

Memo



1230 Columbia Street, Suite 440
San Diego, CA 92101
619.219-8000

Date: November 1, 2019
To: Jarrett Ramaiya and Carl Stiehl, City of Murrieta
From: Kai Lord-Farmer and Poonam Boparai
Subject: City of Murrieta Climate Action Plan Update – Updated Gap Analysis

INTRODUCTION

This memo provides an analysis of annual GHG reductions that would be achieved through the list of Climate Action Plan (CAP) measures that have been discussed with City of Murrieta staff. Table 1 includes a summary of the total GHG reductions achieved through the measures, the proportion of the GHG reduction gap being met by these measures, and additional GHG reductions needed to achieve citywide targets consistent with the State’s GHG reduction goals for 2030 and 2050. Table 2 includes the list of GHG reduction measures as well as the GHG reduction potential of each measure for the years 2030, 2035 (General Plan buildout year), and 2050. Table 3 describes the assumptions used to quantify each measure and includes target performance metrics that must be achieved to reduce GHG emissions in line with the City’s 2030 and 2035 targets. Many of the performance metrics increase between 2030 and 2035 to achieve the City’s 2035 target.

The memo serves as the final analysis of the GHG reduction potential of the list of CAP measures to achieve the City’s 2030 and 2035 targets. As shown in Table 1, the City’s GHG emissions targets would be achieved for 2030 and 2035 through the set of measures developed for the CAP. The CAP measures work to achieve the reductions necessary to meet the 2030 and 2035 targets while making progress towards the 2050 target. Over the coming decades, new innovations and technologies are anticipated to become available that will enable further GHG reductions and make additional progress towards the 2050 GHG reduction goal. New methods may also become available to quantify measures that are currently unquantifiable. In addition, future federal and State regulations could further reduce emissions in sectors currently addressed primarily by local City measures.

Table 1 City of Murrieta CAP GHG Reduction Gap Analysis (MT CO_{2e})

Metric	2030	2035	2050
BAU Forecast	1,133,343	1,225,130	1,573,729
Total ABAU Forecast	815,174	820,787	875,589
City Emissions Targets to achieve consistency with State Targets	542,686	452,238	180,895
Mass Emissions Reduction Target	272,488	368,549	694,694
Total Reductions from Measures	273,748	377,521	542,447
Remaining GHG Reduction Gap	(1,260)	(8,972)	152,246
Percentage of gap achieved through Measures	100%	102%	78%

Notes: Totals may not add due to rounding.
BAU = Business-as-Usual
ABAU = Adjusted-Business-as-Usual
MTCO_{2e} = metric tons of carbon dioxide equivalent.
Source: Data compiled by Ascent Environmental in 2019.

Table 2 City of Murrieta CAP GHG Reduction Measures

Measure #	Sector	Measure Title	Description	GHG Reductions (MT CO ₂ e/yr)		
				2030	2035	2050
BE-1	Building Energy	Community Renewable Energy	The City shall create or join a Community Choice Aggregation (CCA) program or create a partnership with SoCal Edison's off-site renewable energy programs (i.e., Green Rate Program), which allows building renters and owners to opt into cleaner electricity sources.	28,306	22,210	0
BE-2	Building Energy	Municipal Renewable Energy	Develop renewable energy generation systems on City-owned property for use in municipal operations.	26	39	0
BE-3	Building Energy	Zero Net Energy Standard	<p>Phase in Zero Net Energy Standard for residential developments by 2030 and nonresidential development by 2035</p> <ul style="list-style-type: none"> - Develop and adopt a Zero Net Energy Standard for residential and nonresidential development by 2025 - Begin phase-in of standard beginning in 2025 with standard applying to residential land uses and large nonresidential projects - Fully phase in Zero Net Energy Standard by 2030, requiring all new residential and commercial projects to comply with Zero Net Energy Standard - Fully phase in Zero Net Energy Standard by 2035, requiring all new industrial projects to comply with Zero Net Energy Standard 	24,659	50,094	113,303
BE-4	Building Energy	Energy Efficiency and Electrification Program	<p>Work with WRCOG's Western Riverside Energy Partnership to develop and implement a comprehensive electrification and energy efficiency retrofit program focused on the reduction of natural gas use in existing residential and commercial land uses. The program would include the goal of reducing natural gas in existing residential and nonresidential land uses 20% by 2030.</p> <ul style="list-style-type: none"> - The program would include but not limited to strategies focused on reductions from: <ul style="list-style-type: none"> o Pool-related energy use (e.g., pool cover rebate program) o Electrification retrofits for natural gas appliances in existing residential and commercial land uses (i.e., hot water heaters, cooktops, heating systems) 	33,664	50,800	79,757
LU-1	Land Use	Jobs-Housing Balance Strategy	Encourage flexibility in land use regulations to respond to requirements of new and emerging business and industry types to help create sustainable jobs-housing balance.	10,373	10,418	12,261
LU-2	Land Use	Tree Planting Program	Develop a tree planting program to plant trees throughout the City to increase carbon sequestration.	6,301	12,956	19,612
LU-3	Land Use	Open Space Conservation	Work with the Western Riverside Regional Conservation Authority (RCA) and the Center for Natural Lands Management to implement land use conservation programs for the City. The program would include a minimum acreage of land preserved through conservation easements and, therefore, would not be permitted for future development.	16,095	18,240	20,385

