# 2022 Traffic Impact Mitigation Fee Update

September 2022

PREPARED FOR:

SAN JOAQUIN COUNTY

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# 2022 Traffic Impact Mitigation Fee Update

## San Joaquin County, California

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# Section 1 Introduction and Results

# INTRODUCTION AND RESULTS

This report provides the requisite technical documentation and nexus analysis to support the adoption of the San Joaquin County Traffic Impact Mitigation Fee (TIMF) update. The TIMF has been updated with input and guidance from the County of San Joaquin and is based on the most recent growth projections and infrastructure requirements available at the time of its development. The TIMF update is consistent with the most recent relevant case law and principles of AB1600 or Government Code Section 66000 et seq. (Mitigation Fee Act). Except where specific citations are provided, this statute will be referred to in this report as AB1600.

## PROPOSED TIMF PROGRAM UPDATE PURPOSE

This TIMF update provides funding for transportation improvements required to serve new development within the unincorporated areas of San Joaquin County while ensuring that the County's adopted level of service standards are maintained. While the TIMF program is structured to fully recover the unincorporated areas' share of these costs through the planning horizon, the fee cannot fund existing developments or incorporated areas' share of the costs. It is expected that the County's TIMF funding program will be augmented by other revenue sources to meet overall funding requirements, particularly Measure K funding and state and federal grants.

The information contained in this report should be periodically reviewed by the County to ensure its continued accuracy and to enable adequate programming and funding resource availability. To the extent that improvement requirements, costs, or development potential changes over time, the TIMF program will need to be updated periodically.

The following provides background information on the existing TIMF program and describes the key factors which triggered the need for this update.

### Background

Originally adopted in February 1990 by the San Joaquin County Board of Supervisors (Resolution R-90-304), the San Joaquin County Traffic Impact Mitigation Fee (TIMF) Program was developed to help finance transportation improvements needed to accommodate new and expanding development - including residential, commercial, and industrial projects - within the unincorporated areas of San Joaquin County. Since its inception, the County has revised the Program as necessary for clarification, conformance to the County's General Plan, and to better serve the unincorporated communities. The 2008 update consolidated the number of Fee Benefit Zones from twelve to four larger zones to promote equity and facilitate implementation. The four zones comprised of the County's 12 Planning Areas. The 2015 update retained the four Fee Benefit Zone structure but averaged the fees into two zone pairs to geographically "smooth" out fee inequities between zones.

Although an unincorporated area, the community of Mountain House has its own mutually exclusive fee collection program and process. TIMF fees have been collected within Mountain House since 2000 but for only the regional fee account (i.e., share of fees for trips originating from Mountain House that contribute to unincorporated roadway deficiencies outside of Mountain House). The TIMF program has not updated the Mountain House fee since 2000. With the first Mountain House specific plan (Specific Plan I) now substantially built out, this TIMF update re-integrates the Mountain House zone into the TIMF program while continuing the approach of only applying the TIMF for the zone's fair share of impacts on unincorporated roadways outside the zone.

Similarly, the 2008 TIMF update modified the program so that TIMF-funded projects are mutually exclusive of the San Joaquin Council of Government's (SJCOG) Regional Transportation Impact Fee (RTIF) program. This TIMF update continues to support exclusivity with the RTIF.

The County's TIMF fees are collected at the time of building permit issuance and are collected by means of four established TIMF Fee Benefit Zones. The four TIMF Fee Benefit Zones within the unincorporated area of San Joaquin County are shown in **Figure 1**. Each of these zones is unique in terms of the degree of urban development and regional access. For this reason, fees vary by Fee Benefit Zone. Mountain House is a separate fifth zone in the unincorporated area given that it has its own development impact fee for transportation improvements but contributes to the regional TIMF fee account, as explained above.

