City of East Palo Alto

East Palo Alto Transportation Fee Nexus Study

Draft

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1. INTRODUCTION

This report defines the purpose, rationale, and structure of a new multimodal transportation impact fee on new development in the City of East Palo Alto, including a detailed description of the projects and programs to be funded by fee revenues. Additionally, evidence is presented related to the "reasonable relationship" in both intended use and amount between the proposed fee and the projected transportation impacts of development that the fee-funded transportation projects and programs are intended to address.

PURPOSE OF THE TRANSPORTATION IMPACT FEE

Transportation is not an end in and of itself, but rather a means of gaining access to and maintaining connections to people, places, goods, and services. Cities throughout California frequently rely on impact fees to ensure that the costs of infrastructure and services necessary to support new development are paid by the development and not borne disproportionately by existing residents, businesses, and/or property-owners. The purpose of the multimodal transportation impact fee is to ensure that new development pays its fair share of the costs of providing the transportation infrastructure necessary to implement the policies and achieve the goals established in the proposed East Palo Alto General Plan Update.

The proposed East Palo Alto General Plan Update targets growth through infill development. As such, East Palo Alto must focus on the right kind of development, in the right locations, coordinated with the right management tools and careful public investment. This report is intended to satisfy the requirements of the California Mitigation Fee Act (AB 1600, 1987, Gov. Code § 66000), and is consistent with legislative precedent, as necessary to permit expenditure of fee revenue on the specific transportation projects and programs identified as necessary to implement the land use and circulation policies of the General Plan.

California Mitigation Fee Act – AB 1600

In 1987 the California Legislature passed Assembly Bill (AB) 1600, the California Mitigation Fee Act. As defined in AB 1600, a development impact fee is not a tax or special assessment, but rather a fee that must be reasonably related to the cost of the service provided by the local agency for the purpose of defraying all or a portion of the cost of public facilities related to the development project (Gov. Code § 66000(b)).

The California Mitigation Fee Act[1] established a statewide procedure for exacting development impact fees. This legislation requires the City Council to make certain findings in order to establish a fee. These findings must:

- Identify the purpose of the fee
- Identify the use to which the fee is to be put and the facilities (if any) to be financed
- Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed
- Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed (Government code §66001(a)).

California AB 3005

In 2008, the California State Legislature adopted AB 3005 (Gov. Code § 65460.1). This bill requires local agencies that impose transportation impact fees on housing developments in order to mitigate vehicular traffic impacts to reduce the impact fees for housing developments that satisfy all of the following characteristics:

- The housing development is located within one-half mile of a transit station and there is direct access between the housing development and the transit station along a barrier-free, walkable pathway not exceeding one-half mile in length.
- Convenience retail uses, including a store that sells food, are located within one-half mile of the housing development.
- The housing development provides either the minimum number of parking spaces required by the local ordinance, or no more than one onsite parking space for zero to two bedroom units, and two onsite parking spaces for three or more bedroom units, whichever is less.

The reasoning behind this bill is that developments satisfying these characteristics tend to generate fewer private vehicle trips and more transit and other non-auto trips. The exact reduction in impact fees is not set; rather, the bill states that impact fees will be set at a rate that reflects a lower rate of automobile trip generation associated with such housing developments in comparison with housing developments without these characteristics, unless the local agency adopts findings after a public hearing establishing that the housing development, even with these characteristics, would not generate fewer automobile trips than a housing development without those characteristics.

AB 3005 does not apply to fees already adopted for housing developments located within areas covered by capital improvement plans for traffic facilities prior to January 1, 2009. This legislation is consistent with existing city policy and Chapter 5 describes in greater detail how the proposed impact fee structure will ensure compliance with AB 3005.

This report serves to meet the above described items.

USE OF THE TRANSPORTATION IMPACT FEE

East Palo Alto intends to adopt a multimodal transportation impact fee to fund the pedestrian, bicycle, transit, and Transportation Demand Management (TDM) facilities and services outlined in the General Plan to support future development within the City of East Palo Alto. The impact fee will be used to fund improvements as they are warranted by the City's development pattern.

The projects to be funded by the proposed impact fee are not intended to fully offset the projected transportation effects of development, as developers will also undertake separate measures such

as TDM programs and localized mitigation measures to help offset the transportation effects of new development. The fee revenue will also likely be used as a local match for regional, state and federal grants, as well as other local sources, helping the City to fully fund the projects necessary to meet its goals without relying upon the fee revenue alone.

EAST PALO ALTO IMPACT FEES BACKGROUND

The City of East Palo Alto has considered implementing a transportation impact fee for several years. In 2013, the City commissioned a study of impact fees with respect to a variety of city services, including parks and trails, community facilities, water infrastructure, storm drainage, streetscape, and a transportation impact fee. This study recommended a Transportation Impact Fee (TIF) for the Ravenswood Business District only and did not propose fees for other areas of East Palo Alto. The study examined a TIF that would help to fund $43 million in roadway infrastructure projects and $4.4 million in Streetscape from the City's Capital Improvement Plan, RBD Specific Plan and DEPLAN. The maximum supportable fees proposed were:[2]

Figure 1 RBD Specific Transportation Fee

	Roadway Infrastructure Fee	Streetscape Fee
Townhouse	$11,967 per unit	$1,505 per unit
Multi-family	$13,698 per unit	$1,245 per unit
Office	$22.68 per square foot	$0.74 per square foot
R&D	$16.71 per square foot	$0.32 per square foot
Industrial	$14,36 per square foot	$0.21 per square foot
Retail	undetermined	undetermined

Source: East Palo Alto Development Impact Fee Program, AECOM

The City postponed the implementation of these proposed impact fees pending further review.

OUTLINE OF THIS REPORT

This report describes the methodology used to establish and calculate transportation impact fee rates that vary by land use, estimates total fee proceeds and provides recommendations for fee implementation as follows:

- **Chapter 2** provides a review of the new developments
- **Chapter 3** presents the forecasted impacts on the transportation networks and the potential mitigation measures, as well as the nexus of the nexus for the transportation impact fee.
- **Chapter 4** identifies and provides costs for the specific list of projects and programs to be funded by the transportation impact fee. Criteria for project and program inclusion on the list is described.

- **Chapter 5** details the structure of the fee, which will vary based on the different projected vehicle trip generation rates of a variety of land use categories. The chapter concludes with a projection of the total impact fee revenue expected to be generated, and a discussion of options for funding the remaining cost of all of the projects and programs identified in this study.

2. LAND USE PROJECTIONS

The General Plan Update is the result of an extensive public process undertaken to provide guidance on future development in East Palo Alto. This update to the General Plan is a long term strategy intended to guide land use policy towards the goal of facilitating growth, developing levels of density appropriate for sustaining growth, and providing an ideal level (or intensity) of activity for all properties within the project area.

By 2040, the additional residential growth that is predicted under the General Plan Update is expected to increase the number of households in the city by more than one third of the number of households available in 2015. These shifts in the number and type of household are predicted to correlate with a population increase of about 24% (about 7,300 people) from 2015 levels. Notably, alongside the increases in both households and population the levels of employment are also predicted to increase to 8,659 jobs by 2040, a figure that represents more than double the number of jobs available at the 2015 levels (Figure 2).

Figure 2 East Palo Alto Citywide Demographic Scenarios

Scenario	Population	Employment
2015 – Existing Conditions	30,501	3,093
2040 – Plus General Plan Update	37,781	8,659
Change	**+7,280**	**+5,566**

Source: City of East Palo General Plan Update, Water Supply Assessment, Tables 1-2 and 2-2.

During the postwar period, much of East Palo Alto developed at population densities lower than would otherwise technically be permitted under current regulations. Today local, county, and state regulations encourage infill development in urbanized areas of San Mateo County to limit sprawl and mitigate traffic congestion, typically at densities significantly higher than existing development. Therefore, in East Palo Alto, infill development represents the primary avenue for growth to fulfill these goals.

The most significant infill development planned in East Palo Alto is the Ravenswood/4 Corners Redevelopment Project Area. Despite being among the last areas in the city to be developed, it has seen its population grow at rates much higher than those of the city as a whole and has a relatively high homeownership rate. In 2009, 62 percent of Ravenswood/4 Corners area households owned their homes, compared to 44 percent of East Palo Alto households overall.[3] Despite this positive indicator, residents of this area still face similar socioeconomic challenges as the rest of East Palo

Alto, including low levels of education, high levels of poverty and unemployment in comparison to the neighboring cities, and an undersupply of affordable housing for low-income residents. Because of insufficient affordable transit options, area residents employed outside the community commute largely by automobile.

By 2040, the projected ratio of the total number of jobs to employed residents is expected to remain below 50% in East Palo Alto by 2040, while it will remain greater than 1 in the surrounding jurisdictions. This indicates that East Palo Alto continues not to share the conditions of its neighboring municipalities in having an oversupply of jobs relative to housing.