T-1	Transportation	EV Programs	Increase electric vehicles and alternative fuel vehicles to 21% of the City's vehicle mix by 2030 and 23% by 2035 by incentivizing EV purchases and promoting EV ownership for residents and businesses.	82,205	87,335	120,574
T-2	Transportation	EV Programs	Adopt an electric vehicle (EV) charging station ordinance that requires the following for new development: <ul style="list-style-type: none"> - Installation of one EV charger per single-family housing unit; and - Six percent of total parking spaces require EV charger infrastructure installation for new multi-family projects - Three percent of total parking spaces require EV charger installation for new nonresidential projects 	See T-1	See T-1	See T-1
T-3	Transportation	TOD Affordable Housing Program	Prioritize mixed-use and transit-oriented affordable housing projects to achieve the City's affordable housing targets in the SCAG Regional Housing Needs Assessment.	5,036	5,572	7,670
T-4	Transportation	Murrieta Bike Network	Increase the City's bike and pedestrian infrastructure, including implementing the Downtown Murrieta Bike Network, developing comprehensive bike parking standards, and increasing the total percentage of City streets that include bike lanes throughout the City.	367	120	0
T-5	Transportation	Traffic Signalization	Improve traffic flow and reduce traffic congestion by implementing a comprehensive traffic signalization synchronization and update.	1,213	1,265	1,500
T-6	Transportation	Traffic Calming Program	Implement a traffic calming measure program to increase the percentage of City streets and intersections with calming traffic measures.	890	929	3,306
T-7	Transportation	Transportation Demand Management Program	Implement a Citywide TDM Program to reduce communitywide VMT <ol style="list-style-type: none"> 1. Update Development Code to require employers with 50 or more employees to implement commute trip reduction programs. Commute Trip Reduction Programs voluntary for employees include: <ul style="list-style-type: none"> - Alternative modes of commuting incentive program (e.g., walking, biking, etc.); - Ride-sharing and preferential parking; - Discounted transit fee program; or - Telecommuting or alternative work schedules 2. Implement a comprehensive ridesharing program targeted at residents working in neighboring cities and long-distance commuters (i.e., San Diego, Los Angeles). 3. Monitor progress annually on TDM program to measure progress towards achieving a nine percent reduction in VMT by 2030 and an 11 percent reduction by 2035. 	8,954	11,416	18,373
T-8	Transportation	Transit Network	Work with RTA and WRCOG to expand the transit network in the City and increase service frequency with a priority on expanding services to neighboring cities where Murrieta residents work.	8,659	21,555	25,145
T-9	Transportation	GHG Fee Program	Develop and implement a no-net-increase in GHG emissions threshold for new development projects in the City and develop a GHG Fee Program to offset remaining GHG emissions from new development that cannot	41,357	76,481	108,756

