

DATE: October 14, 2020

TO: Planning Commission

FROM: Laura Cornejo, Director of Transportation

RE: UPDATE TO CEQA TRANSPORTATION PERFORMANCE THRESHOLDS OF SIGNIFICANCE – RESPONSE TO COMMENTS

RECOMMENDATION:

It is recommended that the Planning Commission review and provide comments to the City Council on the recommended update to California Environmental Quality Act (CEQA) transportation performance thresholds of significance. The current and recommended CEQA transportation performance thresholds of significance are as follows:

METRIC	DESCRIPTION	Current Guidelines	Staff Recommendation
		IMPACT THRESHOLD	IMPACT THRESHOLD
VMT Per Capita ^a	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs).	An increase over existing Citywide VMT per service population. <u>Current CEQA Threshold: 22.6</u>	Net change in VMT per service population is 15% below Citywide average baseline <u>2017 Baseline: 35.6^b</u> <u>15% Below Baseline Threshold: 30.3</u>
VT Per Capita ^a	Vehicle Trips (VT) in the City of Pasadena per service population.	An increase over existing Citywide VT per service population. <u>Current CEQA Threshold: 2.8</u>	Net change in VT per service population is 15% below Citywide average baseline <u>2017 Baseline: 4.2^b</u> <u>15% Below Baseline Threshold: 3.6</u>

^a The City of Pasadena equates capita with service population (population + jobs)

^b The Baseline should be updated approximately every 5 years in order to reflect changes to the street network and parcel level land uses.

METRIC	DESCRIPTION	Current Guidelines	Staff Recommendation
		IMPACT THRESHOLD	IMPACT THRESHOLD
Proximity and Quality of Bicycle Network	Percent of service population within a ¼ mile of bicycle facility types.	Any decrease in existing Citywide service population within a ¼ mile of Level 1 or 2 bike facilities. <u>Current CEQA Threshold: 31.7%</u>	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 bike facilities. <u>2017 Baseline: 32.3%^b</u> <u>Recommended Threshold: 32.3%</u>
Proximity and Quality of Transit Network	Percent of service population located within a ¼ mile of transit facility types.	Any decrease in existing Citywide service population within a ¼ mile of Level 1 or 2 transit facilities. <u>Current CEQA Threshold: 66.6%</u>	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 transit facilities. <u>2017 Baseline: 66.8%^b</u> <u>Recommended Threshold: 66.8%</u>
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a network-based walk shed to evaluate walkability	Any decrease in the Citywide Pedestrian Accessibility Score <u>Current CEQA Threshold: 3.9</u>	Any decrease in the Citywide Pedestrian Accessibility Score <u>2017 Baseline: 3.9^b</u> <u>Recommended Threshold: 3.9</u>

^b The Baseline should be updated approximately every 5 years to reflect changes to the street network and parcel level land uses.

The increase between the 2013 Baseline and 2017 Baseline vehicle miles traveled (VMT) and Vehicle Trips (VT) is due in large part to a change in the calculation of VMT and VT at jurisdictional boundaries. In 2013, the model only accounted for 50% of trips beginning or ending within the City of Pasadena. In the 2017 Baseline VMT and VT per service population calculation, 100% of the trip are accounted for in the model regardless of the trip's origin or destination. Further discussion of the changes to the City's travel demand model may be found in the attached Planning Commission memorandum dated September 9, 2020 (Attachment A).

The current CEQA thresholds determine a project's CEQA significant impact to vehicle miles traveled (VMT) and vehicle trips (VT) per service population by evaluating whether the project's incremental change is above the 2013 baseline. In an effort to better align the City's thresholds to meet the State's long-term climate goals, the

recommended CEQA thresholds for VMT and VT per service population, seeks to be more restrictive to the project's incremental change metric by lowering the VMT and VT per service population CEQA thresholds to 15% below 2017 baseline.

The most current Governor's Office of Planning and Research (OPR) technical advisory, issued on December 2018¹, recommends that a VMT per capita or per employee 15% below that of existing development may be a reasonable threshold. Also, Caltrans² and the California Air Pollution Control Officers Association (CAPCOA)³ indicate that the required greenhouse gas emission (GHG) targets mandated by the State can be achieved with a 15% reduction of VMT. DOT staff found the CEQA thresholds at the following California agencies to have a VMT per capita or VMT per employee metric that is 15% below an efficiency-based threshold:

- City of San Francisco⁴
- City of San Jose⁵
- City of Los Angeles⁶
- City of Irvine⁷
- City of San Diego⁸
- City of Monrovia⁹

OPR and the California Air Resources Board (CARB) indicate that, by applying transportation strategies at the project level outlined by CAPCOA, the goal is achievable. CARB finds that per capita vehicle travel would need to be kept lower than existing levels to achieve state climate goals. CARB must assess each region's progress on achieving regional greenhouse gas emissions reduction targets at least every four years to evaluate what progress has occurred.

The City's recommended VMT per service population and VT per service population impact threshold 15% below the Citywide baseline average will align with the State's emission reduction goals as well as thresholds of other agencies, which are 15% below an efficiency threshold based on existing development. A potential result of having CEQA thresholds lower than baseline may be that some projects that would otherwise be in compliance with the adopted Land Use in the General Plan may be subject to additional environmental review processes.

DISCUSSION:

On September 9, 2020, the Department of Transportation presented the recommended Update to CEQA Transportation Performance Thresholds of Significance to the

¹ OPR (December 2018) Technical Advisory on Evaluating Transportation Impacts in CEQA

² Caltrans, 2015-2020 Strategic Management Plan

³ CAPCOA, 2010 Quantifying Greenhouse Gas Measures

⁴ City of San Francisco (October 2019) TIA Guidelines

⁵ City of San Jose (April 2018) Transportation Analysis Handbook

⁶ City of Los Angeles (July 2019) Transportation Analysis Guidelines

⁷ City of Irvine (April 2020) Traffic Study Guidelines

⁸ City of San Diego (February 2020) Transportation Study Manual (TSM) Draft

⁹ City of Monrovia (September 2020) City of Monrovia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment)

Planning Commission (Attachment A) for review and comment. At the meeting, the Commission voted to approve the following motion:

“We recommend to the City Council that there is a need for more information and analysis of:

1. The Bike Network
2. Transit access and usage
3. Other methodologies from comparable cities
4. Impact on development of a threshold that is 20% below baseline
5. Mitigation measures and how they reduce neighborhood impact
6. How the City’s Level of Service (LOS) analyses interacts with CEQA analyses”

The following provides information in response to the Commission’s motion.

1. The Bike Network

The current California Environmental Quality Act (CEQA) statutes established criteria for determining the significance of transportation impacts of projects. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. To support the development of multimodal transportation networks, the City’s Proximity and Quality of Bicycle Network threshold provides a percentage of the City’s service population (population plus jobs) within 1/4 mile of each of three bicycle facility types. Any decrease in the metric requires that steps be taken to improve the network.

The following table taken from the City’s current Transportation Impact Study Guidelines describes the three bicycle facility types applied in the model:

LEVEL	DESCRIPTION	FACILITIES INCLUDED
1	Advanced Facilities	Bike Paths Multipurpose Paths Cycle Tracks/Protected Bike Lanes
2	Dedicated Facilities	Buffered Bike Lanes Bike Lanes Bike Boulevards
3	Basic Facilities	Bike Routes Enhanced Bike Routes Emphasized Bikeways

To mitigate the CEQA impact to the Proximity and Quality of Bicycle Network Performance metric, the project will be conditioned to contribute its fair share of funds for the construction and/or improvement of bicycle infrastructure within 1/4 mile of the project that was not included in the TR-TIF Development Impact Fee Study. The City can improve measures of bicycle facility access by improving and expanding existing bike facilities. The project’s contribution of funds to construct and/or improve bicycle infrastructure will reduce the project’s CEQA impact to below levels of significance by increasing the project’s service population access to bicycle facilities.

To date, only one project since the implementation of the revised CEQA Performance Metrics caused a decrease in the Proximity to the Bicycle Network performance metric.

Bicycle Transportation Action Plan

Aligned with the Department's vision for Pasadena to be a City "where people can circulate without cars," the General Plan Mobility Element contains measures that encourage walking, biking, transit, and other alternatives to motor vehicles. The 2015 Bicycle Transportation Action Plan supports the General Plan Mobility Element's vision to enhance the City's transportation system by outlining the Department's goals, objectives, actions, and timelines of bike-related strategies designed to improve bicycle infrastructure and bicyclist safety. The plan provides details for a network of bikeways with the end goal of providing every neighborhood within 1/4 mile of an effective bicycling route in the north-south and east-west directions. The plan outlines educational, engagement, enforcement, and evaluation strategies designed to increase bicyclist safety by educating both bicyclists and motorists. The bike networks are intended to complement engineering improvements with bike paths, lanes, and routes. Programs that provide the education and encouragement of bicycling will promote maximum utilization of the facilities. The Bicycle Transportation Action Plan may be found online: <https://www.cityofpasadena.net/transportation/wp-content/uploads/sites/20/Pasadena-Bike-Action-Plan-08-17-2015.pdf>

The plan also outlines strategies for funding the program. Many federal and state grants require some level of matching funds. Developing a strategy to gather all of the required funds is important, as grants will not be awarded without specifying the sources of matching funds. The strategy may include matching a state grant with a federal grant, or the use of local or regional funds. One such established funding source is the City's Trip Reduction and Traffic Impact Fee (TR-TIF). The TR-TIF was established to help mitigate the traffic impacts of new development on the City's transportation infrastructure. Fees collected from the TR-TIF funds the implementation of identified transportation infrastructure needs that support livability, neighborhood protection, and mobility goals as identified in the City's General Plan Land use and Mobility Elements.

The TR-TIF is outside the scope of the CEQA transportation review process. The TR-TIF is a development impact fee imposed on new developments based on net new square footage and net new residential units. California law requires that, in order for these impact fees to be imposed, the responsible agency must (1) Identify the purpose to which the fee is applied, (2) demonstrate a reasonable relationship between the fee and purpose for which it is charged, (3) identify all sources and amounts of funding anticipated to be used to finance the incomplete improvements, (4) designate the approximate dates on which the above funding is expected to be deposited into the appropriate account or fund. Further discussion of the TR-TIF and the funding allocation is found in Attachment B.

