Transportation and Roadway Infrastructure Program ("TRIP") Nexus Study

DRAFT

Prepared for:
City of Chula Vista

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SD20-0342

FEHR PEERS

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Executive Summary

What is the TRIP?

The Transportation and Roadway Infrastructure Program ("TRIP") is a transportation impact fee (a type of development impact fee) specifically meant to address the impacts of new residents and workers utilizing transportation-related infrastructure, such as roads, intersections, bridges, as well as facilities that serve transit, pedestrians and/or non-motorized vehicles (e.g., bike lanes or sidewalks, etc.). The fee is established such that new development and redevelopment projects will pay their "fair share" towards new and expanded transportation infrastructure and facilities that mitigate the impacts caused by this growth.

Who Pays the TRIP?

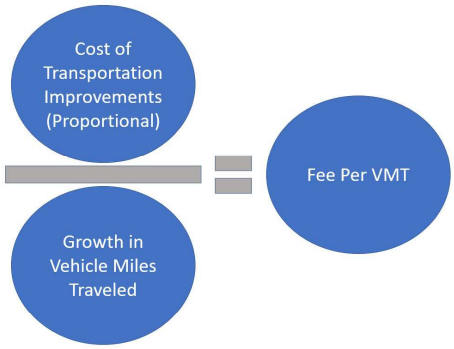
Impact fees are generally paid by builders and/or developers of private sector buildings (e.g., new or redeveloped office, retail, industrial and/or residential projects).

How is the TRIP Calculated?

The maximum allowable fee is determined based on this Nexus Study prepared per the requirements of the Mitigation Fee Act. The nexus, or relationship, is established between the impacts of new development and the need for new transportation infrastructure. Chula Vista has established a nexus based on Vehicle Miles Traveled ("VMT"). VMT is the number of vehicle trips multiplied by the distance of the trips and is a measure of roadway use. New development increases VMT and must be accommodated through roadway improvements such as intersection upgrades, bicycle facilities, and pedestrian facilities. Bicycle and pedestrian facilities help to reduce VMT by offering people an alternative to biking or walk for some of their shorter trips.

WHAT IS A DEVELOPMENT IMPACT FEE PROGRAM?

A Development Impact Fee ("DIF") is a one-time charge on development imposed by local jurisdictions. It pays for new public infrastructure and capital facilities that are needed to provide municipal services (e.g., transportation, public safety, parks, libraries, etc.) to new residents and workers generated by development. It is authorized under the California Mitigation Fee Act (Government Code sections 66000-66008), also known as AB 1600.



Visual Representation how the TRIP is Calculated

The maximum fee is calculated by determining the cost of new roadway improvements and dividing it by the VMT generated by anticipated development to arrive at the cost per VMT. See visual representation of this relationship.

TRIP West and TRIP East

The TRIP fees vary based on benefit area for Chula Vista. Chula Vista has three benefit areas: Bayfront (BFDIF - which is not included in this update), Western Chula Vista (TRIP West), and Eastern Chula Vista (TRIP East). The benefit areas fairly allocate the cost of new infrastructure based on context.

Western Chula Vista is characterized primarily by redevelopment and improvements to existing roadways whereas Eastern Chula Vista is characterized by new development and construction of new roadways (or large-scale widening improvements). These conditions, together with the generally higher VMT per person and per employee on the eastern side of the City, help explain the relatively higher fees east of I-805.

What Are the Maximum Fees?

TRIP East: $358.48 per VMT

TRIP West: $149.86 per VMT

How Are the Fees Assessed?

As of July 2022, per AB 602, newly adopted impact fees levied on residential development must be calculated such that they are proportional to the square footage of the new units. This is a departure from the more common approach, where the fee is levied per residential unit, often differentiated by building type (e.g., single-family, multifamily/apartment, etc.).

The TRIP Fees are assessed based on development size defined by number of residents or employees. The number of residents is determined based on the type and size of residential units, based on US Census data and regional

parcel data. For example, a 700 square foot apartment will have less residents than a 1,500 square foot single family home. For non-residential uses, the number of employees is determined based on the type of use and a standard estimate of the number of employees per square foot of that use. The number of residents or employees is used to calculate the project's total VMT for fee assessment purposes. Specifically, the TRIP for a given project is calculated as follows:

TRIP Fee = Number of New Residents or Employees **X** *VMT per Resident or Employee (from the SANDAG 2050 regional model)* **X** *Rate per VMT*

Introduction & Overview

Nexus Study Purpose

This transportation development impact fee Nexus Study (Nexus Study) provides the technical documentation necessary to support the City of Chula Vista's (City) development of the Transportation and Roadway Infrastructure Program (TRIP, fee program), formerly known as the Transportation Development Impact Fee ("TDIF") program. The TRIP represents a substantive update to the previous TDIF projects and includes updated growth estimates, changes to infrastructure needs, infrastructure costs, and fee basis. A Nexus Study provides the technical basis for the City to collect fees consistent with the California Mitigation Fee Act (AB 1600/Government Code 66000 et seq.). Development impact fees are imposed upon new development[1] in a benefit area,[2] containing different properties, property owners, and land use types and used by the City to cover the cost of capital facilities and infrastructure that are required to serve new growth. Such fees are governed by the regulations and requirements of Government Code Section 66000 et seq. of the State of California. The fees are typically collected upon issuance of a building permit or certificate of occupancy.

Regulatory Context

The Mitigation Fee Act allows the City to adopt an ordinance that enables the fee and defines the program structure. The fee may be updated periodically when supported by a technical analysis and approved by City Council.

[1] New development includes any construction activity that requires a building permit and creates additional impacts to on the City's transportation infrastructure once completed (e.g., through additional travel demand or vehicle miles traveled).

[2] A benefit area is the boundary that is covered by the fee program. The infrastructure needs and future growth are defined within the benefit area.

Impact fee revenue can be collected and used to cover the cost of constructing capital improvements required to serve new development and growth in the city or a benefit area within the city. As such, impact fees must be based on a reasonable nexus, or connection, between new growth and the need for a new facility or improvement. Impact fee revenue cannot be used to cover the operation and maintenance costs of these or any other facilities and infrastructure. In addition, impact fee revenue cannot be collected or used to cover the cost of existing needs/deficiencies in the city's transportation network. Therefore, the two primary purposes of the TRIP are to:

1. Fund the construction of transportation facilities needed to accommodate future growth.
2. Spread the costs associated with construction of the facilities equitably among the developing properties within the benefit area. This nexus study addresses growth and transportation infrastructure needs in the eastern and western areas of Chula Vista, as displayed in **Exhibit 1**.

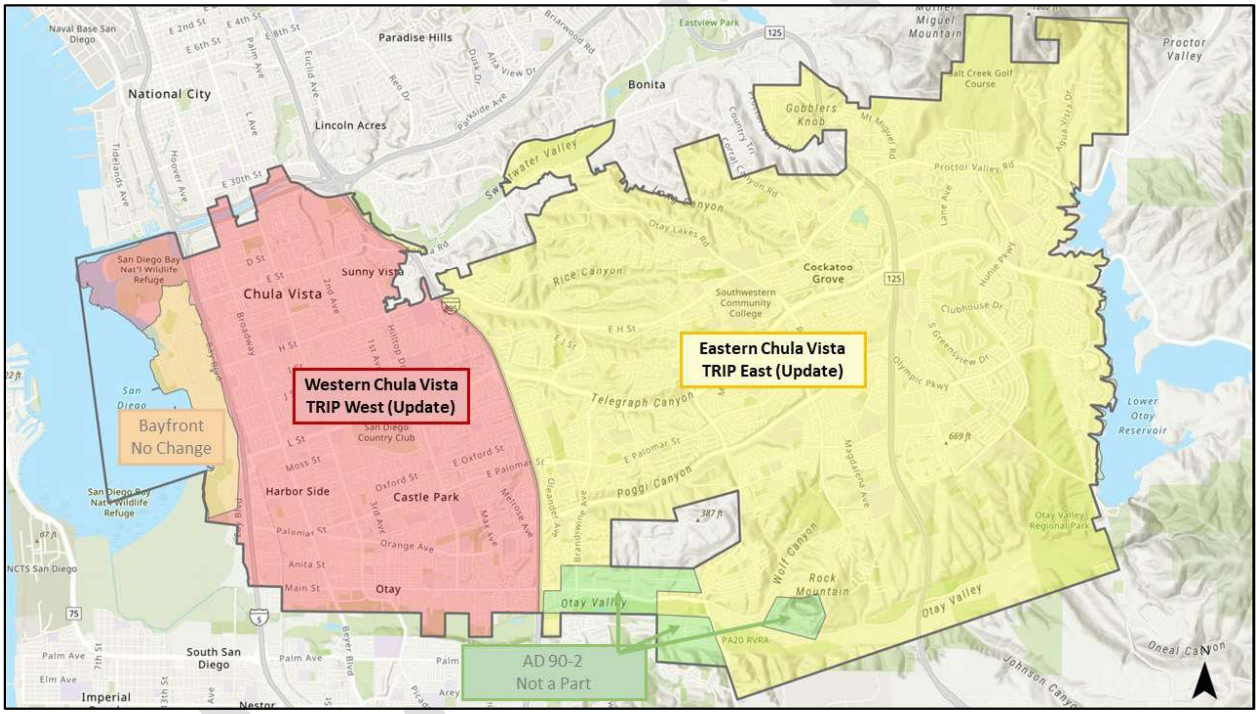


Exhibit 1: TRIP West and TRIP East Benefit Area

In establishing, increasing, or imposing a fee as a condition for the approval of a development project, Government Code 66001(a) and (b) state that the local agency must:

- Identify the purpose of the fee.
- Identify how the fee is to be used.
- Determine how a reasonable relationship exists between the fee use and type of development project for which the fee is being used.
- Determine how the need for the public facility relates to the type of development project for which the fee is imposed.

- Show the relationship between the amount of the fee and the cost of the public facility.

These statutory requirements have been followed in updating this impact fee, as documented in subsequent chapters.

After the newly developed TRIP is adopted, this Nexus Study and the technical information it contains will be maintained and reviewed periodically by the City of Chula Vista to ensure impact fee accuracy and to enable the adequate programming of funding sources. To the extent that transportation improvement requirements, costs, and development potential changes over time, the fee program will need to be updated.

The following additional regulations are pertinent to this Nexus Study:

- AB 602: Assembly Bill 602 requires that impact fees levied on residential development must be calculated such that they are proportional to the square footage of the new units.
- SB 743: Senate Bill 743 required the State to update the California Environmental Quality Act ("CEQA") guidelines to reflect use of VMT as the metric to evaluate transportation impacts. As such, VMT is a common metric for determining transportation infrastructure needs. To achieve the City's goals for VMT reduction, multimodal improvements are needed to provide options for future residents and employees to travel in modes other than a private automobile.

Historical Background and Context

Eastern TDIF

The Eastern Transportation Development Impact Fee ("ETDIF") program in the City dates to the mid-1980s and has had periodic updates over the last several decades.

In 2005 a major update to the ETDIF was completed. The 2005 update complied with the 2005 Chula Vista General Plan – *Vision 2020*, reviewed all previous infrastructure projects and updated the costs, evaluated actual costs and fee credits as several ETDIF projects had been completed, and re-evaluated the average daily trip ("ADT") rates for commercial land uses by considering only trips generated outside the benefit area and to introduce office and mixed-use residential as separate designations.

The 2014 update to the ETDIF adjusted the development impact fee based on completed roadway infrastructure construction, revised development projections and new unit costs. Several new arterial projects were added, and other projects received updates to their scope of work.