Figure 3 Major Strategies of the City of East Palo Alto General Plan Update

1. Implement Ravenswood/4 Corners TOD Specific Plan
2. Create a Main Street on Bay Road
3. Revitalize University Avenue
4. Enhance the Westside
5. Redevelop the Gateway 101 shopping center
6. Construct office uses at University Avenue and Highway 101
7. Preserve and enhance residential neighborhoods
8. Expand neighborhood retail areas
9. Add middle density and multi-family housing
10. Build new parks and open spaces
11. Implement citywide traffic calming
12. Expand the educational hub
13. Build connections across Highway 101
14. Enhance gateways to the City
15. Build new civic and public uses
16. Secure stable water resources for new development
17. Comprehensively address flooding

Source: Draft East Palo Alto General Plan Update (2016)

The Ravenswood/4 Corners TOD Specific Plan and the General Plan Update see the area as one of great potential, both for its residents and the city as a whole. The area is expected to be transformed into one of the city's premier destinations, and it will feature new mixed-use development with ground-floor retail, parks and plazas, and other design and development features intended to make the area vibrant and walkable. The area is also projected to become a major employment center, which may help to reduce East Palo Alto's chronically high unemployment rate—11.8 percent in 2014.[4] The Ravenswood Business District development will also help to increase opportunities for area residents to work closer to home, thereby keeping employed residents in the area and helping them become less reliant on automobiles.

Figure 4 Ravenswood/4 Corners Conceptual Land Use Plan

Townhouse (DU)	19
Multi-Family (DU)	816
Office + R&D (SF)	1,369,836
Industrial (SF)	267,987
Retail (SF)	112,400

Source: Ravenswood/4 Corners TOD Specific Plan (2013)

Under the General Plan Update, the amount of retail, office, and industrial growth are anticipated to grow significantly, especially in proportion to similar use-type growth in other areas throughout the city. See the anticipated growth citywide under the General Plan below (Figure 5).

Figure 5 Anticipated Growth under General Plan Update (2010 – 2040)

Townhouse (DU)	1,486
Multi-Family (DU)	1,033
Office + R&D (SF)	1,939,853
Industrial (SF)	267,987
Retail (SF)	333,406

Source: City of East Palo Alto General Plan Update; AECOM, 2013. East Palo Alto Development Impact Fee Program Nexus Study, Appendix C-1.

The following transportation and traffic related goals were also updated for the Ravenswood/4 Corners TOD Specific Plan (2013) to ensure that anticipated growth, and the needs of the community and its residents and workers, are supported by the local transportation system. The Ravenswood/4 Corners TOD Specific Plan emphasizes the need for a multimodal transportation network that provides multiple transportation options, and reduce the reliance on the automobile as the primary transportation mode by fulfilling the following goals:

- Enhance pedestrian and bicycle circulation throughout the Plan Area.
- A system of local roadways that meets the community's needs.
- Increase use of public transit and non-vehicular methods of travel.
- An additional point of access to the Ravenswood Business District.
- A well-managed public parking system.
- Attractive streetscapes that contribute to a positive image for East Palo Alto.

3. TRANSPORTATION EFFECTS OF NEW DEVELOPMENTS

This chapter identifies the anticipated effects of new developments included in the Updated General Plan on the city's transportation system, which a Transportation Impact Fee could be used to mitigate.

EFFECTS OF NEW DEVELOPMENT

The Transportation Impact Analysis (TIA) of East Palo Alto General Plan Update of 2015 anticipated the effects of implementing the General Plan on the city's transportation system: road network, transit network, bike and pedestrian network. The traffic forecasts for the Project were made using the most recent official version of the C/CAG-VTA model, which is based on ABAG Plan Bay Area Projections (P2013) with 2040 as the cumulative year. The more up-to-date 2040 C/CAG model was used in the TIA (rather than the old 2035 model) because it provides the most accurate representation of expected future growth patterns in the region. The C/CAG-VTA Model is a four-step travel demand model implemented in Citilabs Cube Voyager software. The scenario with the General Plan Update includes planned roadway system changes specified in the Ravenswood/4 Corners TOD Specific Plan, such as completion of the Loop Road from Demeter Street to University Avenue.

The C/CAG model results project that the scale of development in the Updated General Plan (2015) would increase the total daily trips by 33% compared to the existing (2015) baseline, from 93,782 daily trips to 124,966 daily trips, mostly generated by Residential (Single and Multi-Family) and Retail uses for both the existing and future scenario. The new trips will be 25% of the total estimated trips.

Figure 6 Projected Increase in Vehicle Trips

	Daily Trips by Land Use Type					
	Single Family Housing	Multi-Family Housing	Retail	Office	Industrial	Daily Trips Total
Existing	40,230	16,891	24,216	11,680	764	93,782
Updated General Plan (2040)	35,758	27,240	34,260	25,118	2,077	124,453

Source: Nelson\Nygaard, Transportation Impact Analysis of East Palo Alto General Plan Update (2015)

Impact on the Road Network

Impacts on the road network were determined by measuring the effect of the new trips generated by the new developments on 10 intersections and 10 roadway segments in the City of East Palo Alto and its vicinity during the morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak periods. These periods were selected for analysis because it is during these periods that the most congested traffic conditions occur on an average day.

It should be noted that estimated impacts were based on conventional trip generation for development undertaken in the absence of travel demand management (TDM). Lower impacts could be expected with implementation of ambitious TDM strategies such as significantly lower parking ratios, parking pricing and/or parking cash out, improved transit and shuttle programs, universal transit passes, and organized walk/bike groups. Bicycle and pedestrian network improvements are included in the 2015 General Plan, and their effect are reflected in mode shift projected by the C/CAG model.

Intersection Level of Service

The forecast traffic volumes for the AM and PM peak periods show that 3 out of the 10 intersections included in the traffic analysis operate with substantial delay during AM peak hours, and 5 out of 10 during PM peak hours. In total, 8 intersections operate with substantial delays level during either AM and/or PM peak hours with the development of the Updated General Plan.

Figure 7 Estimated Peak Hour Intersection Levels of Service in 2015 and With the GP Update in 2040

	Intersection	LOS Standard	Peak Hour	2015 Existing Conditions		2040 General Plan Update	
				LOS	Delay (sec)	LOS	Delay (sec)
1	University Ave & Bayfront Expressway	D	AM	B	19	C	30
			PM	**F**	**157**	**F**	**233**
2	Willow Rd & Bayfront Expressway	D	AM	C	28	**E**	**65**
			PM	**F**	**99**	**F**	**145**
3	Willow Rd & Newbridge St	D	AM	C	33	C	35
			PM	C	31	C	33
4	University Ave & Bay Rd	D	AM	D	37	D	46
			PM	D	40	**E**	**63**
5	University Ave & Donohoe St	D	AM	**E**	**77**	**E**	**60**
			PM	**F**	**121**	**F**	**121**
6	University Ave & Woodland Ave	D	AM	D	40	**E**	**55**
			PM	D	39	D	41
7	Bay Rd & Pulgas Ave	D	AM	A	5	B	15
			PM	C	18	C	20
8	E. Bayshore Rd & Clarke Ave	D	AM	B	12	B	18
			PM	B	10	C	21
9	E. Bayshore Rd & Pulgas Ave	D	AM	B	18	D	37
			PM	**E**	**70**	**E**	**63**
10	Bay Rd & Newbridge St (all way stop)	D	AM	C	16	**E**	**39**
			PM	B	12	**E**	**38**

Source: Nelson\Nygaard, Transportation Impact Analysis of East Palo Alto General Plan Update

Figure 8: Cumulative With Project P.M. Peak Hour Traffic Volumes, 2040

Source: Nelson\Nygaard, Transportation Impact Analysis of East Palo Alto General Plan Update

Figure 9: Assumed Future Intersection Lane Configurations, 2040

Source: Nelson\Nygaard, Transportation Impact Analysis of East Palo Alto General Plan Update

Road Segment Level of Service

To supplement the intersection level of service analysis presented in the previous section, automobile level of service was also evaluated by calculating volume-to-capacity (V/C) ratios for 10 roadway segments. The V/C ratios were calculated based on existing or future average daily traffic (ADT) volumes and daily capacity values for various types of roadways.

Under Cumulative with the General Plan Update significant automobile delay impacts are projected to occur on the following roadway study segments:

- University Avenue between Michigan Avenue and Bay Road
- Donohoe Street between University Avenue and Capitol Avenue
- East Bayshore Road between Clarke Avenue and Pulgas Avenue

Results are displayed below in Figure 10.

Figure 10 Roadway Segment Analysis

Location	Roadway Classification	ADT Capacity	2015 Existing Conditions			2040 General Plan Update		
			2015 ADT	V/C Ratio	Segment LOS	2040 ADT	V/C Ratio	Segment LOS
Bay Road between Gloria Way and University Avenue	Collector	12,500	8,410	0.67	B	10,224	0.82	D
University Avenue between Michigan Avenue and Bay Road	Arterial	37,500	25,610	0.68	B	**37,832**	**1.01**	**F**
Runnymede Street between Cooley Avenue and Clarke Avenue	Neighborhood (Local)	12,500	3,410	0.27	A	4,536	0.36	A
Euclid Avenue between Bell Street Park Place and Donohoe Street	Neighborhood (Local)	12,500	3,498	0.28	A	5,124	0.41	A
Clarke Avenue between Donohoe Street and O'Connor Street	Collector	12,500	7,231	0.58	A	10,443	0.84	D
Pulgas Avenue between Myrtle Street and O'Connor Street	Collector	12,500	7,137	0.57	A	7,884	0.63	B
Donohoe Street between University Avenue and Capitol Avenue	Arterial	37,500	34,120	0.91	**E**	**37,448**	**1.00**	**E**
East Bayshore Road between Glen Way and Euclid Avenue	Collector	12,500	10,218	0.82	D	10,218	0.82	D
East Bayshore Road between Clarke Avenue and Pulgas Avenue	Collector	12,500	9,444	0.76	C	**13,975**	**1.12**	**F**
West Bayshore Road between Cooley Avenue and Newell Road	Collector	12,500	4,780	0.38	A	5,516	0.44	A

Source: Nelson\Nygaard, Transportation Impact Analysis of East Palo Alto General Plan Update

Pedestrian Impacts

The Transportation Impact Analysis anticipates that the development of the General Plan will have a **less-than-significant impact** on the pedestrian network despite the increase of the city's population and therefore, the expected increase in the number of pedestrians in various parts of the city. With new development, constructing or upgrading pedestrian facilities will be required, and this will enhance the overall pedestrian network. However, increased vehicle trips due to new development may make crossing streets (e.g., at uncontrolled intersections) more difficult. Pedestrian crossing times and/or exposure at signalized intersections are not expected to change substantially due to the project since no new roadway or intersection widenings are proposed.

