

Complete Communities: Mobility Choices Regulation Framework



MEMORANDUM

Date: January 29, 2020, Updated 6/2/2020
To: Heidi Vonblum, City of San Diego
From: Katy Cole & Madison Roberts, Fehr & Peers
Subject: **Complete Communities: Mobility Choices Regulation Framework**

SD18-0271

This memorandum describes an overall framework for the City of San Diego (City) vehicle miles traveled (VMT) reduction ordinance. Fehr & Peers provided guidance to the City of San Diego Planning Department in:

- (1) Development of the framework and a determination of how it would be applied throughout the City
- (2) Development of a list of VMT reduction measures and how each measure would be considered as part of the ordinance.

The Complete Communities: Mobility Choices Regulation is intended to:

- Implement the legislative intent of SB 743, which includes encouraging infill development, promoting active transportation modes, and reducing greenhouse gas emissions (GHG). SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving.
- Reduce Citywide VMT, encourage infill development, align with the City's Climate Action Plan goals, reduce GHG, and support public health goals.
- Reduce VMT created by new development in Mobility Zone 2 and Mobility Zone 3 by requiring on-site or site-adjacent VMT reducing measures with certain exceptions.
- Offset VMT created by new development in Mobility Zone 4 by collecting a VMT fee to construct VMT-reducing transit, bicycle, pedestrian and micro-mobility supporting infrastructure improvements in Mobility Zone 1, Mobility Zone 2, and Mobility Zone 3. Development in Mobility Zone 4 is not required to construct on-site or site-adjacent VMT reducing measures, and instead would pay a VMT fee. Although development in Mobility Zone 4 areas would result in greater VMT generation as compared to the other zones, it is less effective to implement VMT reducing



measures in Mobility Zone 4 as this zone is characterized by being farther away from jobs, services, and shopping (making bicycling and walking difficult) and limited access to transit.

- Develop a funding source through a VMT fee that will be used by the City to construct VMT-reducing infrastructure in Mobility Zone 1, Mobility Zone 2, and Mobility Zone 3, where these types of infrastructure improvements can be most effective at reducing Citywide VMT. Such improvements would be larger projects, such as transit, bicycle, pedestrian, and micro-mobility supportive infrastructure improvements. These projects would be implemented by the City in the right-of-way (ROW) and would complement the on-site measures required by the Complete Communities: Mobility Choices Regulations. Investing in VMT reducing infrastructure in Mobility Zones 1, 2, and 3 has a greater potential to reduce overall Citywide VMT than investing in similar infrastructure in Mobility Zone 4.
- Apply to ministerial and discretionary projects to comprehensively reduce Citywide VMT.
- Provide a mechanism for mitigation to address development project VMT impacts that is predictable and certain.

The *Complete Communities: Mobility Choices Regulation* is not intended to replace or offset the Development Impact Fee (DIF) Program.



REGULATION FRAMEWORK

ZONES AND POINTS REQUIREMENTS

The *Complete Communities: Mobility Choices Regulations* will require new development within the City of San Diego to either provide VMT reducing measures within the project site or adjacent right-of-way, or will require payment of a VMT fee based on the location and proposed land uses of the project. Applicability of these requirements is provided in Table 1.

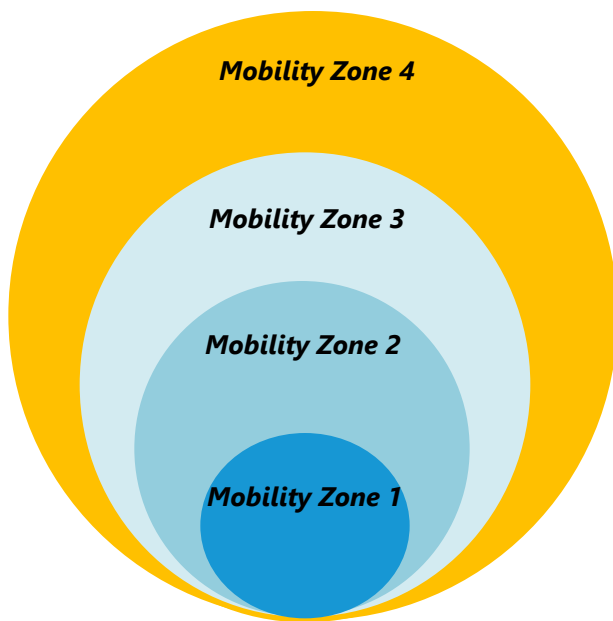
TABLE 1: COMPLETE COMMUNITIES: MOBILITY CHOICES REGULATIONS APPLICABILITY		
Type of Development/Location of Development	Subject to Fee	Subject to Measure Points
Development in Mobility Zone 1	No	No
Industrial development (as defined in Land Development Manual Appendix R, Transportation Study Manual Appendix B (TSM))	No	No
Public serving facilities (as defined in the TSM)	No	No
Affordable Housing Units ¹	No	No
Projects within ½ mile walk to passenger rail station (Coaster or Trolley) ²	No	No
Small Project (5,000 square feet or less for commercial/office projects, or four or fewer dwelling units for residential)	No	No
Multi-family residential development in a Mobility Zone 2	No	No
Development that does not require a certificate of occupancy	No	No
Development in Mobility Zone 2 and Mobility Zone 3	No	Yes
Locally-serving retail (as defined in the TSM) in Mobility Zone 4	No	Yes
Affordable Housing Component of Residential Development in Mobility Zone 4 (at least 20% Affordable Housing) ³	No	No
Development in Mobility Zone 4	Yes	No
Development in Mobility Zone 3 that provides more than the minimum required parking (See note 3 if the project is residential with at least 20% affordable units)	Yes	No
Notes:		
¹ Affordable housing: Affordable housing deed restricted to 120% area median income or below, as defined in Section 143.0720.		
² Projects that are within a 1/2 mile walk measured from the project's pedestrian access point with the public right-		



of-way to the passenger rail station pedestrian access point.