			be achieved through project design features or other CAP measures. As part of implementation of this measure, the City shall: <ul style="list-style-type: none"> - Adopt a set of strategies to reduce GHG emissions from new development through project-specific mitigation measures (See Implementation Descriptions below for suggestion of potential strategies.) - Develop a process in which the remainder of emissions that cannot be reduced through project-specific measures shall be quantified and offset through a combination of a local emissions offset program to be set up by the City and other offset registry programs(See Implementation Descriptions below for a description of the local emissions offset program.) 			
SW-1	Solid Waste	Waste Reduction Program	Encourage recycling or the re-use of materials to reduce the amount of solid waste generated within the City with the goal of achieving a 90% waste diversion rate by 2035.	4,583	7,215	11,120
SW-2	Solid Waste	Construction Waste Diversion	Require all construction projects to exceed CalGreen construction waste diversion requirements by 15 percent.	998	827	686
WW-1	Water	Landscaping and Water Conservation Program	Reduce outdoor water use by 10% at residential, commercial, and public properties by installing efficient irrigation systems and plants with lower watering needs.	55	44	0
WW-2	Water	Rainwater Catchment Program	Encourage property owners to recycle water with rainwater catchment and greywater systems in existing and new developments.	5	4	0

Notes: MTCO₂e = metric tons of carbon dioxide equivalent.
Source: Ascent Environmental 2019.

Table 3 City of Murrieta CAP GHG Reduction Measure Assumptions and Target Metrics

Measure #	Sector	Measure Title	Metric Assumptions	Metric Unit	Measure Target Metrics		
					2030	2035	2050
BE-1	Building Energy	Community Renewable Energy	This measure assumes that the City of Murrieta joins the Western Community Energy. Based on estimates from the CCA feasibility study conducted for Western Community Energy, the measure assumes that 95% of existing and new residential customers opt-in to the CCA and 90% of existing and new nonresidential uses opt-in to the CCA. The measure assumes that customers that do opt-in choose the 100% renewable energy option. Based on other CCAs in California, this is a conservative opt-in rate.	kWh purchased under CCA	468,029,462	478,212,825	555,867,016
				Residential Opt-In Rate	95%	95%	95%
				Nonresidential Opt-In Rate	90%	90%	90%

				Assumed renewable energy mix for CCA customers	100%	100%	100%
BE-2	Building Energy	Municipal Renewable Energy	The measure assumes that the City begins to develop photovoltaic systems on City buildings and property over the next ten years and beyond. The measure assumes that the City offsets 100% of its GHG emissions associated with electricity by 2035 through a combination of on-site solar systems and participation in the CCA.	kWh generated from City Solar Systems	410,289	820,577	820,577
BE-3	Building Energy	Zero Net Energy Standard	This measure assumes that the City begins to develop a Zero Net Energy standard, which is finalized and adopted by 2025. The measure assumes that 75% of residential units and 65% of commercial square footage developed between 2020 and 2030 would comply with the ZNE standard. The measure assumes that 100% of residential units, 100% of commercial projects, and 50% of industrial projects developed between 2030 and 2035 would comply with the ZNE standard beyond 2030, and 100% of industrial projects would comply with the ZNE standard by 2035.	Consumption avoided through ZNE Standard (kWh)	51,356,672	92,086,377	191,901,119
				Consumption avoided through ZNE Standard (Therms)	3,179,444	6,858,463	16,713,800
				New residential units using ZNE Standard	75%	100%	100%
				New commercial sq. ft. developed using ZNE Standard	65%	100%	100%
				New industrial Sq. Ft. developed using ZNE Standard	50%	50%	100%
BE-4	Building Energy	Energy Efficiency and Electrification Program	This measure assumes that the City will develop and implement a comprehensive energy efficiency retrofit and appliance electrification program, focused on reducing natural gas use in existing land uses through appliance upgrades, weatherization upgrades, and other energy efficiency measures.	Percent reduction in natural gas use in existing residential, commercial, and industrial land uses	20%	25%	25%
LU-1	Land Use	Jobs-Housing Balance Strategy	This measure assumes the number of jobs within the City and within a 30-mile radius of the City increases in the future and therefore results in commute-related VMT reductions for residents.	Percent increase in jobs available within a 30-mile radius	30%	35%	35%
LU-2	Land Use	Tree Planting Program	This measure assumes the City develops a program to plant trees for carbon sequestration and other co-benefits, planting an assumed average number of trees per year.	Average number of trees planted per year	750	800	800
LU-2	Land Use	Open Space Conservation	This measure assumes that a certain number of acres in the City limits is preserved as open space resulting in carbon sequestration. The measure assumes that this land would otherwise be cleared for development and, if done, would result in a net decrease in sequestration potential.	Number of acres preserved	200	150	150