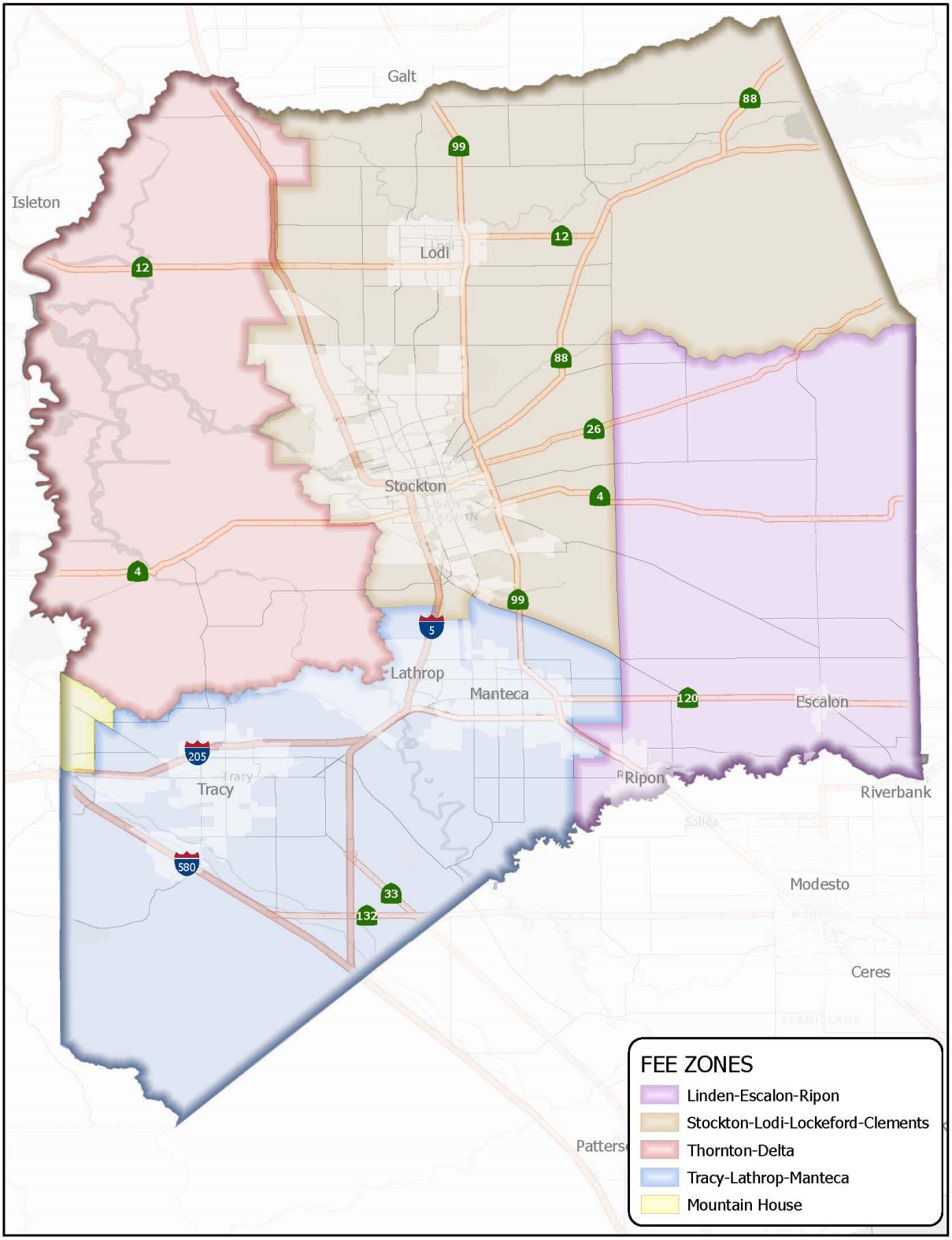
When fees are collected, they are allocated into the following seven fee accounts:

- Local (one for each of the four zones);
- Regional;
- Alternative Modes; and,
- Administration.

The local component of the fee collected for each zone is spent on projects and programs located within the zone in which the fee is collected. For example, local fees collected in the Lockeford-Lodi-Stockton Fee Benefit Zone only fund improvements in that zone and do not pay for improvements in any other zone. The regional component of the fee collected in each zone is pooled in a single account and spent on any TIMF project that benefit zones outside the zone in which the fee is collected. This fee component represents the share of costs associated with trips between zones. The alternative mode component of the fee is derived by adding a share equal to ten percent of the total fee to fund transit, pedestrian, and bicycle improvements. Finally, a share equal to five percent of the total fee is included to pay for administering the program.

TIMF fees have been based on the estimated costs of infrastructure to support new development within the unincorporated portions of each respective Fee Benefit Zone.

**FIGURE 1. SAN JOAQUIN COUNTY FEE BENEFIT ZONES**



## Purpose for Updating the TIMF

The following are key factors establishing the need for this TIMF update:

- Ensure consistency with the San Joaquin County General Plan

  Adoption of the County's General Plan and Environmental Impact Report (December 2016) coincided with the adoption of the 2015 TIMF update. To accurately account for growth that has occurred since 2015 and reflect anticipated growth within the unincorporated areas of San Joaquin County, a full update to the existing TIMF program was desired.

- Ensure consistency with the SJCOG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) including:

  - Adoption of the 2042 growth projections by SJCOG and its member agencies.

    The existing County TIMF is based on 2035 growth projections within both the incorporated areas and unincorporated areas of the county. As previously described, future growth within the unincorporated areas of the County will be based on the County's proposed General Plan. To better reflect future growth within the incorporated areas, a full update to the existing TIMF program using the most recently adopted socio-economic growth projections from SJCOG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was desired.

  - Development of the traffic forecast model by SJCOG.

    The existing County TIMF is based on 2035 traffic growth projections using an older version of the SJCOG travel demand model. Since the 2015 TIMF update, SJCOG has twice updated its regional travel demand model (called the 3-County MIP and VMIP2 model updates). Most recently, the model baseline was updated by SJCOG in preparation for development of the 2022 RTP/SCS. To better reflect future traffic growth and infrastructure improvement needs, a full update to the existing TIMF program based on the most recent SJCOG travel demand model and 2042 planning horizon was desired.

- Ensure consistency with jurisdictional boundaries. Since adoption of the previous 2015 TIMF, several annexations have occurred. Reasons to update the TIMF to reflect these annexations include:

  - Annexations modify the boundaries of the existing Fee Benefit Zones and County Planning Areas.

  - Annexations result in jurisdictional changes from previously TIMF fee applicable unincorporated areas to not-applicable incorporated areas. They also result jurisdictional changes to portions of the roadway network serving annexed areas.

- Ensure the continued mutual exclusivity with SJCOG's RTIF program (adopted in 2017 with Addendums in 2018 and 2020).