Western TDIF

On March 18, 2008, City Council adopted the Western Transportation Development Impact Fee ("WTDIF"). This program was intended to be similar to ETDIF. The original benefit area included the area within the city limits west of Interstate 805. In 2014 the WTDIF was updated to revise the benefit area, update the land use

assumptions, and update infrastructure costs. Ordinance 3327 was adopted in January 2015 updating the WTDIF to remove the Bayfront area from the benefit area.

Pedestrian Bridges DIFs

The Otay Ranch General Development Plan land use plan envisioned a network of bridges to facilitate pedestrian access among various Otay Ranch Villages, located to the east of I-805. The City has completed nexus studies for pedestrian bridges serving Otay Ranch Villages 1, 2, 5, 6, and 11 and the Millenia Sectional Planning Area ("SPA"). To date, the following pedestrian bridges have been constructed:

- North La Media bridge (La Media Road and East Palomar Street): completed in 2002
- West Olympic Parkway bridge (Olympic Parkway and Santa Venetia Street): completed in 2008
- East Olympic Parkway bridge (Olympic Parkway and East Palomar Street): completed in 2008
- Eastlake Parkway bridge (Eastlake Parkway and Element Way): completed in 2020

Pedestrian bridge DIFs have been collected which partially fund the following bridges which have not yet been constructed:

- South La Media (La Media Road and Olympic Parkway): would serve Otay Ranch Villages 2 and 6
- Hunte Parkway (Hunte Parkway near High Tech High): would serve Otay Ranch Village 11 and the University Innovation District

The following pedestrian bridge has been identified in relevant SPA Plans but has not been included in any nexus study:

- State Route 125 (between Main Street and Otay Valley Road): would serve Otay Ranch Villages 8 East and 9

In most cases, the pedestrian bridges have been designed and constructed to accommodate travel modes in addition to pedestrians, including bicycles and Neighborhood Electric Vehicles ("NEVs"). For this reason, the pedestrian bridges are characterized as multimodal bridges in this nexus study.

Bayfront TDIF

The Bayfront area was originally included as part of the WTDIF area in the 2008 nexus study. This area included the portion of Chula Vista west of Interstate 805 to the San Diego Bay. In April 2010, the Chula Vista Bayfront Master Plan ("CVBMP") and Final Environmental Impact Report ("EIR") was completed. This document was adopted by the Chula Vista City Council on May 10, 2010. Upon completion of the CVBMP, City staff recommended that a fee program separate from the WTDIF be established since the transportation impacts and infrastructure needs in the Bayfront area are significantly different than the transportation impacts associated with the western area. Ordinance 3327 was adopted in January 2015 updating the WTDIF to remove the Bayfront area from the benefit area and establishing the Bayfront Transportation Development Impact Fee ("BFDIF"). The City is not proposing changes to the BFDIF with this effort.

Assessment District 90-2

On June 23, 1992, the City Council adopted Resolution 16643, which formed Assessment District 90-2. Assessment District No. 90-2 was formed to finance public improvements, which included the acquisition of street and other related improvements in connection with the widening of Otay Valley Road. The land lying within the boundaries of Assessment District 90-2, shown in green in Exhibit 1, is outside of the ETDIF benefit area and is not a part of this Nexus Study.

Regional Transportation Congestion Improvement Program ("RTCIP")

In November 2004, San Diego County voters approved local Proposition A extending the TransNet ½ cent sales tax for transportation programs through 2048. Included in Proposition A and the TransNet Extension Ordinance is the Regional Transportation Congestion Improvement Program ("RTCIP"). The purpose of the RTCIP is to ensure that new development directly invests in the region's transportation system to offset the negative impacts of growth on congestion and mobility. The RTCIP provides for the collection of a fee for each new residential unit. The RTCIP originally documented the need to collect a Countywide fee of $2,000 per residential unit for roadways that are determined to be Regional Arterial System ("RAS")[3] facilities.

This amount has been updated annually, typically around July 1st. Information about the RTCIP is provided on the SANDAG website[4]

The TRIP funds both the RAS (through the RTCIP) and non-RAS facilities.

Changes to the ETDIF, WTDIF, and Pedestrian Bridge DIFs

As discussed above, the 2023 update presented herein represents a major update to the ETDIF and WTDIF. This update includes the following:

- Bringing the ETDIF, WTDIF, and Pedestrian Bridge DIF under one umbrella: the Transportation and Roadway Infrastructure Program, or "TRIP." This Nexus Study does not change the boundaries of the eastern or western benefit areas. TRIP East covers the benefit area within the City limits generally east of Interstate 805 and now includes the multi-modal bridges (formerly "pedestrian bridges") and connecting infrastructure to enhance multimodal transportation via biking, walking, and NEVs connecting the entire benefit area). TRIP West covers the benefit area within the City limits generally located between Interstate 5 on the west, Interstate 805 on the east as well as those areas to the west of Interstate 5 not belonging to the Bayfront Area. See **Exhibit 1** for the benefit areas.

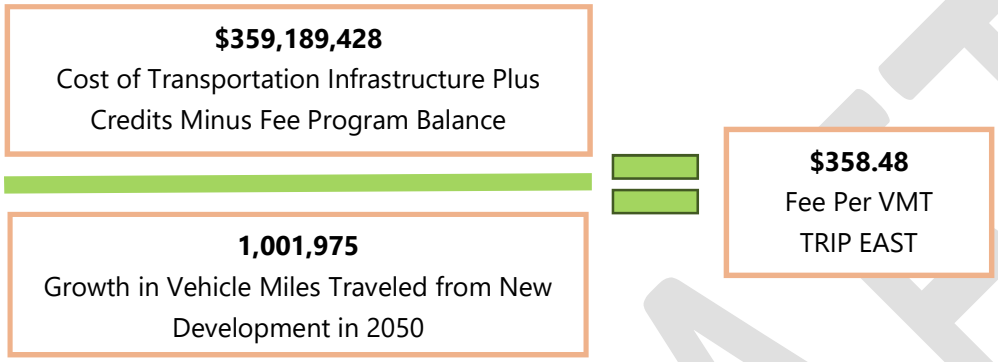
[3] The Regional Arterial System is defined by SANDAG. SANDAG employes a rigorous process to define the RAS. The criteria for defining a road as part of the RAS include: the road's role as a "critical link" (i.e., it provides a direct connection between communities), it links to areas with high concentrations of existing or future population or employment, it links to activity centers, it is forecasted to have high traffic volumes, it is part of the regional vision, and it provides access to intermodal facilities.

[4] Website: SANDAG - Regional Transportation Congestion Improvement Program

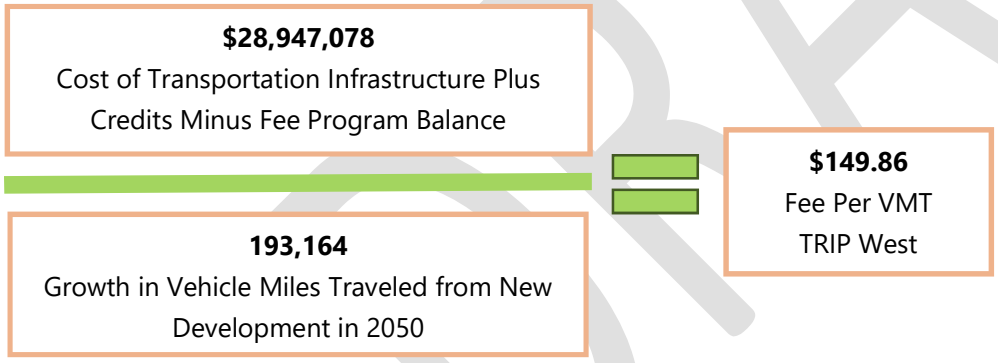
- Expanding the benefit area for the pedestrian bridges by providing additional infrastructure to support multimodal travel (bike, e-bike, and NEV). The benefit area for the pedestrian bridges defined in this Nexus Study is the TRIP East area. Previously, the benefit area for each bridge was limited to the specific Villages that were connected by the bridge.
- Accounting for completed infrastructure and for infrastructure projects that have changed in scope.
- A comprehensive update to the land use projections for eastern area and western area buildout for all land use types: single family residential, multi-family residential, hotels, retail uses, office uses, and industrial uses. The land use update includes accounting for completed land use growth between 2014 and 2022 and estimates future land use growth using the City's General Plan, SPA Plans, Specific Plans, the current version of the SANDAG travel demand model, and assessor's parcel records.
- Transitioning to a new basis for the fee from average daily traffic trip generation to VMT generation to be consistent with the current transportation impact analysis metrics.
- Comprehensive update to the infrastructure costs based on current cost information and updated infrastructure scopes.
- Transitioning to VMT as the nexus for charging the fees (instead of average daily trips) to reflect how transportation impact analysis is conducted in the City (as required by SB 743 and the current CEQA Guidelines). While project impacts were previously assessed based on the number of vehicle trips generated by development and level of service ("LOS")—that is, whether or not the project will cause deficient operations —SB 743 requires that public agencies assess the project's environmental impacts based on the vehicle miles traveled generated by the new development. The implication of this shift is that infill development projects will be assessed as having lower transportation impacts than new greenfield projects with lower density and homogeneous land-uses. The shift also encourages developers and public agencies to prioritize access to non-automobile modes of transportation. It should be noted that the transportation infrastructure needs project list includes capacity-enhancing and multi-modal improvements needed to support future growth.
- The fee program does not mitigate transportation CEQA impacts. The amount of VMT reduced through the fee program contributes to reducing VMT; however, it does not reduce VMT to fully meet the City's VMT impact criteria (per SB 743).
- It **does not** include changes to the BFDIF and Assessment District 90-2 is not included as a part of this Study.

Summary of the Maximum Allowable Fee

The maximum fee calculation for **TRIP East** is determined through the following equation:



The maximum fee calculation for **TRIP West** is determined through the following equation:



TRIP East

Methodology and Key Issues

The following considerations are included in the TRIP East fee calculations:

- TRIP East updates the ETDIF
- The benefit area for the TRIP East has not changed. It is the same benefit area identified in the 2014 nexus study. The benefit area is displayed on **Exhibit 2**.

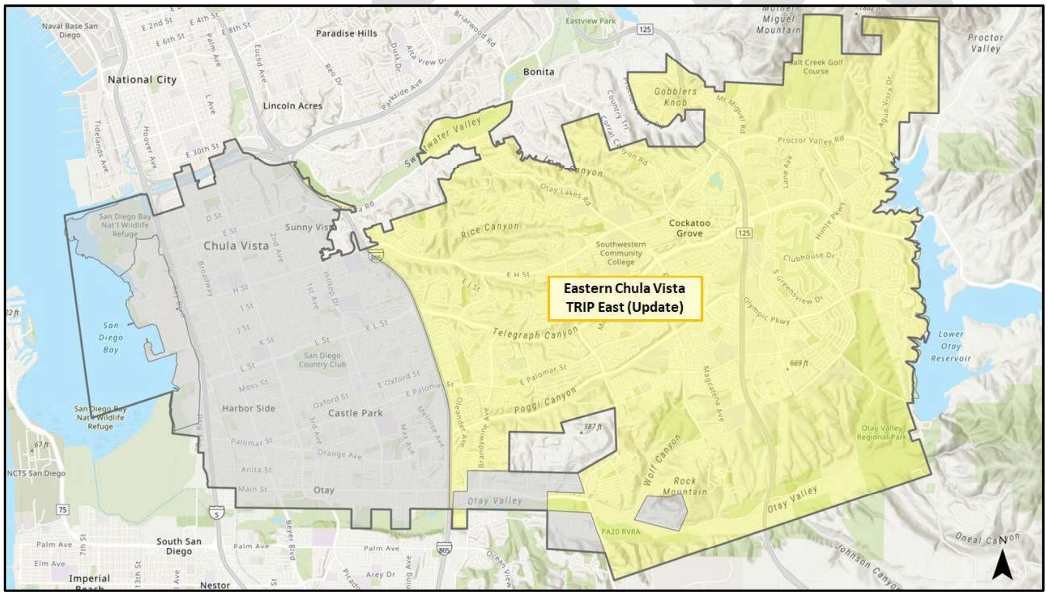
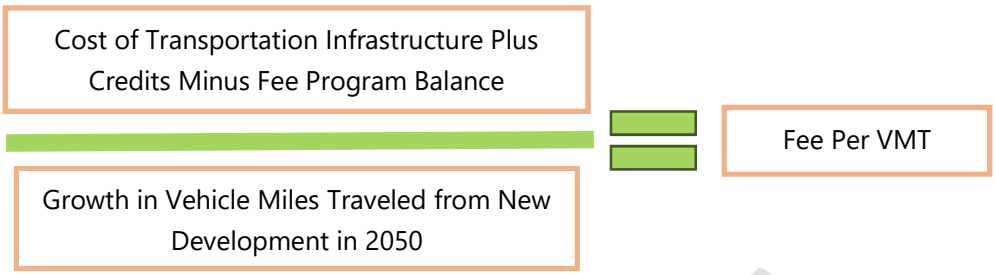


