PM_NONRV_PRELOAD	643	2908.415	0	173.7099	4.523196	25.56614
[20r16by_links].BA_PM_NONRV_PRELOAD	643	2233.456	0	72.23154	3.473494	13.49705
[20r16by_links].SUB_AIR_BASIN	643	14789	23	23	23	0
[20r16by_links].cap_phpl	643	2429100	700	10000	3777.76	4348.639
[20r16by_links].ABAMCap	643	58208325	2100	270000	90526.17	125432.9
[20r16by_links].BAAMCap	643	58208175	2100	270000	90525.93	125433
[20r16by_links].ABOPCap	643	1.55E+08	5600	720000	241403.1	334487.7
[20r16by_links].BAOPCap	643	1.55E+08	5600	720000	241402.5	334488.1
[20r16by_links].ABPMCap	643	77611100	2800	360000	120701.6	167243.8
[20r16by_links].BAPMCap	643	77610900	2800	360000	120701.2	167244
[20r16by_links].FFSpeed	643	17614	15	57	27.39347	10.75454
[20r16by_links].FFTime	643	384.1318	0.009231	3.37128	0.597406	0.504219
[20r16by_links].Alpha	643	514.4	0.8	0.8	0.8	0
[20r16by_links].Beta	643	3870.2	4	10	6.018974	2.787862
[20r16by_links].WalkTime	643	3034.266	0.046155	28.05016	4.718921	3.461025
[20r16by_links].Mode	0					
[20r16by_links].InitCongSpeed	643	17596	15	58	27.36547	10.58808
[20r16by_links].InitCongTime	643	384.4566	0.009231	3.37128	0.597911	0.504562
VMT_NP	**643**	**812203.7**	**0**	**27823.6**	**1263.147**	**2362.072**
VMT_WP	**643**	**813535.4**	**0**	**27728.97**	**1265.218**	**2361.029**
LinkFlow_Final_AM.ID1	643	1.38E+09	100629	2824396	2152586	1112861
LinkFlow_Final_AM.AB_Flow_PCE	643	464964.4	0	4361.416	723.1173	864.8196
LinkFlow_Final_AM.BA_Flow_PCE	643	450716.2	0	3804.538	700.9583	796.52
LinkFlow_Final_AM.Tot_Flow_PCE	643	915680.6	0	7748.144	1424.076	1617.145
LinkFlow_Final_AM.AB_Time	643	393.2218	0.009231	3.37128	0.611542	0.503885
LinkFlow_Final_AM.BA_Time	643	391.0164	0.009231	3.37128	0.608113	0.501981
LinkFlow_Final_AM.Max_Time	643	394.7504	0.009231	3.37128	0.61392	0.502574
LinkFlow_Final_AM.AB_VOC	643	141.4042	0	0.959544	0.219913	0.257636
LinkFlow_Final_AM.BA_VOC	643	136.7165	0	0.998581	0.212623	0.249803
LinkFlow_Final_AM.Max_VOC	643	161.3807	0	0.998581	0.250981	0.275678
LinkFlow_Final_AM.AB_VMT	643	106162.8	0	3461.331	165.1055	308.2152
LinkFlow_Final_AM.BA_VMT	643	100757.6	0	3339.633	156.6992	286.2413
LinkFlow_Final_AM.Tot_VMT	643	206920.4	0	6799.936	321.8047	585.5511
LinkFlow_Final_AM.AB_VHT	643	3425.575	0	93.56654	5.327488	8.591221
LinkFlow_Final_AM.BA_VHT	643	3163.535	0	85.70371	4.919961	7.219562
LinkFlow_Final_AM.Tot_VHT	643	6589.109	0	179.2703	10.24745	15.39212
LinkFlow_Final_AM.AB_Speed	643	16815.98	15	56.95005	26.15237	9.463143
LinkFlow_Final_AM.BA_Speed	643	16916.51	15	56.47612	26.30872	9.593317
LinkFlow_Final_AM.AB_VDF	643	393.2218	0.009231	3.37128	0.611542	0.503885
LinkFlow_Final_AM.BA_VDF	643	391.0164	0.009231	3.37128	0.608113	0.501981
LinkFlow_Final_AM.Max_VDF	643	394.7504	0.009231	3.37128	0.61392	0.502574
LinkFlow_Final_AM.AB_MSA_Flow	643	465248.2	0	4374.881	723.5586	864.0389
LinkFlow_Final_AM.BA_MSA_Flow	643	450017.8	0	3829.658	699.8721	796.3447
LinkFlow_Final_AM.AB_MSA_Cost	643	393.4149	0.009231	3.37128	0.611843	0.50402
LinkFlow_Final_AM.BA_MSA_Cost	643	391.1724	0.009231	3.37128	0.608355	0.502015
LinkFlow_Final_AM.AB_MSA_Time	643	393.4149	0.009231	3.37128	0.611843	0.50402
LinkFlow_Final_AM.BA_MSA_Time	643	391.1724	0.009231	3.37128	0.608355	0.502015
LinkFlow_Final_AM.AB_Flow_res_da	643	323738.9	0	3104.86	503.482	628.2
LinkFlow_Final_AM.BA_Flow_res_da	643	311134.6	0	2993.527	483.8796	567.5837
LinkFlow_Final_AM.AB_Flow_res_sr2	643	94156.49	0	813.8186	146.4331	158.3281
LinkFlow_Final_AM.BA_Flow_res_sr2	643	93561.22	0	658.0168	145.5073	154.9106
LinkFlow_Final_AM.AB_Flow_IEEI_da	643	2973.585	0	69.4018	4.624549	8.50675
LinkFlow_Final_AM.BA_Flow_IEEI_da	643	2517.179	0	51.20822	3.914743	7.583068
LinkFlow_Final_AM.AB_Flow_IEEI_sr2	643	694.5469	0	18.07654	1.080166	2.057978
LinkFlow_Final_AM.BA_Flow_IEEI_sr2	643	512.627	0	11.1055	0.797243	1.610697
LinkFlow_Final_AM.AB_Flow_CV	643	968.2284	0	8.168048	1.505798	1.684535
LinkFlow_Final_AM.BA_Flow_CV	643	970.6409	0	8.749294	1.50955	1.77344
LinkFlow_Final_AM.AB_Flow_SUT	643	1389.245	0	12.25241	2.160568	2.470672
LinkFlow_Final_AM.BA_Flow_SUT	643	1390.97	0	13.12901	2.16325	2.584273
LinkFlow_Final_AM.AB_Flow_MUT	643	1724.106	0	23.96817	2.681346	3.82298
LinkFlow_Final_AM.BA_Flow_MUT	643	1690.75	0	22.21969	2.629471	3.867667
LinkFlow_Final_AM.AB_Flow_IEEI_Trk	643	146.0632	0	4.521273	0.227159	0.496155
LinkFlow_Final_AM.BA_Flow_IEEI_Trk	643	128.2408	0	3.617264	0.199441	0.461816
LinkFlow_Final_AM.AB_Flow_EE_Truck	643	0	0	0	0	0
LinkFlow_Final_AM.BA_Flow_EE_Truck	643	0	0	0	0	0
LinkFlow_Final_AM.AB_Flow_res_sr3	643	34478.83	0	315.2895	53.62182	60.40289
LinkFlow_Final_AM.BA_Flow_res_sr3	643	34304.78	0	253.0103	53.35114	58.61571
LinkFlow_Final_AM.AB_Flow_IEEI_sr3	643	275.7442	0	7.122237	0.42884	0.813608
LinkFlow_Final_AM.BA_Flow_IEEI_sr3	643	201.177	0	4.28616	0.312872	0.627701
LinkFlow_Final_AM.AB_Flow_NHBNR	643	260.6633	0	3.748168	0.405386	0.646966
LinkFlow_Final_AM.BA_Flow_NHBNR	643	216.6126	0	3.067829	0.336878	0.522062
LinkFlow_Final_AM.AB_Flow_EE	643	0	0	0	0	0
LinkFlow_Final_AM.BA_Flow_EE	643	0	0	0	0	0
LinkFlow_Final_AM.AB_Flow	643	460806.4	0	4319.354	716.6507	856.6812
LinkFlow_Final_AM.BA_Flow	643	446628.8	0	3760.723	694.6015	788.5754
LinkFlow_Final_AM.Tot_Flow	643	907435.2	0	7657.331	1411.252	1600.685
LinkFlow_Final_AM.AB_Flow_PCE_wPreload	643	464964.4	0	4361.416	723.1173	864.8196
LinkFlow_Final_AM.BA_Flow_PCE_wPreload	643	450716.2	0	3804.538	700.9583	796.52
LinkFlow_Final_AM.Tot_Flow_PCE_wPreload	643	915680.6	0	7748.144	1424.076	1617.145
LinkFlow_Final_OP.ID1	643	1.38E+09	100629	2824396	2152586	1112861
LinkFlow_Final_OP.AB_Flow_PCE	643	816871	0	7776.323	1270.406	1610.535
LinkFlow_Final_OP.BA_Flow_PCE	643	829319.6	0	7701.848	1289.766	1619.766
LinkFlow_Final_OP.Tot_Flow_PCE	643	1646191	0	15478.17	2560.172	3228.052
LinkFlow_Final_OP.AB_Time	643	386.4467	0.009231	3.37128	0.601006	0.503385
LinkFlow_Final_OP.BA_Time	643	386.6223	0.009231	3.37128	0.601279	0.503269
LinkFlow_Final_OP.Max_Time	643	386.6867	0.009231	3.37128	0.601379	0.50325
LinkFlow_Final_OP.AB_VOC	643	92.99557	0	0.741138	0.144628	0.18304
LinkFlow_Final_OP.BA_VOC	643	94.83711	0	0.766977	0.147492	0.187006
LinkFlow_Final_OP.Max_VOC	643	96.6508	0	0.766977	0.150312	0.188425
LinkFlow_Final_OP.AB_VMT	643	174970	0	6146.76	272.1151	520.4044
LinkFlow_Final_OP.BA_VMT	643	177213.3	0	6130.2	275.6039	523.7046
LinkFlow_Final_OP.Tot_VMT	643	352183.3	0	12276.96	547.719	1043.747
LinkFlow_Final_OP.AB_VHT	643	5206.949	0	123.0309	8.097899	11.89348
LinkFlow_Final_OP.BA_VHT	643	5280.873	0	122.5058	8.212866	11.99119
LinkFlow_Final_OP.Tot_VHT	643	10487.82	0	245.5367	16.31077	23.86819
LinkFlow_Final_OP.AB_Speed	643	17348.34	15	56.98281	26.98032	10.19923
LinkFlow_Final_OP.BA_Speed	643	17327.88	15	56.97801	26.94849	10.1622
LinkFlow_Final_OP.AB_VDF	643	386.4467	0.009231	3.37128	0.601006	0.503385
LinkFlow_Final_OP.BA_VDF	643	386.6223	0.009231	3.37128	0.601279	0.503269
LinkFlow_Final_OP.Max_VDF	643	386.6867	0.009231	3.37128	0.601379	0.50325
LinkFlow_Final_OP.AB_MSA_Flow	643	814826.9	0	7744.167	1267.227	1604.496
LinkFlow_Final_OP.BA_MSA_Flow	643	827506	0	7690.25	1286.946	1614.267