Implementing the policies regarding pedestrians set forth in the proposed General Plan will complete the city's pedestrian network and substantially improve conditions for walking.

Figure 11 Existing and Proposed Pedestrian Networks

Source: East Palo Alto General Plan Update 2015

Bicycle Impacts

Similar to the pedestrian network, and based on the increase of the number of bicyclists in various parts of the City and the policies regarding bike networks in new development, the Transportation Impact Analysis anticipates that the development of the General will have a **less-than-significant impact** to the bicycle network.

Figure 12 Existing and Proposed Bicycle Network

Source: East Palo Alto General Plan Update 2015

Transit Impacts

The proposed development will increase the City's population of residents and employees and can therefore be expected to increase overall transit demand. This increase would include both demand for bus transit in the City and demand for rail transit (Caltrain) at the Palo Alto Station. Both SamTrans and Caltrain are improving service and plan to provide sufficient facilities and services to accommodate this modest increase in ridership. However, traffic delays on streets with bus service will likely affect service efficiency. **SamTrans** may experience impacts during the peak hour on the following routes:

- **Route 281, 297, and 397** may experience increased delays on University Avenue
- **Route 296** may experience increased delays on University Avenue and Donohoe Street

Figure 13 Existing and Planned Transit Network

Source: East Palo Alto General Plan Update 2015

MITIGATION OF EXPECTED IMPACTS

East Palo Alto Trip Reduction Programs

The City of East Palo Alto has established several initiatives to reduce the number of vehicle trips, such as the provision of a Free Shuttle Program to encourage residents to leave their single occupancy cars at home and ride public transit to and from local venues. There are four shuttles that connect East Palo Alto commuters (in the Newell Road area west of US-101) to the Palo Alto Caltrain station. The Free Shuttle is a joint partnership between the municipalities of East Palo Alto and Palo Alto.[5] The shuttle program provides more than 10,000 rides per month with a majority of ridership utilizing the Caltrain shuttles from East Palo Alto to Palo Alto.

Along with the Free Shuttle Program, East Palo Alto is looking at ways to improve the health of the residents through a multi-faceted Mobility Program which includes the implementation of safe route for residents and students to get to local campuses and work places, the adoption of a Complete Streets Policy which ensures new and redevelopment of local streets will accommodate all modes of transit and actively seeks grant funding for roadway upgrades to install sidewalks, bike lanes, and street trees throughout the community. The East Palo Alto City Council approved the Highway 101 Pedestrian/Bicycle Overcrossing Project in 2017 and its completion is estimated in 2019, providing a link to one third of the community[6]. Additional planned infrastructure for active transportation includes the University Avenue Resurfacing & Signal Upgrade and University Avenue Interchange, which will increase safety and levels of service for vehicular, transit, bicycle and pedestrian transportation modes with a “complete streets” approach.

In addition, the City of East Palo Alto Police Department works to activate areas where residents perceive safety to be an obstacle to being outdoors to walk and bike, or otherwise be active. Since 2012, the Police Department has partnered with East Palo Alto communities to operate Fitness Improvement Training (FIT) Zones within designated hotspots of gunshot activity.[7] Police officers are assigned to the FIT Zones and participate in a variety of physical activities such as walking, jogging, and bike riding alongside local residents. The FIT Zones are intended to improve community health and safety by providing additional police escorts to encourage fitness and active transportation activities that reinvigorate neighborhoods where perceptions of safety would otherwise limit the appeal of active transportation.

Finally, the City actively promotes the County Rideshare and Commute alternatives program to employees to encourage the use of vanpooling, carpooling and public transportation. The City also provides a bicycle for employees to use to go between City facilities for meetings and or errands, or to use to commute from the Caltrain station into the City. There are hopes of expanding this program.

San Mateo's County Congestion Management Plan

As specified in the San Mateo's County Congestion Management Plan, C/CAG requires that a plan to mitigate all new peak hour trips be included as a condition of the approval of development agreements.

Local jurisdictions will notify C/CAG at the beginning of the CEQA process of all development applications or land use policy changes (i.e., General Plan amendments) that are expected to generate a net (subtracting existing uses that are currently active) 100 or more peak period trips on the CMP network, within ten days of completion of the initial study prepared under the California Environmental Quality Act (CEQA). Peak period includes 6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Examples of developments that would generate 100 peak period trips include 100 single-family dwelling units; 15,000 square feet of retail space; 50,000 square feet of office space; a 150-room hotel; or 100,000 square feet of light industrial space.

Local jurisdictions must ensure that the developer and/or tenants will mitigate all of the new peak hour trips generated by the project by selecting one or more of the options that follow. It is up to the local jurisdiction working together with the project sponsor to choose the methods that will be compatible with the intended purpose of the project. Additional measures may be proposed for consideration by C/CAG in advance of approving the project.

a. Reduce the scope of the project so that it will generate less than 100 peak hour trips.
b. Build adequate roadway and/or transit improvements so that the added peak hour trips will have no measurable impact on the Congestion Management Program roadway network.
c. Contribute an amount per peak hour trip to a special fund for improvements to the Congestion Management Program roadway network. This amount will be set annually by C/CAG based on a nexus test.
d. Require the developer and all subsequent tenants to implement Transportation Demand Management programs that mitigate the new peak hour trips.

C/CAG has developed a methodology for mitigating peak hour congestion by awarding peak hour trip reduction "credits" on the condition that the agency/applicant implements one or more of a series of transportation demand management measures. A partial list of TDM programs eligible to receive peak trip reduction credits is shown in Figure 14.

As some TDM measures are more effective when implemented in combination with others, such as short-term bicycle storage may incentivize more commuters to bike if accompanied by showers and lockers, peak hour trip credit rates indicated below the benefit of each additional TDM measure can be expected can be expected to diminish, as each successive measure is slightly less effective than predicted when implemented on its own. The calculation for combined TDM measures within a single category (transit, parking, bicycling, etc.) is as follows:

Trip reduction for category = 1-[(1-A) x (1-B) x (1-C)]

Where A, B, and C = individual reduction percentages for the measure to be combined in a given category.

Figure 14 C/CAG CMP Peak Hour Trip Credit Rates of TDM programs

TDM Program	Relative Cost	Peak Hour Trip Credit Rate	Unit
Short-term secure bicycle storage (visitors)	$	0.33	Per bike rack (4 spaces)
Long-term secure bicycle storage (employees, tenants)	$$	0.33	Per bike locker (4 spaces)
Showers and changing rooms	$$	10	Per shower/changing room
Bonus for > 5 bike lockers		5	
Dedicated shuttle to rail station or urban residential area	$$$	1	seat of shuttle
Dedicated shuttle to rail station or urban residential area - with guaranteed ride home program	$$$	2	seat of shuttle
Subsidized transit passes	N/A	1	per transit pass
Subsidy for walking, cycling to work	$$	1	per subsidy of $20 per month per year
Preferential parking for carpoolers	$	2	per parking space reserved
Preferential parking for vanpoolers	$	7	per parking space reserved
Vanpool program implementation	$$	7	per vanpool
Vanpool program implementation -with Guaranteed Ride home program	$$	10	per vanpool
Commute assistance center (e.g. transit marketing coordinator)	$$	14	per center
Biannual travel survey	$	3	per year
Parking cash-out	$$	1	per parking space cashed out
Implementation of compressed work week (4 day work week)	$	1	per 5 employees offered this perk
Flextime	$	1	per employee offered this perk
Guaranteed Ride Home program	$	1	per employee participating
Bonus for combining any 10 programs		5	Once 10 programs reached, subtract additional 5 peak hour trips
Install/maintain alternative transportation kiosks	$	5	per kiosk

Source: Modified from C/CAG Congestion Management Plan

The Bay Area Air Quality Management District (BAAQMD) establishes maximum reduction factors acts as a "cap" on combinations of TDM measures to avoid double-counting of trip reductions. Maximum reduction factors are associated with distinct strategies of travel demand management, including transit measures, parking measures, and commute trip reduction measures. BAAQMD uses the following maximum reduction factor for travel demand management programs:

- Transit measures: 10% maximum reduction factor
- Parking measures: 20% maximum reduction factor
- Commute trip reduction measures: 25% maximum reduction factor

NEXUS FOR THE TRANSPORTATION IMPACT FEE

East Palo Alto intends to adopt a multimodal transportation impact fee, as required by the 2035 **General Plan's Goal T-7, "Adopt Transportation Performance Measures."**.[8] General Plan Goal T-7 meets state requirements for the "Circulation Element" as defined in Section 656302(b) of the California Government Code. As per State law, the Element must contain:[9]

- "The general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan."