Exhibit 2: TRIP East Benefit Area

- Land use growth from the 2014 nexus study through 2022 and remaining growth (through buildout) is considered. The updated maximum fee considers only the remaining growth through buildout.
- VMT associated with the remaining growth is calculated by multiplying the TRIP East Benefit area 2050 VMT/resident or VMT/employee by the number of anticipated future residents and employees. The 2050 VMT/resident for the TRIP East Benefit area is 17.0 based on the SANDAG ABM2+ Model[5]. The VMT/employee for the TRIP East benefit area is 9.0 based on the SANDAG ABM2+ Model. Note that the 2050 SANDAG Model is a representation of buildout conditions and provides an estimate of VMT for buildout conditions.
- Transportation infrastructure that has been constructed or projects that have changed in scope since the 2014 nexus study are identified and removed or revised.
- None of the identified improvements are intended to address existing deficiencies. Therefore, for the TRIP East benefit area, future development is fully responsible for the cost of the improvements. Transportation infrastructure needed to accommodate the remaining growth is included in the updated maximum fee. The transportation infrastructure identified in the fee program ensures that the remaining streets in the benefit area are funded for construction, proportionately to the impacts caused by growth. The original fee program for the eastern area of the City was in response to planned development as part of SPA Plans and the Otay Ranch General Development Plan in an area that was at the time generally undeveloped, so all new infrastructure was need to for that new development. Over time development has continued, and transportation infrastructure has been constructed incrementally to keep up with the demand. (This is in contrast to the western area, which is largely built-out and infill development often relies on the existing transportation infrastructure, which tends to be at or near capacity or has other existing deficiencies such as sidewalk gaps.)
- The benefit area of the multi-modal bridges (previously referred to as "pedestrian bridges") and associated connecting infrastructure is expanded to encompass the entire TRIP East benefit area. These multi-modal bridge projects reduce the VMT generated by remaining growth and are necessary to reduce impacts associated with VMT. The additional multi-modal infrastructure identified connecting to the bridges allows broader use of bikes, e-bikes, and NEVs from throughout the benefit area.
- Outstanding fee program credits are identified and included in the calculations.
- The ETDIF account balance is included in the TRIP East fee calculations.

[5] SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459

The maximum fee calculation is determined through the following equation:



Cost of Transportation Infrastructure

Cost Estimating Assumptions

Project cost estimates for the ETDIF were last updated in 2005. The costs included in the 2014 nexus study factored the 2005 costs using data from the Engineering News Construction Cost Index ("CCI") as a means of updating estimates over time. These updates do not account for changes in design and construction standards or regulatory requirements. As such, a comprehensive update to the costs for the transportation infrastructure were completed using 2022 unit prices and updated soft cost assumptions. A separate study was conducted to determine appropriate unit costs: *Transportation Development Impact Fee ("TDIF") Project Cost Estimates Technical Memorandum* (January 31, 2023, produced by Kimley Horn). The technical memorandum is included in **Appendix A.**

Publicly available unit cost records for previously constructed projects within the County of San Diego were adjusted for inflation and adapted for use in completing individual project cost estimates for projects within the City of Chula Vista.

The County of San Diego Unit Price List was selected as a basis for a majority of the unit prices, as it is widely used in developing project cost estimates and bond estimates by many local agencies in San Diego County, including the City of Chula Vista.

Unit costs for roadway, bridge and traffic signal improvements within Caltrans right-of-way specifically use available Caltrans online cost data.

Utilizing the unit cost data identified in the *Transportation Development Impact Fee ("TDIF") Project Cost Estimates Technical Memorandum*, typical costs for the construction of ¼-mile segments of each classification of roadway identified in the City of Chula Vista Engineering & Capital Projects Standard Drawings was developed for application on roadway projects.

It was assumed that eligible project costs should only include improvement work within the right-of-way limits of the proposed roadway or bridge. Assumptions for TRIP East facilities include one new traffic signal per one mile of new roadway.

TRIP East Transportation Infrastructure Changes

The transportation infrastructure included in the 2014 ETDIF nexus study and Pedestrian Bridge DIF nexus studies were thoroughly reviewed to identify which projects had been constructed and which projects may have changed in scope. Several projects previously included in the ETDIF and the Pedestrian Bridge DIFs were removed, constructed, consolidated, or added. These changes are reflected in the TRIP East project list. A summary of these changes is presented below in **Table 1**.

Table 1: Summary of Revisions to Fee Program Project List – TRIP East

Proj. #	Project Title	Improvement	Change
Changes to ETDIF Project List			
28a	Otay Lakes Road	Road Widening	Added. This segment was added to the TRIP East nexus study in accordance with Section 3.4 of the executed Project Development Cooperation Agreement the City and Lakeview I, LLC, approved by the Chula Vista City Council via Resolution 2019-237 on December 10, 2019
43	Birch Road	South curb area improvements	Completed
46	Eastlake Parkway	West curb area improvements	Completed
47a	San Miguel Ranch Road	Proctor Valley Road Interchange	Completed
52b	La Media Road	New 6LP arterial	Completed
53a/b	La Media Road Couplet and Main Street Couplet	Couplets on La Media and Main Street	Combined into one project.
57	Heritage Road	New Arterial	Completed
61	Willow Street Bridge	Reconstruct Bridge	Completed
62	East H Street	Widened arterial and right turn lane	Completed
63	System Wide	Traffic Signalization	Removed. The traffic signals on eastern area facilities are included in the cost estimate for each individual project.
65	System Wide	Traffic Management Center (TDIF)	Completed
69	Millenia Avenue	New 4LM arterial	Completed
Changes to Pedestrian Bridge DIFs			
South La Media Pedestrian Bridge	South La Media Bridge at Santa Venetia Street	Multimodal Bridge	Bridge removed. At grade crossing provides access to land use on either side of La Media. Focus on providing multimodal improvements at the signalized intersection instead of grade separated crossing (MULTIMOD 19).

Eastlake Parkway Pedestrian Bridge	Eastlake Parkway	Multimodal Bridge	Completed.
Hunte Parkway Pedestrian Bridge	Hunte Parkway	Multimodal Bridge	Included to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
State Route 125 Pedestrian Bridge	SR 125 Between Main and La Media	Multimodal Bridge	Included to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 1	Birch Road and Magdalena Avenue (Near Mater Dei Church and School) Multimodal	Multimodal improvements, widen existing pathway and add shoulders to pathway to provide one-way NEV loop	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 2	Central Olympic Parkway	Olympic Parkway: Brandywine Avenue to La Media Road (and connections to neighborhoods along the route)	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 3	East Olympic Parkway	Olympic Parkway: La Media Road to Eastlake Parkway	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 5	Hunte Parkway, Olympic Parkway, South Greensview Drive (Eastlake Trails and Otay Ranch)	Pave existing decomposed granite pathway adjacent to roadways, modify crossings including signal modifications at crossings	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 8	North La Media Road	La Media Road: Telegraph Canyon Road to Olympic Parkway	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 9	East Palomar Street Segment 1	East Palomar Street: La Media Road to Medical Center Drive	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 10	East Palomar Street Segment 2	East Palomar Street: Magdalena Avenue to La Media Road	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 18	La Media Parkway South with Connections to Ped Bridge 7	Widen/pave pathway adjacent to La Media Parkway between Olympic Parkway and Main Street, Provide path through neighborhood, across Ped Bridge 7 to Hunte Parkway Ped Bridge 6	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 19	Santa Venetia Street	Santa Venetia Street: East Palomar Street to Magdalena Avenue	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians

MULTIMOD 20	Olympic Parkway to Heritage Parkway Connector	Santa Andrea Street: Santa Lucia Road to Olympic Parkway	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 22	Millenia Avenue, Eastlake Parkway, Birch Road, Strata Street Loop (Millenia Developments)	Widen shoulder of pathway adjacent to roads	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 23	All Seasons Park Connections (Through Park, Birch Road, and Santa Luna Street)	Pave and widen pathways, remove bollards at La Media Road and Magdalena Road, add crossing to pathway on west side of La Media Road	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
MULTIMOD 24	Connection to Montana Road from La Media	Montana Road: Montana Road to La Media Road	Added to connect eastern area for multi-modal access by NEVs, bicycles, and pedestrians
NEV Master Plan	NEV/Multi-Modal Master Plan and Environmental Document	Not Applicable	Added to expand Multi-modal Assessment to cover remaining required items (public engagement, detailed design guidelines, conceptual design, municipal code development, environmental documentation).

Notes: Additional information for Pedestrian Bridge and Multimodal (MM) improvements are provided in the *Multimodal/Neighborhood Electric Vehicle Network Assessment* Technical Memorandum provided in Appendix B. Tier 1 and Tier 2 projects are included in TRIP East.
Source: Chula Vista City Staff, Fehr & Peers, 2023

TRIP East Project List with Costs

Table 2 displays the project costs for the facilities included in the TRIP East. Project summary "cut sheets" showing the location, description, and cost estimate for Projects 28a-72 are provided in **Appendix C**.