2045 Boundary VMT Outputs

Field	Count	Sum	Minimum	Maximum	Mean	[Std. Dev.]
ID	659	1.432E+09	100629	2798186	2173535	1106563
Dir	659	14	0	1	0.021244	0.144198
Length	659	178.40779	0.003773	4.831864	0.270725	0.323983
ABLANES	659	2611	1	10	3.962064	3.591013
BALANES	645	2588	1	10	4.012403	3.612618
POSTEDSPEED	659	19620	15	60	29.77238	12.47856
HOV	659	0	0	0	0	0
WALK	659	659	1	1	1	0
DRIVE	659	653	0	1	0.990895	0.094983
TRUCK	659	659	1	1	1	0
COUNTY	445	1780	4	4	4	0
TOLL_FLAG	0					
[AB TOLLV AM DA]	441	0	0	0	0	0
[BA TOLLV AM DA]	427	0	0	0	0	0
[AB TOLLV AM SR2]	441	0	0	0	0	0
[BA TOLLV AM SR2]	427	0	0	0	0	0
[AB TOLLV AM SR3]	441	0	0	0	0	0
[BA TOLLV AM SR3]	427	0	0	0	0	0
[AB TOLLV PM DA]	441	0	0	0	0	0
[BA TOLLV PM DA]	427	0	0	0	0	0
[AB TOLLV PM SR2]	441	0	0	0	0	0
[BA TOLLV PM SR2]	427	0	0	0	0	0
[AB TOLLV PM SR3]	441	0	0	0	0	0
[BA TOLLV PM SR3]	427	0	0	0	0	0
[AB TOLLV OP DA]	441	0	0	0	0	0
[BA TOLLV OP DA]	427	0	0	0	0	0
[AB TOLLV OP SR2]	441	0	0	0	0	0
[BA TOLLV OP SR2]	427	0	0	0	0	0
[AB TOLLV OP SR3]	441	0	0	0	0	0
[BA TOLLV OP SR3]	427	0	0	0	0	0
AB_AM_NONRV_PRELOAD	659	2495.9288	0	668.8615	3.787449	45.96856
BA_AM_NONRV_PRELOAD	645	0	0	0	0	0
AB_OP_NONRV_PRELOAD	659	2590.7249	0	562.4123	3.931297	41.64323
BA_OP_NONRV_PRELOAD	645	0	0	0	0	0
AB_PM_NONRV_PRELOAD	659	1998.1994	0	288.9895	3.032169	29.26665
BA_PM_NONRV_PRELOAD	645	0	0	0	0	0
SUB_AIR_BASIN	659	15157	23	23	23	0
cap_phpl	659	2451675	700	10000	3720.296	4324.764
ABAMCap	659	58808250	2100	270000	89238.62	124501.7
BAAMCap	645	58753350	2100	270000	91090.47	125202.5
ABOPCap	659	156822000	5600	720000	237969.7	332004.5
BAOPCap	645	156675600	5600	720000	242907.9	333873.3
ABPMCap	659	78411000	2800	360000	118984.8	166002.2
BAPMCap	645	78337800	2800	360000	121454	166936.7
FFSpeed	659	18279	15	57	27.73748	11.44092
FFTime	659	455.50965	0.015091	17.05364	0.691213	1.033015
Alpha	659	527.2	0.8	0.8	0.8	0
Beta	659	3959.8	4	10	6.008801	2.756977
WalkTime	659	3568.1559	0.075457	96.63728	5.414501	6.479655
Mode	0					
InitCongSpeed	659	18210	15	58	27.63278	11.19066
InitCongTime	659	454.66797	0.015091	16.10622	0.689936	0.991269
VMT_NP	659	1324394	0	31243.26	2009.703	3407.334
VMT_WP	659	1327248.7	0	31358.01	2014.034	3416.557
[LinkFlow_Final_AM:1].ID1	659	1.432E+09	100629	2798186	2173535	1106563
[LinkFlow_Final_AM:1].AB_Flow_PCE	659	682867.13	0	6743.121	1036.217	1156.859
[LinkFlow_Final_AM:1].BA_Flow_PCE	659	659636.42	0	6155.45	1000.966	1072.222
[LinkFlow_Final_AM:1].Tot_Flow_PCE	659	1342503.5	0	12898.57	2037.183	2135.268
[LinkFlow_Final_AM:1].AB_Time	659	471.92862	0.015091	17.05364	0.716128	1.035688
[LinkFlow_Final_AM:1].BA_Time	645	452.84291	0.015091	17.05364	0.702082	1.040702
[LinkFlow_Final_AM:1].Max_Time	659	476.90685	0.015091	17.05364	0.723683	1.035947
[LinkFlow_Final_AM:1].AB_VOC	659	176.30222	0	1.05985	0.26753	0.291225
[LinkFlow_Final_AM:1].BA_VOC	645	170.94833	0	1.052906	0.265036	0.283788
[LinkFlow_Final_AM:1].Max_VOC	659	206.22369	0	1.05985	0.312934	0.316423
[LinkFlow_Final_AM:1].AB_VMT	659	180193.35	0	5697.694	273.4345	533.9484
[LinkFlow_Final_AM:1].BA_VMT	645	156760.32	0	3761.17	243.0393	391.0293
[LinkFlow_Final_AM:1].Tot_VMT	659	336953.67	0	7649.305	511.3106	841.8015
[LinkFlow_Final_AM:1].AB_VHT	659	5892.191	0	173.9654	8.941109	15.21354
[LinkFlow_Final_AM:1].BA_VHT	645	5102.6995	0	83.4947	7.911162	10.16268
[LinkFlow_Final_AM:1].Tot_VHT	659	10994.891	0	194.4604	16.6842	22.65066
[LinkFlow_Final_AM:1].AB_Speed	659	17063.192	15	56.13444	25.89255	9.682122
[LinkFlow_Final_AM:1].BA_Speed	645	16680.138	15	52.02305	25.86068	9.736416
[LinkFlow_Final_AM:1].AB_VDF	659	471.92862	0.015091	17.05364	0.716128	1.035688
[LinkFlow_Final_AM:1].BA_VDF	645	452.84291	0.015091	17.05364	0.702082	1.040702
[LinkFlow_Final_AM:1].Max_VDF	659	476.90685	0.015091	17.05364	0.723683	1.035947
[LinkFlow_Final_AM:1].AB_MSA_Flow	659	682329.55	0	6799.382	1035.401	1151.641
[LinkFlow_Final_AM:1].BA_MSA_Flow	645	659589.76	0	6172.995	1022.62	1074.577
[LinkFlow_Final_AM:1].AB_MSA_Cost	659	472.11266	0.015091	17.05364	0.716408	1.03593
[LinkFlow_Final_AM:1].BA_MSA_Cost	645	452.86971	0.015091	17.05364	0.702124	1.040653
[LinkFlow_Final_AM:1].AB_MSA_Time	659	472.11266	0.015091	17.05364	0.716408	1.03593
[LinkFlow_Final_AM:1].BA_MSA_Time	645	452.86971	0.015091	17.05364	0.702124	1.040653
[LinkFlow_Final_AM:1].AB_Flow_res_da	659	485069.76	0	5234.119	736.0694	852.8914
[LinkFlow_Final_AM:1].BA_Flow_res_da	659	463143.31	0	4736.329	702.7971	770.6285
[LinkFlow_Final_AM:1].AB_Flow_res_sr2	659	133475.13	0	951.1598	202.5419	208.2238
[LinkFlow_Final_AM:1].BA_Flow_res_sr2	659	133424.13	0	878.5494	202.4645	205.4552
[LinkFlow_Final_AM:1].AB_Flow_IEEI_da	659	2645.7455	0	53.66512	4.014788	7.638148
[LinkFlow_Final_AM:1].BA_Flow_IEEI_da	659	1880.6073	0	37.70993	2.853729	5.310894
[LinkFlow_Final_AM:1].AB_Flow_IEEI_sr2	659	475.45449	0	7.447782	0.721479	1.305684
[LinkFlow_Final_AM:1].BA_Flow_IEEI_sr2	659	536.55078	0	16.99783	0.814189	1.831068
[LinkFlow_Final_AM:1].AB_Flow_CV	659	1495.4667	0	12.28122	2.269297	2.414025
[LinkFlow_Final_AM:1].BA_Flow_CV	659	1480.5745	0	12.09896	2.246699	2.481096
[LinkFlow_Final_AM:1].AB_Flow_SUT	659	2142.8971	0	20.38543	3.251741	3.540059
[LinkFlow_Final_AM:1].BA_Flow_SUT	659	2117.6206	0	20.12526	3.213385	3.638563
[LinkFlow_Final_AM:1].AB_Flow_MUT	659	2506.1672	0	38.14894	3.802985	4.90283
[LinkFlow_Final_AM:1].BA_Flow_MUT	659	2418.4479	0	37.01553	3.669875	4.973397
[LinkFlow_Final_AM:1].AB_Flow_IEEI_Trk	659	74.887814	0	1.748049	0.113639	0.233249
[LinkFlow_Final_AM:1].BA_Flow_IEEI_Trk	659	48.985223	0	1.219093	0.074333	0.147936
[LinkFlow_Final_AM:1].AB_Flow_EE_Truck	659	0	0	0	0	0
[LinkFlow_Final_AM:1].BA_Flow_EE_Truck	659	0	0	0	0	0
[LinkFlow_Final_AM:1].AB_Flow_res_sr3	659	48513.729	0	390.6591	73.61719	78.45442
[LinkFlow_Final_AM:1].BA_Flow_res_sr3	659	48296.079	0	369.202	73.28692	76.64521
[LinkFlow_Final_AM:1].AB_Flow_IEEI_sr3	659	191.32702	0	3.01765	0.290329	0.526784
[LinkFlow_Final_AM:1].BA_Flow_IEEI_sr3	659	216.7481	0	6.908722	0.328905	0.743096
[LinkFlow_Final_AM:1].AB_Flow_NHBNR	659	280.8141	0	4.178467	0.426122	0.67687
[LinkFlow_Final_AM:1].BA_Flow_NHBNR	659	266.83474	0	6.037033	0.404909	0.717271
[LinkFlow_Final_AM:1].AB_Flow_EE	659	0	0	0	0	0
[LinkFlow_Final_AM:1].BA_Flow_EE	659	0	0	0	0	0
[LinkFlow_Final_AM:1].AB_Flow	659	676871.37	0	6665.081	1027.119	1146.59
[LinkFlow_Final_AM:1].BA_Flow	659	653829.89	0	6079.388	992.1546	1062.006
[LinkFlow_Final_AM:1].Tot_Flow	659	1330701.3	0	12744.47	2019.274	2114.335
[LinkFlow_Final_AM:1].AB_Flow_PCE_wPreload	659	682867.13	0	6743.121	1036.217	1156.859
[LinkFlow_Final_AM:1].BA_Flow_PCE_wPreload	645	659636.42	0	6155.45	1022.692	1073.496
[LinkFlow_Final_AM:1].Tot_Flow_PCE_wPreload	659	1342503.5	0	12898.57	2037.183	2135.268
[LinkFlow_Final_OP:1].ID1	659	1.432E+09	100629	2798186	2173535	1106563
[LinkFlow_Final_OP:1].AB_Flow_PCE	659	1221997.7	0	12142.42	1854.321	2178.853
[LinkFlow_Final_OP:1].BA_Flow_PCE	659	1174759.7	0	11549.39	1782.64	2098.501
[LinkFlow_Final_OP:1].Tot_Flow_PCE	659	2396757.4	0	23691.81	3636.961	4209.854
[LinkFlow_Final_OP:1].AB_Time	659	459.31706	0.015091	17.05364	0.696991	1.032288
[LinkFlow_Final_OP:1].BA_Time	645	444.72396	0.015091	17.05364	0.689495	1.040914
[LinkFlow_Final_OP:1].Max_Time	659	459.63622	0.015091	17.05364	0.697475	1.032212
[LinkFlow_Final_OP:1].AB_VOC	659	116.29646	0	0.882292	0.176474	0.20708
[LinkFlow_Final_OP:1].BA_VOC	645	113.19285	0	0.901714	0.175493	0.206538
[LinkFlow_Final_OP:1].Max_VOC	659	121.18496	0	0.901714	0.183892	0.212985
[LinkFlow_Final_OP:1].AB_VMT	659	308178.63	0	10140.83	467.6459	942.0284
[LinkFlow_Final_OP:1].BA_VMT	645	268496.02	0	7178.489	416.2729	717.305
[LinkFlow_Final_OP:1].Tot_VMT	659	576674.65	0	14263.42	875.0753	1534.656
[LinkFlow_Final_OP:1].AB_VHT	659	8965.7447	0	215.0849	13.60508	20.79178
[LinkFlow_Final_OP:1].BA_VHT	645	8141.2096	0	144.7946	12.62203	16.68919
[LinkFlow_Final_OP:1].Tot_VHT	659	17106.954	0	303.8586	25.95896	35.05297
[LinkFlow_Final_OP:1].AB_Speed	659	17892.865	15	56.55427	27.15154	10.79136
[LinkFlow_Final_OP:1].BA_Speed	645	17359.671	15	56.36917	26.91422	10.66498
[LinkFlow_Final_OP:1].AB_VDF	659	459.31706	0.015091	17.05364	0.696991	1.032288
[LinkFlow_Final_OP:1].BA_VDF	645	444.72396	0.015091	17.05364	0.689495	1.040914
[LinkFlow_Final_OP:1].Max_VDF	659	459.63622	0.015091	17.05364	0.697475	1.032212
[LinkFlow_Final_OP:1].AB_MSA_Flow	659	1225312.8	0	12314.47	1859.352	2183.671
[LinkFlow_Final_OP:1].BA_MSA_Flow	645	1179706.1	0	11615.43	1829.002	2118.987
[LinkFlow_Final_OP:1].AB_MSA_Cost	659	459.37164	0.015091	17.05364	0.697074	1.032247
[LinkFlow_Final_OP:1].BA_MSA_Cost	645	444.82223	0.015091	17.05364	0.689647	1.040888
[LinkFlow_Final_OP:1].AB_MSA_Time	659	459.37164	0.015091	17.05364	0.697074	1.032247