T-1	Transportation	EV Programs	This measure assumes that through the City's efforts to incentivize EV adoption among residents, the percentage of EV and Zero Emissions Vehicles (ZEVs) increase in the City to above levels that are already projected to occur under a ABAU scenario.	Percentage of citywide vehicle mix that are EVs or ZEVs	21%	23%	31%
T-2	Transportation	EV Programs	This measure assumes that the City will adopt an ordinance that requires new development to have a certain level of EV infrastructure in place as part of the project. The reductions achieved from this measure is combined with T-1.	Percent of new SFU with charging stations	100%	100%	100%
				Percent of new MFU parking spaces with charging stations	6%	6%	6%
				Percent of parking spaces in nonresidential land uses with charging stations	3%	3%	3%
T-3	Transportation	TOD Affordable Housing Program Murrieta Bike Network Traffic Signalization	This measure assumes that the City focuses on developing mixed-use, transit-oriented affordable housing projects in the future. The measure assumes that the City locates these projects in areas that encourage trips made by walking, biking, and transit and keeps pace with City's Regional Housing Needs Assessment goals for affordable housing units in the City.	Number of transit-oriented affordable housing units built	1,573	787	2,360
T-4	Transportation	Murrieta Bike Network	This measure assumes that the City continues to develop the City's bike network, and the percentage of streets in Murrieta with bike lanes continues to increase over time.	Percent of citywide street length with bike lanes	19%	38%	51%
T-5	Transportation	Traffic Signalization	This measure assumes the City conducts a comprehensive upgrade of the traffic signal system to improve traffic flow and relieve traffic congestion, particularly during periods of commute congestion periods. This measure assumes that fuel consumption associated with commute-related VMT in the City will decrease by 9% as a result of improving traffic signalization.	Transportation fuel reduced by improving traffic signalization (Gallons of Gasoline)	138,146	144,091	170,831
T-6	Transportation	Traffic Calming Program	This measure assumes that the City continues to implement traffic calming measures on City streets and intersections to reduce traffic speeds and reduce cut-through traffic and assumes a certain percentage of streets and intersections will include traffic calming measures by a certain year.	Percent of intersections with traffic calming improvements	25%	25%	50%
				Percent of streets with traffic calming improvements	25%	50%	50%

T-7	Transportation	Transportation Demand Management Program	This measure assumes that the City implements a comprehensive TDM program that requires new large employers to offer TDM options and incentives to employees as well as providing commute services and support (e.g., rideshare, telework) for residents who work outside the City. The measure assumes a certain percentage of commute-related VMT reduction by target years.	Percent of commute-related VMT reduced	9%	11%	15%
T-8	Transportation	Transit Network	This measure assumes that the City works with RTA and other regional partners to expand the transit network in the City and increase the frequency of service of existing transit services.	Percent reduction in citywide VMT	2.5%	6%	6%
T-9	Transportation	GHG Fee Program	This measure assumes the City develops, as part of the City's forthcoming CAP Consistency checklist or other development review process, a program to reduce and offset GHG emissions associated with new development projects. The measure assumes emissions reductions and offsets can be tracked and quantified to ensure compliance with the measure.	Percent of project emissions reduce through program	50%	50%	50%
SW-1	Solid Waste	Waste Diversion	This measure assumes that the City works to meet the waste diversion targets set by CalRecycle for specific target years. The reductions associated with this measure have been included in the ABAU forecast as part of the legislative reductions.	Percent of waste diverted from landfills	85%	90%	95%
SW-2	Solid Waste	Construction Waste Diversion	This measure assumes that the City implements a policy, as part of the City's forthcoming CAP Consistency checklist or other development review process, to require all construction projects to exceed CalGreen construction waste diversion requirements by 15 percent.	Percent of construction waste	65%	65%	65%
WW-1	Water	Landscaping and Water Conservation Program	This measure assumes that City implements a policy to reduce outdoor water use from various land uses by installing efficient irrigation systems, using plants with lower watering needs, and promoting water conservation. The measure assumes that Citywide water use is reduced by a certain percent by target years.	Percent reduction in citywide water use	10%	10%	10%
WW-2	Water	Rainwater Catchment Program	This measure assumes that the City develops and implements a program to increase recycled water use by residents through the use of with rainwater catchment and greywater systems in existing and new developments	Percent reduction in citywide water use	1%	1%	1%