³ For residential projects that have at least 20% of the units as affordable units and are in a zone that requires payment of the fee, the affordable component of the project would NOT be subject to the fee. The non-affordable component is subject to the requirements for the zone that it is located in.

The City was categorized into four zones based on existing VMT efficiency as compared to the SANDAG region. VMT efficient areas were identified as Community Plan Areas with an existing VMT of 85% of the Regional Average or less for either VMT/Capita or Employee VMT/employee. The methodology and designation of the zones is discussed in the *Mobility Zone Methodology* section of this document. Each zone has a specific VMT reduction measure points requirement or fee requirement for the purposes of this ordinance. The four zones are: Mobility Zone 1, Mobility Zone 2, Mobility Zone 3, and Mobility Zone 4. The requirements for each zone is shown below.



Mobility Zone 4 is required to ***pay a VMT Fee.***

Mobility Zone 3 is required to provide ***8 points of VMT reduction measures.*** *Fee payment is not required but can be paid in lieu of providing measure points.*

Mobility Zone 2 is required to provide ***5 points of VMT reduction measures.*** *Fee payment is not required but can be paid in lieu of providing measure points.*

Mobility Zone 1 is required ***not required to provide VMT reduction measures.*** *Fee payment is not required.*

The VMT reduction measure points mentioned above are further detailed in the *VMT Reduction Measures* section of this document.

The two key elements that result in VMT reduction are locating land uses in VMT efficient locations and providing access to/encouraging transportation mode options. Locating new land uses in VMT efficient areas has a greater contribution to minimizing a project's VMT generation beyond the effect of providing VMT reducing measures. The required measures help to encourage use of non-auto transportation



modes, and while they will not eliminate a development's VMT generation, they do contribute to VMT reduction. The California Air Pollution Control Officers Association (CAPCOA) Quantifying Green House Gas Mitigation Measures (2010) (CAPCOA document) provides documented research on the effectiveness of travel demand management and bicycle/pedestrian facility expansion to reduce a project's VMT. Many of the Complete Communities: Mobility Choices Regulations measures are included in the CAPCOA document. Most are included as supportive or "grouped" measures, which do not have a documented measurable effectiveness at reducing VMT on their own, but are known to encourage non-auto modes and support other measures that have been shown to quantifiably reduce VMT. Other measures that are not in the CAPCOA document are also expected to encourage non-auto modes by improving the walking or bicycling environment, but there is not currently documented research connecting these measures to a specific/measurable VMT reduction. The actual VMT reduction achieved by constructing the measures will vary depending on the measures selected. However; if all measures that have documented quantifiable effectiveness at reducing VMT per the CAPCOA document were included in a development project (and enough measures were provided at maximum participation to achieve the maximum effectiveness per each category identified in the CAPCOA document) the maximum reduction in total project VMT achieved would be approximately 22%. As described above, locating a project in a VMT efficient area that has access to jobs, services, and transportation options contributes to VMT reduction beyond the reductions attributable to the transportation measures. Choosing the right location for new development is the most effective strategy of all from a VMT reduction perspective.

GUIDANCE FOR THE VMT FEE

Development occurring in Mobility Zone 4 would be required to pay a VMT fee. The City would use the VMT fee to construct Citywide VMT reducing infrastructure in Mobility Zones 1, 2, and 3. A potential framework for the VMT fee and other considerations based on Fehr & Peers experience with developing VMT fee program is described in this section.

Type of Program

Based on Fehr & Peers' review and understanding of the intent of the *Complete Communities: Mobility Choices Regulation*, an in-lieu fee as part of the *Complete Communities: Mobility Choices Regulation* may meet the City's needs and the intent of the ordinance. The following describe considerations for an in-lieu fee program (note that the City may be considering other types of fee programs to best implement the ordinance and several of the considerations presented below would also apply to other fee program structures):