In addition, the Circulation Element must also plan for:

- "A balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan."

According to Goal T-7, section 7.3, East Palo Alto will "adopt a transportation impact fee for new development that raises funds for improving all modes of transportation."[10] Therefore, proceeds from the fee will be used to fund the vehicular, pedestrian, bicycle, transit and TDM facilities and services outlined in the General Plan, in order to support future development within the City of East Palo Alto. The impact fee will be used to fund improvements as they become warranted based on the development pattern that occurs in the City.

Additionally, the General Plan's Goal T-7 recommends "updating the transportation performance measures in the Transportation Element, including Automobile Level of Service standards" once the State of California amends the California Environmental Quality Act (CEQA) to implement SB-743's requirement to provide an alternative to LOS for evaluating transportation impacts. SB-743 asserts that CEQA's previous use of LOS-based methodologies often treated walkable communities, transit, and multimodal transportation options as negative environmental outcomes to be avoided. LOS also focused on vehicular delay to the exclusion of other travel modes and often required excessive, costly increases in roadway capacity. SB-743, in contrast,

mandates that CEQA employ methodologies that consider aspects of project location and design that influence travel choices, in order to reduce greenhouse gas emissions, reduce vehicle trips, and improve public health.

The legislation creates an accelerated environmental review process for projects that reduces vehicle miles traveled compared to baseline conditions, as well as projects located within high-capacity transit corridors. Since SB-743 was signed into law in 2013, the Governor's Office of Planning and Research (OPR) has consistently recommended vehicle miles traveled as the most appropriate measure of project transportation impacts to replace Level of Service.[11] Vehicle miles traveled is the most appropriate measure to replace LOS because it directly relates to emissions of air pollutants, greenhouse gases, energy uses, and demand on roadway infrastructure.

The recommended transportation impact fee is based on charging new development for 25% of the unfunded cost of the Capital Improvement Plan projects listed in Figure 15. This represents the proportion of 2040 vehicle trips that is expected to be generated by development subject to the TIF, shown in Figure 5.

This nexus is based on the fact that the trips generated by new developments create new demands on the transportation infrastructure. It is reasonable to assume that these impacts are proportional to the share of total vehicle trips in the City generated by new developments subject to the TIF (25%). Similarly, it is reasonable to assume that new development would use East Palo Alto's transportation facilities in proportion to the share of vehicle trips (25%).

4. CAPITAL PROJECTS AND COSTS

The following list of required infrastructure projects to support new development (Figure 15) was developed through various adopted plans and programs, including East Palo Alto's adopted ten-year Capital Improvement Program (CIP).

TEN-YEAR CAPITAL IMPROVEMENT PROGRAM (CIP)

Since 2010, the City of East Palo Alto has undertaken annual capital planning to prioritize investments in capital projects.

The CIP 2016/2017 Transportation Project List adds up to approximately $98.2 million. See next Figure.

Figure 15 Capital Improvement Plan (CIP) Transportation Project List (in $1000)

Infrastructure Item	Source	Gross Project Cost	Cost to City
Transportation			
ST-01 Traffic & Transportation Master Plan	CIP	$214	$214
ST-03 Safe Routes to School: (Cycle 3)	CIP	$621	$621
ST-04A Street Light Upgrade Project: Neighborhood Req.	CIP	$142	$142
ST-04B Street Light Upgrade Project: Phase III	CIP	$348	$348
ST-05A Bay Road (Roadway & Downstream Improvements	CIP	$8,000	$8,000
ST-05B Bay Road (Roadway & Downstream Improvements	CIP	$8,000	$8,000
ST-06 Highway 101 Pedestrian -Bicycle Overcrossing	CIP	$11,318	$11,318
ST-08 University Avenue Resurfacing & Signal Upgrade	CIP	$5,354	$5,354
ST-09 Bicycle & Pedestrian Improvements	CIP	$54	$54
ST-10 New Sidewalks, Curbs, & Gutters	CIP	$5,354	$5,354
ST-12 Traffic Calming Program	CIP	$1,208	$1,208
ST-14 University Avenue Interchange	CIP	$7,629	$7,629
ST-15 Signage & Striping Improvements	CIP	$535	$535
ST-16 Euclid Avenue Tunnel Assessment & investigation	CIP	$32	$32
ST-17 New Loop Road	CIP	$26,769	$26,769
ST-18 Neighborhood Traffic & Transportation Plan	CIP	$70	$70
ST-19 Runnymede/University Ave Signal	CIP	$535	$535

Infrastructure Item	Source	Gross Project Cost	Cost to City
Transportation			
ST-20 Pedestrian Accessibility Improvements	CIP	$43	$43
ST-21 Scofield Avenue Sidewalk Improvements	CIP	$141	$141
ST-22 Green Infrastructure Plan	CIP	$402	$402
PK-06 New Trails & Sidewalks in Ravenswood Specific Plan Area	CIP	$16,062	$16,062
PK-07 San Francisquito Creek Park/Trail	CIP	$5,354	$5,354
SP-10 Accessibility Study & Citywide Transition Plan	CIP	$26	$26
SUBTOTAL: Transportation		$98,210	$98,210

Source: City of East Palo Alto

5. RECOMMENDED FEE STRUCTURE AND CALCULATION

The legal requirements for an impact fee provide a great deal of flexibility for a City in crafting an impact fee tailored to its needs. This means that fundamental decisions need to be made on the methodology, exemptions and expenditure of fee revenue. This chapter sets out a recommended structure for the City of East Palo Alto's Transportation Impact Fee.

FEE STRUCTURE

Recommendations

Key recommendations regarding the structure of the Transportation Impact Fee are as follows:

- **Levy fees on a per-new trip** based on PM peak hour trips and the amount of fee levied. This approach will incentivize the developer to reduce the number of trips and, and rewards transit-oriented, mixed-use and other developments that commit to TDM programs, as they will help reduce the projected number of trips generation. The estimate of trip generation should be consistent with the most recent C/CAG Congestion Management Plan guidelines, or any other methodology specified by the City for the completion of Traffic Impact Analysis reports. For consistency with the environmental review process, it is recommended that trip generation figures from a development's Traffic Impact Analysis be used as the basis for fee assessment. CMP requires a Traffic Impact Analysis to be completed for any project in the county expected to generate 100 or more new weekday peak hour trips, including both inbound and outbound trips. If a TIA is not available, City staff should assess fees for smaller developments that do not require a full Traffic Impact Analysis. This assessment should use the same methodology as the full TIA.
- **Levy a multimodal fee,** which means the TIF would be used to fund streetscape projects citywide, including bicycle and pedestrian network improvements, in line of the projects included in the CIP that match with the goals of the Transportation Chapter of the Update of the General Plan.
- **Levy fee in proportion to project impacts,** hence the costs to the funded by the TIF should be proportional to the increase of trips linked to the new development, and not the entire cost of the project, when it has a citywide impact.
- **Levy fees by city zones if appropriate** to reflect the location and the singularity of the developments, and to be consistent with Assembly Bill 3055, which requires fees to be adjusted based on proximity to transit and locally serving retail, both of which have been

demonstrated through empirical research to be inversely correlated with vehicle trip generation.

Fee zones

This nexus analysis does not separate infrastructure costs between the Ravenswood Business District and the rest of East Palo Alto based on the anticipated transportation and land use characteristics of the new development. The City's roadway and multimodal infrastructure projects, as specified in its Capital Improvement Program, are understood to have citywide reach in the mitigation of anticipated congestion and other transportation impacts. While several of these projects will improve access to new development sites in the Ravenswood Business District, these impacts extend well beyond the boundaries of the RBD. For instance, the Bay Road projects (ST-05A and ST-05B) are 100% allocated to the citywide fee because the infrastructure serves the entire City, as the boulevard provides access to the most popular park in the City, Cooley Landing.

Project Costs Allocation

Projects to be financed by the TIF are expected to have an impact city-wide

The unfunded cost of transportation-related projects will be charged citywide and will raise 25% of these costs, which represents the proportion of 2040 new vehicle trips that is expected to be generated by development subject to the TIF.

Figure 16 Costs of Projects Funded by the TIF

	Unfunded costs	Costs to be funded by TIF
City-wide Transportation Projects	$98,210,000	$25,171,646 (25% of total, 4% of administrative fees)

FEE CALCULATION

The costs of projects that will help mitigate the new trip generation impact on the transportation network will be shared across land use types, based on number of trips. The unfunded project cost will be divided by the total number of expected trips to arrive at a per-trip cost. Impact fees for residential and non-residential space will be determined by multiplying the per-trip cost by the trip generation rate for a particular land use type.

The measure of PM peak hour trips is recorded for administrative purposes, since this is the standard practice in the City's traffic study methodology.

- Basic trip generation rates for each land use are taken from the most recent version of the Institute of Transportation Engineers' (ITE) Trip Generation Manual.
- These baseline estimates have been adjusted according to the internal and pass-by rates (See Appendix A for details on the trip generation rate calculation), as well as modes trips captured by transit.

Figure 17 Proposed Streetscape Fee Calculation - Citywide

PM peak hour trips generated by new developments subject to TIF (A)	
Total TIF Expenditure Costs (B)	$98,210,000
% Funded through TIF (C)	25%
Total Revenue Raised Through TIF (B*C)	$24,203,505
Total Revenue Raised Through TIF with 4% admin fee (C*1.04)	$25,171,646
Fee per PM Peak Hour Trip (C*1.04/A)	**$6,869**

Figure 18 converts the Fee per PM Peak Hour Trips to a Fee per Unit in residential developments and Square Footage in non-residential developments.