Table 2: TRIP East Infrastructure Costs

Proj. #	Project Title/ Location	From	To	Improvement	Cost Estimate	Adjustments*	TRIP East Amount
28a	Otay Lakes Road	Wueste Road	Eastern City Boundary Line	Widen to Boulevard with Intermittent Turn Lanes (COUNTY STANDARD)	$4,319,237	-	$4,319,237
28b	Otay Lakes Road	Lake Crest Drive	Wueste Road	Widen to Boulevard with Intermittent Turn Lanes (COUNTY STANDARD)	$5,503,108	-	$5,503,108
53a/53b	La Media Parkway Couplet Main Street Couplet	South of Santa Luna Street West of Southbound La Media Parkway	Couplet terminus East of northbound La Media Parkway	Construct 2-Lane one-way couplets	$17,894,415	25%	$4,473,604
56c	Otay Valley Road	La Media Parkway Couplet South Terminus	SR-125 Right-of-Way	Construct 4-Lane Major Arterial	$15,391,204	25%	$3,847,801
56e	Main Street	Nirvana Avenue	Heritage Road	Widen South Side to 6 Lane Major	$8,470,000	96%	$8,170,000
58a	Heritage Road	Entertainment Circle North	Southernly City Boundary	Construct 6-Lane Prime Arterial	$11,198,167	-	$11,198,167
58b	Heritage Road Bridge (Otay River Bridge)	Main Street	Entertainment Circle North	Construct 6-Lane Prime Arterial	$54,608,859	32.6%	$17,777,535
59c	Proctor Valley Road	Agua Vista Drive	Eastern City Limits	Widen to Class II Collector with Contiguous Sidewalk	$5,050,752	-	$5,050,752
60a	Main Street	Heritage Road	Wolf Canyon Bridge West Abutment	Construct 6-Lane Prime Arterial	$16,925,067	-	$16,925,067
60b	Main Street	Wolf Canyon Bridge East Abutment	West Terminus of Main Street Couplet	Construct 6-Lane Prime Arterial	$19,074,903	-	$19,074,903

Proj. #	Project Title/ Location	From	To	Improvement	Cost Estimate	Adjustments*	TRIP East Amount
60c	Main Street	Wolf Canyon Bridge	Wolf Canyon Bridge	Construct 6-Lane Bridge	$99,938,205	-	$99,938,205
60d	Main Street	Main Street Couplet East Terminus	SR-125 Right-of-Way	Construct 6-Lane Bridge	$7,426,704	-	$7,426,704
64	Hunte Parkway	SR-125	Eastlake Parkway	Construct 6-Lane Bridge	$10,553,738	-	$10,553,738
67 and 68	Main Street and Otay Valley Road Bridges and Interchanges	SR-125 SB ramps	SR-125 NB ramps	Construct 4-Lane & 6-Lane Bridges with NB & SB Ramps	$85,973,249	-	$85,973,249
70	Discovery Falls	Hunte Parkway Village 9	Street "B"	Construct 4-Lane Collector transitioning to 2-Lane Collector	$11,887,086	-	$11,887,086
71	Street B	Hunte Parkway	Otay Valley Road	Construct 2-Lane Collector	$8,119,389	-	$8,119,389
72	Otay Valley Road	East of SR-125	Subdivision Boundary	Construct 4-Lane Major Arterial	$8,480,867	-	$8,480,867
Hunte Parkway Ped Bridge	Hunte Parkway Ped Bridge	Bridge crossing Hunte Parkway near Discovery Falls Drive		New 16 foot wide (min) multimodal bridge that accommodates NEVs, bicycles, and pedestrians	$3,762,140	-	$3,762,140
SR 125 Ped Bridge	SR 125 Ped Bridge	Bridge crossing SR 125 Between Main Street and La Media Parkway		New 16 foot wide (min) multimodal bridge that accommodates NEVs, bicycles, and pedestrians	$3,762,140	-	$3,762,140
MULTIMOD 1	Multimodal connections near Mater Dei Church and School	Birch Road: Magdalena Avenue to east of SR 125 northbound ramps Magdalena Avenue: Palomar Street to Santa Luna Street Palomar Street Transit Only Road: Magdalena Avenue to Eastlake Parkway		Multimodal improvements, widen existing pathway and add shoulders to pathway to provide 10-feet total (min) for one-way NEV operation (loop)	$2,637,298	-	$2,637,298
MULTIMOD 2	Central Olympic Parkway	Olympic Parkway: Brandywine Avenue	La Media Road (and connections to neighborhoods along the route)	Multimodal improvements at intersections, widen and pave existing pathway to provide 16-feet total (min) for two-way NEV operation. Reconstruct bollards at Santa Sierra Drive to allow for NEVs	$2,387,966	-	$2,387,966

Proj. #	Project Title/ Location	From	To	Improvement	Cost Estimate	Adjustments*	TRIP East Amount
MULTIMOD 3	East Olympic Parkway	La Media Road	Eastlake Parkway	Multimodal improvements at intersections, widen and pave existing pathway to provide 16-feet total (min) for two-way NEV operation	$1,486,955	-	$1,486,955
MULTIMOD 5	Eastlake Trails and East Otay Ranch Area	Hunte Parkway: Arroyo Vista Charter School to Eastlake Parkway Olympic Parkway: Eastlake Parkway to Hunte Parkway South Greensview Drive: Clubhouse Drive to Hunte Parkway Clubhouse Drive: Eastlake Parkway to South Greensview Drive Existing green belt (east and parallel to Discovery Falls Drive) from Hunte Parkway to terminus at Discover Falls Drive		Multimodal improvements, widen/pave existing pathways and add shoulders to pathways to provide 16-feet total (min) for two-way NEV operation	$5,134,887	-	$5,134,887
MULTIMOD 8	North La Media Road	Telegraph Canyon Road	Olympic Parkway	Multimodal improvements at intersections, widen and pave existing pathway to provide 16-feet total (min) for two-way NEV operation	$630,168	-	$630,168
MULTIMOD 9	East Palomar Street Segment 1	La Media Road	Medical Center Drive	Provide paved 16-feet wide multimodal pathway/shoulders to provide for two-way NEV operation	$3,062,156	-	$3,062,156
MULTIMOD 10	East Palomar Street Segment 2	Magdalena Avenue	La Media Road	Provide paved 16-feet wide multimodal pathway/shoulders to provide for two-way NEV operation	$934,146	-	$934,146
MULTIMOD 18	La Media Parkway South with Connections to Ped Bridge 7	La Media Parkway: Olympic Parkway to terminus Main Street to connections through neighborhood to SR 125 pedestrian bridge (Ped Bridge 7)		Multimodal improvements, widen/pave existing pathways and add shoulders to pathways to provide 16-feet total (min) for two-way NEV operation	$4,869,977	-	$4,869,977
MULTIMOD 19	Santa Venetia Street	Santa Venetia Street: East Palomar Street to Magdalena Avenue		Widen existing shoulder to provide 16-feet total (min) for two-way NEV operation	$1,188,371	-	$1,188,371

Proj. #	Project Title/ Location	From	To	Improvement	Cost Estimate	Adjustments*	TRIP East Amount
MULTIMOD 20	Olympic Parkway to Heritage Parkway Connector	Santa Andrea Street: Santa Lucia Road	Olympic Parkway	Widen existing pathway to provide 16-feet total (min) for two-way NEV operation, modify bollard at Fieldbrook Street and add ramp for NEVs and bikes	$934,146	-	$934,146
MULTIMOD 22	Millenia Development Multimodal Pathways	Millenia Avenue: Birch Road to Strata Street Eastlake Parkway: Birch Road to Hunte Parkway Birch Road: SR 125 northbound ramps to terminus Strata Street: Millenia Avenue to Eastlake Parkway		Widen existing pathways and add shoulders to pathways to provide 16-feet total (min) for two-way NEV operation	$3,004,285	-	$3,004,285
MULTIMOD 23	All Seasons Park Connections	Birch Road: Santa Victoria to Magdalena Avenue Green belt south and parallel to Fleishbein Street from La Media Road connecting to All Seasons Park (and through park to Bob Pletcher Way) Santa Luna Street: La Media Road to Magdalena Avenue		Multimodal improvements, widen/pave existing pathways and add shoulders to pathways to provide 16-feet total (min) for two-way NEV operation, remove bollards at La Media Road and Magdalena Road, add crossing to pathway on west side of La Media Road	$1,055,831	-	$1,055,831
MULTIMOD 24	Connection to Montana Road from La Media	Montana Road	La Media Road	Widen and pave existing pathway to provide 16-feet total (min) for two-way NEV operation	$16,584	-	$16,584
NEV Master Plan	NEV/Multi-Modal Master Plan and Environmental Document	Not Applicable		Expand Multi-modal Assessment to cover remaining required items (public engagement, detailed design guidelines, conceptual design, municipal code development, environmental documentation).	$250,000	-	$250,000
						TOTAL TRIP EAST Vehicular Capacity Project Costs (Project 28-72)	$328,719,412
						TOTAL TRIP EAST Multi-Modal Project Costs (Ped Bridges and MULTIMOD 1-23)	$35,117,051
						Program Management Fee (2% of Infrastructure Costs)	$7,276,729

Proj. #	Project Title/ Location	From	To	Improvement	Cost Estimate	Adjustments*	TRIP East Amount
					TOTAL TRIP East Project Cost		**$371,113,192**

Notes: *Adjustments are made to projects to account for reimbursements and the remaining program liability (projects 53a/53b and 56c) and to reflect funds collected from other sources that reduce the liability of the fee program (56e and 58b).
Source: Kimley Horn *Transportation Development Impact Fee ("TDIF") Project Cost Estimates Technical Memorandum,* Chula Vista City Staff, Fehr & Peers, 2023

All planned transportation improvements are in response to the demand created by future development. The vehicular capacity of the roadway network was evaluated as part of the 2014 Nexus Study, no changes in roadway capacity or project list (i.e., new roadways, widened roadways, etc.) are proposed as part of the TRIP East facilities list. Therefore, the conclusion that the existing facilities have adequate capacity is applicable. Any adjustments made to the cost of improvements are due to outside funding sources that are offsetting the cost; they are not due to existing deficiencies. These adjustments are described above in **Table 2**.

The TRIP East facility list does include new multi-modal facilities to support future growth's additional VMT. It is necessary in accordance with Mitigation Fee Action section 66001 to determine that there is a reasonable relationship between the need for the public facility and the development project on which the fee is imposed. Multimodal improvements are needed to accommodate future growth's VMT. The City's VMT goal (for CEQA significance threshold purposes) is that new development generate VMT as follows:

- Residential Projects: 15% below the existing regional average VMT/resident
- Employment Projects: 15% below the existing regional average VMT/employee
- Industrial Employment Projects: At or below the existing regional average VMT/employee

Table 3 shows that VMT associated with future growth and the VMT above the City's VMT goals. In addition, the VMT reduced through the construction of the multimodal facilities is documented in the *Multimodal Infrastructure for Future Growth Technical Memorandum* (see **Appendix B** for more information).

Table 3: VMT Analysis for Future Growth: Nexus for Additional Multi-Modal Improvements

	VMT	Notes
Total Daily VMT[1] Associated with New Residents or Employees	1,001,975	See Table 7 for calculations.
Total Daily VMT to Achieve City's Goal[2]	842,637	Max Daily VMT to Achieve Residential Goal: 55,072 residents*13.6=748,979 Max Daily VMT to Achieve Employment Goal: 5,450 non-industrial employees*12.1=66,245 Max Daily VMT to Achieve Industrial Employment Goal: 1,917 industrial employees*14.3=27,413 Total: 842,637
VMT Reduction to Achieve Goal	159,339	The difference between the Total Daily VMT and the Daily VMT needed to achieve the City's goal: 1,001,975-842,637 = 159,339

Notes:
[1]Total VMT refers to the daily tour-based VMT calculated by multiplying the VMT/resident and VMT/employee by the number of residents and employees respectively.
[2]See Table 7 for information on future residents and employees. City VMT Goals: 15% Below 2050 Regional Average VMT/Resident for Residential (13.6), 15% Below 2050 Regional Average VMT/Employee for Employment (12.1), and At or Below 2050 Regional Average VMT/Employee for Industrial Employment (14.3). Note that the total residential population growth is the sum of single family and multifamily residents, and the non-industrial employment growth is the sum of employees for the retail, office, and hotel land use categories.
[3]VMT reduction from the multi-modal projects is documented in Appendix B.
Source: Fehr & Peers, 2023

The amount of daily VMT reduction in the TRIP East benefit area needed to achieve the City's VMT reduction goal is 159,339 daily VMT. The multimodal projects included in the TRIP East project list will reduce VMT by approximately 15,500 daily VMT which partially contributes to the reduction needed (159,399-15,500=143,899 daily VMT remaining above City goals). The VMT calculation demonstrates that there is a reasonable relationship between the multi-modal facilities and future growth.

Fee Credits and Program Balance

Fee Credits

DIF credits are granted to developers if they design and construct all or a portion of DIF facilities required for their development. If they do so, they receive DIF credits equal to the costs of designing and constructing the facilities. These credits are established in trust accounts and developers use these credits to pay their DIF obligation that would otherwise be paid with cash.