T-6. Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)

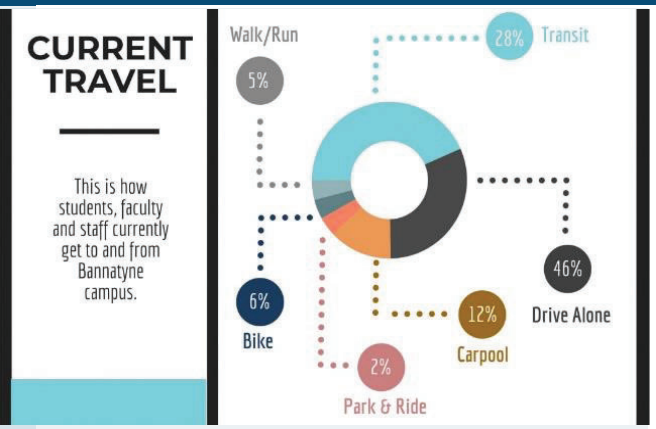


Photo Credit: University of Manitoba, 2018

GHG Mitigation Potential

Up to 26.0% of GHG emissions from project/site employee commute VMT

Co-Benefits (icon key on pg. 34)

Climate Resilience

Commute trip reduction programs could result in less traffic, potentially reducing congestion or delays on major roads during peak AM and PM traffic periods. When this reduction occurs during extreme weather events, it better allows emergency responders to access a hazard site. Lower transportation costs would also increase community resilience by freeing up resources for other purposes.

Health and Equity Considerations

Design of CTR programs needs to consider existing mobility options in diverse communities and ensure equitable access and benefit to all employees.

Measure Description

This measure will implement a mandatory CTR program with employers. CTR programs discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions.

Subsector

Trip Reduction Programs

Locational Context

Urban, suburban

Scale of Application

Project/Site

Implementation Requirements

The mandatory CTR program must include all other elements (i.e., Measures T-7 through T-11) described for the voluntary program (Measure T-5) plus include mandatory trip reduction requirements (including penalties for non-compliance) and regular monitoring and reporting to ensure the calculated VMT reduction matches the observed VMT reduction.

Cost Considerations

Employer costs may include recurring, direct costs for transit subsidies, capital and maintenance costs for alternative transportation infrastructure, and labor costs for staff to manage the program. If the local municipality has a mandatory VMT reduction ordinance, additional employer costs could include non-compliance penalties if the municipality fines CTR programs that do not meet a VMT goal. Municipal costs may include the labor costs for government staff to track the efficacy of the program, which may be outweighed by revenue generated from fines collected from non-compliant businesses.

Expanded Mitigation Options

This program typically serves as a complement to the more effective workplace CTR measures, such as pricing workplace parking (Measure T-12) or implementing employee parking "cash-out" (Measure T-13).

GHG Reduction Formula

$A = B \times C \times D$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from project/site employee commute VMT	0–26.0	%	calculated
User Inputs				
B	Percent of employees eligible for program	0–100	%	user input
Constants, Assumptions, and Available Defaults				
C	Percent reduction in vehicle mode share of employee commute trips	-26	%	Nelson\Nygaard Consulting Associates 2015
D	Adjustment from vehicle mode share to commute VMT	1	unitless	assumed

Further explanation of key variables:

- (B) – This refers to the percent of employees that would be able to participate in the program. This will usually be 100 percent. Employees who might not be able to participate could include those who work nighttime hours when transit and rideshare services are not available or employees who are required to drive to work as part of their job duties. This input does not refer to the percent of employees who participate in the program.
- (C) – A multiyear study of mode share on Genentech's South San Francisco campuses tracked the long-run change in employee commute mode share with implementation of mandatory CTR. Between 2006 and 2014, employee vehicle mode share (includes single-occupied vehicles and carpools) decreased from approximately 90 percent to 64 percent, which is a 26 percent reduction (Nelson\Nygaard Consulting Associates 2015).
- (D) – The adjustment factor from vehicle mode share to commute VMT is 1. This assumes that all vehicle trips will average out to typical trip length. Thus, it can be assumed that a percentage reduction in vehicle trips will equal the same percentage reduction in VMT.

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The maximum GHG reduction from this measure is 26 percent. This maximum scenario is presented in the below example quantification.

Subsector Maximum

($\sum A_{max_{T\text{-}5 \text{ through } T\text{-}13}} \leq 45\%$) This measure is in the Trip Reduction Programs subsector. This subcategory includes Measures T-5 through T-13. The employee commute VMT reduction from the combined implementation of all measures within this subsector is capped at 45 percent.