Notes: MTCO₂e = metric tons of carbon dioxide equivalent.
kWh = kilowatt-hour; VMT= vehicle miles traveled
SFU= single-family unit; MFU= multi-family unit
Source: Ascent Environmental 2019.

IMPLEMENTATION DESCRIPTIONS FOR KEY MEASURES

The following section includes a description of how key CAP measures would be implemented and specific steps that should be taken to successfully implement the measure.

BE-1 - COMMUNITY RENEWABLE ENERGY

The [Western Community Energy Program](#) (WCE) is a program established in 2018 to implement a Community Choice Aggregation (CCA) program for jurisdictions in western Riverside County. WCE's primary objectives are to provide local control in rate-setting for customers, provide overall rates that are lower and/or competitive with those offered by SCE, expanded options for economic development, and supply an energy portfolio that will use local and/or regional renewable resources. During Phase 1, beginning in 2020, WCE anticipates serving approximately 114,000 out of 120,500 residential and nonresidential accounts. Alongside serving as an energy provider, WCE also intends to develop an energy program to provide support for WCE customers conducting energy efficiency and renewable energy-related projects. It is anticipated that these programs could help in the implementation of other CAP measures (BE-4). Details regarding the development, governance, and operations of WCE can be found here in the [Western Community Energy Implementation Plan](#).

Implementation Items

- Research existing [CCA programs](#) in California to understand how the programs operate and what success they have achieved.
- Work in collaboration with WRCOG and WCE to discuss the details and requirements in joining WCE, including the potential need for a feasibility study, costs and timeline for, and anticipated rates.
- Explore developing an alternative program with SCE to increase the purchase of renewable energy by residents and businesses that can achieve the GHG reductions quantified for the measure (BE-1).

BE-2 - MUNICIPAL RENEWABLE ENERGY

Through this measure, the City has the opportunity to demonstrate leadership by developing renewable energy systems for municipal operations. By increasing the City's renewable energy generation, the City can achieve long-term cost savings and increase the resilience of the City's municipal energy supply during power outages. [WRCOG's Energy Department](#) offers support, services, and access to financing for local jurisdictions who are conducting energy efficiency and renewable energy projects at municipal facilities.

Implementation Items

- Conduct audits at municipal facilities to quantify energy use and to identify and quantify energy efficiency and conservation opportunities.
- Based on energy audits, develop a list of energy efficiency and renewable energy projects that could be implemented as well as an implementation plan and timeline for the development of the projects.
- Identify grants, rebate and incentive programs (WRCOG program), and financing opportunities for municipal energy efficiency and renewable energy.

BE-3 - ZERO NET ENERGY STANDARD

This measure focuses on developing a Zero Net Energy (ZNE) Standard for new residential and nonresidential projects in the City, with requirements phased in over time between 2020 and 2030. Beginning in approximately 2013, the California Energy Commission and California Public Utilities

Commission begun discussions of phasing in a ZNE standard for new construction in California. Since then, the State has been taking significant steps to phase in a standard, including the development of [California's Zero Net Energy Action Plan](#) and, most recently, the [2019 Energy Efficiency Standard Update](#), which requires solar installations for all single-family and low-rise multi-family homes. This measure is intended to help the City keep pace as the State moves closer to a ZNE standard for all new development and get ahead of the curve of anticipated changes to come.