  The RTIF is a fee program administered by SJCOG that applies to regionally designated roadways (state highways and principal arterials) within San Joaquin County. The RTIF is a development fee collected by all cities and the County. Regional designated facilities are addressed separately as part of this program. This TIMF update continues to ensure no overlap between the two programs. Projects may be funded by one of the programs but not both, to ensure that development is not double billed for the same improvement.

- Ensure that the TIMF reflects the most recent AB1600 legislative changes, relevant case law and principles codified in Government Code Section 66000 et seq ("Mitigation Fee Act").

  - Per AB 602 (effective July 1, 2022), fees established for residential uses shall be expressed as a fee per square foot of residential use rather than a per unit basis as has been applied in the past. Also, greater public noticing requirements for updating or adopting new fees also take effect. This update satisfies both these new requirements.

- As the TIMF Program has matured, the County's experience administrating the program has increased. Strategies to streamline the implementation, administration, and effectiveness of the County's TIMF have been identified. For example, the 2015 TIMF update examined: methods for greater public transparency; methods to better address agricultural facilities; and methods to address land uses that generate significant STAA-sized truck trips. Similarly, this update examined/performed the following methodological approaches:

  - Given that shelter-in-place mandates, work-from-home policies, building capacity restrictions, and other COVID-related changes have influenced individual travel behavior, a traffic count factoring process was developed and applied to resolve any potential non-representative traffic count data collected during the latter phase of the COVID-19 Pandemic (May 2021) for this TIMF update.

  - Based on approved permit applications submitted between 2015 and 2021, warehousing and distribution center development had already exceeded what was originally assumed in the County's General Plan. To reflect this non-residential development trend, a bi-proportional land use adjustment process was applied to the 2042 travel model land use to increase future employment in warehousing relative to

retail/commercial while maintaining total employment control totals of the General Plan.

- Given the recent adoption of the County's Bicycle Master Plan Update, a reexamination of the TIMF alternative mode share was warranted. Past methods of estimating alternative mode share were based on Census journey-to-work mode share percentages. An alternative method that reflects all trip types was applied using the SJCOG travel demand model forecasts. The percentage growth in total person trips as estimated by the travel model was considered a more representative and defensible approach to establish a fair share estimate for alternative modes. Applying this approach effectively increased the TIMF non-motorized fair share from its historical 5 percent share to 10 percent.

- Since the passage of SB 743 (effective statewide July 1, 2020) replaced level of service (LOS) with Vehicle Miles Traveled (VMT) as the metric for identifying environmental impacts under the California Environmental Quality Act (CEQA), interest to incorporate VMT into AB1600 transportation fee programs has grown. An approach that applies an average trip length with vehicle trip generation to calculate VMT for "Equivalent Dwelling Unit" (DUE) Factors was developed and applied as part of this TIMF update. This allows the TIMF DUE Factors to reflect the demand in both trips and VMT placed on the County's roadway system for each land use type.

Based on the developments described above, the County has developed this comprehensive update to its TIMF program. This update satisfies the requisite AB1600 nexus requirements or fee programs in the State of California while adequately addressing the key factors described above.

## SUMMARY NEXUS ANALYSIS

To satisfy the AB1600 requirements governing the imposition of developer fees, a reasonable nexus must be established between the proposed fees and the cost of facilities. The approach taken to establish such a nexus for this TIMF update entailed the following analysis steps:

1) Develop a comprehensive traffic count inventory to establish baseline traffic conditions and identify existing roadway deficiencies within the unincorporated areas;
2) Develop a 2042 travel model forecast using a hybrid of the 2018 RTP/SCS and the County's General Plan Update land uses to establish future traffic conditions and identify future roadway deficiencies within the unincorporated areas;
3) Identify needed improvements to remedy existing and future roadway deficiencies and estimate the costs of these improvements;
4) Modify the estimated improvement costs to:
    a. reflect the latest transportation infrastructure construction costs

   b. proportion future developments fair share contributions for future deficiencies only, excluding existing deficiencies; and,
   c. exclude costs associated with deficient roadway segments located within the Mountain House Planning Area;
5) For each improved roadway segment, identify the share of new vehicle trip growth generated by unincorporated, incorporated, and out of county development based on the origin and destination of trips using the segment;
6) Identify new development's share of costs by applying the unincorporated percentage to the share of improvement costs associated with future deficiencies;
7) Allocate new development's share of each improvement to each Fee Benefit Zone based on (a) the location of the improvement if located in more than one zone, and (b) the relative benefit to each zone based on the origin and destination of trips using the improved segment.
8) Estimate a fee per dwelling unit equivalent (DUE) by zone based on the share of costs by zone divided by the unincorporated growth in DUEs by zone; and,
9) Convert the fee per DUE by zone to fee per square foot for residential uses and fee per square foot of non-residential floor space.

For trips with at least one trip end within the unincorporated county, a reasonable relationship is established between the TIMF fees collected and the impacts expected from development occurring specifically within the unincorporated areas of San Joaquin County. This analysis excludes one-half of trips whose origin or destination are from incorporated areas or areas outside San Joaquin County (I-X or X-I trips) and completely excludes trips which do not have an origin or destination within the county (X-X).