2. Transit Access and Usage

As discussed above, the current California Environmental Quality Act (CEQA) statutes established criteria for determining the significance of transportation impacts of projects. Those criteria shall promote the reduction of greenhouse gas emissions, the

development of multimodal transportation networks, and a diversity of land uses. To support the development of multimodal transportation networks, the City's Proximity and Quality of Transit Network threshold provides a percentage of the City's service population (population plus jobs) within 1/4 mile of each of three transit facility types. Any decrease in the metric requires that steps be taken to improve the network.

The following table describes the three transit facilities hierarchy applied in the model:

TRANSIT FACILITIES HIERARCHY	
LEVEL	FACILITIES INCLUDED
1	Includes all Metro L Line (Gold) stops as well as corridors with transit service, whether it be a single route or multiple routes combined, with headways of five minutes or less during the peak periods.
2	Includes corridors with transit headways of between six and 15 minutes in peak periods.
3	Includes corridors with transit headways of 16 minutes or more at peak periods.

Upon determination of any decrease in the Proximity to the Transit Network performance measures as a result of the project, the City can mitigate the CEQA impact to the Transit Proximity and Quality metric by reducing headways on existing transit routes or by expanding transit routes to cover new areas. In addition to the TR-TIF, which is outside the CEQA review process, the project's fair share contribution of funds to improve transit infrastructure within 1/4 mile of the project not included in the City's 2017 Transportation Development Impact Fee Study will be determined to help increase the project's service population access to transit facilities, and reduce the project's CEQA impact to below levels of significance.

To date, no projects since the implementation of the revised CEQA Performance Metrics caused a decrease in the Proximity to the Transit Network Performance Metric.

Short Range Transit Plan

The anticipated development pattern, as identified in the General Plan Land Use Element, will increase the use of the City's transportation systems, including demand for local and regional roadways. The City's General Plan Mobility Element guides the continuing development of the transportation system to support planned growth. The Mobility Element establishes how the City manages the local system to provide the safe and convenient movement of people and goods. It also addresses how the City influences and manages connections with the regional transportation system. Referenced in the General Plan Mobility Element is the City's Short Range Transit Plan.

The City's 2019 Short Range Transit Plan (SRTP) update guides the next five years of programming of transit service development and investments that support the policy goals for Pasadena Transit and Pasadena Dial-A-Ride. Pasadena Transit is the City's

fixed-route bus service which provides six routes that travel throughout Pasadena, including service to the six Gold Line stations, commercial corridors, major business and employment areas, schools and colleges, parks, medical facilities, dense residential areas, etc. Pasadena Dial-A-Ride is a demand-response paratransit service for seniors and individuals with disabilities that provides service to residents of Pasadena, San Marino, Altadena, and other adjacent unincorporated areas within the service area.

In the SRTP update, performance monitoring and data analysis was conducted of Pasadena Transit and Pasadena Dial-A-Ride to measure ridership trends, demand on the system, and efficiency of the services, among other factors. The in-depth ridership analysis and public outreach process conducted for this SRTP informed the development of key recommendations for DOT’s transit programs to be implemented as funding becomes available. Recommendations include service expansion, increased frequencies, and technology enhancements. Funds from the TR-TIF would help the implementation of identified transportation infrastructure needs. Further discussion of the TR-TIF and the funding allocation is found in Attachment B. The TR-TIF allocation is outside the scope of the CEQA transportation review process.

The Short Range Transit Plan may be found online:

<https://www.cityofpasadena.net/pasadena-transit/news/pasadena-short-range-transit-plan/#:~:text=Pasadena%20Dial%2DA%2DRide%20is,areas%20within%20the%20service%20area.>

3. Other Methodologies from Comparable Cities

As of July 1, 2020, all California agencies are required to shift the focus from Level of Service (LOS) to VMT to evaluate a project’s potential impact. Vehicular delay shall not be considered a significant environmental impact. Where congestion and traffic impacts to drivers were once the determining factor for a project’s environmental impact, accessibility and the act of driving itself now determines whether a project impacts the environment as measured by the amount of vehicle travel.

The following table describes three efficiency metrics used by California agencies:

EFFICIENCY METRIC	DESCRIPTION
Home-based VMT per resident	Evaluates how close households are to destinations and transportation options. This methodology considers only the VMT generated by residents making trips to and from home, and may omit other trip types.
Home-based work VMT per employee	Evaluates how close a workplace is to places where employees live. Because the trip type is specific to work trips, it compares employment-based project trips, and may omit other trip types.

Total project-generated VMT per service population*	<p>Evaluates how VMT intensive the project is as a whole.</p> <p>This metric provides a more comprehensive understanding because it takes the total VMT to and from a project or zone and divides it by the total service population. Retail, commercial, and employment based uses generate more total VMT than non-employment uses.</p>
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* The City of Pasadena compares the incremental change in VMT due to the project per Citywide service population (population plus employment).

The Governor’s Office of Planning and Research gives lead agencies discretion to develop their own methodology and thresholds in preparing environmental documents subject to CEQA.

The County of Los Angeles published impact criteria based on guidance from OPR and CARB¹⁰. The baseline VMT for the County of Los Angeles is:

	Baseline year VMT		
	Residential	Employment	Total VMT
	VMT/capita	VMT/employment	VMT/service population
North County	22.3	19.0	43.1
South County	12.7	18.4	31.1

North LA County includes Santa Clarita Valley, Antelope Valley, and Santa Monica Mountains. The total list of 88 cities and approximately 140 unincorporated areas and communities in LA County may be found online:
<http://lacounty.gov/government/geography-statistics/cities-and-communities/>

The impact criteria for LA County is 16.8% below the existing VMT per efficiency metric for residential, office, and land use plan projects. For regional serving retail projects, an impact would be determined if the project would result in a net increase in existing total VMT.

The San Gabriel Valley Council of Governments (SGVCOG) worked with member agencies to develop a baseline standard that determines significance CEQA thresholds for future land use and transportation projects.¹¹ Taken from the SGVCOG model, the following table summarizes the VMT per efficiency metric for baseline year 2016 of agencies near Pasadena:

¹⁰ Los Angeles County Public Works (July 23, 2020) Transportation Impact Analysis Guidelines

¹¹ <https://www.sgvkog.org/vmt-analysis-tool>

Region/City	Baseline Year VMT		
	Residential	Employment	Total VMT
	VMT/ capita	VMT/ employment	VMT/ service population
SCAG	15.02	19	34.24
SGVCOG	16.21	20.84	36.12
Northwest SGVCOG*	16.29	21.01	37.02
Arcadia	15.4	19.55	36.42
La Canada Flintridge	19.39	23.91	43.8
Monrovia	15.6	21.7	34.27
San Marino	14.57	19.57	29.42

* Northwest Region SGVCOG data includes the following cities: Arcadia, Duarte, La Canada Flintridge, Monrovia, San Marino, and Sierra Madre

In 2017, the City of Pasadena’s VMT per service population baseline was found to be 35.6. DOT is recommending that the VMT per service population impact threshold to be 15% below 2017 baseline, or 30.3. Furthermore, the City of Pasadena is recommending additional environmental impact metrics that evaluate the incremental vehicle trips (VT) per capita due to the project, and the project’s environmental impact to the City’s bicycle, transit, and pedestrian network.

Comparing the CEQA thresholds of other agencies to the City of Pasadena’s thresholds would not be appropriate because the efficiency metric used by other agencies may be different. The efficiency metric of other agencies used for environmental analyses, such as the City of Los Angeles, compares the residential VMT per population or employment VMT per employment. Other agencies also base their thresholds on the dominant use in mixed-use projects. The City of Pasadena’s CEQA metrics should not be compared to the CEQA thresholds of other agencies because the City uses one VMT per Citywide service population threshold for all project types.

The City’s travel demand forecasting model was utilized to complete the following planning studies:

- General Plan Land Use and Mobility Element
- Trip Reduction and Traffic Impact Fee (TR-TIF)

Revising the City’s travel demand model methodology to be comparable to other agencies that do not use the same efficiency metric could cause the City to be unable to use the above studies as the foundation for further traffic and land use planning.

The City carefully considered its methodology before undertaking the above studies so that land use planning and future traffic infrastructure project planning is from the same policy and technical bases. To change the methodology now would cause the City not

to be able to tier off of the General Plan EIR traffic section, as it will use a different methodology to describe traffic impacts to land use planning. Similarly, while the City would not have to necessarily reevaluate the TR-TIF, such a change could render the preferred projects listed in the TR-TIF outdated.

Project Streamlining

Several agencies support streamlining of projects resulting in a presumption of less than significant environmental impact, if the projects improve access to destinations, livability, and community and satisfy criteria such as:

- Projects generating a net increase of 110 or less daily vehicle trips
- Projects that contain a local serving retail use
- Projects within a transit oriented priority area
- A project pre-screened to have low residential or office VMT
- Residential housing projects composed of 100% affordable housing located in any infill location

Understandably, the streamlining of projects located in dense areas with a mix of uses and transit accessibility will tend to exhibit low VMT. Affordable housing in infill locations generally improves job-housing match, which shortens commutes and reduces VMT.

The City of Pasadena is not recommending a streamlined evaluation process. While DOT recognizes that affordable housing projects and projects within the transit oriented district are in line with the City's goals, DOT feels it is important to fully evaluate and mitigate any potential transportation impacts associated with projects of community wide significance, which are projects that are 50 or more units, or 50,000 sf or greater.

4. Impact on Development of a Threshold that is 20% Below Baseline

The Governor's Office of Planning and Research (OPR) gives the lead agency discretion in preparing environmental documents subject to CEQA. Although OPR does not specify the methodology to analyze VMT impacts, OPR discusses general principles for agencies to consider when determining VMT levels of significance:

- Lead agencies should select a significance threshold that aligns with the State's goals to reduce greenhouse gas emissions, develop multimodal transportation networks, and a diversity of land uses.
- Continued growth depends on increased efficiency and conservation in land use and transportation from all Californians.

OPR states that a 15% reduction is consistent with SB 743's direction to select a threshold that will help the State achieve its climate goals. OPR understands that lead agencies, using more location-specific information, may develop their own specific thresholds and screening criteria. OPR states that a project-level 15% reduction in VMT is achievable using strategies affecting land use location, neighborhood enhancements, parking policies, transit system improvements, commute trip reduction, road pricing management, and new vehicle technologies.

California Air Resources Board (CARB) finds per capita vehicle travel would need to be kept below what today’s policies and plans achieve. CARB also finds per-capita light-duty vehicle travel would need to be approximately 16.8% lower than existing, and overall per-capita vehicle travel would need to be approximately 14.3% lower than existing levels¹². Stronger light-duty GHG reduction targets will enable the State to make significant progress towards reducing VMT from expected levels, but alone will not provide all of the needed VMT reductions. Additional measures such as more efficient and more equitable development, infrastructure investments to expand access to quality transportation choices and promote vibrant communities, road and parking pricing policies, and transportation system efficiency improvements are key to achieve the State’s climate goals.