Mutually Exclusive Measures

If this measure is selected, the user may not also take credit for Measure T-5, which represents the same implementation activities as Measure T-5, except that the CTR program would be mandatory. Users should select either Measure T-5 or T-6.

If this measure is selected, the user may not also take credit for Measures T-7 through T-11. Measure T-6 accounts for the combined GHG reductions achieved by each of these individual measures. To combine the GHG reductions from T-6 with any of these measures would be considered double counting. However, the user may take credit for Measure T-12 and T-13 within the larger CTR subcategory, so long as the combined VMT reduction does not exceed 45 percent, as noted above.

Example GHG Reduction Quantification

The user reduces employee commute VMT by requiring that the employer of the proposed project offer a mandatory CTR program to their employees. In this example, the percent of employees eligible (B) is 100 percent, which would reduce GHG emissions from employee commute VMT by 26 percent.

$$A = 100\% \times -26\% \times 1 = -26\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

Sources

- Nelson/Nygaard Consulting Associates. 2015. *Genentech–South San Francisco Campus TDM and Parking Report*. June. Available: http://ci-ssf-ca.granicus.com/MetaViewer.php?view_id=2&clip_id=859&meta_id=62028. Accessed: January 2021.

T-7. Implement Commute Trip Reduction Marketing

Photo Credit: Sacramento Area Council of Governments, 2012

GHG Mitigation Potential

Up to 4.0% of GHG emissions from project/site employee commute VMT

Co-Benefits (icon key on pg. 34)

Climate Resilience

Commute trip reduction programs could result in less traffic, potentially reducing congestion or delays on major roads during peak AM and PM traffic periods. When this reduction occurs during extreme weather events, it better allows emergency responders to access a hazard site. Lower transportation costs would also increase community resilience by freeing up resources for other purposes.

Health and Equity Considerations

Design of CTR programs needs to consider existing mobility options in diverse communities and ensure equitable access and benefit to all employees. CTR programs may need to include multi-language materials.

Measure Description

This measure will implement a marketing strategy to promote the project site employer's CTR program. Information sharing and marketing promote and educate employees about their travel choices to the employment location beyond driving such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions.

Subsector

Trip Reduction Programs

Locational Context

Urban, suburban

Scale of Application

Project/Site

Implementation Requirements

The following features (or similar alternatives) of the marketing strategy are essential for effectiveness.

- Onsite or online commuter information services.
- Employee transportation coordinators.
- Onsite or online transit pass sales.
- Guaranteed ride home service.

Cost Considerations

Employer costs include labor and materials for development and distribution of survey and marketing materials to promote the program and educate potential participants.

Expanded Mitigation Options

This measure could be packaged with other commute trip reduction measures (Measures T-8 through T-13) as a comprehensive CTR program (Measure T-5 or T-6).

GHG Reduction Formula

$A = B \times C \times D$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from project/site employee commute VMT	0–4.0	%	calculated
User Inputs				
B	Percent of employees eligible for program	0–100	%	user input
Constants, Assumptions, and Available Defaults				
C	Percent reduction in employee commute vehicle trips	-4	%	TRB 2010
D	Adjustment from vehicle trips to VMT	1	unitless	assumed

Further explanation of key variables:

- (B) – This refers to the percent of employees that would be able to participate in the program. This will usually be 100 percent. Employees who might not be able to participate could include those who work nighttime hours when transit and rideshare services are not available or employees who are required to drive to work as part of their job duties. This input does not refer to the percent of employees who actually participate in the program.
- (C) – A review of studies measuring the effect of transportation demand management measures on traveler behavior notes that the average empirically-based estimate of reductions in vehicle trips for full-scale, site-specific employer support programs is 4 to 5 percent. To be conservative, the low end of the range is cited (TRB 2010).
- (D) – The adjustment factor from vehicle trips to VMT is 1. This assumes that all vehicle trips will average out to typical trip length ("assumes all trip lengths are equal"). Thus, it can be assumed that a percentage reduction in vehicle trips will equal the same percentage reduction in VMT.

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The maximum GHG reduction from this measure is 4 percent. This maximum scenario is presented in the below example quantification.

Subsector Maximum

($\sum A_{max_{T\text{-}5 \text{ through } T\text{-}13}} \leq 45\%$) This measure is in the Trip Reduction Programs subsector. This subcategory includes Measures T-5 through T-13. The employee commute VMT reduction from the combined implementation of all measures within this subsector is capped at 45 percent.

Mutually Exclusive Measures

If this measure is selected, the user may not also take credit for either Measure T-5 or T-6. However, this measure may be implemented alongside other individual CTR measures (Measures T-8 through T-13). The efficacy of individual programs may vary highly based on individual employers and local contexts.

Example GHG Reduction Quantification

The user reduces employee commute VMT by requiring that employers of a project market to employees travel options for modes alternative to single-occupied vehicles. In this example, the percent of employees eligible (B) is 100 percent, which would reduce GHG emissions from employee commute VMT by 4 percent.

$$A = 100\% \times -4\% \times 1 = -4\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

Sources

- Transportation Research Board (TRB). 2010. *Traveler Response to Transportation System Changes Handbook, Third Edition: Chapter 19, Employer and Institutional TDM Strategies*. June. Available: http://www.trb.org/Publications/Blurbs/163781.aspx. Accessed: January 2021.

T-8. Provide Ridesharing Program

GHG Mitigation Potential

Up to 8.0% of GHG emissions from project/site employee commute VMT

Co-Benefits (icon key on pg. 34)

Climate Resilience

Ridesharing programs could result in less traffic, potentially reducing congestion or delays on major roads during peak AM and PM traffic periods. When this reduction occurs during extreme weather events, it better allows emergency responders to access a hazard site. Lower transportation costs would also increase community resilience by freeing up resources for other purposes.

Health and Equity Considerations

Program should include all onsite workers, such as contractors, interns, and service workers. Because ridesharing is vehicle-based, and some employees may not be in areas with feasible rideshare networks, design of programs need to ensure equitable benefits to those with and without access to rideshare opportunities.

Measure Description

This measure will implement a ridesharing program and establish a permanent transportation management association with funding requirements for employers. Ridesharing encourages carpooled vehicle trips in place of single-occupied vehicle trips, thereby reducing the number of trips, VMT, and GHG emissions.

Subsector

Trip Reduction Programs

Locational Context

Urban, suburban

Scale of Application

Project/Site

Implementation Requirements

Ridesharing must be promoted through a multifaceted approach. Examples include the following.

- Designating a certain percentage of desirable parking spaces for ridesharing vehicles.
- Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles.
- Providing an app or website for coordinating rides.

Cost Considerations

Costs of developing, implementing, and maintaining a rideshare program in a way that encourages participation are generally borne by municipalities or employers. The beneficiaries include the program participants saving on commuting costs, the employer reducing onsite parking expenses, and the municipality reducing cars on the road, which leads to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

When providing a ridesharing program, a best practice is to establish funding by a non-revocable funding mechanism for employer-provided subsidies. In addition, encourage use of low-emission ridesharing vehicles (e.g., shared Uber Green).

This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.

GHG Reduction Formula

$A = B \times C$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from project/site employee commute VMT	0–8.0	%	calculated
User Inputs				
B	Percent of employees eligible for program	0–100	%	user input
Constants, Assumptions, and Available Defaults				
C	Percent reduction in employee commute VMT	Table T-8.1	%	SANDAG 2019

Further explanation of key variables:

- (B) – This refers to the percent of employees that would be able to participate in the program. This will usually be 100 percent. Employees who might not be able to participate could include those who work nighttime hours when transit and rideshare services are not available or employees who are required to drive to work as part of their job duties. This input does not refer to the percent of employees who actually participate in the program.
- (C) – The percent reduction in employee commute VMT by place type is provided in Table T-8.1 in Appendix C. The reduction differs by place type because the willingness and ability to participate in carpooling is higher in urban areas than in suburban areas. Note that this measure is not applicable for implementation in rural areas (SANDAG 2019).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The maximum GHG reduction from this measure is 8 percent.

Subsector Maximum

($\sum A_{max_{T\text{-}5 \text{ through } T\text{-}13}} \leq 45\%$) This measure is in the Trip Reduction Programs subsector. This subcategory includes Measures T-5 through T-13. The employee commute VMT reduction from the combined implementation of all measures within this subsector is capped at 45 percent.

Mutually Exclusive Measures

If this measure is selected, the user may not also take credit for either Measure T-5 or T-6. However, this measure may be implemented alongside other individual CTR measures (Measures T-7 and T-9 through T-13). The efficacy of individual programs may vary highly based on individual employers and local contexts.

Example GHG Reduction Quantification

The user reduces employee commute VMT by requiring that employers of a project provide a ridesharing program to their employees. In this example, the percent of employees eligible (B) at a packaging and distribution center is 50 percent and the place type of the project is urban (C). GHG emissions from employee commute VMT would be reduced by 4 percent.

$A = 50\% \times -8\% = -4\%$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

Sources

- San Diego Association of Governments (SANDAG). 2019. *Mobility Management VMT Reduction Calculator Tool–Design Document*. June. Available: https://www.icommutesd.com/docs/default-source/planning/tool-design-document_final_7-17-19.pdf?sfvrsn=ec39eb3b_2. Accessed: January 2021.

T-9. Implement Subsidized or Discounted Transit Program

GHG Mitigation Potential

Up to 5.5% of emissions from employee/resident vehicles accessing the site

Co-Benefits (icon key on pg. 34)

Climate Resilience

Subsidized and discounted transit programs increase the capacity of low-income populations to use transit to evacuate or access resources during an extreme weather event. They could also incentivize more people to use transit, resulting in less traffic and better allowing emergency responders to access a hazard site during an extreme weather event. Lower overall out-of-pocket costs would also help increase community resilience by freeing up resources for other purposes.

Health and Equity Considerations

Program should include all onsite workers, such as contractors, interns, and service workers.