## SUMMARY OF PROPOSED FEES

The TIMF update identified 38 unincorporated roadway segment deficiency needs spanning 23 roadways totaling approximately $257 million in needed capital improvement projects through the 2042 planning horizon. Of those costs, nearly $49 million are eligible to be funded by the TIMF, leaving approximately $208 million to be funded by other revenue sources. Costs associated with deficient roadway segments located within Mountain House Planning Area are excluded from these estimates.

A summary of the proposed fees to pay for the approximately $49 million fair share of capital improvement costs are summarized in **Table 1**. These fees were calculated to generate sufficient revenue to cover the fair share of total capacity improvement costs needed to accommodate new development within the unincorporated areas of the County. The Mountain House Fee Benefit Zone fees are relatively lower given that Mountain House has a separate fee for improvements and only contributes to the TIMF program for impacts outside its' zone.

In general, the proposed fees are in line with the existing TIMF fees for most land use categories – although there are exceptions. Explanations for the differences include: (a) application of VMT in the

Dwelling Unit Equivalent (DUE) calculation which served to reallocate the fee burden from retail/commercial to other land uses given the shorter average trip lengths associated with retail trips; and, (b) upward pressure on fees from increases in construction costs. Consequently, this resulted in the updated fees being relatively stable but noticeably different in certain land use categories and certain zones relative to the current adopted fee schedule. Lastly, residential fees are expressed both as a per unit fee and per square foot. The fee per unit is documented herein to provide a comparison with current and prior residential fees. However, pursuant to AB 602, implementation of the TIMF will apply the fee per square foot to residential uses moving forward.

**TABLE 1. SUMMARY OF PROPOSED FEES**

| | | TIM Fee Benefit Zone | | | | |
|---|---|---|---|---|---|---|
| | DUE | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House |
| Cost per DUE | | $ 2,393 | $ 1,597 | $ 1,597 | $ 2,393 | $ 59 |
| ***Residential (per Dwelling Unit)*** | | | | | | |
| Single Family | 1.00 | $ 2,393 | $ 1,597 | $ 1,597 | $ 2,393 | $ 59 |
| Multi Family | 0.58 | $ 1,378 | $ 919 | $ 919 | $ 1,378 | $ 34 |
| ***Residential (per Square Foot)***[1] | | | | | | |
| Single Family | | $ 1.29 | $ 0.86 | $ 0.86 | $ 1.29 | $ 0.03 |
| Multi Family | | $ 1.49 | $ 0.99 | $ 0.99 | $ 1.49 | $ 0.04 |
| ***Non-Residential (per Thousand Square Feet)*** | | | | | | |
| Retail | 0.88 | $ 2,114 | $ 1,411 | $ 1,411 | $ 2,114 | $ 52 |
| Service Commercial | 0.76 | $ 1,821 | $ 1,215 | $ 1,215 | $ 1,821 | $ 45 |
| Office | 0.90 | $ 2,146 | $ 1,432 | $ 1,432 | $ 2,146 | $ 53 |
| Manufacturing | 0.57 | $ 1,357 | $ 906 | $ 906 | $ 1,357 | $ 33 |
| Warehouse | 0.14 | $ 330 | $ 220 | $ 220 | $ 330 | $ 8 |

[1] Assumes average sized single-family unit is 1,857 square feet and average multi-family unit is 925 square feet, based on 2019 American Housing Survey data. Sources: 2019 American Housing Survey; Tables 6 and 15.

# IMPLEMENTATION AND LEGAL CONSIDERATIONS

## AB1600 Requirements

AB1600 stipulates that local agencies requiring payments of a fee make the following specific program information available to the public annually within 180 days of the last day of the fiscal year:

- A description of the type of fee in the account;
- The amount of the fee;
- The beginning and ending balance of the fund;
- The amount of fees collected and interested earned;
- Identification of the improvements constructed;
- The fees expended to construct the improvement; and,
- The percent of total costs funded by the fee.

If sufficient fees have been collected to fund the construction of an improvement, the agency must specify the approximate date for construction of that improvement. This information is provided by the County in its annual fee report and is not part of this TIMF update report.

Every eight years following adoption of the fee program, for any unexpended or uncommitted fund balance the local agency shall make the following findings: 1) identify the purpose to which the fee is to be put; 2) demonstrate a reasonable relationship between the fee and the purpose for which it was charged; 3) identify all sources and amounts of funding anticipated to complete financing of incomplete improvements; and, 4) designate the approximate dates on which the funding identified in (3) is expected to be deposited into the appropriate fund. This TIMF update report provides the information needed for the County to make these findings.

## RTIF and Proposed TIMF Coordination

Of the 38 future deficiencies identified by this TIMF update, none are currently part of SJCOG's RTIF fee structure. However, several are part of the RTIF network and are potentially eligible for RTIF fees. Given that improvements to these deficiencies are not reflected in the RTIF capital improvement cost estimate (San Joaquin Regional Transportation Impact Fee 2017 Update, Final Report, August 2017 – Addendums 2018 and 2020), no fee redundancy exists with the current RTIF fee by including them in the TIMF.