The 15% VMT and VT per service population thresholds below existing development recommended by staff are in line with the recommendation by OPR and CAPCOA. A potential result of having CEQA thresholds lower than baseline may be that some projects that would otherwise be in compliance with the adopted Land Use of the General Plan may be subject to additional environmental review processes.

Since 2015, twenty-five projects were evaluated using thresholds found in the City’s 2013 Transportation Impact Analysis Guidelines for evaluating CEQA impacts. Although a more aggressive threshold would help the City reach the state’s GHG emission goals sooner, a more aggressive threshold will also have unintended consequences to the development review process.

The current thresholds are based on the 2013 baseline. The following tables summarize the number of projects that would have exceeded the City’s CEQA thresholds if the 2013 CEQA thresholds had been more aggressive:

Number of Projects Exceeding Thresholds Assuming % Reduction to 2013 CEQA Threshold				
VMT/capita				
Project VMT/Cap	Existing (2013) Threshold (22.6)	15% Threshold Reduction (19.2)	20% Threshold Reduction (18.1)	25% Threshold Reduction (17.0)
# Projects Exceeding Thresholds	0	1	2	4
% projects exceeding thresholds out of 25 projects	0%	4%	8%	16%

¹² California Air Resources Board (January 2019) 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals

VT/capita				
Project VT/Cap	Existing (2013) Threshold (2.8)	15% Threshold Reduction (2.4)	20% Threshold Reduction (2.2)	25% Threshold Reduction (2.1)
# Projects Exceeding Thresholds	3	7	8	14
% projects exceeding thresholds out of 25 projects	12%	28%	32%	56%

The City recommends a VMT per service population and VT per service population impact threshold 15% below the Citywide baseline average. Although lower thresholds will allow the City to make greater progress toward the state’s GHG reduction targets, a potential unintended result of lowering CEQA thresholds more than 15% below baseline may subject significantly more projects to additional environmental review processes.

5. Mitigation Measures and How They Reduce Neighborhood Impact

The City still recognizes the need to identify street network deficiencies and impacts to neighborhoods from traffic intrusion on neighborhood connector streets and access roads. Neighborhood protection measures and street network deficiencies are determined in the Outside CEQA analysis process.

From a development perspective, achieving the state’s climate goals will require the planning and building of communities to reduce vehicular GHG emissions and provide more transportation options. VMT and VT per Citywide service population as a metric encourages a land use mix that is consistent with the City’s guiding principle that envisions Pasadena as “a community where people can circulate without cars.” The vision relies upon an integrated and multimodal transportation system that provides choices and accessibility for everyone living, visiting and working in the City. Projects that reflect the right mix of land uses are not likely to trip any of the City’s CEQA thresholds.

SB 743 updated the way transportation impacts are measured by replacing Level of Service (LOS), which is a metric that evaluates vehicular delay, with vehicle miles of travel (VMT). In turn, CEQA no longer identifies environmental impacts in terms of delay, congestion, or how traffic affects neighborhoods. As such, identified mitigation measures are geared towards reducing the number of vehicle miles and trips by requiring multi-modal solutions.

As stated in the 2019 CEQA Statutes and Guidelines:

§ 21099 (b)(1): “The Office of Planning and Research shall prepare, develop, and transmit to the Secretary of the Natural Resources Agency ... criteria for determining the

significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses....”

VMT as a metric addresses GHG emissions and encourages smart land use planning. Effectively applying VMT as a metric requires a shift in the measures applied to mobility. The City’s adopted transportation performance measures embrace a management concept that focuses on improving operation strategies, expand transit, bicycle and pedestrian infrastructure, and incorporate transportation demand management measures to help achieve the reduction of GHG emissions associated with transportation.

In instances where CEQA mitigations are needed, the California Air Pollution Control Officers Association (CAPCOA) provides strategies to reduce CEQA impacts to below levels of significance in its document “Quantifying Greenhouse Gas Mitigation Measures.” OPR and jurisdictions throughout California also rely on this document as a reference to identify possible VMT mitigation measures. The measures highlighted by CAPCOA focus on optimizing the location and types of land uses in the project and its vicinity, and neighborhood and site enhancements to bike and pedestrian networks to encourage the use of alternative modes of transportation. Implementing parking policies, transit system improvements, and commute trip reduction programs are other included strategies aimed to reduce greenhouse gas emissions.

In summary, since CEQA mitigation measures are focused on greenhouse gas emissions reduction, create diverse land uses, and multimodal transportation opportunities, CEQA mitigation measures do not directly address vehicular delay, traffic intrusion, and congestion in a neighborhood. However, because CEQA mitigation measures are focused on reducing vehicle miles traveled and vehicle trips per service population Citywide and the CEQA thresholds are intended to develop multimodal transportation networks and promote a diversity of land uses, the byproduct of CEQA mitigation measures could be the reduction of project traffic on City streets over time.

6. How the City’s Level of Service (LOS) Analyses Interact with CEQA Analyses

Prior to the implementation of SB 743, which mandated a change in evaluating transportation environmental impacts from LOS to VMT, the City’s approach to evaluating a development’s potential impact to the City’s street network was vehicle based using LOS, a metric that measures the delay that drivers experience at specific intersections. A project is anticipated level of environmental impact at intersections was measured in terms of net new trips versus existing conditions prior to SB 743.

LOS mitigation measures lead to further prioritization of vehicular travel, with conventional mitigation measures such as intersection re-striping, intersection widening and traffic signal installation/upgrades. Personal vehicle travel take priority over other modes of travel. This evaluation method does not fully consider how a project affects non-vehicular modes, multi-modal objectives, or sustainability goals.

As mandated by SB 743, beginning on July 1, 2020, the CEQA Statutes and Guidelines specifically indicate the criteria for determining the significance of transportation impacts

of projects shall not consider automobile delay a significant impact. As stated in the 2019 CEQA Statutes and Guidelines, delay shall not be considered a CEQA impact:

§ 21099 (b)(2): “Upon certification of the guidelines by the Secretary of the natural Resources Agency...automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment....”

Addressing the City’s mobility needs requires a balanced approach. Whereas VMT addresses GHG emissions and multi-modal transportation solutions, the City still recognizes the need to identify street network deficiencies and impacts to neighborhoods from traffic intrusion on neighborhood connector streets and access roads. Utilizing an Outside CEQA process that evaluates the potential street network deficiencies with the introduction of new development traffic, potential traffic issues are identified and measures to protecting neighborhoods from the potential increase in traffic as a result of new development are determined.

The following table provides a brief comparison between LOS and VMT:

TRANSPORTATION ANALYSIS COMPARISON	
Level of Service (LOS)	Vehicle Miles Traveled (VMT) per Capita
Evaluates intersection performance based on vehicle delay	Measures travel distance times the number of vehicles over an efficiency metric
Considers and analyzes only for vehicular travel	Considers and analyzes for multi-modal mobility and access, including pedestrian, bicycle, transit and vehicular travel
Mitigation measures place value on efficient movement of vehicles only	Mitigation measures are related to the reduction of GHG, multimodal transportation networks, and a diversity of land uses
Mitigation measures encourage street widening, which may compromise pedestrian and bicycle infrastructure	Mitigation measures decrease the emphasis on increasing roadway capacity and reducing intersection delay
Street widening may increase automobile use, reduce sidewalk widths, and other secondary impacts	Mitigation measures are centered around reducing vehicular travel
Silent on evaluating system performance on non-vehicular travel modes	Emphasis is on network management and travel efficiency for both vehicular and non-vehicular modes of transportation

Previously, the intersection evaluation metrics prioritized vehicular travel, often at the expense of other travel modes. The City's new CEQA evaluation metrics take into consideration the environmental impact from vehicular travel as well as the effects on other travel modes. The City's adopted transportation performance measures focuses on improving operation strategies, expand transit, bicycle and pedestrian infrastructure, and incorporate transportation demand management measures to help achieve the reduction of GHG emissions associated with transportation.

In summary, the calculation methodology used in the City's Outside CEQA LOS analyses is fundamentally different from that used in CEQA analyses. Outside CEQA LOS analyses evaluate intersection delay, whereas CEQA analyses evaluate accessibility to destinations, use of alternative modes of travel, and the reduction of greenhouse gas emissions. While outside CEQA LOS analyses evaluate project impacts against caps at specific intersections, the City's CEQA analyses focus on GHG emissions reduction, accessibility, and Citywide mobility.

During the course of Planning Commissions discussion, other topics related to the CEQA analysis arose. While not captured by the approved motion, staff felt the issues were significant enough to be addressed. These items included:

7. Variability in CEQA thresholds between agencies
8. The City of Los Angeles' multiple VMT thresholds versus one threshold in Pasadena

7. Variability in CEQA Thresholds Between Agencies

The Governor's Office of Planning and Research (OPR) gives lead agencies discretion to develop their own methodology and thresholds in preparing environmental documents subject to CEQA. There are three methods by which to calculate VMT: manual methods, using a regional travel demand model, or a locally calibrated and validated model. In simplistic form, the inputs required to calculate VMT per an efficiency metric are:

- a. Land use data subdivided and split into traffic analysis zones
- b. Number of trip destinations within the zone
- c. Street network to be used in the analysis
- d. Trip generation rates consistent with the model area
- e. Estimated population, vehicle ownership, and commute trips
- f. Transit facilities
- g. Evaluate VMT per capita against a baseline

A regional travel model uses information gathered from various sources to develop commuting patterns for the region (US Census, California Household Travel Survey, National Cooperative Highway Research Program, SCAG Planning Model, National Household Travel Survey, etc.). Regional model data would include a high proportion of pass-through traffic from multi-jurisdiction study areas and use modeling software (such as TransCAD) to calculate VMT.

Variability should be expected when comparing a regional travel demand model data with a locally calibrated and validated model since local data is more specific to the study area or jurisdiction. The level of detail applied to a regional model may not be adequate to evaluate results at a local scale. Vehicle trip generation, vehicle miles traveled, and number of vehicle trips vary from jurisdiction to jurisdiction. The model area's design, distance to transit, diversity and density of housing, jobs, and retail, and demographics of the study area are all considered in the development of an agency's travel model. Accordingly, the City developed a locally calibrated model that evaluates VMT and VT per service population (residential population plus employment) specific to Pasadena.