Measure Description

This measure will provide subsidized or discounted, or free transit passes for employees and/or residents. Reducing the out-of-pocket cost for choosing transit improves the competitiveness of transit against driving, increasing the total number of transit trips and decreasing vehicle trips. This decrease in vehicle trips results in reduced VMT and thus a reduction in GHG emissions.

Subsector

Trip Reduction Programs

Locational Context

Urban, suburban

Scale of Application

Project/Site

Implementation Requirements

The project should be accessible either within 1 mile of high-quality transit service (rail or bus with headways of less than 15 minutes), 0.5 mile of local or less frequent transit service, or along a designated shuttle route providing last-mile connections to rail service. If a well-established bikeshare service (Measure T-22-A) is available, the site may be located up to 2 miles from a high-quality transit service.

If more than one transit agency serves the site, subsidies should be provided that can be applied to each of the services available. If subsidies are applied for only one service, all variable inputs below should also pertain only to the service that is subsidized.

Cost Considerations

The employer cost is the recurring, direct cost for transit subsidies. The subsidies will lower the per capita income of the transit service, decreasing the revenue of the local transit agency. This cost may be offset by increased revenue from increased ridership. The beneficiaries include the program participants saving on commuting cost, the employer reducing onsite parking expenses, and the municipality reducing cars on the road, which leads to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.

GHG Reduction Formula

$$A = \frac{C}{B} \times G \times D \times E \times F \times H \times I$$

GHG Calculation Variables

If subsidies or discounts target employees, the GHG reduction from this measure may be limited to work-related employee trips only (i.e., home-to- work) and work-to-other, where at least one trip end is work). If residents are targeted, the GHG reductions extend to all trips.

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from employee/resident vehicles accessing the site	0–5.5	%	calculated
User Inputs				
B	Average transit fare without subsidy	[ ]	$	user input
C	Subsidy amount	[ ]	$	user input
D	Percent of employees/residents eligible for subsidy	0–100	%	user input
E	Percent of project-generated VMT from employees/residents	0–100	%	user input
Constants, Assumptions, and Available Defaults				
F	Transit mode share of all trips or work trips	Table T-3.1 or Table T-9.1	%	FHWA 2017
G	Elasticity of transit boardings with respect to transit fare price	-0.43	unitless	Taylor et al. 2008
H	Percent of transit trips that would otherwise be made in a vehicle	50	%	Handy & Boarnet 2013
I	Conversion factor of vehicle trips to VMT	1.0	unitless	assumption

Further explanation of key variables:

- (B and C) – The average transit fare and subsidy amount can be presented as either a fare per ride, or the cost of a monthly pass for typical transit service near the site. Pricing should be based on the expected means of subsidy implementation; for instance, if a monthly pass is provided to all residents, prices should be input on a monthly basis.
- (D) – The percentage of employees/residents associated with the site who have access to the subsidy. If subsidy is provided as an employee benefit, care should be taken to account for any contract or temporary workers who do not receive such benefits.
- (E) – The percentage of project-generated VMT from employees/residents is used to adjust the percent reduction in GHG emissions from the scale of employee and/or resident-generated VMT to project-generated VMT. If subsidies or discounts target employees at an office development, this value would simply be 100 percent. If the project site is a multifamily development with no onsite workers, this value would also be

100 percent. If the project site is a retail development, this value would be less than 100 percent, as it does not account for retail shopper trips to the site. The share of total VMT generated by employees for visitor-intensive uses, such as retail or medical offices, can be roughly estimated by multiplying the total number of employees by two (to account for both arrival and departure), divided by the total number of daily trips.

- (F) – Ideally, the user will calculate transit mode share for work trips or all trips of a Project/Site at a scale no larger than a census tract. Potential data sources include the U.S. Census, California Household Travel Survey (preferred), or local survey efforts. Care should be taken *not* to present the reported commute mode share as retrieved from the American Community Survey (ACS), unless the land use is office or employment based and the tables are based on work location (rather than home location). If the subsidies or discounts target employees and their commute trips, then the mode share should use the home-to-work trip purpose. If the user is not able to provide a project-specific value using one of the data sources described above, they have the option to input the transit mode share for one of the six most populated CBSAs in California. The transit mode share for work trips by CBSA is presented in Table T-9.1 in Appendix C (FHWA 2017). The transit mode share for all trips is provided in Table T-3.1 in Appendix C.
- (G) – A cross-sectional analysis of transit use in 265 urbanized areas in the U.S. found that a 0.43 percent decrease in transit boardings occurs for every 1 percent increase in transit fare price (Taylor et al. 2008). A policy brief summarizing the results of transit service strategies found this analysis to fall in the mid-point of observed, short-term values (Handy & Boarnet 2013). Price elasticities of transit demand vary based on both long-term and short-term demand, service type, and service location (Litman 2020 and Handy & Boarnet 2013).
- (H) – Not all new transit trips replace a vehicle trip. The share of transit trips that would otherwise be made by private vehicle ranges from less than 5 percent to 50 percent across studies. This assumption is based on observed values for high quality BRT service under the assumption that this measure is implemented alongside marketing measures and is targeted primarily at reducing vehicle commute trips. (Handy & Boarnet 2013). Note that this study looked at service improvements rather than fare changes and is used as a proxy variable. If project-specific or location-specific information is available, it should be substituted for this assumptive variable.
- (I) – The adjustment factor from vehicle trips to VMT is 1. This assumes that all vehicle trips will average out to typical trip length ("assumes all trip lengths are equal"). Thus, it can be assumed that a percentage reduction in vehicle trips will equal the same percentage reduction in VMT. Subsidies or discounts targeting commute trips may have a higher factor as they are generally longer than the trip lengths for other purposes.

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The GHG reduction is capped at 5.5 percent, which is based on the following assumptions:

- (C=B) – The subsidy coverage is capped at 100 percent of the typical transit fare.
- (D) – All employees are eligible for the subsidy.

- (E) – All project-generated VMT is from employee-generated VMT.
- (F) – Employees at an office development in the San Francisco-Oakland-Hayward CBSA have a default transit mode share for work trips of 25.60 percent.

Subsector Maximum

$(\sum A_{max_{T\text{-}5 \text{ through } T\text{-}13}} \leq 45\%)$ This measure is in the Trip Reduction Programs subsector. This subcategory includes Measures T-5 through T-13. The employee commute VMT reduction from the combined implementation of all measures within this subsector is capped at 45 percent.

Mutually Exclusive Measures

If this measure is selected, the user may not also take credit for either Measure T-5 or T-6. However, this measure may be implemented alongside other individual CTR measures (Measures T-7, T-8, T-10 through T-13). The efficacy of individual programs may vary highly based on individual employers and local contexts.

Example GHG Reduction Quantification

In this example, the user reduces VMT by providing all employees (D) of a proposed office development in the San Francisco-Oakland-Hayward CBSA a 100 percent transit subsidy in the form of a $100 monthly transit pass (C=B). The user would reduce GHG emissions from VMT by 5.5 percent.

$$A = \left(\frac{\$100}{\$100} \times -0.43\right) \times 100\% \times 100\% \times 25.60\% \times 50\% \times 1 = -5.5\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

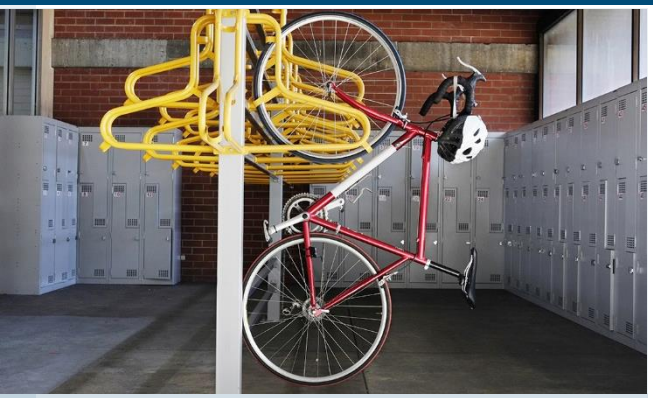
VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

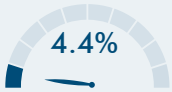
Sources

- Federal Highway Administration (FHWA). 2017. *National Household Travel Survey–2017 Table Designer*. Travel Day PMT by TRPTRANS by HH_CBSA, Workers by WRKTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.
- Handy, L. and S. Boarnet. 2013. *Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions*. Available: http://www.arb.ca.gov/cc/sb375/policies/transitservice/transit_brief.pdf. Accessed: January 2021.
- Litman, T. 2020. *Transit Price Elasticities and Cross-elasticities*. Victoria Transport Policy Institute. April. Available: https://www.vtpi.org/tranelas.pdf. Accessed: January 2021.
- Taylor, B., D. Miller, H. Iseki, and C. Fink. 2008. *Nature and/or Nurture? Analyzing the Determinants of Transit Ridership Across US Urbanized Areas*. Transportation Research Part A: Policy and Practice, 43(1), 60-77. Available: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.367.5311&rep=rep1&type=pdf. Accessed: January 2021.

T-10. Provide End-of-Trip Bicycle Facilities



GHG Mitigation Potential



Up to 4.4% of GHG emissions from project/site employee commute VMT

Co-Benefits (icon key on pg. 34)

Climate Resilience

End-of-trip bicycle facilities could take more cars off the road, resulting in less traffic and better allowing emergency responders to access a hazard site during an extreme weather event. They could also make it easier for bicycle users to access resources in an extreme weather event.

Health and Equity Considerations

Facilities should be inclusive of all gender identities and expressions. Consider including gender-neutral, single-occupancy options to allow for additional privacy for those who want it.

Measure Description

This measure will install and maintain end-of-trip facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions.

Subsector

Trip Reduction Programs

Locational Context

Urban, suburban

Scale of Application

Project/Site

Implementation Requirements

End-of-trip facilities should be installed at a size proportional to the number of commuting bicyclists and regularly maintained.