- An in-lieu fee program requires a 'reasonable relationship between the ordinance and enhancement of public welfare' per decisions such as California Building Industry Assn. v. City of San Jose (2015) 61 Cal.4th 435 (CBIA) to establish the nexus for the in-lieu fee.
- A reasonable relationship could be established by demonstrating that new development increases Citywide VMT and the fee, which would be used to construct transit, bicycle and pedestrian infrastructure, would reduce Citywide VMT. The in-lieu fee provides a mechanism for development in Mobility Zone 4 to offset its contribution to Citywide VMT by paying an in-lieu fee that is used to construct VMT reducing facilities. These facilities would be constructed in Mobility Zones 1, 2, and 3, where these types of infrastructure improvements are most effective and efficient in reducing Citywide VMT.
- There are various methods, such as the SANDAG regional travel demand model, SANDAG Mobility Management Toolbox, and the CAPCOA Quantifying Greenhouse Gas Reductions document, that could be used to demonstrate that Citywide VMT increases due to future development and that construction of VMT reducing infrastructure helps to offset the increase. Intuitively, as transportation planners, we know that constructing bicycle, pedestrian, transit, and other non-single occupant vehicle focused infrastructure supports mobility choices and results in reduced driving and VMT.
- For purposes of CEQA, the measures and the fee can be used to provide a mechanism for mitigation to address development project VMT impacts that is predictable and certain.
- A nexus could be established between the increase in Citywide VMT due to the General Plan (i.e. future development) and relating the need to reduce the increase in VMT to comply with the state and local GHG reduction goals, which is the legislative intent of SB 743.



MOBILITY ZONE METHODOLOGY

As a part of the *Complete Communities: Mobility Choices Regulation*, unless exempt, new development throughout the City will need to either incorporate VMT reducing measures or pay a VMT fee depending on where the project is located. As previously mentioned, the four zones include Mobility Zone 1, Mobility Zone 2, Mobility Zone 3, and Mobility Zone 4. The method used to determine these zones is described below:

1. Using the SANDAG Location-based Screening Maps for SB 743 which aggregate VMT/capita and employee VMT/employee information from the 2012 Base Year Series 13 SANDAG model at a census tract level for all census tracts in the County of San Diego, the census tracts within the City of San Diego were aggregated to the Community Plan Area (CPA) level. This resulted in one VMT/capita average value and one VMT/employee average value for each CPA within the City. This aggregation included all census tracts within each CPA including those census tracts that include Transit Priority Areas (TPAs).
2. All CPAs were designated as Mobility Zone 1, Mobility Zone 2, or Mobility Zone 3 depending on the variables listed below:
 - a. The Downtown CPA was designated as the **Mobility Zone 1**.
 - b. 2035 TPA half mile buffered areas were then overlaid on the CPA designations. Parcels that fall within (either wholly or a portion of) the 2035 TPA half mile buffer were designated as **Mobility Zone 2**.
 - c. CPAs that have VMT of 85% of the Regional Average or less for either VMT/Capita or Employee VMT/employee were designated as **Mobility Zone 3**.
 - d. CPAs that are not designated as Mobility Zone 1, Mobility Zone 2, or Mobility Zone 3 were designated as **Mobility Zone 4**.
 - e. Mobility Zone 3 includes CPA's that are 85% of the Regional Average or less for either VMT/Capita or Employee VMT/employee in order to maximize the CPAs in Zone 3. Including both VMT/Capita and Employee VMT/employee areas responds to the concept that locating either jobs or housing in a VMT efficient area (on either map) would be beneficial from a land use balance perspective. Also, being VMT efficient on either of the VMT/Capita or Employee VMT/employee maps indicates that the location in general has the characteristics to benefit from adding on site/site adjacent features to encourage non-single occupant auto use and the location has the potential to become even more VMT efficient with additional bike/ped/transit infrastructure investments.



3. Individual parcels were then reviewed and designated using the methodology described below:
 - a. Parcels that were not entirely within one CPA were assigned the zone associated with the CPA that a majority of the parcel was within.
 - b. If it was found that parcels were within a TPA buffer zone (designated as Mobility Zone 2), but through visual inspection of aerial imagery those living or working within this parcel could not access the transit service (represented by the centroid of the TPA half mile buffer) due to a canyon, freeway, or other large immovable barrier, the parcel maintains the mobility zone of the CPA in which it is located.

These zones are shown in **Appendix A: Mobility Choices: Mobility Zones Map** and at <http://fehrandpeers.maps.arcgis.com/apps/webappviewer/index.html?id=740db3adf05c4756bf74da2115dd6a3a>



COMPLETE COMMUNITIES: MOBILITY CHOICES ORDINANCE MEASURES

MEASURES AND POINTS

Required measures are on-site or adjacent to a development project such that the measure can be shown on the site plan. On-site measures will be privately maintained. Any measure that is on-site for public use will have a public access agreement. Any measure that is off-site, but to be maintained by the property owner will have an Encroachment Maintenance and Removal Agreement (EMRA).

Measures located at a City owned intersection or within the curb-to-curb section of the public right-of-way will be maintained/owned by the City of San Diego.

Measures within the right-of-way must comply with the City of San Diego Street Design Manual, Land Development Code, San Diego Municipal Code, and applicable Council policies. The City Engineer has the discretion not to allow construction of a measure in the public right-of-way. Measures at transit stops will need coordination/approval from MTS or NCTD. Any of the measures listed below that already exist on-site or adjacent to the site prior to the development of the project cannot be included in the total point count for that project.