The calculation methodology and inputs used to develop the agencies' travel demand forecasting model (such as population, City size, land use density, street network, and facility infrastructure) are all specific to each agency. A travel demand model provides useful information about the area's transportation system, conditions, and performance if the model is developed with information specific to the agency.

The City of Pasadena's Travel Demand Forecasting model used information from the SCAG Planning Model, the National Household Travel Survey, Census data, street network information, travel characteristics, traffic counts, parcel level land use data, and other data sources to develop 349 traffic analysis zones in the 2013 Pasadena Model. The model developed in 2013 employs 26 land use categories to describe land uses in the City. The 2017 model added 139 additional Traffic Analysis Zone (TAZ) boundaries and 1 additional land use category to cover additional external areas by which traffic enter, exit, or pass through the study area. The model is meant to capture the interactions within these zones. Using the data, the model performs a series of calculations to determine the amount of trips generated, the beginning and ending location of each trip, and the route taken by the trip.

Since SCAG is the MPO for the City of Pasadena, the Traffic Analysis Zone (TAZ) in the City's 2013 and 2017 model were developed to nest within SCAG's TAZ system. The TAZ boundaries were created to achieve the following local area enhancements:

- Large TAZs were subdivided, allowing for a more detailed assignment of local traffic to the highway network.
- Considerable detail was added to the TAZ system in the Central District to allow for a detailed traffic assignment and a more accurate calculation of density, diversity of land uses, design of the streetscape, and access to regional destinations.
- TAZs were created to be consistent with large developments such as PCC, the Paseo Colorado, Caltech, and others.

The City of Pasadena's locally calibrated and validated travel demand model captures and reflects local conditions using GPS data, traffic counts, parcel level land use information, vehicular availability, and street network and travel time data. The Pasadena model includes trip generated values based on parcel level land uses, vehicle availability, and balanced productions and attractions. By using a model specific to the City of Pasadena, transportation analyses reflect and capture potential impacts at

the local level. In 2017, the daily VMT in Pasadena was 8,893,871. The total population plus employment was 250,071. The 2017 daily VMT per service population baseline was calculated to be 35.6.

In summary, the City of Pasadena uses a locally calibrated and validated model to analyze projects subject to CEQA. Using a locally calibrated model enables the City to have a city-focused model to more accurately capture and reflect local conditions by using GPS data, traffic counts, parcel level land use information, vehicular availability, and street network and travel time data. Model development information is unique to each study area. Therefore, because OPR gives lead agencies discretion in VMT calculation methods, and the fact that variables used in developing each agency's model are intrinsically unique to each agency, variability in CEQA thresholds should be expected. Accordingly, comparing thresholds when the model methodology and model inputs are different may not be appropriate.

8. The City of Los Angeles' multiple VMT thresholds versus one threshold in Pasadena

The City of Los Angeles covers approximately 500 square miles per the US Census Bureau with a population of approximately 4 million and approximately 2 million jobs. Because of its size, seven City of Los Angeles Area Planning Commissions (APC) advise the LA City Planning Commission on changes to the General Plan affecting their geographic areas. Because of its size, it makes sense for a City as large as Los Angeles to develop multiple VMT thresholds.

Separating the City of Pasadena model to represent the City's many specific plans or districts may not be a practical way to meaningfully capture the VMT and VT per efficiency metric for a population of approximately 150,000 in a city with an area of 23 square miles. For comparison purposes, East Area APC (approximately 21 square miles) is the smallest City of LA APC and of similar size as the City of Pasadena (approximately 23 square miles). A suitable representation of the population and corresponding travel behavior may not be achieved with a small sample size.

The City's travel demand forecasting model captures a representation as best as possible of the baseline VMT and VT per Citywide service population. The model is dependent on the population representation, variability of the trip generation rate, trip length, trip distribution patterns, travel mode shifts, and origin-destination pairs. In the TAZ structure, external gateways are included enabling the capture of traffic entering, exiting, or passing through the model area. Therefore, a model focused on small district areas will limit the amount of data points collected, leading to variability in data, and could lead to a less accurate analysis of a project's potential impacts. It would also be difficult to develop a calibrated model that replicates travel patterns on City streets, and captures the high levels of interaction within Pasadena's street network.

Furthermore, as stated above, comparing the CEQA thresholds of other agencies to the City of Pasadena's thresholds would not be appropriate when different efficiency metrics are used. The efficiency metric of other agencies, such as the City of Los Angeles, compares the residential VMT per population or employment VMT per

employment. The City of Pasadena compares the incremental change over total Citywide service population.

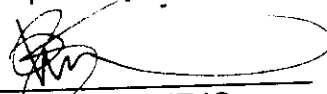
NEXT STEPS:

DOT is recommending the CEQA VMT/capita and VT/capita threshold be set at 15% below the 2017 baseline. DOT also is recommending the thresholds regarding the Proximity and Quality of Bicycle Network, Proximity and Quality of Transit Network, and Pedestrian Accessibility be consistent with the established baseline.

This update to CEQA transportation performance thresholds of significance will be presented to the Municipal Services Committee prior to presenting to City Council for consideration. Should the CEQA Thresholds be approved by City Council, a resolution will be prepared for Council approval prior to the CEQA Thresholds of Significance taking effect. At the direction of the City Council, staff will work with the Transportation Advisory Commission to update the administrative procedures for the Traffic Impact Analysis Guidelines that will include the updated CEQA thresholds and Outside CEQA caps within sixty days.


When adopted, the 2017 baseline and subsequent updates to the baseline will be included in revisions to DOT's Transportation Impact Analysis Current Practice and Guidelines. The baseline must be updated on a regular basis to reflect street network and parcel level land use changes expected over time. The Guidelines are posted on the Development Review Section of the Transportation Department website www.cityofpasadena.net/transportation. The revised thresholds will be applied to new project applications deemed complete six months after the update to CEQA thresholds of significance is approved by City Council.

Respectfully submitted,



LAURA CORNEJO
Director of Transportation

Prepared by



Conrad Viana, P.E.
Engineer

Attachment (2):

Attachment A – Update to CEQA Transportation Performance Thresholds of Significance (Planning Commission meeting, September 9, 2020)

Attachment B – R-TIF Report (March 3, 2020)



DATE: September 9, 2020

TO: Planning Commission

FROM: Laura Cornejo, Director of Transportation

RE: UPDATE TO CEQA TRANSPORTATION PERFORMANCE THRESHOLDS OF SIGNIFICANCE

RECOMMENDATION:

It is recommended that the Planning Commission review and provide comments to the City Council on the recommended update to California Environmental Quality Act (CEQA) transportation performance thresholds of significance. The current and recommended CEQA transportation performance thresholds of significance are as follows:

METRIC	DESCRIPTION	Current Guidelines	Staff Recommendation
		IMPACT THRESHOLD	IMPACT THRESHOLD
VMT Per Capita ^a	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs).	An increase over existing Citywide VMT per service population. <u>Current CEQA Threshold: 22.6</u>	Net change in VMT per service population is 15% below Citywide average baseline <u>2017 Baseline: 35.6^b</u> <u>15% Below Baseline Threshold: 30.3</u>
VT Per Capita ^a	Vehicle Trips (VT) in the City of Pasadena per service population.	An increase over existing Citywide VT per service population. <u>Current CEQA Threshold: 2.8</u>	Net change in VT per service population is 15% below Citywide average baseline <u>2017 Baseline: 4.2^b</u> <u>15% Below Baseline Threshold: 3.6</u>

^a The City of Pasadena equates capita with service population (population + jobs)

^b The Baseline should be updated approximately every 5 years in order to reflect changes to the street network and parcel level land uses.

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Proximity and Quality of Bicycle Network	Percent of service population within a ¼ mile of bicycle facility types.	Any decrease in existing Citywide service population within a ¼ mile of Level 1 or 2 bike facilities. <u>Current CEQA Threshold: 31.7%</u>	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 bike facilities. <u>2017 Baseline: 32.3%^b</u> <u>Recommended Threshold: 32.3%</u>
Proximity and Quality of Transit Network	Percent of service population located within a ¼ mile of transit facility types.	Any decrease in existing Citywide service population within a ¼ mile of Level 1 or 2 transit facilities. <u>Current CEQA Threshold: 66.6%</u>	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 transit facilities. <u>2017 Baseline: 66.8%^b</u> <u>Recommended Threshold: 66.8%</u>
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a network-based walk shed to evaluate walkability	Any decrease in the Citywide Pedestrian Accessibility Score <u>Current CEQA Threshold: 3.9</u>	Any decrease in the Citywide Pedestrian Accessibility Score <u>2017 Baseline: 3.9^b</u> <u>Recommended Threshold: 3.9</u>

^b The Baseline should be updated approximately every 5 years to reflect changes to the street network and parcel level land uses.

The current CEQA thresholds determine a project’s CEQA significant impact to vehicle miles traveled (VMT) and vehicle trips (VT) per service population by evaluating whether the project’s incremental change is above the 2013 baseline. In an effort to better align the City’s thresholds to meet the State’s long-term climate goals, the recommended CEQA thresholds for VMT and VT per service population seeks to be more restrictive to the project’s incremental change metric by lowering the VMT and VT per service population CEQA thresholds to 15% below 2017 baseline. A potential result of having CEQA thresholds lower than baseline may be that some projects that would otherwise be in compliance with the adopted Land Use of the General Plan may be subject to additional environmental review processes.

The most current Governor’s Office of Planning and Research (OPR) technical advisory, issued on December 2018¹, recommends that a VMT per capita or per employee 15% below that of existing development may be a reasonable threshold.

¹ OPR (December 2018) Technical Advisory on Evaluating Transportation Impacts in CEQA

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Also, Caltrans² and the California Air Pollution Control Officers Association (CAPCOA)³ indicate that the required greenhouse gas emission (GHG) targets mandated by the State can be achieved with a 15% reduction of VMT. OPR and the California Air Resources Board (CARB) indicate that by applying transportation strategies at the project level outlined by CAPCOA the goal is achievable. DOT staff found the CEQA thresholds at the following California agencies to have a VMT per capita or VMT per employee metric that is 15% below an efficiency-based threshold:

- City of San Francisco⁴
- City of San Jose⁵
- City of Los Angeles⁶
- City of Irvine⁷
- City of San Diego⁸

To be consistent with SB 743's direction to select a threshold that will help the State achieve its climate goals, DOT is recommending the threshold for the net change in VMT and VT per Citywide service population to be 15% below the Citywide service population baseline average. California Air Resources Board (CARB) finds that per capita vehicle travel would need to be kept lower than existing levels to achieve state climate goals. CARB must assess each region's progress on achieving regional greenhouse gas emissions reduction targets at least every 4 years to evaluate what progress has occurred.