Cost Considerations

Employer costs include capital and maintenance costs for construction and maintenance of facilities and potentially labor and materials costs for staff to monitor facilities and provide marketing to encourage use of new facilities. The beneficiaries include the program participants saving on commuting cost, the employer reducing onsite parking expenses, and the municipality reducing cars on the road, which leads to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

Best practice is to include an onsite bicycle repair station and post signage on or near secure parking and personal lockers with information about how to reserve or obtain access to these amenities.

This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.

GHG Reduction Formula

$$A = \frac{C \times (E - (B \times E))}{D \times F}$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from employee project/site commute VMT	0.1–4.4	%	calculated
User Inputs				
	None			
Constants, Assumptions, and Available Defaults				
B	Bike mode adjustment factor	1.78 or 4.86	unitless	Buehler 2012
C	Existing bicycle trip length for all trips in region	Table T-10.1	miles	FHWA 2017a
D	Existing vehicle trip length for all trips in region	Table T-10.1	miles	FHWA 2017a
E	Existing bicycle mode share for work trips in region	Table T-10.2	%	FHWA 2017b
F	Existing vehicle mode share for work trips in region	Table T-10.2	%	FHWA 2017b

Further explanation of key variables:

- (B) – The bike mode adjustment factor should be provided by the user based on type of bike facility. A study found that commuters with showers, lockers, and bike parking at work are associated with 4.86 times greater likelihood to commute by bicycle when compared to individuals without any bicycle facilities at work. Individuals with bike parking, but no showers and lockers at the workplace, are associated with 1.78 times greater likelihood to cycle to work than those without trip-end facilities (Buehler 2012).
- (C and D) – Ideally, the user will calculate bicycle and auto trip length for a Project/Site at a scale no larger than a census tract. Potential data sources include the U.S. Census, California Household Travel Survey (preferred), or local survey efforts. If the user is not able to provide a project-specific value using one of these data sources, they have the option to input the trip lengths for bicycles and vehicles for one of the six most populated CBSAs in California, as presented in Table T-10.1 in Appendix C (FHWA 2017a). Trip lengths are likely to be longer for areas not covered by the listed CBSAs, which represent the denser areas of the state.
- (E and F) – Ideally, the user will calculate bicycle and auto mode share for work trips for a Project/Site at a scale no larger than a census tract. Potential data sources include the U.S. Census, California Household Travel Survey (preferred), or local survey efforts. If the user is not able to provide a project-specific value using one of these data sources, they have the option to input the regional average mode shares for bicycle and vehicle

work trips for one of the six most populated CBSAs in California, as presented in Table T-10.2 in Appendix C (FHWA 2017b). If the project study area is not within the listed CBSAs or the user is able to provide a project-specific value, the user should replace these regional defaults in the GHG reduction formula. For areas not covered by the listed CBSAs, which represent the denser areas of the state, bicycle mode share is likely to be lower and vehicle share higher than presented in Table T-10.2.

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The maximum GHG reduction from this measure is 4.4 percent. This maximum scenario is presented in the below example quantification.

Subsector Maximum

($\sum A_{max_{T\text{-}5 \text{ through } T\text{-}13}} \leq 45\%$) This measure is in the Trip Reduction Programs subsector. This subcategory includes Measures T-5 through T-13. The employee commute VMT reduction from the combined implementation of all measures within this subsector is capped at 45 percent.

Mutually Exclusive Measures

If this measure is selected, the user may not also take credit for either Measure T-5 or T-6. However, this measure may be implemented alongside other individual CTR measures (Measures T-7, T-8, T-9, and T-11 through T-13). The efficacy of individual programs may vary highly based on individual employers and local contexts.

Example GHG Reduction Quantification

The user reduces VMT by providing end-of-trip facilities for the project's employees, which encourages bicycle trips in place of vehicle trips. In this example, the type of bike facility provided by the project is parking with showers, bike lockers, and personal lockers (B). The project is within San Jose-Sunnyvale-Santa Clara CBSA, and the user does not have project-specific values for trip lengths and mode shares and for bicycles and vehicles. Per Tables T-10.1 and T-10.2 in Appendix C, inputs for these variables are 2.8 miles, 11.5 miles, 4.1 percent, and 86.6 percent, respectively (C, D, E, and F). GHG emissions from employee commute VMT would be reduced by 4.4 percent.

$$A = \frac{2.8 \text{ miles} \times \left(4.1\% - (4.86 \times 4.1\%)\right)}{11.5 \text{ miles} \times 86.6\%} = -4.4\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be

calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

Sources

- Buehler, R. 2012. *Determinants of bicycle commuting in the Washington, DC region: The role bicycle parking, cyclist showers, and free car parking at work.* Transportation Research Part D, 17, 525–531. Available: http://www.pedbikeinfo.org/cms/downloads/DeterminantsofBicycleCommuting.pdf. Accessed: January 2021.
- Federal Highway Administration (FHWA). 2017a. *National Household Travel Survey–2017 Table Designer*. Travel Day PT by TRPTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.
- Federal Highway Administration (FHWA). 2017b. *National Household Travel Survey–2017 Table Designer.* Workers by WRKTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.

T-11. Provide Employer-Sponsored Vanpool

Photo Credit: UCLA Transportation/Flickr, 2021

GHG Mitigation Potential

Up to 20.4% of GHG emissions from project/site employee commute VMT

Co-Benefits (icon key on pg. 34)

Climate Resilience

Employer-sponsored vanpools could result in less traffic, potentially reducing congestion or delays on major roads during peak AM and PM traffic periods. When this reduction occurs during extreme weather events, it better allows emergency responders to access a hazard site.

Health and Equity Considerations

Consider using zero-emission or plug-in electric vehicles (PHEVs) for additional emission reduction benefits.

Measure Description

This measure will implement an employer-sponsored vanpool service. Vanpooling is a flexible form of public transportation that provides groups of 5 to 15 people with a cost-effective and convenient rideshare option for commuting. The mode shift from long-distance, single-occupied vehicles to shared vehicles reduces overall commute VMT, thereby reducing GHG emissions.

Subsector

Trip Reduction Programs

Locational Context

Urban, suburban, rural

Scale of Application

Project/Site

Implementation Requirements

Vanpool programs are more appropriate for the building occupant or tenant (i.e., employer) to implement and monitor than the building owner or developer.

Cost Considerations

Employer costs primarily include the capital costs of vehicle acquisition and the labor costs of drivers, either through incentives to current employees or the hiring of dedicated drivers. The beneficiaries include the program participants saving on commuting cost, the employer reducing onsite parking expenses, and the municipality reducing cars on the road, which leads to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

When implementing a vanpool service, best practice is to subsidize the cost for employees that have a similar origin and destination and provide priority parking for employees that vanpool.

This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.

GHG Reduction Formula

$$A = \frac{((1 - B) \times C \times F) + \left(B \times \frac{D}{E} \times G\right)}{((1 - B) \times C \times F) + (B \times D \times F)} - 1$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from project/site employee commute VMT	3.4–20.4	%	calculated
User Inputs				
	None			
Constants, Assumptions, and Available Defaults				
B	Percent of employees that participate in vanpool program	2.7	%	SANDAG 2019
C	Average length of one-way vehicle commute trip in region	Table T-11.1	miles per trip	FHWA 2017
D	Average length of one-way vanpool commute trip	42.0	miles per trip	SANDAG 2019
E	Average vanpool occupancy (including driver)	6.25	occupants	SANDAG 2019
F	Average emission factor of average employee vehicle	307.5	g CO_2e per mile	CARB 2020
G	Vanpool emission factor	763.4	g CO_2e per mile	CARB 2020

Further explanation of key variables:

- (B) – The percent of employees that would participate in a vanpool program is based on a survey of commuters in San Diego County (SANDAG 2019). If the project is not within San Diego County or the user is able to provide a project-specific value for within San Diego County, the user should replace the default employee participation rate in the GHG reduction formula.
- (C) – Ideally, the user will calculate auto commute trip lengths for a Project/Site at a scale no larger than a census tract. Potential data sources include the U.S. Census, California Household Travel Survey (preferred), or local survey efforts. If the user is not able to provide a project-specific value using one of these data sources, they have the option to input the regional average one-way auto commute trip length for one of the six most populated CBSAs in California, as presented in Table T-11.1 in Appendix C (FHWA 2017). Trip lengths are likely to be longer for areas not covered by the listed CBSAs, which represent the denser areas of the state.
- (D and E) – The average one-way vanpool commute trip length and occupancy are based on data from the San Diego Association of Government's regional vanpool program (SANDAG 2019). If the project is not within San Diego County or the user is

able to provide a project-specific value for within San Diego County, the user should replace these defaults in the GHG reduction formula.

- (F and G) – The average GHG emission factors for employee commute and vanpool vehicles were calculated in terms of CO_2e per mile using EMFAC2017 (v1.0.3). The model was run for a 2020 statewide average using diesel and gasoline fuel. The average of the light-duty automobile (LDA) and light duty truck (LDT1/LDT2) vehicle categories represents employee non-vanpool vehicles and the light-heavy duty truck (LHDT1) vehicle category conservatively represents a large cargo vanpool vehicle. The running emission factors for CO_2, CH_4, and N_2O (CARB 2020) were multiplied by the corresponding 100-year GWP values from the IPCC's Fourth Assessment Report (IPCC 2007). If the user can provide a project-specific value (i.e., for a future year and project location), the user should run EMFAC to replace the defaults in the GHG reduction formula.

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) For projects in San Diego County that use default CBSA data from Table T-11.1 and (B_{max}), the maximum percent reduction in GHG emissions (A) is 20.4 percent. This maximum scenario is presented in the below example quantification.

(B_{max}) The percent of employees that participate in the vanpool program is capped at 15 percent, which is based on the high end of vanpool participation survey data for several successful programs in the U.S. (SANDAG 2019).

Subsector Maximum

($\sum A_{max_{T\text{-}5 \text{ through } T\text{-}13}} \leq 45\%$) This measure is in the Trip Reduction Programs subsector. This subcategory includes Measures T-5 through T-13. The employee commute VMT reduction from the combined implementation of all measures within this subsector is capped at 45 percent.