TABLE 2: VMT REDUCTION MEASURES AND POINTS				
VMT Reduction Measure		Unit	Points Per Unit	Included as a Parking Standards in TPAS Transportation Measure?
<i>Pedestrian Measure</i>				
1	Pedestrian scale lighting along public walkways along entire project frontage.	Yes/no	0.5	✓
2	Installing pop-outs at adjacent intersections or curb extensions at adjacent mid-block crosswalks. Installation to comply with the Street Design Manual Traffic Calming Chapter. Coordination with City Fire-Rescue Department staff and/or MTS/NCTD may be required.	Full Intersection ¹	2.5	
3	Installing high-visibility crosswalk striping at adjacent intersection (if not otherwise required).	Full Intersection ¹	1.5	
4	Installing enhanced crosswalk paving at adjacent intersection.	Full Intersection ¹	2.5	



VMT Reduction Measure		Unit	Points Per Unit	Included as a Parking Standards in TPAS Transportation Measure?
5	Installing pedestrian enhancing measures at adjacent intersections (hardscape): Median refuges, raised crosswalks	Each measure	2.5	
6	Signal pedestrian countdown heads (if not otherwise required)	Each Intersection	2	
7	Planting shade trees adjacent to a public pedestrian way beyond minimum standards (must be consistent with Land Development Code Landscape Standards and be maintained by the property owner). Minimum spacing between trees is 20 feet.	Each Tree	0.10	
8	Installing pedestrian resting area/recreation node on-site adjacent to public walkway (with signage designating the space as publicly available). Must be maintained by the property owner.	Each resting area (multiple of 250 square feet)	2.5	
9	Widening sidewalk within the existing right-of-way to Street Design Manual standards. Note that reduction of parkway/landscape buffer to less than the width required by the Street Design Manual standards to widen sidewalk width is not permitted. Requires replacement of existing sidewalk.	Each Mile of widening	3 points per mile of widening to standard (Partial Points Available)	✓
10	Widening urban parkway through dedication of private property to Street Design Manual Standards. Requires replacement of existing sidewalk.	Each Mile of widening	3 points per mile of widening to standard (Partial Points Available)	
Bicycle Supportive Measure				
11	Providing on-site shared bicycle fleet. The number of bicycles provided shall be equal to the number of bicycle parking spaces that would otherwise be required by San Diego Municipal Code Table 142-05C, or five bicycles, whichever is greater.	Yes/No	1.5	✓
12	Providing on-site bicycle repair station (above minimum bicycle repair station requirements).	Yes/No	1.5	✓
13	Installing new bicycle infrastructure (Class I, II, IV) that is part of the City's planned bikeway network that closes or incrementally closes an existing gap between two existing bikeways.	Each mile	3	
14	Upgrading bicycle infrastructure adjacent to project (along roadway and at intersections, i.e. signage, green paint, upgrade to a protected bicycle facility, etc. above minimum bicycle infrastructure standards).	Each upgraded feature	2.5	



VMT Reduction Measure		Unit	Points Per Unit	Included as a Parking Standards in TPAS Transportation Measure?
15	Installing electric bicycle charging stations/micro-mobility charging stations that are available to the public.	Each multiple of 5 charging stations	2	✓
16	Providing short-term bicycle parking spaces at least 10% beyond minimum requirements.	Each multiple of 10% beyond the minimum	1.5	
17	Providing long-term bicycle parking spaces at least 10% beyond minimum requirements.	Each multiple of 10% beyond the minimum	2	
18	Providing on-site showers/lockers at least 10% beyond minimum requirement.	Yes/No	2	
Transit Supportive Measure				
19	Providing upgrades to transit stop (above existing condition), high cost measures: addition of shelter, real time bus information monitors.	Each upgraded feature	2.5	✓
20	Providing upgrades to transit stop (above existing condition), low cost measures: addition of bench, public art, static schedule and route display, trash receptacle.	Each upgraded feature	1	✓
Other				
21	Providing on-site multi-modal information kiosks (above minimum kiosk requirement to serve a larger site). *Not applicable to small project sites.	Yes/No	2	✓
22	Providing on-site car share vehicles with designated parking shown on plan.	Each car-share vehicle space	2	✓
23	Providing on-site designated micro-mobility parking area (above minimum micro-mobility parking area requirements).	Yes/No	1.5	
24	Providing on-site passenger loading zones and delivery vehicle space (above minimum loading space requirement).	Yes/No	0.5	✓
25	Installing traffic calming measure: Speed feedback signs, median slow points (chokers), and speed table/raised crosswalk. Installation to comply with the Street Design Manual Traffic Calming Chapter. Coordination with City Fire-Rescue Department staff and/or MTS/NCTD may be required.	Each traffic calming feature	2.5	
26	Providing carpool parking spaces 10% beyond the minimum number of carpool spaces (for non-residential projects).	Each multiple of 10% beyond the minimum	1.5	
27	Number of parking spaces provided does not exceed the parking requirements contained in the Municipal	Yes/No	2	



VMT Reduction Measure		Unit	Points Per Unit	Included as a Parking Standards in TPAS Transportation Measure?
	Code and a permit system is provided (or other parking management such as time limited or metered spaces) to control off-site parking.			
¹ Measures shall be provided on each leg of the adjacent intersection (four-legged intersection, T-intersection, etc.). If the developer only installs the measure on a portion of the adjacent intersection legs, the total number of points assigned to this measure shall be divided by the number of legs of the intersection and the resulting number of points shall be assigned to each individual measure included. For example, if the developer constructs one pop-out at a T-intersection, the total number of points assigned to a pop-out intersection (2.5) would be divided by the number of intersection legs (3) equaling 0.83 and the total number of points the project would receive for this measure would be 0.83 points.				