The City's recommended VMT per service population and VT per service population impact threshold 15% below the Citywide baseline average will align with the State's emission reduction goals as well as thresholds of other agencies, which are 15% below existing development.

BACKGROUND:

In response to the growing concern over the environment and a sense of urgency to reduce greenhouse gas (GHG) emissions, the State of California made a fundamental decision to move away from the traditional transportation evaluation metric of Level of Service (LOS). Signed into law in September 2013, SB 743 (Steinberg) required the Governor's Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines to provide an alternative to LOS when evaluating a project's transportation impacts. SB 743 updated the way transportation impacts are measured by replacing Level of Service (LOS), which is a metric that evaluates vehicular delay, to vehicle miles of travel (VMT), which is a metric that measures how much auto travel a proposed project would create.

² Caltrans, [2015-2020 Strategic Management Plan](#)

³ CAPCOA, [2010 Quantifying Greenhouse Gas Measures](#)

⁴ City of San Francisco (October 2019) [TIA Guidelines](#)

⁵ City of San Jose (April 2018) [Transportation Analysis Handbook](#)

⁶ City of Los Angeles (July 2019) [Transportation Analysis Guidelines](#)

⁷ City of Irvine (April 2020) [Traffic Study Guidelines](#)

⁸ City of San Diego (February 2020) [Transportation Study Manual \(TSM\) Draft](#)

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As stated in the 2019 CEQA Statutes and Guidelines:

§ 21099 (b)(1): "The Office of Planning and Research shall prepare, develop, and transmit to the Secretary of the Natural Resources Agency ... criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses...."

§ 21099 (b)(2): "Upon certification of the guidelines by the Secretary of the natural Resources Agency... automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment...."

Vehicular delay and traffic congestion are no longer considered environmental impacts. The new guidelines aim to promote the reduction of GHG emissions, multi-modal transportation systems and diverse land uses. SB 32 (Pavley, 2016) further requires California to reduce gas emissions by 40% below 1990 levels by 2030. Effective July 1, 2020 all California lead agencies were required to shift the focus of CEQA transportation analyses from vehicle delay to vehicle miles travelled (VMT).

OPR Technical Advisory on Evaluating Transportation Impacts in CEQA

The Governor's Office of Planning and Research (OPR) gives the lead agency discretion in preparing environmental documents subject to CEQA. Although OPR does not specify the methodology to analyze VMT impacts, OPR discusses general principles for agencies to consider when determining VMT levels of significance:

- Lead agencies should select a significance threshold that aligns with the state's goals to reduce greenhouse gas emissions, develop multimodal transportation networks, and a diversity of land uses.
- Continued growth depends on increased efficiency and conservation in land use and transportation from all Californians.
- OPR states that a 15% reduction is consistent with SB 743's direction to select a threshold that will help the State achieve its climate goals.

OPR understands that lead agencies, using more location-specific information, may develop their own specific thresholds and screening criteria.

Cumulative Analysis of Transportation Impacts under SB 743

In accordance with PRC §21083(b)(2) and CEQA Guidelines §15064(h)(1), CEQA documents are required to consider whether a project would make a "cumulatively considerable" contribution to a significant cumulative impact. As defined in the CEQA Guidelines:

§15064(h)(1): "Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

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CEQA Guidelines §15130(b) identifies two options for discussing significant cumulative impacts: (1) a list of past, present, and probable future projects producing related or cumulative impacts; or (2) a summary of projections contained in an adopted local, regional, or statewide plan (or related planning document) that describes or evaluates conditions contributing to the cumulative effect.

The City of Pasadena General Plan identifies a mix of land uses where walking, bicycling, and the use of transit are encouraged. At General Plan build-out, a balanced mix of land uses are expected to reduce the trip length associated with adjacent land uses by encouraging walking and other non-motorized modes of travel, thereby reducing dependency on the automobile. The analysis of transportation impacts per the City of Pasadena's CEQA metrics is inherently a cumulative analysis. The analysis evaluates how a project would change Citywide conditions related to VMT per capita, VT per capita, access to the transit and bicycle networks, and pedestrian accessibility, measured against citywide buildout conditions envisioned in the City's 2015 General Plan. By analyzing a project's change to Citywide conditions, by their nature these analyses evaluate a project's contribution to cumulative impacts.

OPR applies this same logic in its recommendations for evaluating cumulative impacts, indicating that transportation impact metrics that evaluate impacts in terms of efficiency (e.g., per capita metrics) evaluate both project-level and cumulative impacts. Specifically, OPR's Technical Advisory states:

"A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impacts that utilize plan compliance as a threshold of significance."

The City's adopted VMT metric is reflective of the City's comprehensive approach of planned land uses and supportive transportation options that, when combined, are intended to produce a more sustainable urban environment. Since Pasadena's CEQA transportation metrics evaluate a project's incremental effect on Citywide conditions, and on Citywide buildout conditions pursuant to the City's 2015 General Plan, the analysis is inherently a cumulative analysis consistent with the "summary of projections" approach to cumulative impact analysis described in CEQA Guidelines §15130(b).

City of Pasadena's Approach to SB 743

In anticipation of the direction of the State legislature and after a multi-year extensive planning and community engagement process, City Council decided in 2014 to adopt a more environmentally sound and holistic approach to evaluating project impacts. At the November 3, 2014 City Council Meeting, the City Council adopted a resolution to establish five new Transportation Performance Measures and set CEQA thresholds of significance. The five transportation measures with CEQA thresholds are:

- Vehicles Miles Travelled (VMT) per capita
- Vehicle Trips (VT) per capita
- Proximity and Quality of the Transit Network
- Proximity and Quality of the Bicycle Network
- Pedestrian Accessibility

With the expanded emphasis on sustainability and a continued focus on livability, the adopted performance measures provide a balance in trade-offs among travel modes and among the mobility needs of different members of the community. The CEQA performance measures and thresholds City Council adopted in 2014 assumed a 2013 baseline. In order to ensure analyses remain relevant, DOT is proposing an update to the CEQA performance thresholds of significance using a 2017 Citywide baseline. Per the most current OPR technical advisory, DOT is recommending the threshold be set at 15% below the 2017 baseline. The baseline must be updated on a regular basis to reflect street network and parcel level land use changes expected over time.

DISCUSSION:

Senate Bill 743 required changes to the guidelines implementing CEQA regarding the analysis of transportation environmental impacts. Vehicular delay and traffic congestion are no longer considered environmental impacts. Senate Bill 32 requires California to reduce greenhouse gas (GHG) emissions to 40% below 1990 levels by 2030. The 2019 CEQA Statute and Guidelines aim to promote the reduction of GHG emissions, multi-modal transportation systems and diverse land uses. California Air Resources Board (CARB) determined that reducing VMT growth is essential to achieve the State's climate goals. Further, CARB indicated that: "California will not achieve the necessary greenhouse gas emissions reductions to meet mandates for 2030 and beyond without significant changes to how communities and transportation systems are planned, funded, and built."⁹

State Recommended Thresholds to Achieve State Goals

OPR seeks to evaluate a project based on VMT, and recommends that a per capita or per employee VMT that is 15% below that of existing development may be a reasonable threshold to achieve the state's goals. OPR states that a project-level 15% reduction in VMT is achievable using strategies affecting land use location, neighborhood enhancements, parking policies, transit system improvements, commute trip reduction, road pricing management, and new vehicle technologies.

California Air Resources Board (CARB) finds per capita vehicle travel would need to be kept below what today's policies and plans achieve. CARB also finds per-capita light-duty vehicle travel would need to be approximately 16.8% lower than existing, and overall per-capita vehicle travel would need to be approximately 14.3% lower than existing levels¹⁰. Stronger light-duty GHG reduction targets will enable the State to make significant progress towards reducing VMT from expected levels, but alone will

⁹ California Air Resources Board (November 2018) 2018 Progress Report – California's Sustainable Communities and Climate Protection Act

¹⁰ California Air Resources Board (January 2019) 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals

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not provide all of the needed VMT reductions. Additional measures such as more efficient and more equitable development, infrastructure investments to expand access to quality transportation choices and promote vibrant communities, road and parking pricing policies, and transportation system efficiency improvements are key to achieve the State's climate goals.

California Agencies' Approach to VMT

As of July 1, 2020, agencies are required to shift the focus from LOS to VMT to evaluate a project's potential impact. Vehicular delay shall not be considered a significant environmental impact. Where congestion and traffic impacts to drivers were once the determining factor for a project's environmental impact, accessibility and the act of driving itself now determines whether a project impacts the environment as measured by the amount of vehicle travel.

Other agencies in California have adopted project VMT per capita threshold levels of significance that are:

- 15% below the existing average household VMT per capita for residential project
- 15% below the existing average work VMT per employee for office projects
- 15% below regional average employee VMT/employee for commercial projects
- Net increases in VMT for regional serving retail projects
- For other land use types, VMT impacts are measured for the work trip element exceeding 15% below the existing average work VMT per employee, or evaluate each land use independently per the thresholds described above

Some agencies also support streamlining of projects in travel efficient locations and that improve access to destinations, livability, and community such as:

- Projects within a transit oriented priority area
- A project pre-screened to have low residential or office VMT
- Residential housing projects composed of 100% affordable housing located in any infill location

Changes to the City's Travel Demand Model

A regional Travel Demand Forecasting (TDF) model reflects information gathered from various sources to develop commuting patterns for the region (US Census, California Household Travel Survey, National Cooperative Highway Research Program, SCAG Planning Model, National Household Travel Survey, etc.). The level of detail for applying the regional model, however, may not be adequate to evaluate results at a local scale. Accordingly, the City of Pasadena uses a locally calibrated and validated model to analyze projects subject to CEQA.

Developed in 2013 and adopted by City Council in 2014, the City's model is in line with the discretion granted by OPR to develop localized thresholds specific to the jurisdiction. The City's travel demand model more accurately captures and reflects local conditions using GPS and cell phone data, traffic counts, parcel level land use, vehicular availability, and street network and travel time information. By using this

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model, transportation analyses more accurately reflect and capture potential impacts at the local level.

The current thresholds are based on the City's traffic conditions in year 2013. The City's 2013 model accounts for only 50% of trips that started or ended inside the City boundary. It assumed that the accountability of trips were shared with other jurisdictions based on the trips' origin or destination. For example, if a trip originated in Arcadia and was destined to Pasadena, Arcadia was assumed to account for 50% of the VMT and Pasadena was assumed to account for 50% of the VMT in the City model.