As part of future RTIF updates, these facilities could be considered for RTIF funding. As regional needs and priorities are annually reassessed by SJCOG and its member agencies, it is possible that a County TIMF segment may be considered for future inclusion in the RTIF project list. It is recommended that following any action by the SJCOG board to amend the RTIF capital improvement project list to include an unincorporated segment of roadway already listed in the County's TIMF project list, a resolution to execute a memorandum of understanding (MOU) be made between the County, SJCOG, and possibly other affected jurisdictions to define what improvements will be funded by each

respective program (RTIF & TIMF). This will ensure that both fee programs remain mutually exclusive in the event a given roadway segment is included in both the TIMF and RTIF project lists.

In addition, any RTIF/TIMF MOU should be supported by a nexus report per Government Code 66000. The nexus report should describe the differences in technical approach, assumptions, and proportionate fair share responsibility results between the TIMF and RTIF nexus analyses. It should also include either a new nexus analysis that supersedes the existing fair share assessments or recommend which of the two existing analyses is most applicable.

## Alternative Funding

As stated previously, the proposed TIMF revenue estimate of $49 million is itself not sufficient to fund the full amount of the TIMF capital projects estimated at approximately $257 million. To facilitate implementation of the TIMF program, the County will have to obtain funding from other sources (e.g., Measure K, SB-1, and other state and federal funding programs/grants) and pay for improvements not covered by impact fee revenue. The funding need is about 34 percent of the funding estimated through 2042 in SJCOG's current Regional Transportation Improvement Program (RTIP) for unincorporated roadway capacity improvement projects, though the County will need to seek this funding in competition with non-TIMF improvement projects.

The existing unspent TIMF fees collected by the County will be carried over to fund improvements identified under this proposed TIMF update. Fourteen of the 23 projects funded through the updated TIMF program are on the existing TIMF project list. Therefore, a reasonable relationship continues to exist between the use of these fund balances and their application to the updated TIMF project list.

# STAKEHOLDER INVOLVEMENT

Stakeholder involvement for this TIMF update was performed in coordination with the County. This included key stakeholders such as the Building Industry Association (BIA), the Farm Bureau, and other organizations with economic interests in the county (Chambers of Commerce). The County developed, maintained, and expanded its broad stakeholder database throughout the duration of the update. The following entities were notified of the update and invited to participate as stakeholders.

- San Joaquin County Farm Bureau
- BIA Greater Valley
- San Joaquin County Business Council
- San Joaquin Partnership
- California Partnership for the San Joaquin Valley
- San Joaquin County Work-Net
- Housing Authority of San Joaquin
- Greater Stockton Chamber of Commerce
- Manteca Chamber of Commerce

- Lodi Chamber of Commerce
- Tracy Chamber of Commerce
- San Joaquin County Hispanic Chamber of Commerce
- Central Valley Asian American Chamber of Commerce
- Stockton Convention and Visitors Bureau
- African American Chamber of Commerce of SJC
- San Joaquin County Wine Association
- Central Valley Association of Realtors
- San Joaquin Valley Regional Policy Council
- California Coalition for Rural Housing
- Visionary Homebuilders of CA
- Builders Exchange of Stockton
- Golden State Builders Exchange
- National Association of Woman in Construction/Sacramento
- Council of Infill Builders
- Lodi Wine Grape Commission

Two virtual stakeholder workshops were performed during the update process, the first in September 2021 and the second in August 2022. The purpose of these workshops was to:

- Inform the stakeholders of the update and planning process and how to stay involved;
- Convey issues of concern;
- Educate stakeholders of any new legal requirements of AB 1600;
- Establish a clear mechanism for calculating fees compliant with State law; and,
- Present the draft preliminary fee schedule and receive input.

The 2022 TIMF update Participation Plan is provided in **Appendix 1**.

Pursuant to Assembly Bill 602, public noticing of traffic impact fee program adoptions in California was extended from 14 days prior to adoption to a 30-day public notice.

# Section 2 TIMF Growth Projections

# TIMF GROWTH PROJECTIONS

This section describes the information sources and analysis approach used to establish the amount of residential and non-residential land use development anticipated to occur in the unincorporated areas of San Joaquin County through the year 2042. These estimates are used for the following purposes in the fee calculation:

- Estimates of existing and future development are used to evaluate future traffic levels and determine the need for transportation improvements within the unincorporated areas of the county; and,
- Estimates of future development are used to allocate the costs of required transportation improvements and ultimately to calculate a fee per unit of new growth.

The following sections describe the development projections and key assumptions.

## TIMF PLANNING HORIZON

To properly differentiate between existing versus new development, as well as existing versus future roadway deficiencies, a new baseline analysis year was established for this TIMF update. This required the existing SJCOG baseline land use data to be updated to reflect conditions within the unincorporated areas of the County as of 2021.

To establish a future year horizon, a jurisdiction's General Plan and the related environmental impact analysis typically provide the data for an impact fee nexus study. The San Joaquin County General Plan and SJCOG's adopted 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) are both based on a 20-year forecast horizon. Consistency with these documents is desired given that both specify priority regional transportation projects as well as household and employment projections for the unincorporated and incorporated areas of the San Joaquin County respectively.

Based on this, a planning horizon of 2042 was chosen for the TIMF update. A 2042 planning horizon is considered long enough to plan for long-term infrastructure needs, yet short enough to represent reasonably anticipated growth based on current land use policy. It also puts the county in line with typical debt financing plans of 20 to 30 years. A 2042 horizon year also makes this TIMF update consistent with the RTIF and the RTP/SCS's capital programs and associated growth projections.