Figure 18 Maximum Streetscape Transportation Impact Fee – Citywide

Residential	Units	New Average PM Peak Trips	Trips per Unit	Fee per PM Peak Trip	Fee per Unit	Total Impact Fee by Land Use Category
Townhouses	138	47	0.34	$6,195	**$2,117**	**$292,146**
Multi-Family Housing	2,318	1,053	0.44	$6,195	**$2,739**	**$6,349,002**
Non-Residential	**Square Feet**		**Trips per KSF**		**Fee per SF**	
Office / R&D	2,096,349	2,182	1.04	$6,195	**$6.45**	**$13,521,451**
Industrial	267,987	185	0.69	$6,195	**$4.29**	**$1,149,664**
Retail	333,406	643	1.93	$6,195	**$11.95**	**$3,984,202**
TOTAL		**4,110**				**$25,462,708**

Figure 19 Summary Table: Transportation Impact Fee, Option A

*	Measure	Value	Source/Calculation
Transportation Impacts			
A	Total daily vehicle trips (2040)	124,453	Figure 6
B	Existing daily vehicle trips (2015)	93,782	Figure 6
C	Total new daily vehicle trips (2015 - 2040)	30,671	Figure 6
D	New vehicle trip growth as % of total daily vehicle trips (2015)	25%	C/A
E	Total new citywide PM peak hour vehicle trips	3,665	Figure 34
Development Forecast (2040)			
F	Townhouse	1,486	Figure 5
G	Multi-Family	1,033	Figure 5
H	Office + R&D	1,939,853	Figure 5
I	Industrial	267,987	Figure 5
J	Retail	333,406	Figure 5
Cost			
K	Net cost included in Impact Fee as through 6/30/16, with approved	$98,210,000	Figure 16
L	Cost attributable to new vehicle trips with 4% administrative fee	$25,171,646.05	D * K
M	Unit cost per PM peak hour vehicle trip	$6,869	L / E
Residential Unit Conversion			
N	Townhouse (PM peak hour trips/DU)	0.34	Figure 23
O	Multi-Family (PM peak hour trips/DU)	0.26	Figure 23
Commercial Unit Conversion			
P	Office + R&D (PM peak hour trips/KSF)	1.06	Figure 23
Q	Industrial (PM peak hour trips/KSF)	0.69	Figure 23
R	Retail (PM peak hour trips/KSF)	1.93	Figure 23
Residential Nexus Fee Maximums			
Townhouse ($/DU)		$2,348	M * ((F*N)/E)/F
Multi-Family ($/DU)		$1,767	M * ((G*O)/E)/G
Non-Residential Nexus Fee Maximums			
Office + R&D ($/SF)		$7.30	M * ((H*P)/E)/H
Industrial ($/SF)		$4.75	M * ((I*Q)/E)/I
Retail ($/SF)		$13.25	M * ((J*R)/E)/J

An alternative methodology to determine the TIF is to base the analysis in the Vehicle Miles Traveled (VMT) linked to the new developments, as VMT is the primary metric of transportation impact across the state of California under the California Environmental Quality Act., and it

serves as an indicator for emissions of air pollutants and greenhouse gases, energy usage, and stress on roadway infrastructure. VMT-based **development** fees are consistent with SB 743, which requires that all California cities eliminate use of LOS for findings of significance in an environmental analysis[12]**.**

VMT are calculated based on the number of trips, and therefore the trip generation rates per type of development, as well as on the trip length. The generation of VMT from a new development is a more accurate measure of evaluating its impact on the transportation infrastructure as it takes into consideration not only the new trips generated, but also their length; the longer the trips are, the higher the impact.

Cities like Pasadena CA, and a portion of LA have VMT-based development impact fees, and there are also dozens of development projects in California and Washington State that have ongoing TDM programs required as part of the development approvals process, including ongoing mitigation monitoring programs.

Appendix E includes the calculation of the TIF based on VMT, and it shows how the fee would vary based on the type of development.

Trip Reduction Credits

Fee Reduction for Affordable Housing

The City of East Palo Alto provides a significant amount of the affordable housing stock in Silicon Valley. East Palo Alto has more housing units than jobs, the lowest market rate prices in the region, and approximately 30% of the total housing units are currently non-exempt registered in the Rent Stabilization Program. Currently, East Palo Alto is a relative stronghold of affordable housing surrounded by several of the most expensive housing markets in the nation. East Palo Alto stakeholders have concerns that the "growth-inducing impacts"[13] of proposed non-residential development – both within East Palo Alto and in neighboring cities – may impact housing affordability and availability in East Palo Alto. To mitigate these growth-inducting impacts, any TIF implemented in East Palo Alto may consider reduced fees for projects that incorporate affordable housing. Given the City's intention to preserve affordable housing for its residents, developments that construct new affordable units and/or preserve existing units at affordable rents may be considered for a reduction in the TIF. The twin priorities of providing affordable housing and reducing transportation impacts are mutually reinforcing because residents of affordable housing tend to make fewer vehicle trips and own fewer vehicles than residents of market-rate developments.[14] The TIF may be exempted or have a significant fee reduction for an approved Affordable Housing project, as far as this meets the restrictions. If not the fee would be applied.

[12] http://www.dot.ca.gov/hq/tpp/sb743-local-jurisdictions.html

Fee Reduction for Implementation of TDM

As mentioned previously in this report, C/CAG has developed a methodology for mitigating peak hour congestion by awarding peak hour trip reduction "credits" on the condition that the agency/applicant implements one or more of a series of transportation demand management measures.

The implementation of this kind of programs could reduce the number of peak PM trips significantly depending on the number, types and combination of measures implemented (see Figure 14 and the explanation below that). Appendix B summarizes assumptions to estimate the program elements of each of the measures, but the total trip reduction will ultimately depend on the number of employees and residents per land-use and the combination of measures.

Fee Reduction for Housing within a Half-Mile of Transit Station

In 2008, the California State Legislature adopted AB 3005 (Gov. Code § 65460.1). This bill requires local agencies that impose transportation impact fees on housing developments in order to mitigate vehicular traffic impacts, to reduce the impact fees for housing developments that satisfy all of the following characteristics:

- The housing development is located within one-half mile of a transit station and there is direct access between the housing development and the transit station along a barrier-free, walkable pathway not exceeding one-half mile in length.
- Convenience retail uses, including a store that sells food, are located within one-half mile of the housing development.
- The housing development provides either the minimum number of parking spaces required by the local ordinance, or no more than one onsite parking space for zero to two bedroom units, and two onsite parking spaces for three or more bedroom units, whichever is less.

The amendment uses the following definitions:

- Transit station: "a rail or light-rail station, ferry terminal, bus hub, or bus transfer station…includes planned transit stations otherwise meeting this definition whose construction is programmed to be completed prior to the scheduled completion and occupancy of the housing development."
- Bus hub: "an intersection of three or more bus routes, with a minimum route headway of 10 minutes during peak hours."
- Bus transfer station: "an arrival, departure, or transfer point for the area's intercity, intraregional, or interregional bus service having permanent investment in multiple bus docking facilities, ticketing services, and passenger shelters."

For new housing that meets these requirements, "…the fee, or the portion thereof relating to vehicular traffic impacts, shall be set at a rate that reflects a lower rate of automobile trip generation associated with such housing developments in comparison with housing developments without these characteristics…"

Trip generation rates used to estimate the new vehicle trips generated by each zone already consider the pertinent reduction of trips by applying the current transit share (see Appendix A). If

a Transit Station as defined above would occur in the vicinity of a development a fee reduction could be applied proportional to the new increase of the transit share.

APPENDIX A: TRIP GENERATION

Trip Generation Rates According to ITE

A comprehensive impact fee for transportation impacts evaluates the relative contributions of development to vehicular congestion on East Palo Alto roadways. To establish a reasonable impact fee requires the quantification of trips generated by new development balanced against the capital costs of City projects aimed at mitigating congestion impacts.

The Institute of Transportation Engineers' (ITE) Trip Generation Manual (9th edition) provides the empirical foundation to estimate new trips generated by development. The ITE manual provides automobile trip generation rates – the number of vehicles expected to enter and exit a site per hour – for a wide variety of land uses. However, ITE's trip generation rates are not tailored to fit East Palo Alto's unique development context; rather, they are based on driveway counts taken at suburban developments across the United States over the span of several decades. To control for most external influences on trip generations, mixed-use sites or transit-oriented developments – sites in which multiple land uses share a singular point of vehicular access – are rarely included in ITE measurements. ITE's trip generation rates also make two important assumptions that may be unsuitable for the mixed-use, transit-oriented development proposed in the Ravenswood/4 Corners Specific Plan: 1) that all trips generated are vehicular trips (to the exclusion of transit and non-motorized trips); and 2) that all trips generated are new trips, rather than linked trips that make stops at multiple land uses (pass-by trips) or pre-existing trips that adjusted their travel paths according to changing traffic conditions. One national study found that as a result of these methodological shortcomings, ITE trip generation rates overestimate trips generated by as much as 55% in commercial and residential land uses compared to estimates compiled by the National Household Travel Survey (NHTS).