The update of the TDF model and recommended thresholds reflect conditions that are more current and involved updated Citywide traffic data, an update of new parcel level development, model calibration to ensure the model represents existing traffic conditions, and recommendations by OPR.

The recommended thresholds are based on the 2017 baseline year traffic conditions, and noticeable changes are due to the following:

- New land use development
- Changes to the transportation network
- Updated vehicular trip generation rates
- Changes to account for 100% rather than 50% of trips that have only one trip-end in Pasadena (originate in Pasadena with a destination outside the City, or destined to Pasadena with an origin outside the City).

The most substantial change in establishing the updated CEQA thresholds is due to OPR's December 2018 technical advisory recommending that agencies not truncate VMT at jurisdictional boundaries. OPR's 2018 technical advisory recommends each jurisdiction to account for 100% of the trip regardless of the trip's origin or destination. Because the 2017 model was updated to account for 100% of the trip, the VMT and VT per service population thresholds are higher than in the 2013 model, which assumed accountability of trips were shared between jurisdictions.

It is important for the travel demand model to be updated on a regular basis to account for changes to the transportation network and land uses. Staff will reevaluate and update the City's travel demand model every five years to keep the model relevant.

City of Pasadena recommended CEQA Thresholds

The City's model takes into consideration how all surrounding land uses with and without the project affect the recommended CEQA threshold metrics. Staff recommends the incremental change in VMT/capita and VT/capita thresholds to be 15% below Citywide baseline average to evaluate VMT and VT per capita CEQA impacts. Doing so better positions the City to reduce GHG emissions, encourage the development of multimodal transportation networks, and promote a diversity of land uses. The Proximity and Quality of the Pedestrian and Bicycle Network metric, and the Pedestrian Accessibility metric are recommended to be in line with the Citywide baseline average.


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The thresholds recommended by staff are in line with the direction adopted by the City Council in 2014. A potential result of having CEQA thresholds lower than baseline may be that some projects that would otherwise be in compliance with the adopted Land Use of the General Plan may be subject to additional environmental review processes. When adopted, the 2017 baseline and subsequent updates to the baseline will be included in revisions to DOT's Transportation Impact Analysis Current Practice and Guidelines. The Guidelines are posted on the Development Review Section of the Transportation Department website: www.cityofpasadena.net/transportation. The revised thresholds will be applied to new project applications deemed complete six months after the update to CEQA thresholds of significance is approved by City Council.

NEXT STEPS:

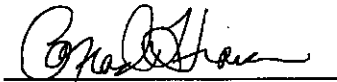
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Respectfully submitted,



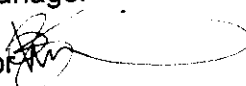
LAURA CORNEJO
Director of Transportation

Prepared by:



Conrad Viana, P.E.
Engineer



DATE: March 5, 2020
TO: Steve Mermell, City Manager
FROM: Laura Cornejo, Director 
SUBJECT: Traffic Reduction and Transportation Improvement Fee (TR/TIF) Report

The Traffic Reduction and Transportation Improvement Fee (TR/TIF) was established by City Council in November 2006, and updated in July 2017. The purpose of the TR/TIF is to help address the Citywide transportation infrastructure needs that will be required in order to support the City's growth as identified in the 2015 General Plan. With the adoption of the 2015 General Plan Land Use and Mobility Elements, a number of new transportation facilities, including transit, pedestrian and bicycle infrastructure were deemed necessary in order to address the potential impact of future new development on the City's transportation system. The TR/TIF ensures that future developments pay their "fair share" of the cost of future facilities. TR/TIF funds are used to plan, design, and implement transportation improvements that align with the Mobility Element goals of livability, sustainability, neighborhood protection, and mobility.

On January 13, 2020, City Council requested additional information on the TR/TIF:

- Amount of TR/TIF collected
- Projects which have received TR/TIF funding and status of implementation
- How TR/TIF has been leveraged to secure grant funds
- Determine whether TR/TIF Needs List continues to be appropriate for addressing the City's transportation needs

Enclosed is a summary of TR/TIF collections from new development projects, and its allocation and expenditure on current projects.

Traffic Reduction/Transportation Improvement Fees are assessed on developments based on the net new square feet of space or the number of net new dwelling units as identified in Table 1 below.

Table 1. The TR/TIF fees for FY 2020

Land Use	Unit	Current Fee
Industrial	Net new square feet	\$1.19
Retail	Net new square feet	\$11.46
Office	Net new square feet	\$8.63
Multi-family Residential	Net new dwelling unit	\$3,662.53
Single Family Residential	Net new dwelling unit	\$9,459.09

In July 2017, City Council amended the TR/TIF as was supported by the Needs List (**Table 2 Attachment A**). The Needs List was and continues to be informed by a number of recent studies and reports that identify the City's transportation infrastructure needs. The studies and reports, which include the City's annual Capital Improvement Projects, Intelligent Transportation Systems Master Plan Framework, Bicycle Transportation Action Plan, Pedestrian Plan and American with Disabilities Act Transition plan, are updated on a regular basis, as appropriate, thereby informing updates to the Needs List and the TR/TIF fee study, so that they remain current and effective in addressing the City's mobility and safety needs.

A six-year history of fees collected and subsequently allocated to projects is presented below. Table 3 presents the total fees collected per fiscal year (FY), from FY 2014 through FY 2020.

Table 3. FY 2014-2020 Fees Collected per Fiscal Year

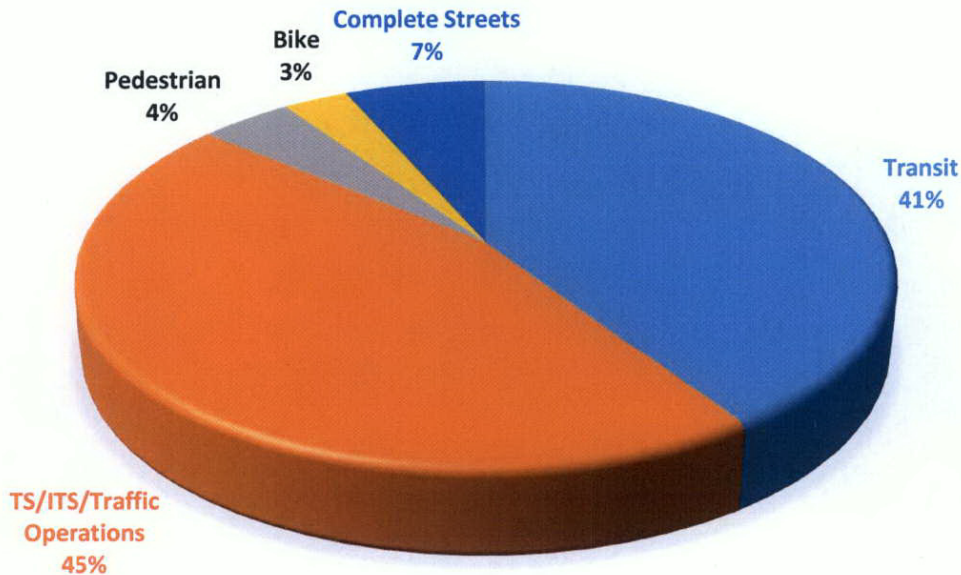
	FY 2014 Actual	FY 2015 Actual	FY 2016 Actual	FY 2017 Actual	FY 2018 Actual	FY 2019 Actual	FY 2020 Actual to Date	Total
REVENUES								
Traffic Impact Fee	\$674,392	\$1,790,876	\$1,405,509	\$584,299	\$833,210	\$3,726,283	\$772,301	\$9,786,869
Investment Earnings	\$10,503	\$34,599	\$35,485	\$39,786	\$34,996	\$83,041		\$238,409
Gain/Loss on Pooled Investment	\$(69)	\$(4,269)	\$2,100	\$(26,917)	\$(19,167)	\$79,110		\$30,788
Other Contributions - Private	\$530,000	\$-	\$-	\$-	\$-	\$-		\$530,000
Transportation Charges for Services	\$-	\$-	\$10,300	\$-	\$-	\$-		\$10,300
TOTAL REVENUES	\$1,214,825	\$1,821,205	\$1,453,394	\$597,168	\$849,038	\$3,888,434	\$772,301	\$10,596,366
Balance Available for Appropriation entering FY 2014								\$405,513
TOTAL AMOUNT AVAILABLE								\$11,001,879

City staff recommends the allocation of funding from the TR/TIF fund to numerous projects and City Council approves the allocation annually through the adoption of the Capital Improvement Program budget and operating budget. In order to track how the TR/TIF has been allocated by project type, six project categories were defined for this memo. The six categories are:

- Transit
- Traffic Signals (TS)/Intelligent Transportation Systems (ITS)/Traffic Operations
- Pedestrian
- Bicycle
- Complete Streets
- Other

Each project that received TR/TIF funding has been assigned to one of the six categories identified above. Figure 1 provides a summary of the funding allocated to each project category.

Figure 1: Total TR/TIF Allocation

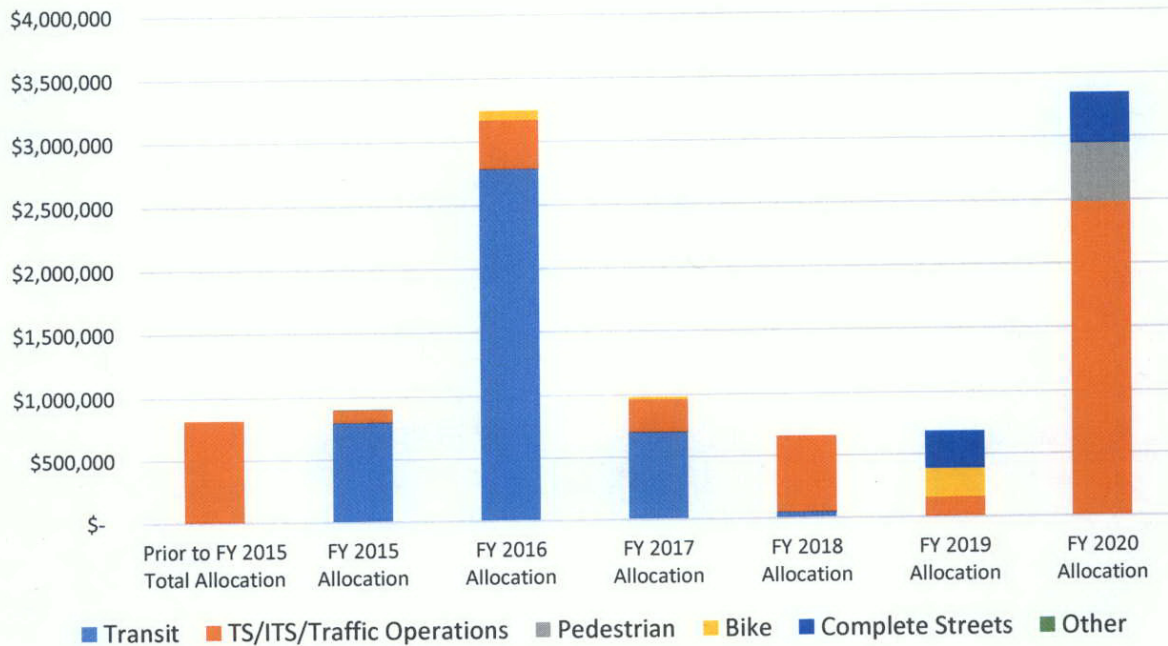


The amount of TR/TIF funding allocated per category is summarized in Table 4, below, broken down by the annual allocation for each category from FY2015 - FY2020. As can be seen in the table below, over \$10.6M of the \$11M collected through the TR/TIF through FY 2020 has been allocated to projects. Figure 2 also provides the TR/TIF annual allocation summary as a bar chart to show the annual allocations by project category.