## TIMF LAND USE ASSUMPTIONS

County-wide household and employment projections were derived using a hybrid approach. Growth projections for the unincorporated areas of San Joaquin County were based on the County's General Plan update. For the incorporated cities, the 2042 regional growth forecasts for households and employment were based on SJCOG's 2018 RTP/SCS. This approach was taken to ensure that growth assumptions within the unincorporated areas remained consistent with the County's General Plan

update while growth in the incorporated areas remained consistent with the adopted regional growth forecasts. Household growth projections were used to estimate future residential development, while employment growth projections were used to estimate future retail and commercial/industrial development.

## Land Use Categories

The TIMF currently charges fees for the following land use categories (units in parentheses):

- Single Family (Dwelling Unit)
- Multi-Family (Dwelling Unit)
- Office (One Thousand Square Feet)
- Retail Service (One Thousand Square Feet)
- Warehouse (One Thousand Square Feet)
- Service Commercial (One Thousand Square Feet)
- Manufacturing (One Thousand Square Feet)

A typical strategy to streamline the administration of a fee program is to combine land use categories. Conversely, if a particular land use type is not adequately captured by the fee structure the roadway impacts it causes will ultimately be subsidized by others. Consideration for adding categories may be appropriate when a particular land use type that once was insignificant emerges to play a more prevalent role in a region's economy. In these cases, the existing fee structure may not reflect the emerging use, allowing insufficient fees to be collected to address the impacts.

Upon review of San Joaquin County's TIMF land use categories relative to other fee programs in the region, it was confirmed that the current fee categories continue to adequately differentiate between the impacts of different development project types. Note, agriculture facilities are addressed by the San Joaquin County TIMF Operating Agreement which includes an Agriculture Facility Exemption Definition. In the event an agricultural facility is determined to be non-exempt (and therefore subject to the TIMF), the Warehouse category is applied.

Other atypical land use types examined included mining (i.e., extraction industries) and recreational facilities. These land uses are considered atypical given that their trip generation characteristics occur outside the typical AM/PM peak hours and/or on weekends. For these atypical land uses, the County includes a fee per daily trip option to address these types of circumstances. Since 2008, the fee per daily trip option has been frequently used to resolve such issues. Given this, it was determined that adding land use categories for mining and recreational uses was not considered necessary.

The current TIMF appeal process will continue to allow for special consideration of the impacts of unique projects that do not fit well under the standard categories. It will also continue to include an updated fee per daily trip alternative that can be used in lieu of the traditional land use specific fee.

# TIMF BASELINE LAND USE

The operative baseline land use data available during this TIMF update was the 2015 base year travel demand model land use data resident in SJCOG's VMIP2 travel demand model. To ensure that the TIMF update isolates only the traffic impacts associated with new unincorporated area development, the 2015 baseline data was updated to reflect 2021 conditions. A socio-economic data file was developed by "growing" the 2015 model base year land use file with County building permit data issued between 2015 and January 1, 2021. Given that only the County's permit data was processed, the baseline land use assumptions for the incorporated areas remained as defined in SJCOG's 2015 forecast land use file.

## Annexations

Updating the baseline land use was also driven by annexations since the last TIMF update. Land uses associated with annexations were reassigned from the County to a given incorporated jurisdiction. These annexations include:

- Roth Road: A portion between I-5 and McKinley Avenue was annexed by the City of Lathrop.
- Eight Mile Road: There are portions between Thornton Road and Lower Sacramento Road that have been annexed by the City of Stockton.
- French Camp Road: A portion currently in the Manteca planning area has been annexed by the City of Stockton.
- Near Yosemite Avenue and Chiavari Way: A portion near Union Pacific has been annexed by City of Lathrop.
- Near Rindge Road: A portion of this area is now within City of Stockton's City limits.
- Rio Blanco: The portion near this area near the Stockton City Limits was annexed.

Only the Roth Road annexation required slight adjustment to the Fee Benefit Zone boundary. The other annexations entailed relatively small areas of land.