POINT SYSTEM METHODOLOGY

Points for each measure were assigned based on the availability of documented research confirming that the measure is effective at reducing VMT and the relative cost of the measure (compared to other measures).

Relative effectiveness at reducing VMT for each measure was determined based on effectiveness information contained in the CAPCOA document. The CAPCOA document provides a collection of transportation related measures for reducing greenhouse gas emissions and identifies how much VMT reduction (or range of VMT reduction) can be attributed to each measure based on documented research and other data summarized by CAPCOA.

Each measure was assigned an effectiveness value corresponding to:

- Value 1: Measure has no documented effectiveness/measure not identified in the CAPCOA document, but based on professional and industry standards, could support VMT reductions. For example, where the aesthetics of a bicycle or pedestrian facility are improved, the likelihood that that facility will be used increases.
- Value 2: Measure is included in the CAPCOA document as a supportive measure. No specific range of effectiveness provided in the CAPCOA document, but based on professional and industry standards, supports VMT reductions.
- Value 3: Measure is included in the CAPCOA document and has a range of VMT reduction effectiveness that is less than a 10% reduction (the upper limit of effectiveness is less than 10%).
- Value 4: Measure is included in the CAPCOA document and has a range of VMT reduction effectiveness that is greater than or equal to a 10% reduction (the upper limit of effectiveness is greater than or equal to 10%).

Relative cost was determined through literature review of typical costs for each measure. The cost is based on the cost for the developer to design, install and maintain the measure. In the case where the



City would maintain the measure (such as an intersection improvement or roadway striping), the maintenance cost to the developer is \$0. Each measure was assigned a cost value corresponding to:

1. Value 1, Low Cost: Corresponding to a typical design/installation/lifecycle maintenance cost of up to \$10,000
2. Value 2, Moderate Cost: Corresponding to a typical design/installation/lifecycle maintenance cost of \$10,000-\$100,000
3. Value 3, High Cost: Corresponding to a typical design/installation/lifecycle maintenance cost of \$100,000 and greater.
4. Not Applicable, Value 0: Cost was not factored into the calculation for any measure that has an effectiveness value of 1 or little/no cost. This is to ensure that measures that have a documented effectiveness are given a higher weight than measures that do not have a measured effectiveness.

The following procedure was followed to determine the points for each measure:

- Assign the effectiveness and cost value to each measure.
- Add the effectiveness and cost values to arrive at a combined value.
- The combined value was normalized by summing up the combined values for all measures and dividing each individual measure combined value by the result. The normalized result for each measure is multiplied by 100 and rounded to the nearest tenth.
- The normalized value for each measure was then divided by two to arrive at the points value for each measure. Dividing by two was done to create a point values that is smaller and more convenient to administer/track in the ordinance.

Appendix B includes the detailed calculations for determining the points value for each measure.



PEER AGENCY INTERVIEWS

As TDM and VMT Reduction Ordinances are relatively new to the industry, it was an important to learn from the California other jurisdictions that already have similar ordinances in place. As part of this effort, six locations that have currently have or are creating TDM ordinances or fees were identified including:

- City of Los Angeles (LA)
- City of Mountain View
- City of San Francisco
- City of San Jose
- City of Sunnyvale
- City of Menlo Park

We interviewed the City of Los Angeles and the City of Mountain View to learn more about their programs. The information we learned from each jurisdiction is described below:

CITY OF LA TDM ORDINANCE

What is the intent and purpose of the City of Los Angeles' TDM Ordinance?

The City of Los Angeles' TDM Ordinance is an update to the City's 26 year-old TDM Ordinance. The previous version of the ordinance focused only on large employers and the main goal of the update was to provide additional mobility options to reduce single-occupancy vehicle (SOV) trips and VMT by expanding the applicability of the ordinance and adding additional measures for developments to incorporate.

What were the main considerations when developing the measures to include in the ordinance?

The ordinance focuses on measures that will achieve multiple benefits including: health and equity, transportation happiness, context sensitivity, and be adaptive over time. The measures include those that have measurable effectiveness and newer measures including shared mobility options, on-site childcare, and neighborhood shuttles to connect developments in communities without access to transit. In order to determine these measures' effectiveness development will provide travel surveys.

What types of projects are subject to the ordinance?



The ordinance is imposed on all new development – discretionary and ministerial – given it meets the intensity threshold for a small project of more than 16 dwelling units or more than 25,000 square feet of retail, mixed use, or non-warehouse employment or more than 250,000 square feet of warehouse. This ordinance is not a part of the City of LA's CEQA process although some of the measures included are the same measures that could be used for CEQA compliance.

How are measures monitored for effectiveness?

The list of measures provides a streamlined process for small projects and the flexibility of the ordinance allows all projects to recommend new measures given that there is some anecdotal evidence that the measure will assist in meeting the ordinance's goals. All measures will be monitored in a process that will include property managers or an overarching Transportation Management Organization (TMO) to submit travel survey information on an annual basis for at least 5 years following project opening. The City of LA encourages the data collection process to be automated as much as possible using counters at driveways and parking garages. After the five year period the City expects to be able to terminate monitoring at well-performing sites or conducting triage monitoring as necessary.

If a project does not implement the required measures, what type of penalty is required?