Table 4. TR/TIF Allocation by Category per Fiscal Year

	Prior to FY 2015 Total Allocation	FY 2015 Allocation	FY 2016 Allocation	FY 2017 Allocation	FY 2018 Allocation	FY 2019 Allocation	FY 2020 Allocation	TOTAL PROJECT APPROP
Transit	\$-	\$800,000	\$2,785,000	\$700,000	\$46,320	\$-	\$-	\$4,331,320
TS/ITS/Traffic Operations	\$822,151	\$100,000	\$386,243	\$263,891	\$614,353	\$160,398	\$2,484,000	\$4,831,036
Pedestrian	\$-	\$-	\$-	\$-	\$-	\$-	\$460,000	\$460,000
Bike	\$-	\$-	\$75,000	\$19,961	\$-	\$225,400	\$-	\$320,361
Complete Streets	\$-	\$-	\$-	\$-	\$-	\$300,000	\$400,000	\$700,000
Other	\$-	\$2,506	\$-	\$-	\$-	\$-	\$-	\$2,506
TOTAL TR/TIF ALLOCATION	\$822,151	\$902,506	\$3,246,243	\$983,852	\$660,673	\$685,798	\$3,344,000	\$10,645,223

Figure 2: TR/TIF Allocation by Fiscal Year



The list of specific projects that have been allocated TR/TIF funding and the category for each project is presented in Table 5 below. This table also provides the stage the current project is in and the anticipated completion date.

Table 5. Projects with TR/TIF Funding through FY 2020

Project Number	Project Name	Category	Total TR/TIF Allocation	Project Stage	Anticipated Completion
75041	San Gabriel Blvd/Sierra Madre Blvd Traffic Signal Sync Program	TS/ITS/Traffic Operations	\$200,000	Completed	
73132	Kinneloa Ave/Walnut St Ext and Improvements	TS/ITS/Traffic Operations	\$622,151	Completed	
OPS	Transit Operations	Transit	\$2,100,000		
	Other Contract Services	Other	\$2,506	Completed	
75043	Detection of Bicycles at Intersections Controlled by Traffic Signals	Bike	\$75,000	Completed	
75049	Traffic Signal Improvements at Pasadena Ave and Walnut St	TS/ITS/Traffic Operations	\$100,000	Completed	
75703	North Marengo Ave Bicycle Boulevard	Bike	\$19,961	Completed	
75710	Traffic Signal Synchronization Hill Ave	TS/ITS/Traffic Operations	\$7,474	Completed	
75711	Traffic Mitigation Improvement	TS/ITS/Traffic Operations	\$55,816	Completed	
75712	Traffic Signal Synchronization Orange Grove Blvd	TS/ITS/Traffic Operations	\$7,546	Completed	
75713	Traffic Signal Synchronization Sierra Madre Blvd	TS/ITS/Traffic Operations	\$16,606	Completed	
75716	Traffic Signal Synchronization Del Mar Blvd	TS/ITS/Traffic Operations	\$6,449	Completed	
75910	Intelligent Transportation System (ITS) Project Phase II	TS/ITS/Traffic Operations	\$40,398	Completed	
75047	Pedestrian Safety Enhancements at Signalized Intersections	Pedestrian	\$185,000	Final Design	FY 2021
75052	Complete Streets - Cordova St	Complete Streets	\$100,000	Final Design	FY 2021
75074	Complete Streets - Lida St	Complete Streets	\$200,000	Completed	
75079	Mobility Corridor Improvements FY 2016-20	TS/ITS/Traffic Operations	\$100,000	Ongoing	FY 2020
75083	Pedestrian Crossing Enhancements Program FY 2016-2020	Pedestrian	\$275,000	Ongoing	FY 2020
75087	Complete Streets - Union Street Cycle Track	Bike	\$225,400	Design	FY 2022
75089	Safety Enhancements at Lincoln/Forest and Lincoln/Mountain	TS/ITS/Traffic Operations	\$445,000	Completed	
75090	Left Turn Signal Phasing at Fair Oaks and Colorado	TS/ITS/Traffic Operations	\$120,000	Final Design	FY 2021
75094	Implement Bus Signal Priority System on Pasadena Transit Buses	Transit	\$46,320	Design	FY 2022
75095	Adaptive Traffic Control Network Phase II	TS/ITS/Traffic Operations	\$414,353	Design	FY 2022

Table 5. Projects with TR/TIF Funding through FY 2020 (continued)

Project Number	Project Name	Category	Total TR/TIF Allocation	Project Stage	Anticipated Completion
75098	Traffic Signal at Fair Oaks Ave. and Bellevue Dr.	TS/ITS/Traffic Operations	\$699,000	Design	FY 2022
75105	Lake Ave. Traffic and Pedestrian Safety Enhancements from Mountain St to Maple Ave. Concept Study	Complete Streets	\$200,000	Planning	FY 2021
75107	Complete Streets Project - Mountain St at Sierra Bonita Ave. and Sinaloa Ave. - Design Phase	Complete Streets	\$200,000	Planning	FY 2021
75108	Traffic Signal Safety Enhancements at Intersections Lake Ave. at Corson St. and Maple St.	TS/ITS/Traffic Operations	\$125,000	Design	FY 2021
75109	Left Turn Signal Phasing at San Gabriel Blvd. and California Blvd.	TS/ITS/Traffic Operations	\$125,000	Final Design	FY 2021
75110	Left Turn Phasing at Fair Oaks Ave. and Bellefontaine St.	TS/ITS/Traffic Operations	\$90,000	Final Design	FY 2021
75602	Implementation of Citywide Transportation Performance Monitoring Network	TS/ITS/Traffic Operations	\$150,000	Ongoing	FY2022
75701	ITS Phase I – Traffic Management Center and Transit Vehicle Arrival Information System	TS/ITS/Traffic Operations	\$700,000	Design	FY 2022
75707	Transit Maintenance Facility	Transit	\$2,185,000	Design	FY 2023
75911	ITS Master Plan Phase III	TS/ITS/Traffic Operations	\$336,243	Construction	FY 2020
75912	ITS Phase I - Parking Guidance	TS/ITS/Traffic Operations	\$250,000	Design	FY 2022
75913	ITS Phase I - Video Detection System and Fiber Optic Communication	TS/ITS/Traffic Operations	\$220,000	Design	FY 2022
	TOTAL		\$10,645,223		

The projects listed in Table 5 are in various stages of design or construction, based on when the funds were allocated in the Capital Improvements Program and based on the City's work plan. Table 6 provides a summary of the expenditures for the projects by category through December 2019. To date, over 60% of the TR/TIF funding that has been allocated to projects has been spent. In addition, a number of projects are scheduled to complete the final design phase and/or begin construction in FY 2021, which will result in significant expenses of TR/TIF funding allocated to those projects.

Table 6. TR/TIF Expense Summary

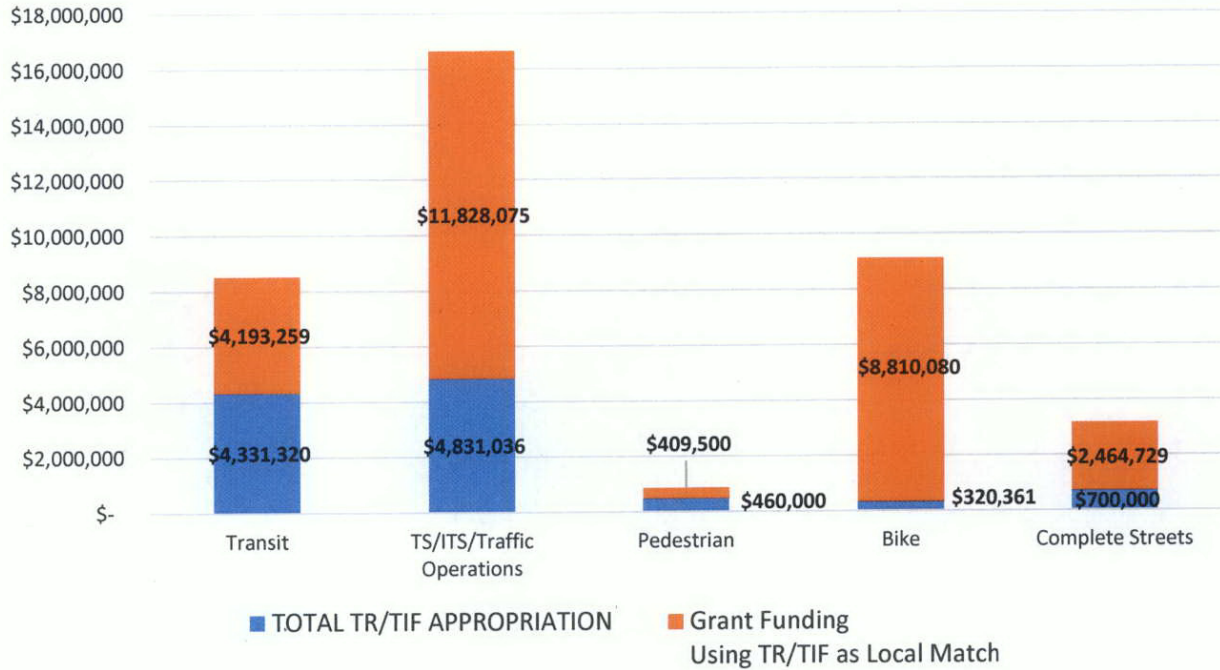
	Prior to FY 2015 Total Expenses	FY 2015 Expense	FY 2016 Expense	FY 2017 Expense	FY 2018 Expense	FY 2019 Expense	FY 2020 Est Expense	TOTAL PROJECT EXPENSE
Transit	\$-	\$760,350	\$715,865	\$1,428,186	\$321,944	\$407,334	\$29,533	\$3,663,212
TS/ITS/Traffic Operations	\$822,151	\$22,369	\$122,423	\$46,669	\$157,735	\$174,027	\$1,115,751	\$2,461,125
Pedestrian	\$-	\$-	\$-	\$-	\$-	\$-	\$99,211	\$99,211
Bike	\$-	\$-	\$-	\$94,961	\$-	\$38,821	\$91,319	\$225,101
Complete Streets	\$-	\$-	\$-	\$-	\$-	\$189,004	\$-	\$189,004
Other	\$-	\$2,506	\$-	\$-	\$-	\$-	\$-	\$2,506
TOTAL EXPENSE SUMMARY	\$822,151	\$785,225	\$838,288	\$1,569,816	\$479,679	\$809,186	\$1,335,814	\$6,640,159