Mutually Exclusive Measures

If this measure is selected, the user may not also take credit for either Measure T-5 or T-6. However, this measure may be implemented alongside other individual CTR measures (Measures T-7 through T-10, T-12, and T-13). The efficacy of individual programs may vary highly based on individual employers and local contexts.

Example GHG Reduction Quantification

The user reduces employee commute VMT by requiring that the employer of the project to sponsor a vanpool program. In this example, the project is in the San Diego-Carlsbad CBSA and would have an average vehicle commute trip length of 14.52 miles (C). The percent of employees that participate in the vanpool program is 15 percent (B_{max}). GHG emissions from employee commute would be reduced by 20.4 percent.

$$A = \frac{\left((1-15\%) \times 14.52 \frac{\text{miles}}{\text{trip}} \times 307.5 \frac{\text{g } CO_2e}{\text{miles}}\right) + \left(15\% \times \frac{42 \frac{\text{miles}}{\text{trip}}}{6.25 \text{ occupants}} \times 763.4 \frac{\text{g } CO_2e}{\text{miles}}\right)}{\left((1-15\%) \times 14.52 \frac{\text{miles}}{\text{trip}} \times 307.5 \frac{\text{g } CO_2e}{\text{miles}}\right) + \left(15\% \times 42 \frac{\text{miles}}{\text{trip}} \times 307.5 \frac{\text{g } CO_2e}{\text{miles}}\right)} - 1 = -20.4\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption (H) can be calculated using the GHG reduction formula except that (F) and (G) should be replaced by (I) and (J), as follows.

Fuel Use Reduction Formula

$$H = \frac{\left((1-B) \times C \times I\right) + \left(B \times \frac{D}{E} \times J\right)}{\left((1-B) \times C \times I\right) + (B \times D \times I)} - 1$$

Fuel Use Reduction Calculation Variables

ID	Variable	Value	Unit	Source
Output				
H	Percent reduction in fuel use from project/site employee commute VMT	4.7–21.4	%	calculated
User Inputs				
	None			
Constants, Assumptions, and Available Defaults				
I	Fuel efficiency of average employee vehicle	0.03639	gallon (gal) per mile	CARB 2020
J	Fuel efficiency of vanpool vehicle	0.08328	gal per mile	CARB 2020

Further explanation of key variables:

- (I and J) – The average fuel efficiencies for employee commute and vanpool vehicles were calculated using EMFAC2017 (v1.0.3). The model was run for a 2020 statewide average using diesel and gasoline fuel. The average of the LDA,

LDT1, and LDT2 vehicle categories represents employee non-vanpool vehicles, and the LHDT1 vehicle category conservatively represents a large cargo vanpool vehicle. If the user can provide a project-specific value (i.e., for a future year and project location), the user should run EMFAC to replace the defaults in the fuel use reduction formula.

- Please refer to the GHG Calculation Variables table above for definitions of variables that have been previously defined.

VMT Reductions

The percent reduction in VMT can be calculated using a modified version of the GHG reduction formula, as shown below.

$$\%\ \text{VMT Reduction} = \frac{((1 - B) \times C) + \left(B \times \frac{D}{E}\right)}{C} - 1$$

Sources

- California Air Resources Board (CARB). 2020. *EMFAC2017 v1.0.3*. August. Available: https://arb.ca.gov/emfac/emissions-inventory. Accessed: January 2021.
- Federal Highway Administration (FHWA). 2017. *National Household Travel Survey–2017 Table Designer*. Travel Day VT by HH_CBSA by TRPTRANS by TRIPPURP. Available: https://nhts.ornl.gov/. Accessed: January 2021.
- Intergovernmental Panel on Climate Change (IPCC). 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp. Available: https://www.ipcc.ch/report/ar4/wg1/. Accessed: January 2021.
- San Diego Association of Governments (SANDAG). 2019. *Mobility Management VMT Reduction Calculator Tool–Design Document*. June. Available: https://www.icommutesd.com/docs/default-source/planning/tool-design-document_final_7-17-19.pdf?sfvrsn=ec39eb3b_2. Accessed: January 2021.

IE Commuter
Drive Less. Smile More.

IE Commuter is a program of the Riverside County Transportation Commission and San Bernardino County Transportation Authority

Introducing IE Commuter!

Thank you for your interest in IE Commuter. Powered by the Riverside County Transportation Commission (RCTC) and San Bernardino County Transportation Authority (SBCTA), we're here to help you offer rewards and resources to your staff who rideshare to work – all at no cost to you! Whether your employees take the bus, ride the train, share a vanpool or carpool, telework, bike or walk to work, IE Commuter is available to help with rideshare rewards programs, vanpool subsidies and other options to help everyone drive less and smile more.

Last year, IE Commuter particpants:

Reduced emissions by 18,268,573 lbs.

Reduced vehicle miles traveled by 15,949,429

Saved $9,410,163 on commute costs

With the help of our IE Commuter participants, we're able to make a big difference in reducing emissions and vehicle miles traveled while our commuters also save money. Our programs include:

- **$5/Day Incentive** The $5/Day Rideshare Incentive is available to all ridesharing commuters that live in Riverside or San Bernardino counties that have not previously participated in the $5/Day program. Employees who rideshare to a participating employer's worksite for a minimum of five workdays a month may be eligible for up to $125 in gift card rewards.

- **Monthly Rideshare and Telework Spotlights** Employees log their rideshare roundtrips for a chance to win a $100 gift card. Two winners are chosen each month, one from Riverside and San Bernardino County. A similar program is available for telework.

- **Guaranteed Ride Home (GRH)** Our GRH Program provides ridesharing employees with reimbursed rides home in the event of an emergency.

Employer Registration Process – Get Started Today!
IE Commuter offers great, no-cost benefits to add to your worksite. Please contact me directly so I can introduce you to the regional commuter program and register your worksite at no cost.

Sincerely,

CJ Jones

IE Commuter Employer Services
909-915-2543 | cjones@iecommuter.org

IE Commuter
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IE Commuter is a program of the Riverside County Transportation Commission and San Bernardino County Transportation Authority

EMPLOYEE INCENTIVE ACKNOWLEDGMENT for the IE Commuter Program

Valid through _____

This Employee Incentive Acknowledgment ("Acknowledgement") outlines the services that will be offered to employees of the company identified below ("Employer") and/or provided to Employer, all at no cost. IE Commuter agrees to assist with the implementation of all IE Commuter program elements as listed below. **One or more of the following IE Commuter program elements/resources can be selected:**

☐ **COMMUTER TRANSPORTATION SURVEY** .....

- Assistance with implementation of Commuter Transportation Survey
- Delivery of personalized ridematching information (RideGuides) to your employees
- Presentation and analysis of Commuter Transportation Survey results
- Preparation of South Coast Air Quality Management District (South Coast AQMD) Rule 2202 Average Vehicle Ridership (AVR) calculations as necessary for Employer

☑ **COMMUTER BENEFITS** .....

- **Rideshare Incentive Program**
  Eligible employees receive $5/day in gift cards for their first three months of participation, up to $125.
- **Monthly Spotlight**
  Provides your ridesharing and teleworking employees with more opportunities to win prizes throughout the year for logging their rideshare trips and/or telework activity.
- **Guaranteed Ride Home Program**
  Provides ridesharing employees with a reimbursed ride home in the event of a valid emergency.
- **Access to Ridematching Services, Tools and Information**
  Phone: 1-866-RIDESHARE (866-743-3742), Online/Live Chat: IECommuter.org

☐ **TELEWORK EMPLOYER ASSISTANCE (TEA) PROGRAM** .....

Support with setting up or supplementing Employer's telework program, including reportable reduction of Vehicle Miles Traveled (VMT) and Greenhous Gas (GHG) emissions quantified from trips saved by telework to be recognized and/or used for environmental mitigation of future projects in the region.

- Annual Transportation Survey
- Employer Telework Guidebook
- Sample Employer Telework Agreement, Job Performance Survey, and other materials
- Custom reports available with worksite trips and emission reductions from telework activity
- Incentives available for teleworking employees

☑ **MARKETING RESOURCES** .....

- **Rideshare Marketing Support**
  Turnkey marketing campaigns, including supporting materials for Rideshare Week in October and invitation to annual kick-off event.
- **Rideshare Newsletters**
  Designated Employer Representative will receive rideshare news and marketing announcements via email. Employer grants IE Commuter permission to send emails and may unsubscribe at any time.
- **Employer Transportation Network Meetings**
  Invitations to Network Meetings and Certified South Coast AQMD Marketing Workshops.

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☐ YES! Employer Representative(s) agrees, on behalf of Employer, to work in partnership with IE Commuter to provide one or more of the above IE Commuter Program elements to employees of Employer for a term of three years from execution of this Acknowledgment. Either party reserves the right to discontinue the partnership at any time by providing written notification.

☐ I acknowledge and agree that any personal information collected will be used only for the IE Commuter Rideshare Program and ridematching through IE Commuter, and for no other purpose. I acknowledge and agree that personal information of individuals and all information maintained by IE Commuter for ridesharing programs is and at all times shall be confidential. Such information may not be disclosed, must be treated as confidential, and may only be used for operation of the ridesharing program in accordance with the IECommuter.org - Privacy Policy and IECommuter.org - Terms and Conditions, available at IECommuter.org/privacypolicy. Access to such information may not be provided to any other individual, entity, or third party without the prior written authorization of the applicable individual. Personal information includes but is not limited to a participant's name, phone number, address, and work schedule.

Employer Representative further acknowledges that California Penal Code, Section 637.6, provides that: "No person who, in the course of business, acquires or has access to personal information concerning an individual, including but not limited to, the individual's residence address, employment address or hours of employment for the purpose of assisting private entities in the establishment or implementation of carpooling or ridesharing programs, shall disclose that information to any other person or use that information for any other purpose without the prior written consent of the individual." I agree to comply with the program and confidentiality requirements of IE Commuter, and the confidentiality and nondisclosure requirements contained to the Penal Code.