If a project fails to implement measures there will be a monetary penalty imposed. If a project has incorporated measures that are failing to meet goals, the project will be able to swap out measures.

How has the public's response to the ordinance been during outreach efforts?

The City of LA's ordinance has not yet been ratified, however, they have received good feedback during outreach on the adaptability, flexibility and expansion of the program. They have received questions about monitoring and are considering increasing their project review fees to cover additional costs that will be incurred as a part of the monitoring process.

CITY OF MOUNTAIN VIEW TDM PROGRAM

How is the City of Mountain View's TDM program implemented and what kind of projects does it apply to?

The City of Mountain View's TDM program is implemented through a series of custom TDM strategies and TDM policies created through precise (or specific) plans. The city does not currently have a citywide policy. TDM policies apply to new office and residential development.



What type of measures are typically a part of TDM policies?

Each new development that is a part of a precise area is required to join the Transportation Management Agency (TMA) to which office development pays a \$20,000 initiation fee and annual dues of \$10,000 per year. Residential development pay a reduced rate to participate in the TMA in order to incentivize residential development to support office uses. The measures are determined on a case-by-case basis given that development do not exceed their trip counts or have more than 45% of their project trips completed in a single-occupant vehicle (SOV).

If a project is not a part of a precise area plan they City will review the projects context and consider proximity to transit, bike routes, etc. and require context-specific TDM measures

How is implementation of the TDM measures monitored?

Each year development with active TDM policies must work with a third party to complete a TDM report which included information about mode share, driveway rates and other items. This TDM report is then reviewed by the city for compliance. If a project is not in compliance they will be fined \$100,000 for the first 1% they are over the SOV percentage and then \$50,000 for every percentage point after that.

As the city scales the TDM program to be consistent city-wide in 2020, monitoring and tracking is foreseen to be a potential issue. They expect that they may have to hire additional staff to cover the additional workload.

How did you determine an appropriate fine?

The fine was set at an amount that would incentivize developers and companies to better implement their TDM measures. The fine will be provided to the TMA to be used on multi-modal improvements as the TMA sees fit.

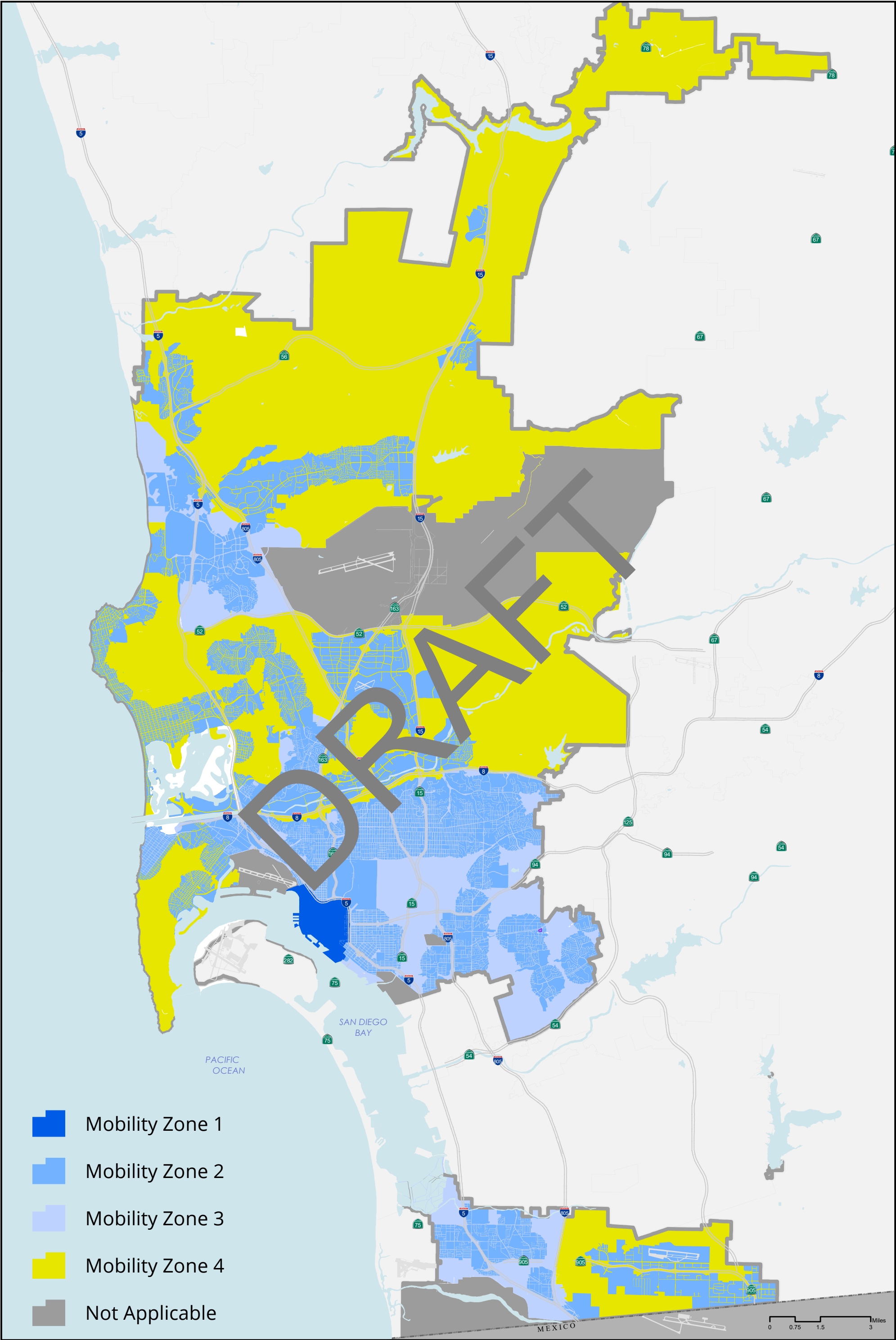
How have the TDM requirements been received by developers?