To account for these potential sources of error, this study begins with ITE's baseline estimates of trips generated and adjusts them according to East Palo Alto's unique land use and transportation conditions. The first adjustment compared ITE trip generation rates with a local, specialized travel demand model developed by San Mateo County's metropolitan planning organization, City/County Association of Governments of San Mateo County (C/CAG). The travel demand model, jointly run by C/CAG and the local transit agency VTA, incorporates local land use and transportation characteristics into its estimates and is considered more reliable than unadjusted ITE estimates. On a citywide basis, the C/CAG 2040 model estimated just 76% of trips forecast by the ITE rates.

Internal Trip Adjustments

Neither C/CAG nor ITE estimates incorporate internal trips, so an additional adjustment is required to remove internal trips. Internal trips are generally trips made via non-motorized modes (walking and cycling) or vehicle trips that travel only on local streets. The Ravenswood/4

Corners TOD Specific Plan estimates internal trip rates for each land use based on a methodology established in the National Cooperative Highway Research Program's (NCHRP) Report 684, "Enhancing Internal Trip Capture Estimation for Mixed-Use Development." This methodology uses factors such as average vehicle occupancy, local mode splits, and average distances between land use pairs to estimate the proportion of trips that are likely to be internal to a mixed-use development. Using local development forecasts through 2040, the Ravenswood/4 Corners TOD Specific Plan estimated internal trip rates within the RBD of 16% for residential uses, 1% for office, R&D, and industrial uses, and 22% for retail uses. These estimates also included a "retail pass-by" discount of 38%, assuming that 38% of trips entering and exiting retail uses were part of linked trips with multiple stops. For example, a trip in which a Ravenswood resident stops at a local coffeehouse on the way to his/her office would credit the trip to the workplace's land use (e.g. office), not the coffeehouse (retail). The Specific Plan's internal capture rates are based on unique transit-oriented development characteristics taking place within the RBD and therefore cannot be applied to the City of East Palo Alto as a whole. In addition, the NCHRP methodology used to estimate the internal capture rates is not intended for development areas larger than 300 acres, which the City of East Palo Alto well exceeds. As a result, it is assumed that the city-wide internal trip rate, inclusive of large areas of low-density residential and commercial strip development, will be one-half of the rates found in the RBD's mixed-use development.

Transit Trips Adjustments

The final adjustment made to the original ITE trip generation estimates was to factor in local transit trips. According to the City of East Palo Alto's General Plan, 6% of commute trips are made by public transit. Once the adjustments for the C/CAG model, internal trips, and transit trips are taken into account, trip generation estimates are well below the original, unadjusted ITE estimates. All told, the trip generation estimates are about 34% lower for residential uses, 29% lower for office, R&D, and industrial, and 48% lower for retail uses. These adjusted estimates, by incorporating transit, internal trips, and local C/CAG model estimates, paint a more realistic picture of forecast transportation conditions in the RBD and citywide.

The projected development totals by land use through 2040, per the 2015 East Palo Alto General Plan, are provided in Figure 15 and Figure 16. Figure 17 and Figure 18 show the detailed trip generation forecasts by land use, including each of the adjustments to the ITE trip generation rates described above. These adjusted trip forecasts are also shown, in condensed form, in Figure 19 and Figure 20. The same process of adjustments (described above) to ITE trip generation rates was applied to AM and PM peak hour rates, and the resulting trip forecasts are shown in Figures 21 through 24.

Figure 20 2040 Development Projections, City of East Palo Alto (excluding Ravenswood Business District)

Residential	ITE Code	Units
Townhouses	230	1,486
Multi-Family Housing	220	1,033
Non-Residential	**ITE Code**	**Square Feet**
Office / R&D	710	1,939,853
Industrial	110	267,987
Retail	820	333,406

Figure 21 Trip Generation Estimates | PM peak trips, City of East Palo Alto

		ITE Rates		CCAG Travel Model Adjustment			Internal Capture Rates			Retail Pass-By Rate			Transit Mode Share (East Palo Alto General Plan)		
Residential	**ITE Code**	**Trips per Unit**	**Total Trips**	**CCAG Adjustment Factor**	**Trips per Unit**	**Total Trips**	**Internal Capture Rates**	**Trips per Unit**	**Total Trips**	**Retail Pass-By Rate**	**Trips per Unit**	**Total Trips**	**City of East Palo Alto Transit Mode Share**	**Trips per Unit**	**Total Trips**
Townhouses	230	0.52	773	76%	0.40	587	8%	0.36	540	N/A	0.36	540	6%	0.34	508
Multi-Family Housing	223	0.39	403	76%	0.30	307	8%	0.27	283	N/A	0.27	283	6%	0.26	266
Non-Residential	**ITE Code**	**Trips per 1,000 SF**	**Total Trips**	**CCAG Adjustment Factor**	**Trips per 1,000 SF**	**Total Trips**	**Internal Capture Rates**	**Trips per 1,000 SF**	**Total Trips**	**Retail Pass-By Rate**	**Trips per 1,000 SF**	**Total Trips**	**City of East Palo Alto Transit Mode Share**	**Trips per Unit**	**Total Trips**
Office / R&D	710	1.49	2,890	76%	1.14	2,205	0.5%	1.13	2,194	N/A	1.13	2,194	6%	1.06	2,063
Industrial	110	0.97	260	76%	0.74	198	0.5%	0.74	197	N/A	0.74	197	6%	0.69	185
Retail	820	3.73	1,244	76%	2.85	949	11%	2.53	844	19%	2.05	684	6%	1.93	643
Total			**5,570**			**4,247**			**4,059**			**3,899**			**3,665**

Figure 22 Trip Totals and Generation Rates for City of East Palo Alto – PM Peak Trips

Residential	ITE Code	DU	Trips per Unit	Total Trips
Townhouses	230	1,486	0.34	508
Multi-Family Housing	223	1,033	0.26	266
Non-Residential	**ITE Code**	**Built SF**	**Trips per 1,000 SF**	**Total Trips**
Office/R&D	710	1,939,853	1.06	2,063
Industrial	110	267,987	0.69	185
Retail	820	333,406	1.93	643
Total				3,665

APPENDIX B: TRIP REDUCTION CREDITS THROUGH TDM PROGRAM IMPLEMENTATION

Figure 23 Trip reduction credits through TDM program implementation and potential assumptions

TDM Program	Cost Estimate	Peak Hour Trip Credit Rate	Unit	Potential assumptions
Short-term secure bicycle storage (visitors)	$	0.33	Bike rack	Office/R&D/Industrial: 1 bike space per 20000 sf; Retail: 1 bike space per 12,500 sf; Residential: 1 bike space per 50 units[15]
Long-term secure bicycle storage (employees, tenants)	$$	0.33	Bike locker/room	Office/R&D/Industrial: 1 bike space per 6000 sf; Retail: 1 bike space per 25,000 sf; Residential: 1 bike space per 3 units[13]
Showers and changing rooms	$$	10	Shower/changing room	1 unit per 50,000 square feet of development[13]
Bonus for > 5 bike lockers		5		
Dedicated shuttle to rail station or urban residential area	$$$	1	seat of shuttle	Assume 15-minute frequencies; 25-person capacities[16]
Dedicated shuttle to rail station or urban residential area - with guaranteed ride home program	$$$	2	seat of shuttle	Assume 15-minute frequencies; 25-person capacities[14]
Subsidized transit passes	0	1	per transit pass	Assume all employees receive subsidized transit passes; assume 6% of employees participate (current transit mode share)

TDM Program	Cost Estimate	Peak Hour Trip Credit Rate	Unit	Potential assumptions
Subsidy for walking, cycling to work	$$	1	per subsidy of $20 per month per year	Assume 8 percent of employees participate (combined walk/bike mode share)
Preferential parking for carpoolers	$	2	per parking space reserved	Assume 7 percent of spaces are reserved for carpoolers/vanpoolers
Preferential parking for vanpoolers	$	7	per parking space reserved	Assume 7 percent of spaces are reserved for carpoolers/vanpoolers
Vanpool program implementation	$$	7	per vanpool	Assume 0.3 percent of employees[17] participate
Vanpool program implementation -with Guaranteed Ride home program	$$	10	per vanpool	Assume 0.3 percent of employees participate
Commute assistance center (e.g. transit marketing coordinator)	$$	14		Assume 1 commute assistance center, staffed with a live person 8 hours per day, with transit brochure rack, computer kiosk, telephone, personalized trip planning, on-site transit ticket sales, educational programming
Biannual travel survey	$	3	per year	
Parking cash-out	$$	1	per parking space cashed out	Assume 13 percent of employees participate[18]

TDM Program	Cost Estimate	Peak Hour Trip Credit Rate	Unit	Potential assumptions
Implementation of compressed work week (4 day work week)	$	1	per 5 employees offered this perk	Assume 2 percent of employees participate[19]
Flextime	$	1	per employee offered this perk	Assume 2 percent of employees participate
Guaranteed Ride Home program	$	1	per employee participating	Assume 5 employee trips per week

APPENDIX C: LITERATURE AND PEER REVIEW

The purpose of this literature review is to provide a review of Transportation Impact Fees (TIFs) imposed in neighboring and peer communities of the City of East Palo Alto. The focus of this review is to examine how the fees are assessed, what transportation projects are likely funded and their impact on the local community.

Transportation Impact Fee Assessment Methodology

This brief literature review draws from various sources, including available documentation of adopted fees for various jurisdictions in the State of California, the Santa Barbara County Association of Governments statewide survey of Traffic Impact Fees (1997)[20], and TIF surveys conducted for the City of Palo Alto[21] and City of Emeryville.[22]

The TIF surveys collected assessment methods used by several jurisdictions within the State of California, including Oakland, West Berkeley, Pittsburg, Richmond and City of Live Oak, among others.