Implementation Items

- Research [California's Zero Net Energy Action Plan](#) and other ZNE resources, including other ZNE standards that have been adopted by California cities (e.g., [San Jose](#)).
- Identify potential funding opportunities, technical support, resources in helping to develop a ZNE standard for both residential and nonresidential uses.
- Develop ZNE standard and detailed timeline for implementation of the standard for different land uses.
- Identify forthcoming residential development projects that could potentially serve as a case study for early adoption of the City's ZNE standard

BE-4 - ENERGY EFFICIENCY AND ELECTRIFICATION PROGRAM

This measure focuses on developing a comprehensive electrification and energy efficiency retrofit program focused on the reduction of natural gas use in existing residential and commercial land uses. The program would include multiple components, in collaboration with regional partners, focusing on various aspects of energy conservation, energy efficiency, and building electrification. These programs would likely include:

- An energy conservation marketing campaign to achieve energy cost savings through conservation practices and tools to help monitor and lower energy use.
- An energy efficiency assessment and retrofit program to help residents and businesses assess energy efficiency opportunities and incentives for energy efficiency upgrades.
- An appliance retrofit program focused on upgrading to all-electric appliances in existing buildings (i.e., water heaters, cooktops, heating systems, pool heating systems) but would also include energy efficient electric appliances (e.g., refrigerators, televisions).

Implementation Items

- Work with WRCOG and WCE to discuss opportunities for collaboration and support in implementing the City's Energy Efficiency and Electrification Program including opportunities to share data and resources.
- Conduct research regarding the implementation of similar programs in other California cities and agencies. Develop an implementation timeline and plan for the development of the program with assistance from WRCOG and WCE when appropriate.
- Develop Energy Efficiency and Electrification Program and set internal targets for energy reductions that are consistent with the estimate used to quantify this measure.

LU-1 - JOBS-HOUSING BALANCE STRATEGY

This measure is intended to support the City in achieving a sustainable jobs-housing balance by implementing strategies to attract new employers to the City and the surrounding region and, as a result, reducing commute related VMT for residents and improving quality of life. This measure requires that the City exercise flexibility in land use regulations to respond to requirements of new and emerging business and

industry types as well as ensuring the regulatory environment in the City remains attractive to large employers looking to locate in the City.

Implementation Items

- Research strategies to update the City’s development code to ensure flexibility in building standards when working with large employers who are considering locating in the City.
- Work with WRCOG, SCAG, and the Murrieta Chamber of Commerce to understand the growth population and employment characteristics in the region and opportunities to create a sustainable jobs-housing balance for residents.
- Adjust the development code and long-term nonresidential land use development strategy in the City to ensure the City is taking advantage of regional growth opportunities in key employment sectors and industries.

T-1 AND T-2 – ELECTRIC VEHICLE PROGRAMS

This measure is focused on increasing the number of EVs and ZEVs to achieve a higher percentage of vehicles in the City being EVs and ZEVs than what is currently projected for Riverside County. The City can provide an environment conducive to EV adoption and help remove barriers to help increase EV adoption rates. T-1 focuses on promoting and increasing EV ownership in the City and would include several components that would together create a comprehensive program. The program would include:

- An educational component to conduct outreach and educate residents about the benefits of EV ownership
- A marketing component to educate residents on current incentives and rebates available for purchasing an EV and installing residential EV Charging equipment
- Updates to the City’s development code to incentivize the installation of EV chargers in new and existing land uses
- An incentive program for the purchase of EVs and ZEVs for City residents potentially funded through the GHG Mitigation Fee Program (T-9)

T-2 focuses on developing and adapting an EV Infrastructure ordinance to ensure that new development in the City includes adequate equipment EV charging infrastructure to keep pace with the City’s increased EV adoption rates.

Implementation Items

- T-1
 - Research other cities and agencies (e.g., [Pasadena](#)) that have implemented similar programs in California and adopt components of programs that are appropriate for the development of the City program.
 - Work with Transportation Network Companies (e.g., Uber and Lyft) to promote EV adoption amongst drivers, promoting the benefits of EV’s unique to drivers (e.g., lower maintenance costs, lower fuel costs).
 - Work with the South Coast Air Quality Management District, SCAG, and WRCOG to discuss potential opportunities for collaboration in implementing the program. Develop an implementation plan and timeline for implementing the program by 2023.
- T-2
 - Research other jurisdictions which have adopted EV ordinances to increase EV charging infrastructure (e.g., [Menlo Park](#)).
 - Develop and adopt an EV ordinance to require appropriate levels of EV charging in new residential and nonresidential uses in the City.