City staff completed a thorough review of all fee credit trust accounts. As of July 14, 2023, there are approximately 16 trust accounts associated with fee credits for TRIP East facilities. **Table 4** provides a summary of the credits and liabilities associated with these accounts.

Table 4: TRIP East Fee Credit Summary

Fee Credits Summary	Value as of 7/14/2023
Eastern Facilities Fee Credits (Cost to Program)	$40,930,809.82
TRIP East Future Revenue (associated with deferred payments)	-$9,653,688.02
TOTAL TRIP East Fee Credit Liability	**$ 31,277,121.80**

Source: Chula Vista Staff, 2023

The fee credit total is included in the numerator of the fee program calculation.

Program Balance

The program balances from the ETDIF and Ped Bridge funds are carried over to the TRIP East program. Chula Vista staff identified the current account balance as of July 14, 2023. **Table 5** summarizes the current account balance.

Table 5: ETDIF and Ped Bridge Fund Balances

Fund	Fund Balance (as of 7/14/23)
ETDIF Fund 590920	$36,629,558.73
ETDIF Admin Fund 590921	$4,706,984.89
ORV 11 Ped Bridge Fund 580941	$1,864,342.67
TOTAL TRIP East Fund Balance	**$43,200,886**

Source: Chula Vista Staff, 2023

The program balance is included in the numerator of the fee program calculation.

Total Program Cost

Table 6 displays the total program cost for the TRIP East (Facility Cost minus fund balance plus fee credit liabilities). This represents the numerator of the maximum fee calculation.

Table 6: TRIP East Program Cost Total

Program Element	Total Cost as of 7/14/2023
TOTAL TRIP EAST Project Costs	$371,113,192
TOTAL TRIP East Fee Credit Liability	$31,277,122
TOTAL TRIP East Fund Balance	-$43,200,886
TRIP East Program Cost	**$359,189,428**

Source: Chula Vista Staff and Fehr & Peers, 2023

Land Use Growth and Travel Demand Assumptions

Land use growth/new development creates the need for additional transportation facilities; therefore, it is necessary to estimate the amount of new development within the benefit area and the burden that new development places on the transportation network.

As described in the Methodology and Key Issues section, the remaining growth was calculated through review of the 2014 nexus study, determining land development constructed between 2014-2022, and estimating growth through buildout. The basis of the TRIP program is VMT; therefore, the expected growth was presented in terms of new residents and employees based on standard conversions between people per household for residents and employees per square foot for various types of employment uses. The number of residents and number of employees in the benefit area are based on the following assumptions:

- Average people per household: 3.31 people based on the US Census Bureau Quick Facts for the City of Chula Vista from 2017-2021.

- Square Feet Per Employee is based on standard values used by SANDAG for the Regional Travel Demand Model:
    - Retail: 450 square feet per employee based on the Neighborhood Shopping Center land use category
    - Industrial: 1,200 square feet per employee based on the Industrial Park land use category
    - Office: 300 square feet per employee based on the general office land use category
    - Hotel: 1 employee per room
    - Note: These standard values were applied to all retail, industrial, and office uses broadly as they represent an average square footage per employee across all of the more specific land use categories that would fit within these broad retail, industrial, and office categories.
- Future VMT associated with the new growth is calculated based on the average VMT/resident and VMT/employee in the TRIP East benefit area using the SANDAG regional travel demand model using the model's future horizon year: 2050. The 2050 VMT/resident for the TRIP East Benefit area is 17.0 based on the SANDAG ABM2+ Model[6]. The VMT/employee for the TRIP East benefit area is 9.0 based on the SANDAG ABM2+ Model.

Table 7 displays the future growth in the TRIP East benefit area.

Table 7: TRIP East Benefit area Future Land Development/Growth

Location	Single Family Units	Multi-Family Units	Industrial (sf)	Retail (sf)	Office (sf)	Hotel (rooms)	Notes/Source
Village 2	190	1,416	796,277	27,082	-	-	Montecito & Otay Ranch Business Park SPA Plan (May 2020); Enclave Montecito Project Information Form (Jan. 2023); permitting history; applicant interview; review of aerial photos.
Village 3	200	226	20,459	-	-	-	University Villages, Otay Ranch Village 3 and a Portion of Village 4 SPA Plan (June 2021); permitting history; applicant interview; review of aerial photos.
Village 4	73	277	-	-	-	-	Otay Ranch Village 4 SPA Plan (May 2018); review of aerial photos.
Village 8 East	943	2333	-	20,000	-	-	University Villages, Otay Ranch Village 8 East SPA Plan (December 2014); applicant interview; review of aerial photos.
Village 8 West	401	1188	-	88,653	17,000	-	Otay Ranch Village 8 West SPA Plan (July 2022); applicant interview; review of aerial photos.

[6] SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459

Location	Single Family Units	Multi-Family Units	Industrial (sf)	Retail (sf)	Office (sf)	Hotel (rooms)	Notes/Source
Village 9	105	3854	-	100,000	400,000	-	Otay Ranch Village 9 SPA Plan (June 2021); applicant interview; review of aerial photos.
Village 10	695	1045	-	-	-	-	Otay Ranch Village 10 SPA Plan (December 2014); applicant interview; review of aerial photos.
Millenia	0	326	-	35,100	715,100	265	Eastern Urban Center SPA Plan (July 2018); permitting history; applicant interview; review of aerial photos.
Planning Area 12	0	648	-	15,000	-	152	Promenade at Otay Ranch Town Center, Freeway Commercial SPA Plan June 2019); permitting history; review of aerial photos.
Planning Area 23	0	718	(516,186)	-	-	-	Transportation Impact Analysis, Sunbow II, Phase 3 (1/29/2021)
University Innovation District	-	2000	2,000,418	200,000	-	-	University Innovation District SPA Plan (November 2018)
EastLake Business Center	-	-	-	-	-	179	City staff research
TOTAL	**2,607**	**14,031**	**2,300,967**	**485,835**	**1,132,100**	**596**	

Notes: sf = square feet
The industrial, retail, and office land use categories are broad and intended to include all uses that fit these basic descriptions. The land use designations for each category are defined in the Chula Vista Transportation Study Guidelines, Appendix D.
Source: Chula Vista City Staff, 2023

Table 8 displays the total population and employees and resulting 2050 VMT associated with the land development/growth in the TRIP East benefit area.

Table 8: TRIP East Benefit area Future Population and VMT Growth

Land Use	Amount	Conversion to Persons	Residential Population	Employees	VMT/ Resident or VMT/Employee[1]	Total Daily VMT[2] Associated with New Residents or Employees
Single Family	2,607 units	3.31 res/unit	8,629	-	17.0	146,607
Multi Family	14,031 units	3.31 res/unit	46,443	-	17.0	789,067
Industrial	2,300,976 sf	1,200 sf/emp	-	1,917	9.0	17,251
Retail	485,835 sf	450 sf/emp	-	1,080	9.0	9,720
Office	1,132,100 sf	300 sf/emp	-	3,774	9.0	33,966
Hotel	596 rooms	1 emp/room	-	596	9.0	5,364
TOTAL	**-**	**-**	**16,638**	**7,367**	**-**	**1,001,975**

Notes:
[1]VMT/Resident and VMT/Employee based on the SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459 for the TRIP East Benefit area. The values represent 2050 average daily VMT/Resident and VMT/Employee for the TRIP East benefit area.
[2]Total VMT refers to the daily tour-based VMT calculated by multiplying the VMT/resident and VMT/employee by the number of residents and employees respectively.
Source: Fehr & Peers, 2023

As displayed in **Table 8**, the TRIP East benefit area is projected to add an additional 16,638 residents and 7,367 employees from 2023 through buildout. Future residents and employees are anticipated to generate approximately 1 million daily VMT.

Nexus Analysis and Maximum Fee Calculation

A "nexus" or relationship between new development in the City and transportation improvements and their costs must be established before incorporating transportation improvement costs into a transportation impact fee calculation. To determine the appropriate costs to include in the new transportation fee calculation, it is necessary to conduct a series of steps:

1. **Identify Total Costs of Transportation Improvements.** The total cost of transportation improvements is shown in **Table 2** as $371,113,192.
2. **Account for Known Funding and Fee Credits.** The balance remaining in the current Fee Program fund was subtracted from the gross cost estimates. Outstanding fee credits issued are added to the gross cost estimates. The summary is shown in **Tables 4 and 5** as $31 million in fee credit liability and a $43.2 million fund balance.
3. **Remove Existing Deficiencies.** Existing facilities in the TRIP East benefit area have adequate capacity to support the existing state of development, and any capacity or multi-modal improvement that is planned is in response to the demand created by future development. Therefore, for the TRIP East benefit area, future development is fully responsible for the cost of the improvements.

4. **Determine Proportional Allocation to New Development.** It is necessary to determine the process for allocating the remaining infrastructure costs to new development. The fee will be charged based on the amount of VMT generated (calculated using the developments projected number of residents and/or number of employees by the current SANDAG regional model base year average VMT/resident and VMT/employee for the TRIP East benefit area.

Maximum Fee Calculation

The maximum fee calculation is determined through the following equation:

$359,189,428
Cost of Transportation Infrastructure Plus Credits Minus Fee Program Balance

1,000,975
Growth in Vehicle Miles Traveled from New Development in 2050

=

$358.48
Fee Per VMT

Note: Detailed calculation spreadsheets for cost, growth and fee calculations are provided in **Appendix D**.

TRIP West

Methodology and Key Issues

The following considerations are included in the TRIP West fee calculations:

- TRIP West is a major update to the WTDIF.
- The benefit area for TRIP West has not changed. It is the same benefit area identified in the 2014 nexus study. The benefit area is displayed on **Exhibit 3**.

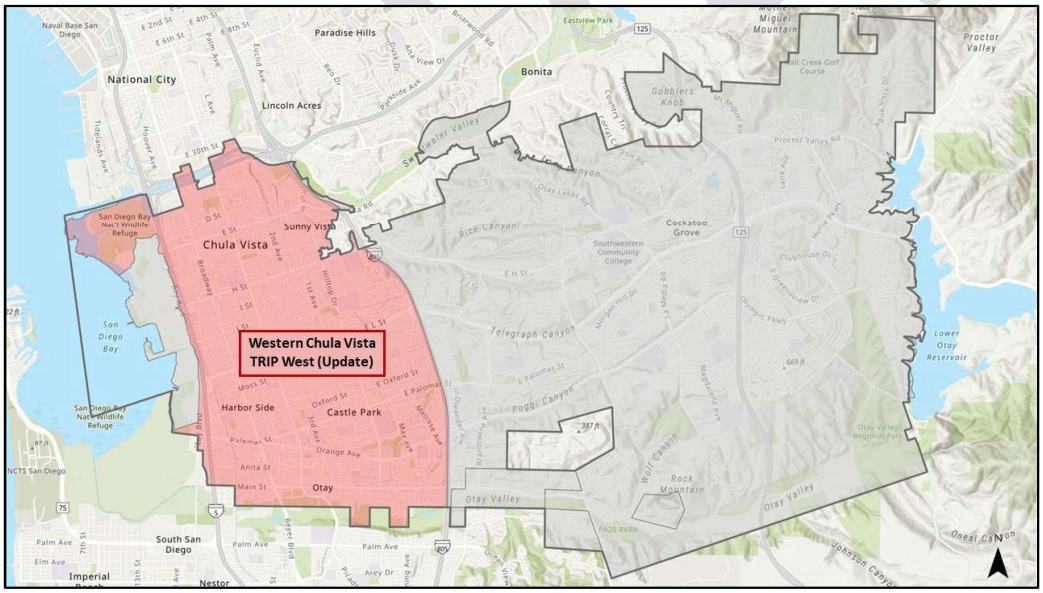
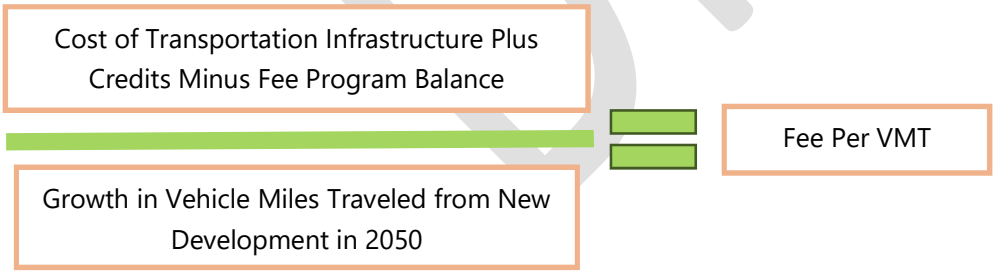