Key Findings

Almost all jurisdictions used a facility basis methodology for calculating fee levels. The facility basis method divides the total dollar amount needed to construct necessary transportation facilities by the level of anticipated development (number of trips generated, number of square feet, number of housing units etc.). The method used to determine the anticipated development, however, is less standardized. Oakland and Emeryville, for instance, used average weekday trip generation, while West Berkeley and Palo Alto used peak hour trips to determine level of anticipated development. The distribution of the methods used among the 95 different surveyed jurisdictions is presented below.

Figure 24 Traffic Impact Fee Assessment Methods[23]

% of Jurisdictions	Assessment Method
42%	Avg. daily vehicle trips
34%	Size (square footage, number of units etc.)
23%	Peak hour trips
1%	Building valuation

The result is a unit cost which is assessed against new development. The table below shows a range of fees observed in some neighboring cities and peer communities, which are presented on a unit of development basis.

Figure 25 Traffic Impact Fees per Unit of Development[24]

Jurisdiction	Single Family Residential (per unit)	Multi-Family Residential (per unit)	Retail/ Commercial (per sq. ft.)	Office (per sq. ft.)
Oakland	$1,000	$750	$0.75	$2.00
West Berkeley	$630 - $1,206	$630 - $1,206	$5.10	$3.89
Emeryville	$12,541	$7,023	$23.39	$18.69
Richmond	$1,516	$1,212	$3.77	$3.32
Daly City	$1,464	$1,836	--	--
Menlo Park	$2,623	$1,610	$3.87	$3.87
Palo Alto	$2,627	$1,613	$3.88	$3.88
Redwood City (downtown)	$1,124	$690	$2.28	$1.66
Redwood City (non-downtown)	$1,499	$920	$3.04	$2.21
Sunnyvale	$1,805	$1,108	$3.34	$2.66
Vacaville	$8,745	$5,421	$4.73	$3.59
Vallejo	$4,571	$2,572	$2.22	$2.22
Martinez	$1,444	$993	$1.45	$1.18
Pleasant Hill	$2,572	$2,062	$12.31	$5.86
San Ramon	$733	$511	$2.09	$0.96
Walnut Creek	$2,462	$1,477	$7.04	$6.97
Pittsburg	$23,206	$14,219	$2.74	$2.58

Jurisdiction	Single Family Residential (per unit)	Multi-Family Residential (per unit)	Retail/ Commercial (per sq. ft.)	Office (per sq. ft.)
City of Live Oak	$3,011	$2,299	--	--

Other Regional Fee Surveys

A study comparing 2015 TIF base rates in 60 cities and 5 counties in Western Washington State shows a variance of $8,462 to $515 in cost per PM peak hour (4:00 - 6:00pm) vehicle trip.[25]

Transportation Projects Funded by TIF Revenues

Traditionally, TIF revenues were used solely for traditional street and road improvements. However, most surveyed jurisdictions in California allocated a portion of their TIF revenues for alternative transportation mode improvements. This ranged from 2 percent in Vacaville and up to 85 percent in Emeryville. Alternative transportation improvements included both transit projects and active transportation projects (bicycle and pedestrian facilities).

Figure 26 Alternative Transportation Projects Funded[26]

Jurisdiction	% for Alternative Modes	Notes
Oakland	20%	Used for bicycle and pedestrian facilities
Emeryville	85%	Allocated to non-motorized multi modal (71%), pedestrian (7%), transit (14%), bicycle (8%).
West Berkeley	32%	Used for bike and pedestrian facilities, rail safety, transit and TDM improvements.
Redwood City	25%	Used for bicycle paths, shuttle services, TDM coordinator, and other miscellaneous alternative mode improvements
City of Palo Alto	100%	Used for shuttle service expansion (23%), TDM (34%), Bicycle and pedestrian projects (43%).
Vacaville	2%	Used for Class I bike trails

Impact on Community Concerns

Transportation Impact fees are a component of the total Development Impact Fee, and as such the community support and criticisms associated with TIFs are not independent to those associated with the larger Impact Fee Policy.

During the early years of Impact Fee implementation, the possibility of stymied development in response to higher developer costs forced cities to implement very conservative Impact Fee policies. But, over the years, there has been little to demonstrate that the imposition of a fee

system has stifled development[27], and cities are becoming increasingly aggressive - with higher fees and expanded use of impact fees to finance a wide variety of public facilities including transportation, sewer and water infrastructure and other public facilities (like parks, libraries and schools). Traffic Impact Fees in particular have the potential to bridge the gap between available resources and total funding needs.

In California, the actual imposed traffic impact fees are often between 10 to 20 percent of the maximum traffic impact fee, although large variations exist between different jurisdictions. Cities like Emeryville and Pittsburg impose much higher traffic impact fee as compared to their neighbors. In Oakland, where an Impact Fee policy has only very recently been developed and is soon to go into effect, the local community has criticized the City for its conservative approach. It is believed that the fees are too low as compared with its Emeryville and Berkeley neighbors, and it is being phased in too slow to prevent displacement. This highlights a change in community concerns from stymied development to displacement. In part due to recent changes in the economy and housing availability in California (especially in and around the Bay Area), there has been large community support for aggressive Impact Fee policies as a means to prevent displacement of local communities from areas that are anticipated to experience commercial or housing development.

Recommendations for Improving TIF Policies

A 2013 report observes that transportation impact fees "are often uniform across space, and they primarily add capacity to outer portions of the metropolitan area as opposed to expanding the capacity of freeways and arterioles." [28] The authors draw from other studies and assert that transportation impact fee programs could be more effective if "they were modified to (1) expand major freeways and arteries rather than focusing primarily on roads near the development, (2) levy fees that were higher at the urban fringe and lower at interior locations, (3) fall under the administration of regional transportation planning agencies rather than small local governments, and (4) be less in cases in which individual projects internalized negative effects by formally diverting automobile trips into biking, walking, or mass transit.[29]

Innovative TIF Policies

The Innovative Intermodal Solutions for Urban Transportation Paper Award shows an innovative approach for determining transit ridership and vehicle trips for two hypothetical transit-oriented developments (TODs) in Sacramento, CA. The suggested approach builds on travel behavior data collected at existing TODs on several rail transit lines in California. It then uses mode split and trip purpose data specific to the Sacramento region to calibrate the approach to match local conditions.

Additionally, the U.S. Department of Transportation highlights examples of innovative program delivery, including development impact fees.[30]

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APPENDIX D: LIST OF ACRONYMS

ABAG	Association of Bay Area Governments
BAAQMD	Bay Area Air Quality Management District
C/CAG	City/County Association of Governments
CIP	Capital Improvement Program
DEPLAN	Draft Engineering Plan for RBD
DU	Dwelling Unit
DUA	Dwelling Unit per Acre
EIR	Environmental Impact Report
EPASD	East Palo Alto Sanitary District
FAR	Floor-Area Ratio
FY	Fiscal Year
GPD	Gallons per Day
HUD	U.S. Department of Housing and Urban Development
ITE	Institute of Transportation Engineers
NCHRP	National Cooperative Highway Research Program
PSF	Per Square Foot
R&D	Research and Development
RBD	Ravenswood Business District (Ravenswood/4 Corners Specific Plan Area)
RSP	Ravenswood/4 Corners Specific Plan/Program EIR
SF	Square Foot
SDMP	Storm Drain Master Plan
STAG	State Tribal Assistance Grants
TDM	Transportation Demand Management
TIA	Transportation Impact Assessment
TOD	Transit-Oriented Development
VMT	Vehicle Miles Traveled

APPENDIX E: CALCULATION OF THE TIF USING VMT

The generation of VMT from a new development is a more accurate measure of evaluating its impact on the transportation infrastructure as it takes into consideration not only the new trips generated, but also their length; the longer the trips are, the higher the impact. The source of the existing and forecasted daily new trips, as well as the average trip lengths, is the Transportation Impact Analysis (TIA) of the City of East Palo Alto General Plan Update of 2035. The traffic forecasts for the City of East Palo Alto General Plan Update of 2035 were made using the most recent official version of the C/CAG-VTA model, which is based on ABAG Plan Bay Area Projections (P2013) with 2040 as the cumulative year. The more up-to-date 2040 C/CAG model was used in the TIA (rather than the old 2035 model) because it provides the most accurate representation of expected future growth patterns in the region. The average trip length based on this source is 7.92 miles per trip.

As explained in Chapter 5, the costs attributable to each of the fees will be distributed amongst developments according to new VMT generated during PM peak hours. Impact fees are calculated by multiplying the unit cost per PM peak VMT by the residential and non-residential densities, and dividing by the number of units for residential developments and square footage for the non-residential developments.

Figure 26 shows that by applying the same trip length to all the new trips generated by the developments, the result of the TIF is exactly the same as the one obtained considering only the new trip generation.