- Promote available incentives for EV charging infrastructure to residents and developers in the City.

T-7 – TRANSPORTATION DEMAND MANAGEMENT PROGRAM

This measure is focused on reducing commute-related VMT generated by new large employers in the City and the region. The measure would build on the City’s existing Transportation Demand Management process in place to increase resources and support available to employers to help implement employer base TDM programs and increase resources to City to manage and monitor progress of the TDM Program. Given that the City is focused on attracting new employers to develop a sustainable jobs-housing balance, the TDM measures included in the program would be designed to be conducive to development and attractive to employees to reduce commute costs and time. The TDM measures established as part of the program can be included in the City’s CAP Consistency Checklist to effectively streamline this measure into the City’s development process for new projects. The TDM Program measures could include, but are not limited to:

- A comprehensive marketing program targeted at employees to promote the benefits (health, cost savings) of low-GHG commute modes (e.g., walking, biking, transit, telecommuting, etc.);
- Requirements for short and long-term bicycle parking facilities including on site-amenities (e.g., showers, locker rooms);
- Incentives for using alternative modes (e.g., transit pass subsidies, carpool, parking cash-out program);
- a vanpool program for residents with longer commutes outside the City;
- A ride-matching and ride-sharing program for both employees working in the City and for residents who commute to regions outside the City (e.g., San Diego, Los Angeles);
- A telecommuting program to promote telecommuting for large employers in the City as well as advocating for telecommuting practices in the larger region with support from WRCOG; and
- A monitoring program to track progress on the VMT reductions achieved through the TDM program.

Implementation Items

- Research other cities and agencies in the region conducting comprehensive TDM Programs and adopt components of programs that are appropriate for development in the City’s expanded program.
- Work with WRCOG and other regional partners to discuss potential collaboration in implementation components of the TDM Program.
- Develop TDM Program Implementation Plan and hire a Transportation Demand Management coordinator to implement the TDM Program.
- Adopt a TDM Program ordinance that would apply to specific types of new development in the City and help reduce VMT generate from new projects. This ordinance can be implemented, in part, through the City’s CAP Consistency Checklist.

T-9 – GHG MITIGATION FEE PROGRAM FOR NEW DEVELOPMENT

This measure is intended to reduce GHGs from new development in the City, particularly, but not exclusive to, GHG emissions associated with VMT generated by new residential and nonresidential development in the City. As part of the measure, the City would develop a program to mitigate a certain percentage of GHG emissions from new development through a fee-based program that would offset emissions through development of local mitigation projects. The total fee for different new development projects would be calculated based on key characteristics of the project (e.g., land use type, size) to estimate the anticipated GHG emissions of the project, similar to other impact fee programs (e.g., transportation impact fees).

Applicants would then pay into a fee program for the project's GHG emissions that cannot be mitigated through other CAP measures. Mitigation projects funded through the program would give priority to implementing local projects to reduce emissions in the City and then, once local options are exhausted, through a mitigation bank to contribute to larger mitigation projects (e.g., large transit projects). A key next step for the City in implementation of this measure would be to conduct a more in-depth analysis to price the fee appropriately and how the fee program would be structured for successful implementation. Types of mitigation projects to be funded through the program could include:

- Funding of TDM measures which would result in GHG emissions reductions (e.g., transit pass subsidies, car-sharing program)
- Funding of larger transit projects which demonstrate VMT reductions and GHG emissions
- Appliance replacement programs to replace natural gas appliances with electric appliances
- Vehicle replacement programs to incentivize the purchase of EVs and ZEVs for residents and businesses

Implementation Items

- Research VMT Mitigation and Banking Programs including information in UC Berkeley's Technical Report ["Implementing SB 743: An Analysis of Vehicle Miles Traveled Banking and Exchange Frameworks"](#) .
- Develop a comprehensive list of strategies, projects, and other opportunities to reduce GHG emissions which can be funded and implemented through the program.
- Choose or design the most appropriate framework for developing a GHG Mitigation Fee Program and incorporate the program into the City's development and environmental review processes.