Most city transportation projects are funded through federal and state grant funding, typically obtained through a competitive grants process. Whenever possible, the City leverages the TR/TIF allocation for transportation projects as a local match to the federal and state grant funds. This allows the TR/TIF funds received to have a greater impact on the number and scope of projects constructed within the City. Table 7 provides a summary of the amount of grant funding received for projects using TR/TIF as a local match for each of the six categories previously identified. As presented in Table 7, a total of \$27.7 million of grant funding has been awarded to the City of Pasadena for projects that include TR/TIF as a local match. Figure 4 also provides the summary of grant funds obtained with TR/TIF as a local match.

Table 7. Total Grant Funds and TR/TIF Local Match Allocation

	TOTAL TR/TIF APPROPRIATION	Grant Funding Awarded Using TR/TIF as Local Match	Grant Funding + Plus Total TR/TIF Appropriation	Percent TR/TIF Local Match over Total Grant Amount
Transit	\$ 4,331,320	\$ 4,193,259	\$ 8,524,579	51%
TS/ITS/Traffic Operations	\$ 4,831,036	\$ 11,828,075	\$ 16,659,111	29%
Pedestrian	\$ 460,000	\$ 409,500	\$ 869,500	53%
Bike	\$ 320,361	\$ 8,810,080	\$ 9,130,441	4%
Complete Streets	\$ 700,000	\$ 2,464,729	\$ 3,164,729	22%
Other	\$ 2,506	\$ -	\$ 2,506	100%
TOTAL GRANT FUNDS	\$ 10,645,223	\$ 27,705,643	\$ 38,350,866	

Figure 4: Grant Funding Using TR/TIF as Local Match



The TR/TIF funding was established to address Citywide mobility and safety as the vision established by the General Plan comes to fruition. In keeping with City growth and development, approximately \$10M of TR/TIF funding has been allocated to over thirty projects since FY 2015. This TR/TIF funding has been used to secure over \$27M in state and federal grant funding for these projects. Progress continues to move forward on the various design and construction components of these projects. Construction has been completed on twelve of these projects, and numerous others are in construction or in the final design phase, with construction anticipated in FY 2021. Over \$6M of the \$10M allocated to these projects has already been expended, demonstrating the progress made on projects using funds obtained through the Traffic Reduction/Transportation Impact Fee. Given the status of several of these projects, it is staff's recommendation that the 2017 Needs List be revisited every five (5) years, with the next review coming before City Council for consideration in 2022. As part of the Needs List update, the associated TR/TIF amounts will also be evaluated and adjusted, as necessary. This will allow for additional projects to be completed and their impact on the City's transportation network and mobility assessed.

Attachment: (1)

Attachment A – Table 2: July 2017 Needs List

Attachment A - Table 2. July 2017 Needs List

No.	Allocation	Category	Project Description	Preliminary Project Costs (Original Needs List)	% Funded by Impact Fee Program*	Final Project Costs (paid for by Fee Program)	Source
1	NEW DEVELOPMENT ONLY	Local Transit Improvements	New Buses to Support General Plan (net over existing)	\$98,872,426	100.0%	\$98,872,426	2015 General Plan-Mobility Element
2	NEW DEVELOPMENT ONLY	Local Transit Improvements	Facility to Support General Plan (net over current proposed)	\$20,000,000	100.0%	\$20,000,000	2015 General Plan-Mobility Element
3	NEW DEVELOPMENT ONLY	Complete Streets	Citywide Complete Streets Program FY 2016 - 2020 (75076)	\$750,000	100.0%	\$750,000	2015 General Plan-Mobility Element
4	NEW DEVELOPMENT ONLY	Complete Streets	Complete Streets Project - Lida Street between Knollwood Dr. and Lancashire Pl. (75074)	\$400,000	100.0%	\$400,000	2015 General Plan-Mobility Element
5	NEW DEVELOPMENT ONLY	Complete Streets	Complete Streets Project - Avenue 64 from Colorado Blvd to South City Limits (75077)	\$552,000	100.0%	\$552,000	2015 General Plan-Mobility Element
6	NEW DEVELOPMENT ONLY	Complete Streets	Complete Streets Project - El Molino Avenue and Alpine Street Intersection Configuration (75088)	\$94,000	100.0%	\$94,000	2015 General Plan-Mobility Element
7	NEW AND EXISTING	Complete Streets	Washington Road Diet	\$870,000	8.6%	\$74,887	
8	NEW AND EXISTING	Complete Streets	Orange Grove Road Diet	\$2,300,000	8.6%	\$197,978	
9	NEW AND EXISTING	Traffic Ops	Intelligent Transportation System (ITS) Project - Phase I(75701)	\$4,198,961	8.6%	\$361,436	Pasadena ITS Master Plan Framework Final Report
10	NEW AND EXISTING	Traffic Ops	Detection of Bicycles at Intersections Controlled by Traffic Signals (75043)	\$2,494,505	8.6%	\$214,721	Pasadena ITS Master Plan Framework Final Report
11	NEW AND EXISTING	Traffic Ops	Gold Line Phase I - Project Enhancements (75506)	\$6,686,908	8.6%	\$575,593	Pasadena ITS Master Plan Framework Final Report
12	NEW AND EXISTING	Traffic Ops	Mobility Corridor Improvements FY 2016 - 2020 (75079)	\$274,000	8.6%	\$23,585	Pasadena ITS Master Plan Framework Final Report
13	NEW AND EXISTING	Traffic Ops	Traffic Signal Indication Safety Improvements - Phase II(75709)	\$770,000	8.6%	\$66,280	Pasadena ITS Master Plan Framework Final Report
14	NEW AND EXISTING	Traffic Ops	Left Turn Signal Phasing at Fair Oaks Ave and Colorado Blvd	\$160,000	8.6%	\$13,772	Pasadena ITS Master Plan Framework Final Report
15	NEW AND EXISTING	Traffic Ops	Mobility Corridors - Rose Bowl Access Systems (75084)	\$1,623,000	8.6%	\$139,704	Pasadena ITS Master Plan Framework Final Report
16	NEW AND EXISTING	Traffic Ops	Intelligent Transportation System (ITS) Equipment Upgrades/Replacement - FY 2016 - 2020 (75078)	\$375,000	8.6%	\$32,279	Pasadena ITS Master Plan Framework Final Report
17	NEW AND EXISTING	Traffic Ops	Implementation of Citywide Transportation Performance Monitoring Network (75602)	\$3,132,428	8.6%	\$269,632	Pasadena ITS Master Plan Framework Final Report
18	NEW AND EXISTING	Traffic Ops	Intelligent Transportation System (ITS) Master Plan Implementation Phase III (75911)	\$5,417,565	8.6%	\$466,331	Pasadena ITS Master Plan Framework Final Report
19	NEW AND EXISTING	Traffic Ops	Upgrade Traffic Signal Heads on One-Way Streets (75050)	\$384,500	8.6%	\$33,097	Pasadena ITS Master Plan Framework Final Report
20	NEW AND EXISTING	Traffic Ops	Implement Bus Signal Priority System on Pasadena TransitBuses	\$1,447,191	8.6%	\$124,571	Pasadena ITS Master Plan Framework Final Report
21	NEW AND EXISTING	Traffic Ops	Adaptive Traffic Control Network - Phase II	\$2,502,572	8.6%	\$215,415	Pasadena ITS Master Plan Framework Final Report
22	NEW AND EXISTING	Traffic Ops	Traffic Signal - Orange Grove Blvd. at Sunnyslope Ave.	\$500,000	8.6%	\$43,039	Pasadena ITS Master Plan Framework Final Report
23	NEW AND EXISTING	Traffic Ops	Traffic Signal - Electronic Dr. and Sierra Madre Villa Blvd.	\$500,000	8.6%	\$43,039	Pasadena ITS Master Plan Framework Final Report
24	NEW AND EXISTING	Traffic Ops	Replacement of Aging Video Detection Systems	\$510,000	8.6%	\$43,900	Pasadena ITS Master Plan Framework Final Report
25	NEW AND EXISTING	Traffic Ops	Traffic Signal Improvements at Garfield Ave and Washington Blvd	\$485,000	8.6%	\$41,748	Pasadena ITS Master Plan Framework Final Report
26	NEW AND EXISTING	Traffic Ops	Actuated Traffic Signal Upgrade (CIP)	\$5,600,000	8.6%	\$482,034	
27	NEW AND EXISTING	Bike Plan	Pasadena Bicycle Program	\$12,300,000	8.6%	\$1,058,754	Pasadena Bicycle Master Plan
28	NEW AND EXISTING	Pedestrian Improvements	Pedestrian Improvements for Old Pasadena and Playhouse District	\$5,628,740	8.6%	\$484,508	Old Pasadena and Playhouse District Specific Plans
29	NEW AND EXISTING	Pedestrian Improvements	ADA ramp improvements	\$21,000,000	8.6%	\$1,807,628	ADA Transition Plan
Total Transportation Improvement Project Cost:				\$199,828,796		\$127,462,366	

* Percentage developed as a fair-share of the proportion of VMT attributable to new development versus total 2035 VMT