☐ I understand that eligibility is subject to the Program Guidelines, which are available at IECommuter.org/resolution. IE Commuter reserves the right to alter or eliminate the Terms and Conditions of the Commuter Benefits Program including the provision of services and benefits based on commuter need or Commission directive. IE Commuter will inform Employer Representative of any such changes.

As used in this Acknowledgment, the term "partnership" shall mean only an agreement to cooperate to advance mutual interests, and shall not mean or refer to a legal or business partnership or joint venture. The parties hereto will accept a manually signed copy of this Acknowledgment that is transmitted by facsimile, email or other means of electronic transmission. This Acknowledgment may be signed using an electronic signature.

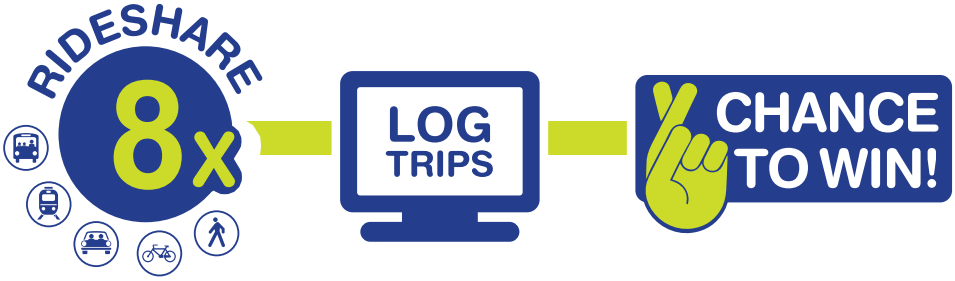
_____	_____
Employer Representative (Signature)	Date
_____	_____
Employer Representative (Print Name)	Company Name
_____	_____
Employer Representative Email	Total Number of Employees
_____	Select Incentive
IE Commuter Benefits Manager (Signature)	Amazon / Target / Stater Bros/ Walmart Choice of Gift Card (Select One Above)

Ready for the spotlight?

Do you ride the bus, train, carpool or vanpool to work? Are you living healthy by walking or riding your bike? If so, IE Commuter wants to reward you for enjoying the benefits of ridesharing.

Let us know.

Sign up and log your trips for a chance to win a monthly prize valued at up to $100.



Log eight (8) roundtrip rideshare trips in your IECommuter.org Commute Diary per month. Each trip counts as a sweepstakes entry, and each additional trip logged gives you more chances to win.[1]

Tell us about it.

Winners have the chance to inspire other commuters and be in the spotlight by sharing their rideshare story.[2]

Sign up at **IECommuter.org/RideshareSpotlight**

1- Must log a minimum of eight (8) roundtrip rideshare trips. 2- Winners sharing their rideshare story is optional and not required for sweepstakes eligibility. Terms and conditions available online at IECommuter.org/Sweepstakes

IE Commuter
Drive Less. Smile More.

IE Commuter is a program of the **Riverside County Transportation Commission** and **San Bernardino County Transportation Authority**

RIDESHARE & EARN $5/Day*

Ride the bus or train, carpool, vanpool, walk or bike to work and you could earn $125 in gift cards.

Get Started Today

IECommuter.org/5day

* Commuter may earn up to $125 in gift cards. Employer and commuter must be registered with IE Commuter. Commuter must rideshare to work at least five days a month for three consecutive months and log trips with IE Commuter. Full-time teleworkers not eligible. Other exclusions may apply.

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☐ YES! Employer Representative(s) agrees, on behalf of Employer, to work in partnership with IE Commuter to provide one or more of the above IE Commuter Program elements to employees of Employer for a term of three years from execution of this Acknowledgment. Either party reserves the right to discontinue the partnership at any time by providing written notification.

☐ I acknowledge and agree that any personal information collected will be used only for the IE Commuter Rideshare Program and ridematching through IE Commuter, and for no other purpose. I acknowledge and agree that personal information of individuals and all information maintained by IE Commuter for ridesharing programs is and at all times shall be confidential. Such information may not be disclosed, must be treated as confidential, and may only be used for operation of the ridesharing program in accordance with the IECommuter.org - Privacy Policy and IECommuter.org - Terms and Conditions, available at IECommuter.org/privacypolicy. Access to such information may not be provided to any other individual, entity, or third party without the prior written authorization of the applicable individual. Personal information includes but is not limited to a participant's name, phone number, address, and work schedule.

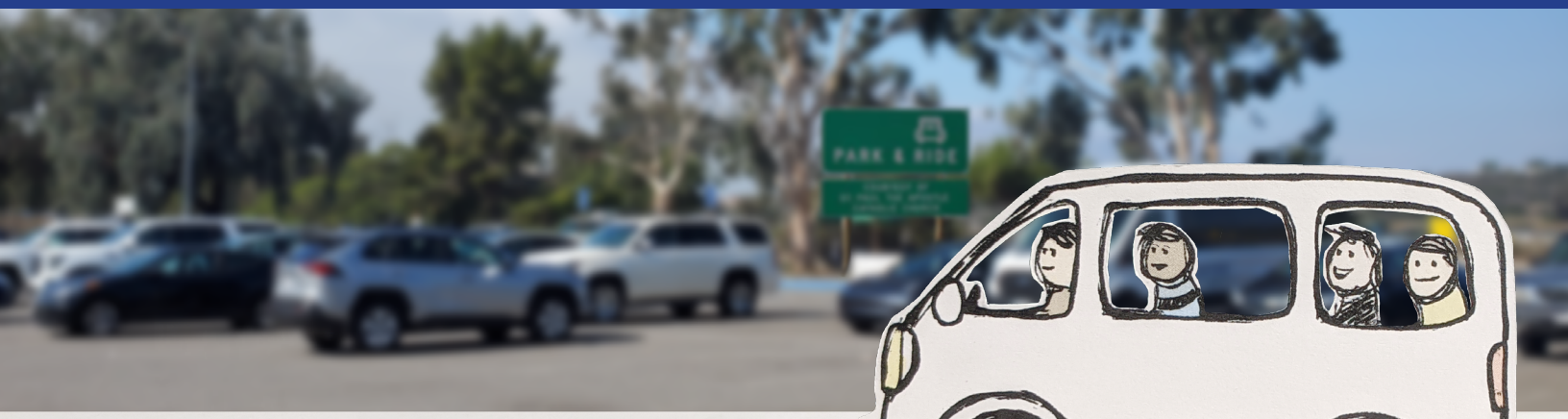
Employer Representative further acknowledges that California Penal Code, Section 637.6, provides that: "No person who, in the course of business, acquires or has access to personal information concerning an individual, including but not limited to, the individual's residence address, employment address or hours of employment for the purpose of assisting private entities in the establishment or implementation of carpooling or ridesharing programs, shall disclose that information to any other person or use that information for any other purpose without the prior written consent of the individual." I agree to comply with the program and confidentiality requirements of IE Commuter, and the confidentiality and nondisclosure requirements contained to the Penal Code.

☐ I understand that eligibility is subject to the Program Guidelines, which are available at IECommuter.org/resolution. IE Commuter reserves the right to alter or eliminate the Terms and Conditions of the Commuter Benefits Program including the provision of services and benefits based on commuter need or Commission directive. IE Commuter will inform Employer Representative of any such changes.

As used in this Acknowledgment, the term "partnership" shall mean only an agreement to cooperate to advance mutual interests, and shall not mean or refer to a legal or business partnership or joint venture. The parties hereto will accept a manually signed copy of this Acknowledgment that is transmitted by facsimile, email or other means of electronic transmission. This Acknowledgment may be signed using an electronic signature.

_____	_____
Employer Representative (Signature)	Date
_____	_____
Employer Representative (Print Name)	Company Name
_____	_____
Employer Representative Email	Total Number of Employees
_____	Select Incentive
IE Commuter Benefits Manager (Signature)	Amazon / Target / Stater Bros/ Walmart Choice of Gift Card (Select One Above)

IE Commuter



Start or Join a Vanpool

Enjoy a comfy commute that's easier on your wallet and the environment.

Get up to a $400

subsidy towards vanpooling
from participating vanpool programs[1]

VANPOOL & EARN $5/Day

Earn $125 in gift cards
with IE Commuter's Rideshare Incentive[2]

IECommuter.org/Vanpool

[1]Subsidy amount varies, subject to eligibility and restrictions
[2]Subject to eligibility and restrictions

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Commute Activity Report

IE Commuter / RCTC / SBCTA

From 1/1/2022 To 1/31/2022
Filter by Mode: Carpool, Vanpool, Bus, Rail/Train, Bike/Scooter, Walk, Telework (Home)
4/13/2023 12:08 PM

Regional Activity Summary	During Time Period	
Number of commuters registered:		8,979
Number of commuters who have logged at least once:		1,715
Number of commuters who have logged a selected mode at least once:		1099
Number of daily commute logs submitted with a selected mode:		12,224
Percentage of commuters that logged a selected mode:		1.23 %
Percentage of days logged with selected commute modes:		77.32 %
Percentage of all commute miles using selected modes:		83.49 %
Distribution of All Trip Segments Reported	**During Time Period**	
Drive Alone	0	0.00 %
Motorcycle	0	0.00 %
Carpool	4,878	20.12 %
Vanpool	13,808	56.94 %
Bus	286	1.18 %
Bike/Scooter	770	3.18 %
Walk	925	3.76 %
Rail/Train	352	1.43 %
Flex Day Off	0	0.00 %
Telework (Home)	3,581	14.77 %
Impact of Commuter's Use of Selected Modes	**During Time Period**	
Vehicles Miles Reduced:		809,018
Vehicle Trips Reduced:		20,734
Total Pollution Reduced (in tons):		463.33
NOx Reduced (in lbs):		267.54
VOC Reduced (in lbs):		267.54
PM Reduced (in lbs):		15.16
GHG Emissions Reduced (in tons):		461.62
Fuel & Maintenance Cost Savings:		$477,321