Exhibit 3: TRIP West Benefit Area

- Land use growth from the 2014 nexus study through 2022 and remaining growth (through buildout) is considered. The updated maximum fee considers only the remaining growth through buildout. The remaining growth was developed using data for the City on historical growth trends in the western area and the growth projected by the SANDAG Regional Travel Demand Model[7].
- VMT associated with the remaining growth is calculated by multiplying the TRIP West benefit area 2050 VMT/resident or VMT/employee by the number of anticipated future residents and employees. The 2050 VMT/resident for the TRIP West benefit area is 11.3 based on the SANDAG ABM2+ Model[8]. The VMT/employee for the TRIP West benefit area is 9.6 based on the SANDAG ABM2+ Model.
- Transportation infrastructure that has been constructed or projects that have changed in scope since the 2014 nexus study are identified and removed or revised.
- In the western area of Chula Vista, there are existing facilities that were identified in the 2014 nexus study as having capacity deficiencies. Therefore, there are several projects that have split responsibility between the City and future growth. The assumptions for cost responsibility remain the same as in the 2014 nexus study.
- The TRIP West and BFDIF have some improvements that have shared responsibility (per the 2014 Nexus study). The shared responsibility between the TRIP West and BFDIF remains the same as in the 2014 nexus study.
- Outstanding fee program credits are identified and included in the calculations.
- The WTDIF account balance is used to calculate TRIP West.

The maximum fee calculation is determined through the following equation:



Cost of Transportation Infrastructure

Cost Estimating Assumptions

Project cost estimates for the WTDIF were last updated in 2008. The costs included in the 2014 nexus study factored the 2008 costs using data from the Engineering News Construction Cost Index ("CCI") as a means of updating estimates over time. These updates do not account for changes in design and construction standards or regulatory requirements. As such, a comprehensive update to the costs for the transportation

[7] SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459
[8] SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459

infrastructure was completed using 2022-unit prices and updated soft cost assumptions. A separate study was conducted to determine appropriate unit costs: *Transportation Development Impact Fee ("TDIF") Project Cost Estimates Technical Memorandum* (January 31, 2023, produced by Kimley Horn). The technical memorandum is included in **Appendix A.** See TRIP East Cost Estimating Assumptions section for more information.

TRIP West Transportation Infrastructure Changes

The transportation infrastructure included in the 2014 WTDIF nexus study was thoroughly reviewed to identify which projects had been constructed and which projects may have changed in scope. Several projects previously included in the WTDIF were removed, constructed, or consolidated. There are no additional projects added to the TRIP West that were not previously in WTDIF. These changes are reflected in the TRIP West project list. A summary of these changes is presented below in **Table 9**.

Table 9: Summary of Revisions to Fee Program Project List – TRIP West

Proj. #	Project Title	Improvement	Change
BP-8	Broadway	Pedestrian Improvements	Completed
I-5-1	E Street NB off-ramp	Restriping to add lane	Removed. Project is removed because it is not needed as it will be part of the light rail grade separation at E Street. Light Rail Grade Separation Project is included as part of 2021 Regional Plan (TL12).
I-5-2	E Street/Bay Blvd SB off-ramp	Restriping to add lane	Removed. Project is removed because implementation is infeasible; there is not sufficient right of way to accommodate restriping.
I-5-5	F Street	Bridge widening over I-5 (250' X 20')	Consolidated. Project is part of the I-5-17 project (I-5 mainline improvements) SANDAG Regional Plan Project CC001
I-5-6	H Street NB off-ramp	Restriping to add lane	Removed. Project is removed because it is not needed as it will be part of the light rail grade separation at H Street. Light Rail Grade Separation Project is included as part of 2021 Regional Plan (TL12).
I-5-7	H Street SB off-ramp	Restriping to add lane	Consolidated. Project is part of the I-5-17 project (I-5 mainline improvements)
I-5-8	H Street	Bridge widening over I-5 (200'X40')	Consolidated. Project is part of the I-5-17 project (I-5 mainline improvements)
I-5-9	J Street NB off-ramp	Restriping add lane	Removed. Project is completely part of the BFDIF and has been removed from the TRIP West
I-5-16	Main Street	Bridge widening (275lf X 20lf)	Removed. Since I-5 widening is not planned (see revisions to I-5-17), this improvement is not needed, and Caltrans is evaluating other options to provide pedestrian/bike improvements on the overcrossing.

Proj. #	Project Title	Improvement	Change
I-5-17	I-5 HOV & Managed Lanes	Managed lanes on I-5 from SR-54 to SR-905	Changed. Project that will modify the mainline I-5 through Chula Vista to provide managed/HOV lanes. The improvements will affect F and H Streets in Chula Vista and projects at these interchanges are included in this overall project. Project description has changed from freeway widening to adapting the lanes to provide managed/HOV lanes. No widening is proposed.
OR-2	Second Avenue	Install of All Way Stop Control ("AWSC")	Removed. Small work order project will use a different funding source, assuming control is warranted.
OR-4	City wide	Transportation Demand Management Center	Completed
RAS-2	Broadway	Restripe of roadway, new pavement marking, new bike sign	Completed
RAS-3	E Street	Sidewalk Improvement	Removed. Improvement deemed infeasible by City Engineering & Capital Projects staff given the costs and the relatively minor benefit provided.
RAS-4	E, F & H Streets	Environmental for Grade Separate LRT. Lower railroad tracks & maintain roadway profile.	Completed
RAS-5	E Street LRT grade separation	Preliminary Engineering/Environmental for underpass LRT Option	Completed
RAS-6	H Street LRT grade separation	Preliminary Engineering/Environmental for underpass LRT Option	Completed
RAS-9	H Street	Widening to 6-Ln	Removed. Improvement deemed infeasible by City Engineering & Capital Projects staff due to right-of-way constraints.
RAS-11	East H Street	North side improvements	Removed. The I-805 Corridor South improvements from Caltrans show that a new interchange will be reconstructed at East H Street with sidewalk on the north side at freeway. The neighborhood (County) to the north does not have sidewalk and is fenced off from East H Street. Future design will be via Caltrans direction.

Proj. #	Project Title	Improvement	Change
RAS-14	Telegraph Canyon Road	Southside sidewalk	Removed. Construction of a pedestrian facility on the south side of Telegraph Canyon Road is not feasible given the location of the wall. Although there are no current plans to improve the interchange, Caltrans will consider providing improvements for nonmotorized access in accordance with their policies should there be future improvements at this interchange
RAS-15	Orange Avenue	Curb, gutter, sidewalk. Maybe partially done. CDBG grant	Completed
RAS-16	Palomar Street	Curb gutter sidewalk, bike lanes.	Completed
RAS-18	H Street	Add WB-NB right turn lane & signal modification for 5th Ave	Removed. Engineering & Capital Projects intends to use a different funding source for this project.
RAS-19	H Street	Add WB-NB & EB-SB right turn lanes	Removed. Engineering & Capital Projects intends to use a different funding source for this project.
TF-358	WTDIF Fee Program	West Side Transportation Development Impact Fee (WTDIF)	Completed (Nexus Study updates)

Source: Chula Vista City Staff, Fehr & Peers, 2023

TRIP West Project List with Costs

Table 10 displays the project costs for the facilities included in TRIP West. Project summary "cut sheets" showing the location, description, and cost estimate for each project are provided in **Appendix C**.

Table 10: TRIP West Infrastructure Costs

Proj. #	Project Title/ Location	From	To	Improvement	Cost Estimate	Adjustments*	TRIP Amount
I-5-4	E Street Overcrossing	I-5 SB Ramps	I-5 NB Ramps	Bridge Widening	$14,745,182	58%	$8,574,323
I-5-10	J Street Undercrossing Widening	I-5 SB Ramps	I-5 NB Ramps	Undercrossing Widening	$1,344,300	58%	$781,710
I-5-11	L Street Bridge Overcrossing I-5	I-5 SB Ramps	I-5 NB Ramps	Bride Widening	$2,266,924	18%	$410,087
I-5-12	I-5/ Bay Blvd (South Of L Street) SB On/Off Ramps 11-SD-5-6.670 (Lt.)	I-5 SB Ramps	N/A	Traffic Signal Installation	$225,247	58%	$130,981
I-5-13	I-5/ Industrial Blvd NB On/Off Ramps 11-SD-5-6.658 (Rt.)	I-5 NB Ramps	N/A	Traffic Signal Installation	$225,247	58%	$130,981
I-5-14	Palomar Street Overcrossing I-5	I-5 SB Ramps	I-5 NB Ramps	Bridge Widening (Bike Lanes, Sidewalks and Travel Lanes)	$8,481,688	58%	$4,932,102
I-5-17	I-5 HOV & Managed Lanes	SR-905	SR-54	I-5 HOV & Managed Lanes	$160,917,790	2%	$3,829,843
I-805-2	I-805 & Main Street	I-805 SB Ramps	I-805 NB Ramps	Widening Undercrossing For EB-NB Left Turn Lane	$5,281,238	100%	$5,281,238
SR-54-2	SR-54 EB Off-Ramp	N. Fourth Avenue	N/A	Add ramp lane	$262,062	100%	$262,062
BP-1	Bayshore Bikeway	E Street	F Street	Bayshore Bikeway (Bike Path)	$3,810,000	18%	$689,229

Proj. #	Project Title/ Location	From	To	Improvement	Cost Estimate	Adjustments*	TRIP Amount
BP-2	F Street	Bay Boulevard	Third Avenue	F Street Promenade Phases 1-3, F Street Sidewalk & Bike Lane Improvements	$23,788,500	18%	$4,303,340
BP-3	Industrial Blvd	L Street	Main Street	Industrial Blvd Improvements & Bike Lanes	$810,776	18%	$146,669
BP-4	Main Street	Broadway	I-805	Main Street Bike Lanes	$1,620,128	18%	$293,081
BP-7	H Street	Broadway	Second Avenue	H Street Pedestrian Improvements	$170,901	18%	$30,916
BP-9	Bayshore Bikeway	F Street	H Street	Bayshore Bikeway (Bike Path)	$5,137,093	18%	$929,300
RAS-1	Bonita Road	First Avenue	I-805	Bonita Road Pedestrian Missing Street Improvements along South Side	$416,297	38%	$158,609
RAS-7	H Street	Broadway	N/A	EB Queue Jumper Lane & Traffic Signal Mods Additional WB Through Lane & Exclusive West-to-North Right Turn Lane.	$803,794	100%	$803,794
RAS-10	H Street	Second Avenue	Hilltop Drive	H Street Pedestrian Improvements	$602,758	38%	$229,651
RAS-13	L Street	South Side West of Industrial Boulevard	N/A	L Street Pedestrian Improvements	$68,615	38%	$26,142
RAS-17	Main Street	I-5	I-805	Main Street Pedestrian Improvements	$1,132,126	15%	$168,800
						Administrative Fee (2% of Infrastructure Costs)	$642,257
						TOTAL TRIP West Project Cost	**$32,775,116**