## Warehousing Growth Reallocation

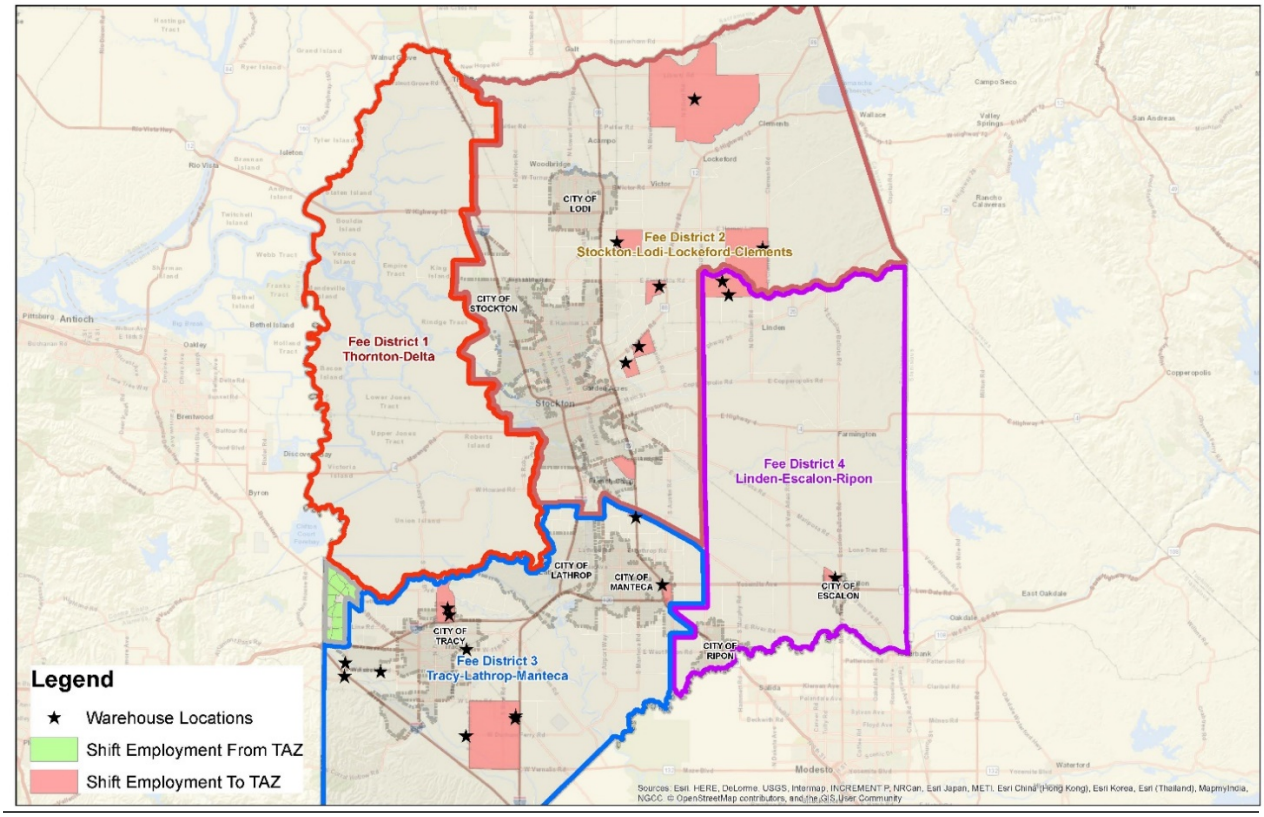
Based on review of the County permit data (2015-2021), it was determined that significantly more warehouse and distribution center development occurred than what was assumed under the County's General Plan. This is indicative of growth industries like Amazon, agricultural processors, and other large distributors of goods (diverging facilities where products are shipped to consumers and outlets) relative to traditional retail development (converging facilities – where consumers travel to an outlet to purchase goods). In particular, the Tracy subarea within the Tracy/Manteca/Lathrop fee zone and the Stockton/Lodi fee zone experienced much higher than expected warehousing growth during this short time five-year period. The County has also seen significant development from wineries in the past decade. Three key warehouse developments in Tracy/Manteca/Lathrop fee zone include:

- 14900 Schulte Road, Tracy: 490,000 sq.ft. warehouse, Oct 2017
- Delicato Winery, Manteca: 731,000 sq.ft. expansion of bottling/distribution facilities, FY 17/18
- 20500 Holly Drive, Tracy: 925,000 sq.ft. warehouse, Oct 2019

Just these three developments resulted in over 2.15 million sq.ft. of warehouse growth exceeding the assumed 1.76 million sq.ft. assumed in this zone under the County's General Plan. Additionally, another warehouse development in the Tracy sub-area (located at 14800 Schulte Road), issued grading permits in 2021 to develop an additional three warehouses totaling approximately 680,000 sq.ft..

To reflect this emerging growth trend in warehousing, a bi-proportional adjustment was applied within the Traffic Analysis Zones (TAZ) of SJCOG's VMIP2 travel demand model to reallocate future growth assumed as traditional retail in the General Plan to warehousing. The reallocation process was performed bi-proportionally to maintain future unincorporated employment control totals (essentially swapping office and warehouse employment in some zones with warehouse employment in others). A reallocation from Mountain House was also warranted based on substantial excess development capacity in that zone. Locations that experienced significant growth in warehousing are shown in **Figure 2**. Areas (TAZs) requiring a reallocation of retail to warehouse employment are shaded. The reallocation process is described in greater detail in **Appendix 2**.

**FIGURE 2. SAN JOAQUIN COUNTY LOCATIONS OF SIGNIFICANT WAREHOUSING GROWTH (2015-2021)**



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## TIMF FUTURE LAND USE

Assumed growth within the unincorporated areas of the County is based on the County's General Plan build-out land use. Conversely, growth within the incorporated cities reflects SJCOG's 2018 RTP/SCS 2042 land use projections. The latter land use is already resident in the VMIP2 model. Conversely, the County's General Plan land use had to be translated into the VMIP2 model land use.

Given that SJCOG's SCS land use growth assumptions within the unincorporated County are generally not consistent with County General Plan build-out planning assumptions (by fee district control total or by traffic analysis zone), a translation process was applied to match the San Joaquin County General Plan land use categories with those used in SJCOG's travel demand model.

Additionally, for those TAZs with overlapping jurisdiction boundaries (i.e., are not 100% in either an incorporated city or the unincorporated county), assumptions were developed to allocate existing development and future growth to incorporated and/or unincorporated areas. Affected TAZs are shown in **Figure 3**. For these TAZs, generalized rules were developed to systematically perform the allocation process. The process was performed while maintaining residential and non-residential growth control totals of the General Plan. **Figure 4** and **Figure 5** show the future allocation of unincorporated residential and non-residential growth respectively. A complete description of the land use forecast process is provided in **Appendix 3**.