For the most part the TDM requirements have been well-received by developers. The city has struggled with having developers provide transit pass subsidies for residential and office developments.

What were the main reasons the City of Mountain View is beginning to develop a city-wide TDM ordinance?

A city-wide TDM ordinance will provide additional visibility and consistency to developers and staff.





APPENDIX B

Complete Communities: Mobility Choices Regulation

Measures and Points Calculations

Appendix B: Complete Communities Mobility Choices Ordinance Measures and Points Calculations

VMT Reduction Measure		Unit	Capcoa Reference	Effectiveness at reducing VMT Value	Relative Cost Value	Combined Score	Normalized Score	Normalized Score Divided by Two
				Scale of 1-4	Scale of 0-3	Add Cost Value Plus Effectiveness Value	Combined Score/Sum of All Combined Scores * 100 (rounded)	Normalized Score/2 and rounded to nearest 0.5
Pedestrian Measures								
1	Pedestrian scale lighting along public walkways along whole project frontage.	Yes/no	none	1	0	1	1	0.5
2	Installing pop-outs at adjacent intersections or curb-extensions at adjacent mid-block crosswalks. Installation should comply with the Street Design Manual Traffic Calming Chapter. Coordination with City Fire-Rescue Department staff and/or MTS may be required.	Full Intersection*	SDT-2 effectiveness 0.25%-1%	3	2	5	4.8	2.5
3	Install high-visibility crosswalk striping at adjacent intersection (if not otherwise required).	Full Intersection*	SDT-2 effectiveness 0.25%-1% (adjusted to a scale of 2 to reflect the fact that this is already a basic requirement of new crosswalks in the City).	2	1	3	2.9	1.5
4	Install enhanced crosswalk paving at adjacent intersection.	Full Intersection*	SDT-2 effectiveness 0.25%-1%	3	2	5	4.8	2.5
5	Install pedestrian enhancing measures at adjacent intersections (hardscape): Median refuges, raised crosswalks	Each measure	SDT-2 effectiveness 0.25%-1%	3	2	5	4.8	2.5
6	Signal pedestrian countdown heads (if not otherwise required)	Each Intersection	SDT-2 effectiveness 0.25%-1%	3	1	4	3.8	2
7	Planting shade trees adjacent to a public pedestrian way beyond minimum standards (must be consistent with Land Development Code Landscape Standards and be maintained by the property owner). Minimum spacing between trees is 20-feet.	Each Tree (calculation assumes 5 trees; therefore, the normalized score was divided by 5: 0.5/5=0.1)	none	1	0	1	1	0.1
8	Construction of pedestrian resting area/recreation node on-site adjacent to public walkway (with signage designating the space as publicly available). Must be maintained by the property owner.	Each resting area (multiple of x square feet)	SDT-1 effectiveness0.2%	3	2	5	4.8	2.5

9	Widening sidewalk within the existing right-of-way to Street Design Manual standards. Note that reduction of parkway/landscape buffer to widen sidewalk width is not permitted.	Each Mile of widening	SDT-1 effectiveness0.2%	3	3	6	5.8	3
10	Widening urban parkway through dedication of private property to Street Design Manual Standards.	Each Mile of widening	SDT-1 effectiveness0.2%	3	3	6	5.8	3
Bicycle Supportive Measures								
11	On-site shared bicycle fleet. The number of bicycles provided shall be equal to the number of bicycle parking spaces that would otherwise be required by San Diego Municipal Code Table 142-05C, or five bicycles, whichever is greater.	Each multiple of 5 bicycle storage spaces	TRT-12 supportive	2	1	3	2.9	1.5
12	On-site bicycle repair station (above minimum bicycle repair station requirements).	Yes/No	TRT-5 supportive	2	1	3	2.9	1.5
13	Construction of new bicycle Infrastructure that is part of the City's planned bikeway network that completes/contributes to closing an existing gap.	Each mile	SDT-5 up to 1% reduction per "alternative literature"	3	3	6	5.8	3
14	Upgraded bicycle infrastructure adjacent to project (along roadway and at intersections, i.e. signage, green paint, upgrade from a bike lane to a cycle trackprotected bicycle facility, etc. above minimum bicycle infrastructure standards).	Each upgraded feature	SDT-5 up to 1% reduction per "alternative literature"	3	2	5	4.8	2.5
15	Electric bicycle charging stations/micro-mobility charging stations that are available to the public.	Each multiple of 5 charging stations	SDT-8 supportive	2	2	4	3.8	2
16	Short term bicycle parking spaces at least 10% beyond minimum requirements.	Each multiple of 10% beyond the minimum	SDT-6/7 supportive	2	1	3	2.9	1.5
17	Long term bicycle parking spaces at least 10% beyond minimum requirements.	Each multiple of 10% beyond the minimum	SDT-6/7 supportive	2	2	4	3.8	2
18	On-site showers/lockers at least 10% beyond minimum requirement.	Yes/No	TRT-5 supportive	2	2	4	3.8	2