Figure 27 Summary Table: Transportation Impact Fee using VMT

*	Measure	Value	Source/Calculation
Transportation Impacts			
A	Total daily vehicle trips (2040)	985,668	Figure 6
B	Existing daily vehicle trips (2015)	742,753	Figure 6
C	Total new daily VMT (2015 - 2040)	242,914	Figure 6
D	Citywide new VMT growth as % of total daily vehicle trips (2015)	25%	C/A
E	Total new peak PM VMT	29,024	Figure 34
Development Forecast (2040)			
F	Townhouse	1,486	Figure 5
G	Multi-Family	1,033	Figure 5
H	Office + R&D	1,939,853	Figure 5
I	Industrial	267,987	Figure 5

J	Retail	333,406	Figure 5
Cost			
K	Net cost included in Impact Fee as through 6/30/16, with approved	$98,210,000	Figure 16
L	Cost attributable to new vehicle trips with 4% administrative fee	$25,171,646.05	D * K
M	Unit cost per PM peak hour VMT trip	$867	L / E
Residential Unit Conversion			
N	Townhouse (PM peak VMT/DU)	2.71	Figure 23
O	Multi-Family (PM peak VMT/DU)	2.04	Figure 23
Commercial Unit Conversion			
P	Office + R&D (PM peak VMT/KSF)	8.42	Figure 23
Q	Industrial (PM peak VMT/KSF)	5.48	Figure 23
R	Retail (PM peak hour VMT/KSF)	15.27	Figure 23
Residential Nexus Fee Maximums			
Townhouse ($/DU)		$2,348	M * ((F*N)/E)/F
Multi-Family ($/DU)		$1,767	M * ((G*O)/E)/G
Non-Residential Nexus Fee Maximums			
Office + R&D ($/SF)		$7.30	M * ((H*P)/E)/H
Industrial ($/SF)		$4.75	M * ((I*Q)/E)/I
Retail ($/SF)		$13.25	M * ((J*R)/E)/J

The TIF would change if different trip generation and trip lengths would be applied to different types of developments. The rest of this Appendix includes a fee structure that differentiates the fees by development type and location within the city. As the Ravenswood Business District (RBD) is planned to be a transit-oriented mixed-used district, which will have lower trip generation rates and average trip lengths during PM peak hours than the other development areas, the Citywide fee will have two components based on the location of the development: outside the RBD fee (Non-RBD) and RBD fee. Each fee will be calculated by specific trip generation rates and trip length that will reflect the location and development characteristics (see Figure 27). Trip generation adjustments are made as explained in Appendix A, and are calculated by multiplying the unit cost per PM peak VMT by the residential and non-residential densities, and dividing by the number of units for residential developments and square footage for the non-residential developments.

The main difference of Trips generated by the RBD new developments will be, on average, shorter than trips generated by another development elsewhere within the city. According to the TIA, the average trip length of a trip generated by a development in the RBD is 7.25 miles, and is 8.46 miles for trips generated by developments elsewhere within the city.

Figure 28 Proposed Transportation Fee Calculation

PM peak hour trips generated by new developments subject to TIF in the city-RBD - (A)	
PM peak hour trips generated by new developments subject to TIF in RBD - (A')	1,575
Average Trip Distance (miles) – city-RBD (D)	8.46
Average Trip Distance (miles) – RBD (E)	7.25
Total Peak Hour VMT city-RBD (F) (A*D)	14,042
Total Peak Hour VMT RBD (G) (A*D)	13,322
Total TIF Expenditure Costs (B)	$102,138,400
% Funded through TIF (C)	25%
Total Revenue Raised Through TIF (B*C)	$25,171,646
Fee per VMT Peak Hour Trip (B*C/(F+G)	**$920**

Figure 28 converts the Fee per Peak Hour VMT to a Fee per Unit in residential developments and Square Footage in non-residential developments in the RBD and in the rest of the city.

Figure 29 Maximum Streetscape Transportation Impact Fee – RBD

Residential	Units	Total trips	New Average PM Peak VMT	VMT per Unit	Fee per PM Peak VMT	Fee per Unit	Total Impact Fee by Land Use Category
Townhouses	19	6	43	2.26	$ 920	$2,081	39,541
Multi-Family Housing	816	192	1,390	1.70	$ 920	$1,567	1,278,573
Non-Residential	**Built SF (provided by AECOM)**	**Total trips**	**Total Trips**	**VMT per SF**		**Fee per SF**	**-**
Office / R&D	1,369,836	1,409	10,217	7.46	$ 920	$6.86	9,398,094
Industrial	267,987	185	1,338	4.99	$ 920	$4.59	1,230,870
Retail	112,400	145	1,054	9.38	$ 920	$8.63	969,735
TOTAL			**14,042**				12,916,814

Figure 30 Maximum Streetscape Transportation Impact Fee – non-RBD

Residential	Units	Total trips	New Average PM Peak VMT	VMT per Unit	Fee per PM Peak VMT	Fee per Unit	Total Impact Fee by Land Use Category
Townhouses	1,467	41	4,259	2.90	$ 920	$2,670	3,917,486

Multi-Family Housing	217	723	472	2.18	$ 920	$2,003	434,126
Non-Residential	**Total Trips**	**Total trips**	**-**	**Trips per SF**		**Fee per SF**	
Office / R&D	570,017	773	4,985	8.75	$ 920	$8.05	4,586,477
Industrial	0		-	-	$ 920	-	-
Retail	221,006	498	3,605	16.31	$ 920	$15.01	3,316,744
TOTAL			**13,322**				**12,254,832**

Figure 31 Summary Table: Transportation Impact Fee, Option B (RBD)

*	Measure	Value	Source/Calculation
Transportation Impacts			
A	Total daily vehicle trips (2040)	124,453	Figure 6
B	Existing daily vehicle trips (2015)	93.782	Figure 6
C	Total new daily vehicle trips (2015 - 2040)	30,671	Figure 6
D	New vehicle trip growth as % of total daily vehicle trips (2015)	25%	C/A
E	PM Peak hour trips generated by new developments within RBD	1,937	Figure 19
F	PM Peak hour trips generated by new developments outside RBD	1,575	Figure 19
G	Total new citywide PM peak hour vehicle trips	2,924	E + F
H	Average trip distance (miles), within RBD	7.25	Figure 19, TIA
I	Average trip distance (miles), outside RBD	8.46	Figure 19, TIA
J	Total PM Peak Hour VMT, citywide	27,364	E*H + F*I
Development Forecast (2040)			
K	Townhouse	19	Figure 21
L	Multi-Family	816	Figure 21
M	Office + R&D	1,369,836	Figure 21
N	Industrial	267,987	Figure 21
O	Retail	112,400	Figure 21
Cost			
P	Net cost included in Impact Fee as through 6/30/16, with approved appropriations	$98,210,000	Figure 16
Q	Cost attributable to new vehicle trips	$25,171,646	P * D
R	Unit cost per PM peak hour VMT	$920	R / J
Residential Unit Conversion			
S	Townhouse (PM peak hour VMT/DU)	2.26	Figure 20
T	Multi-Family (PM peak hour VMT/DU)	1.70	Figure 20
Commercial Unit Conversion			
U	Office + R&D (PM peak hour VMT/KSF)	7.46	Figure 20
V	Industrial (PM peak hour VMT/KSF)	4.99	Figure 20
W	Retail (PM peak hour VMT/KSF)	9.38	Figure 20
Residential Nexus Fee Maximums			
Townhouse ($/DU)		$2,081	S * R
Multi-Family ($/DU)		$1,567	T * R
Non-Residential Nexus Fee Maximums			
Office + R&D ($/SF)		$6.86	U/1000 * R
Industrial ($/SF)		$4.59	V/1000 * R
Retail ($/SF)		$8.63	W/1000 * R

Figure 32 Summary Table: Transportation Impact Fee, Option B (Non-RBD)

*	Measure	Value	Source/Calculation
Transportation Impacts			
A	Total daily vehicle trips (2040)	124,453	Figure 6
B	Existing daily vehicle trips (2015)	93.782	Figure 6
C	Total new daily vehicle trips (2015 - 2040)	30,671	Figure 6
D	New vehicle trip growth as % of total daily vehicle trips (2015)	25%	C/A
E	PM Peak hour trips generated by new developments within RBD	1,937	Figure 19
F	PM Peak hour trips generated by new developments outside RBD	1,575	Figure 19
G	Total new citywide PM peak hour vehicle trips		E + F
H	Average trip distance (miles), within RBD	2,924	Figure 19, TIA
I	Average trip distance (miles), outside RBD	7.25	Figure 19, TIA
J	Total PM Peak Hour VMT, citywide	8.46	E*H + F*I
Development Forecast (2040)			
K	Townhouse	1,467	Figure 21
L	Multi-Family	217	Figure 21
M	Office + R&D	570,017	Figure 21
N	Industrial	-	Figure 21
O	Retail	221,006	Figure 21
Cost			
P	Net cost included in Impact Fee as through 6/30/16, with approved	$98,210,000	Figure 16
Q	Cost attributable to new vehicle trips	$25,171,646	P * D
R	Unit cost per PM peak hour VMT	$920	R / J
Residential Unit Conversion			
S	Townhouse (PM peak hour VMT/DU)	2.90	Figure 20
T	Multi-Family (PM peak hour VMT/DU)	2.18	Figure 20
Commercial Unit Conversion			
U	Office + R&D (PM peak hour VMT/KSF)	8.75	Figure 20
V	Industrial (PM peak hour VMT/KSF)	N/A	Figure 20
W	Retail (PM peak hour VMT/KSF)	16.31	Figure 20
Residential Nexus Fee Maximums			
Townhouse ($/DU)		$2,670	S * R
Multi-Family ($/DU)		$2,003	T * R
Non-Residential Nexus Fee Maximums			
Office + R&D ($/SF)		$8.05	U/1000 * R
Industrial ($/SF)		N/A	V/1000 * R
Retail ($/SF)		$15.01	W/1000 * R