Notes: *Adjustments are made to projects to account for shared responsibility with the City (for existing deficiencies) or BFDIF (for shared facilities).
Source: Kimley Horn *Transportation Development Impact Fee (TDIF) Project Cost Estimates Technical Memorandum,* Chula Vista City Staff, Fehr & Peers, 2023

The adjustments shown in **Table 10** are described below (and are the same as presented in the 2014 Nexus Study):

Shared Roadways between the TRIP West and BFDIF

- Certain roadways are shared between the TRIP West and the BFDIF. These roadways are associated with improvements to the Interstate-5, certain RAS improvements (such as the grade separation projects), and the Bayshore Bikeway (bike path) parallel to Bay Boulevard. To fairly reflect the shared benefit of these facilities, it is appropriate to allocate project costs to both TRIP West and BFDIF. Projected new average daily traffic that will use the shared facilities were estimated and used to calculate the proportional cost to each fee program. Based on the 2014 Nexus Study, 74,593 projected new ADT in the BFDIF area and 103,649 projected new ADT in the TRIP West area, the WTDIF's share is calculated as follows:

$$\frac{\text{103,649 TRIP West Average Daily Trips}}{\text{74,593 BFDIF +103,649 TRIP West}} = \text{58\% TRIP West Proportion}$$

Existing Deficiencies Calculations

- As discussed above, to fairly reflect the shared benefit of these facilities, it is appropriate to allocate costs between the deficiency caused by existing users and new development. The nexus must identify projects that are needed to address an existing deficiency (i.e., upgrade facilities that operate at vehicle level of service D or worse) and to accommodate new growth. The following items are considered in the existing deficiency calculations:
    - The I-5 project costs should consider existing deficiencies and the cost share between TRIP West and BFDIF.
    - The RAS projects should consider existing deficiencies.
- The proportion of the project cost attributable to TRIP West is based on the growth in ADT in the I-5 corridor. These numbers are reported in the 2014 Nexus Study and used directly in this study. The following image is from the 2014 Nexus Study and is used to calculate the TRIP West responsibility for RAS-1, RAS-10, and RAS-13. As shown, the resulting responsibility is 38%.

Table A

I-5 Traffic Volume Growth Estimate

	Trips		Change
	2008 Report	**Buildout**	
Volumes (ADT)	546,850	883,500	336,650
Percent of Total			38%

Source: 2014 WTDIF Nexus Study, I-5 Area Average Daily Traffic Growth for traffic associated only with Chula Vista TRIP West and BFDIF benefit areas

- The I-5-17 project will improve the mainline of I-5 providing carpool/managed lanes for existing and future traffic. In addition, the project will benefit people outside of Chula Vista. Therefore, TRIP West is responsible only for the proportion of the project needed to serve new residents and employees in the western benefit area. The new growth is 38% and the split between TRIP West and BFDIF growth is 58%/42% respectively. In addition, there is accounting for the trips associated with people outside of Chula Vista. As a result, TRIP West is responsible for 2.38% of the I-5-17 project cost.

Non-Vehicular Improvements

The "BP" projects and I-5-11 are bicycle and pedestrian related projects that are not proportional to average daily traffic. These projects provide access for existing and future residents and employees of the TRIP WEST and BFDIF benefit areas and are shared responsibility between these programs based on existing population and future population. The existing population in the TRIP West benefit area is taken as 110,493 people (based on the 2008 and 2014 nexus studies). The 2014 nexus study documented the buildout population for the TRIP West benefit area is 135,733 (growth of 25,240 people). The following provides the responsibility assigned to the TRIP West for BP projects and I-5-11:

$$\frac{\text{25,240 TRIP West Population Growth}}{\text{135,733 TRIP West Buildout Population}} = \text{18.09\% TRIP West Proportion}$$

Fee Credits and Program Balance

Fee Credits

Fee credits are issued to developers if they opt into designing and constructing all or a portion of their obligation of public facilities required for their development. If they do so, they may receive credit for their costs of designing and constructing the facilities that can be used to pay the fees that would have paid for those facilities. The City may update the DIF calculation as the City deems appropriate prior to any agreement of fee credits.

City staff completed a thorough review of all fee credit trust accounts. As of July 14, 2023, there are four trust accounts/liabilities associated with fee credits/revenues for TRIP West facilities. **Table 11** provides a summary of the credits and liabilities associated with these accounts.

Table 11: TRIP West Fee Credit Summary

Fee Credits Summary	Value as of 7/14/2023
Eastern Facilities Fee Credits (Cost to Program)	$61,126.38
TRIP West Future Revenue (associated with deferral payments)	-$468,797.24
TOTAL TRIP West Fee Credit Liability	**-$371,806**

Source: Chula Vista Staff, 2023

The fee credit total is included in the numerator of the fee program calculation.

Program Balance

Chula Vista staff identified the current account balance as of July 14, 2023, as shown in Table **12**.

Table 12: WTDIF Account Balance

Account	Account Balance (as of 7/14/23)
WTDIF Account 590922	$3,436,232.23
TOTAL TRIP West Account Balance	**$3,436,232**

Source: Chula Vista staff, 2023

The program balance is included in the numerator of the fee program calculation.

Total Program Cost

Table 13 displays the total program cost for the TRIP West (Facility Cost minus account balance plus fee credit liabilities). This represents the numerator of the maximum fee calculation.

Table 13: TRIP West Program Cost Total

Program Element	Total Cost as of 7/14/2023
TOTAL TRIP West Project Costs	$32,775,116
TOTAL TRIP West Fee Credit Liability	-371,806
TOTAL TRIP West Account Balance	-$3,436,232
TRIP West Program Cost	**$28,947,078**

Source: Chula Vista Staff, 2023

Land Use Growth and Travel Demand Assumptions

Land use growth/new development creates the need for additional transportation facilities; therefore, it is necessary to estimate the amount of new development within the benefit area and the burden that new development places on the transportation network.

As described in the Methodology and Key Issues section, the remaining growth was calculated through review of the 2014 nexus study, determining land development constructed between 2016 (the SANDAG model base year) and 2022, and estimating growth through buildout. The basis of the TRIP program is VMT; therefore, the expected growth was presented in terms of new residents and employees based on standard conversions between people per household for residents and employees per square foot for various types of employment uses. The number of residents and number of employees in the benefit area are based on the following assumptions:

- Average people per household: 3.31 people based on the US Census Bureau Quick Facts for the City of Chula Vista as of June 1, 2023, data from 2017-2021.
- Square Feet Per Employee is based on standard values used by SANDAG for the Regional Travel Demand Model:
    - Retail: 450 square feet per employee based on the Neighborhood Shopping Center land use category
    - Industrial: 1,200 square feet per employee based on the Industrial Park land use category
    - Office: 300 square feet per employee based on the general office land use category
    - Hotel: 1 employee per room
    - Note: These standard values were applied to all retail, industrial, and office uses broadly as they represent an average square footage per employee across all of the more specific land use categories that would fit within these broad retail, industrial, and office categories.
- The SANDAG Regional Travel Demand Model[9] was used as the basis for understanding growth between the base year and the model buildout. Adjustments were made to the SANDAG growth estimates to reflect growth that has occurred between the base year (2016, which roughly equates

[9] SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459

to the 2014 Nexus Study growth basis) and to account for known projects or development trends in the TRIP West benefit area.

- Future VMT associated with the new growth is calculated based on the average VMT/resident and VMT/employee in the TRIP West benefit area using the SANDAG regional travel demand model using the model's future horizon year: 2050. The 2050 VMT/resident for the TRIP West Benefit area is 11.3 based on the SANDAG ABM2+ Model[10]. The VMT/employee for the TRIP West benefit area is 9.6 based on the SANDAG ABM2+ Model.

[10] SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459

Table 14 displays the future growth within the TRIP West benefit area.

Table 14: TRIP West Benefit area Future Land Development/Growth

Land Use[1]	Land Use Growth – SANDAG Model: 2016-2050 (Buildout)		Land Use Growth: 2016-2022[2]		Remaining Land Use Growth: 2022-Buildout		Adjustments	Notes for Adjustments	FINAL TRIP West Growth Assumptions: 2022-Buildout	
Single Family Units	385		62		323		-323	There is no additional land area for single family homes in the largely built out TRIP West benefit area.	0 units	
Multi-Family Units	4,579		444		4,135		none	No adjustments necessary.	4,135 units	
Mobile Home Units	22		0		22		-22	No new mobile home developments are expected.	0 units	
Hotel Rooms	321		0		321		+79	The additional rooms reflect an actual planned project at 707 F Street that would accommodate up to 400 rooms.	400 rooms	
Industrial	387 emp	464,400 sf	264 emp	317,021 sf	123 emp	147,600 sf	none	No adjustments necessary.	123 emp	147,600 sf
Retail	3,236 emp	1.46 mil sf	125 emp	56,357 sf	3,111 emp	1.4 mil sf	Replace with 501 employees	Replace with a growth of 501 employees total. This represents that actual historical trend for retail growth between 2016-2022 projected through 2050.	500 emp	225,428 sf
Office	3,476 emp	1.04 mil sf	424 emp	127,079 sf	3,052 emp	916,600 sf	none	No adjustments necessary.	3,052 emp	916,600 sf

Notes: sf = square feet, emp = employees

[1]The industrial, retail, and office land use categories are broad and intended to include all uses that fit these basic descriptions. The land use designations for each category are defined in the Chula Vista Transportation Study Guidelines, Appendix D.

[2]The development that occurred between 2016-2022 is from an Accela query of WTDIF payments between 2016-2022.

[3]The 2016-2022 retail growth per year equates to approximately 8,050 square feet per year or 18 employees.

Source: Fehr & Peer and Chula Vista City Staff, 2023; Final growth assumptions reviewed by Assistant City Manager and Development Service

Table 15 displays the total population and employees and resulting 2050 VMT associated with the land development/growth in the TRIP West benefit area.

Table 15: TRIP West Benefit area Future Population and VMT Growth

Land Use	Amount	Conversion to Persons	Residential Population	Employees	VMT/ Resident or VMT/Employee[1]	Total Daily VMT[2] Associated with New Residents or Employees
Single Family	0 units	3.31 res/unit	0	-	11.3	0
Multi Family	4,135 units	3.31 res/unit	13,687	-	11.3	154,116
Industrial	147,600 sf	1,200 sf/emp	-	123	9.6	1,178
Retail	225,428 sf	450 sf/emp	-	501	9.6	4,800
Office	916,600 sf	300 sf/emp	-	3,052	9.6	29,238
Hotel	400 rooms	1 emp/room	-	400	6.9	3,832
TOTAL	**-**	**-**	**13,687**	**4,076**	**-**	**193,164**

Notes: sf = square feet
[1]VMT/Resident and VMT/Employee based on the SANDAG Regional Travel Demand Model ABM2+/2021RP Scenario ID 459 for the TRIP West Benefit area. The values represent 2050 average daily VMT/Resident and VMT/Employee for the TRIP West benefit area.
[2]Total VMT refers to the daily tour-based VMT calculated by multiplying the VMT/resident and VMT/employee by the number of residents and employees respectively.
Source: Fehr & Peers, 2023

As displayed in **Table 15**, the TRIP West benefit area is projected to add an additional 13,687 residents and 4,076 employees from 2022 through buildout. Future residents and employees are anticipated to generate approximately 200,000 daily VMT.