Transit Supportive Measures								
19	Upgrades to transit stop (above existing condition), higher cost measures: addition of shelter, real time bus information monitors.	Each upgraded feature	TST-2 supportive	2	3	5	4.8	2.5
20	Upgrades to transit stop (above existing condition), low cost measures: addition of bench, public art, static schedule and route display, trash receptacle.	Each upgraded feature	TST-2 supportive (more focused on multiple upgrades/larger upgrades, see item above. As such included each individual measure as "no documented effectiveness")	1	1	2	1.9	1
Other								
21	On-site multi-modal information kiosks (above minimum kiosk requirement to serve a larger site) *Not applicable to small project sites.	Yes/No	TRT-7 effectiveness 0.8%-4%	3	1	4	3.8	2
22	On-site car share vehicles with designated parking shown on plan.	Each car-share vehicle space	TRT-9 effectiveness 0.4%-0.7%	3	1	4	3.8	2
23	On-site designated micro-mobility parking area (above minimum micro-mobility parking area requirements).	Yes/No	TRT-6/7/12 supportive. (assume bike parking effectiveness/ on-site bike fleet applies).	2	1	3	2.9	1.5
24	On-site passenger loading zones and delivery vehicle space (above minimum loading space requirement).	Yes/No	none	1	0	1	1	0.5
25	Traffic calming: Speed feedback signs, median slow points (chokers), and speed table/raised crosswalk. Installation should comply with the Street Design Manual Traffic Calming Chapter. Coordination with City Fire-Rescue Department staff and/or MTS may be required.	Each traffic calming feature	SDT-2 effectiveness 0.25%-1%	3	2	5	4.8	2.5
26	Carpool parking spaces 10% beyond the minimum number of spaces (for non-residential projects).	Each multiple of 10% beyond the minimum	TRT-8 supportive	2	1	3	2.9	1.5
27	Provide minimum number of parking spaces per the Municipal Code in conjunction with a permit system (or other parking management such as time limited or metered spaces) to control off-site parking.	Yes/No	PDT-1 effectiveness 5%-12%	4	0	4	3.8	2

* Measures should be provided on each leg of the adjacent intersection (four-legged intersection, T-intersection, etc.). If the developer would like to only install the measure on a portion of the adjacent intersection legs the total number of points assigned to this measure should be divided by the number of legs of the intersection and the resulting number of points should be assigned to each individual measure included. For example, if the developer would like to construct one pop-out at a T-intersection, the total number of points assigned to a pop-out intersection (2.5) would be divided by the number of intersection legs (3) equaling 0.83 and the total number of points that the project would receive for this measure would be 0.83 points.

Each measure was assigned an effectiveness value corresponding to:

- Value 1: Measure has no documented effectiveness/measure not identified in the CAPCOA document, but based on professional and industry standards, could support VMT reductions. For example, where the aesthetics of a bicycle or pedestrian facility are improved, the likelihood that the facility will be used increases.
- Value 2: Measure is included in the CAPCOA document as a supportive measure. No specific range of effectiveness provided in the CAPCOA document, but based on professional and industry standards, supports VMT reductions.
- Value 3: Measure is included in the CAPCOA document and has a range of VMT reduction effectiveness that is less than a 10% reduction (the upper limit of effectiveness is less than 10%).
- Value 4: Measure is included in the CAPCOA document and has a range of VMT reduction effectiveness that is greater than or equal to a 10% reduction (the upper limit of effectiveness is greater than or equal to 10%).

Relative cost was determined through literature review of typical costs for each measure. The cost is based on the cost of the developer to design, install and maintain the measure. In the case where the City would maintain the measure (such as an intersection improvement or roadway striping), the maintenance cost to the developer is \$0. Each measure was assigned a cost value corresponding to:

1. Value 1, Low Cost: Corresponding to a typical design/installation/lifecycle maintenance cost of up to \$10,000
2. Value 2, Moderate Cost: Corresponding to a typical design/installation/lifecycle maintenance cost of \$10,000-\$100,000
3. Value 3, High Cost: Corresponding to a typical design/installation/lifecycle maintenance cost of \$100,000 or greater
4. Not Applicable, Value 0: Cost was not factored into the calculation for any measure that has an effectiveness value of 1 or little/no cost. This is to ensure that measures that have a documented effectiveness are given a higher weight than measures that do not have a measured effectiveness.

The following procedure was followed to determine the points for each measure:

- Assign the effectiveness and cost value to each measure.
- Add the effectiveness and cost values to arrive at a combined value.
- The combined value was normalized by summing up the combined values for all measures and dividing each individual measure combined value by the result. The normalized result for each measure is multiplied by 100 and rounded to the nearest tenth.
- The normalized value for each measure was then divided by two to arrive at the points value for each measure. Dividing by two was done to create a point value that is smaller and more convenient to administer/track in the ordinance.