Nexus Analysis and Maximum Fee Calculation

A "nexus" or relationship between new development in the City and transportation improvements and their costs must be established before incorporating transportation improvement costs into a transportation impact fee calculation. To determine the appropriate costs to include in the new transportation fee calculation, it is necessary to conduct a series of steps:

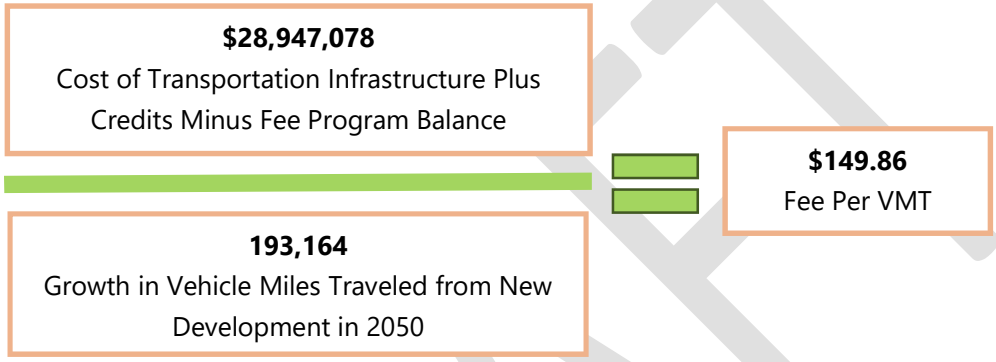
1. **Identify Total Costs of Transportation Improvements.** The total cost of transportation improvements is shown in **Table 10** as $32,775,116.
2. **Account for Known Funding and Fee Credits.** The balance remaining in the current Fee Program fund was subtracted from the gross cost estimates. Outstanding fee credits/revenues issued are added to the gross cost estimates. The summary is shown in **Table 13** as revenues of $371,806 and a 3.4 million account balance. These are subtracted from the total infrastructure costs.
3. **Remove Existing Deficiencies.** The transportation infrastructure in the TRIP West benefit area will benefit new growth, growth in the BFDIF benefit area, and the existing population. Therefore, the

total project costs are adjusted to reflect the fair share responsibility for growth in the TRIP West benefit area.

4. **Determine Proportional Allocation to New Development.** It is necessary to determine the process for allocating the remaining infrastructure costs to new development. For Chula Vista, the fee will be charged based on the amount of VMT generated (calculated using the developments projected number of residents and/or number of employees by the current SANDAG regional model base year average VMT/resident and VMT/employee for the TRIP West benefit area.

Maximum Fee Calculation

The maximum fee calculation is determined through the following equation:



Note: Detailed calculation spreadsheets for cost, growth and fee calculations are provided in **Appendix D**.

Applying the TRIP Fee

This section provides instructions for applying the fee to development projects and provides a summary of typical costs for average single-family homes and other common uses.

The TRIP is applied using a project's total VMT as calculated from VMT/resident of VMT/employee using the base year VMT values from the current version of the SANDAG Regional Travel Demand Model as reported on the City of Chula Vista Transportation Study Guidelines ("TSG") & SB 743 website[11] for the census tract that the project will be located in.

The total VMT for a development project is calculated by estimating the number of residents or number of employees associated with the land development project. The fee program uses standard definitions to determine the number of residents or employees based on units/type of unit and square footage, respectively. Deviations from the standards are not typical and must be approved by the Development Services Director.

Steps for Applying the TRIP Fee

Step 1: Determine Project Description/Land Use Quantities

To calculate the fee, the project description must include the following items:

[11] The website at the time of this study's publication is: https://www.chulavistaca.gov/departments/development-services/planning/transportation-study-guidelines-copy. The maps displaying VMT/resident and VMT/employee are provided as separate links on this webpage.

- Land Use Type Category for Each District Land Use: Single-Family, Multi-Family, Hotel, Industrial, Retail, or Office. To determine what category a detailed use belongs in, refer to the Chula Vista Transportation Study Guidelines Appendix D. For example, a gas station or restaurant would be categorized as Retail and a medical/dental office would be categorized as office (commercial employment)
- Land Use Quantities: The amount in square feet for each land use type must be identified. Note that residential units must also be identified by square feet per unit.
- Land Use Location: The census tract that the project is located in must be identified.

Step 2: Determine Number of Residents and Employees

Number of Residents

As of July 2022, per Assembly Bill 602, newly adopted impact fees levied on residential development must be calculated such that they are proportional to the square footage of the new units. This is a departure from the more common approach, where the fee is levied per residential unit, often differentiated by building type (e.g., single-family, multifamily/apartment, etc.). The average number of people for residential unit will be determined based on the size of residential unit square footage.

The City of San Diego conducted a statistical analysis to determine the standard number of people that reside in various sized units in the San Diego County region. The analysis provides an average number of people per unit based on unit size for the entire region, including all of the incorporated cities and the unincorporated county. The study is provided as a reference in **Appendix E** and is on the City of San Diego website: City of San Diego DIF Program - Residential Scaling Methodology.

The following provides a summary of the City of San Diego's research:

- The study finds that larger residential units have more people. Single family uses tend to be larger and have more people than multi-family (or senior designated) uses.
- The study uses the American Community Survey 2016 (5 Year Estimate) to understand Average Household Size and Average Number of Bedroom data, for each census block group. This data was used to establish a link between Average Household Size (i.e., people per household) and the average number of bedrooms per household. Using the Statistical Packages of the Social Sciences (SPSS) software, a regression analysis was performed for the entire San Diego Region (1,187,644 points of data) to determine the statistical relationship between overall household size and the total number of bedrooms within the household. The regression analysis revealed the following equation:

  Average People Per Household = 1.483+0.44*(Number of Bedrooms)

- The study then determined a relationship between the number of bedrooms and unit size in square feet. SANGIS parcel data, throughout the entire San Diego Region, was utilized to determine this relationship between residential unit size and number of bedrooms. The SANGIS parcel data includes information such as land use type, total livable square feet (excluding uses such as

garages), number of bedrooms, and year built. This data was utilized to determine the average unit size (SF) based on the total number of bedrooms for both single family and multifamily units. The analysis revealed the following equations equating livable[12] unit size to number of residents per unit:

Single Family: Projected Household Population in the San Diego region =
(Livable Unit Size (SF) + 1579.6) / 1200.7

Multifamily: Projected Household Population in the San Diego region =
(Livable Unit Size (SF) + 838.95) / 808.85

Since the analysis covers the San Diego region, an additional step was taken to determine how the average number of people per household in Chula Vista compares to the region. US Census Data Quickfacts[13] (2017-2021) was used to compare the average number of people per household in Chula Vista and the San Diego Region:

- County of San Diego Average People Per Household: 2.81 people
- City of Chula Vista Average People Per Household: 3.31 people
- Chula Vista People Per Household is 18% higher than the county average.

Since the City of Chula Vista's average people per household is 18% higher than the San Deigo region, an 18% factor is applied to the equations identified in the City of San Diego research:

Single Family: Projected Household Population in Chula Vista =
1.18*(Livable Unit Size (SF) + 1579.6) / 1200.7

Multifamily: Projected Household Population in Chula Vista =
1.18*(Livable Unit Size (SF) + 838.95) / 808.85

To determine the number of residents for fee calculation purposes, apply the above equations using livable unit size in square feet.

Number of Employees

Square Feet Per Employee is based on standard values used by SANDAG for the Regional Travel Demand Model:

- Retail: 450 square feet per employee based on the Neighborhood Shopping Center land use category
- Industrial: 1,200 square feet per employee based on the Industrial Park land use category

[12] Livable unit size includes the space in the residential unit for living. It excludes the garage or other external storage areas. Note that closet space inside the unit **is** included in the livable unit size.
[13] U.S. Census Bureau QuickFacts: United States

- Office: 300 square feet per employee based on the general office land use category
- Hotel: 1 employee per room

To determine the number of employees for the fee calculation purposes, apply the above relationships to the land development project uses/quantities in Step 1.

Step 3: Determine the Total VMT

The VMT/resident and VMT/capita that shall be applied to the number of residents and number of employees identified in Step 2. The project's total VMT is calculated from VMT/resident of VMT/employee using the base year VMT values from the current version of the SANDAG Regional Travel Demand Model as reported on the City of Chula Vista Transportation Study Guidelines ("TSG") & SB 743 website[14] for the census tract that the project will be located in.

Step 4: Apply the TRIP Fee

The TRIP East or TRIP West fee per VMT is applied to the resulting total VMT from Step 3.

Example Calculation

The following provides a **sample, hypothetical calculation**:

Step 1 Project Description

- 50 multifamily units: 20 are 750 square feet, 20 are 1,000 square feet, and 10 are 1,200 square feet
- 1,500 square foot coffee shop
- Location is in the TRIP West benefit area, census tract 12,900

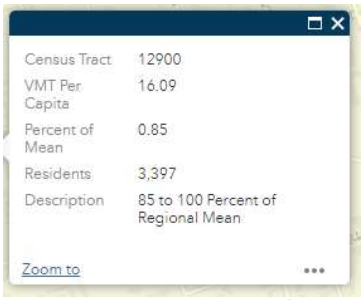
Step 2 Determine Number of Residents and Employees

- Residents
  - 20 units*1.18*(750 + 838.95) / 808.85 = 46.4 residents
  - 20 units*1.18*(1000 + 838.95) / 808.85 = 53.7 residents
  - 10 units*1.18*(1200 + 838.95) / 808.85 = 29.7 residents
  - TOTAL = 129.8 residents
- Employees
  - 1,500 square feet/450 square feet per employee = 3.3

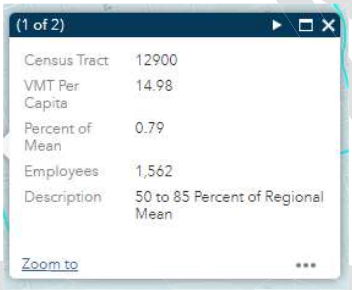
[14] The website at the time of this study's publication is: https://www.chulavistaca.gov/departments/development-services/planning/transportation-study-guidelines-copy. The maps displaying VMT/resident and VMT/employee are provided as separate links on this webpage.

Step 3: Determine the Total VMT

- VMT/resident for census tract 12900: 16.09*129.8 residents = 2,087.9 VMT



- VMT/employee for census tract 12900: 14.98*3 employees = 49.9 VMT



- TOTAL: 2,137.8 VMT

Step 4: Apply the TRIP Fee

- TRIP West: $149.86 Per VMT
- Fee Calculation: $149.86*2,137.8 VMT = $320,371.46

Program Administration

This section provides the administration of the DIF program including how and when the program should be expanded or updated, annual cost increases and program reporting.

Annual Cost Increases

Consistent with the City's fee deferral program, TRIP fees will be due at building permit issuance or deferred until final inspection of each building permit, if requested. The amount of the fee is adjusted each October 1st, based on the indices specified in Section 3.54 of the Chula Vista Municipal Code.

Fees may also be adjusted based on updated information regarding land use or the type, size, location, or cost of proposed facilities pursuant to City ordinances and policies.

Program Updates

The TRIP should be updated regularly as follows if one or more the following occur:

- Every eight (8) years per AB 602
- If there are changes/updates to the Mitigation Fee Act
- If policies/assumptions in the Nexus Study change due to a General Plan Update or other citywide planning effort.
- If impact criteria or infrastructure needs change.
- If the construction costs assumed in the Nexus Study no longer reflect the actual cost to construct and the annual indexed rates to reflect actual cost conditions.

Major updates to TRIP are required to follow the City's planning/approval process, including City Council adoption.

Program Reporting

Section 65940.1 of the Government Code requires that the City maintain the following items (and post on their website):

- A current schedule of fees, exactions, and affordability requirements imposed by the TRIP.
- All zoning ordinances and development standards adopted by the City showing the information, which shall specify the zoning, design, and development standards that apply to each parcel.
- A list that specifies the information that will be required from any applicant for a development project.
- The current and five previous annual fee reports or the current and five previous annual financial reports, fee nexus studies, cost of service studies, or equivalent, conducted by that City, on or after January 1, 2018.