Based on this analysis, a 2042 hybrid land use of the San Joaquin County General Plan and 2018 RTP/SCS land use forecasts was developed. The 2042 hybrid land use was processed and input into the SJCOG's travel demand model.

**Table 2** displays unincorporated area demographic estimates in San Joaquin County, by Fee Benefit Zones, for 2020 and 2042. **Table 3** shows the unincorporated growth increment for each Fee Benefit Zone, derived from **Table 2**.

**Figure 6** compares the current housing unit and employment projections for the unincorporated areas of the county relative to the previous 2008 and 2015 TIMF projections respectively. Reasons for the dramatic decrease in projected housing unit growth include: 1) there is less planned development growth in unincorporated areas associated with the County's new General Plan; 2) annexations experienced between 2008 to 2015 shifted significant growth to city jurisdictions; and 3) the 2018 RTP/SCS land use assumes more growth is concentrated in or near urban/developed areas.

**FIGURE 3. BORDER TAZS SUBJECT TO INCORPORATED / UNINCORPORATED AREA ALLOCATION PROCESS**

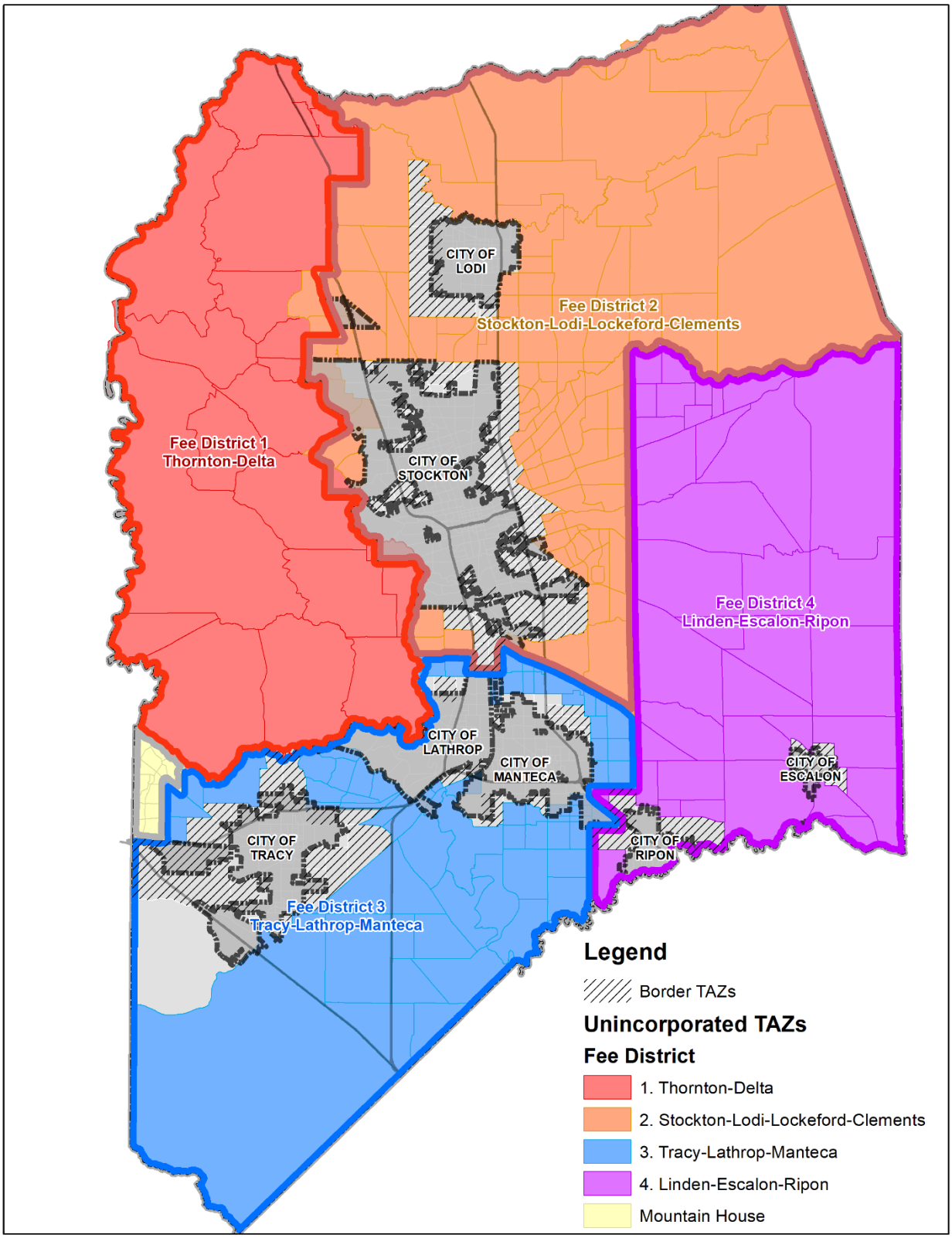

**FIGURE 4. SAN JOAQUIN COUNTY DWELLING UNIT GROWTH FORECASTS**

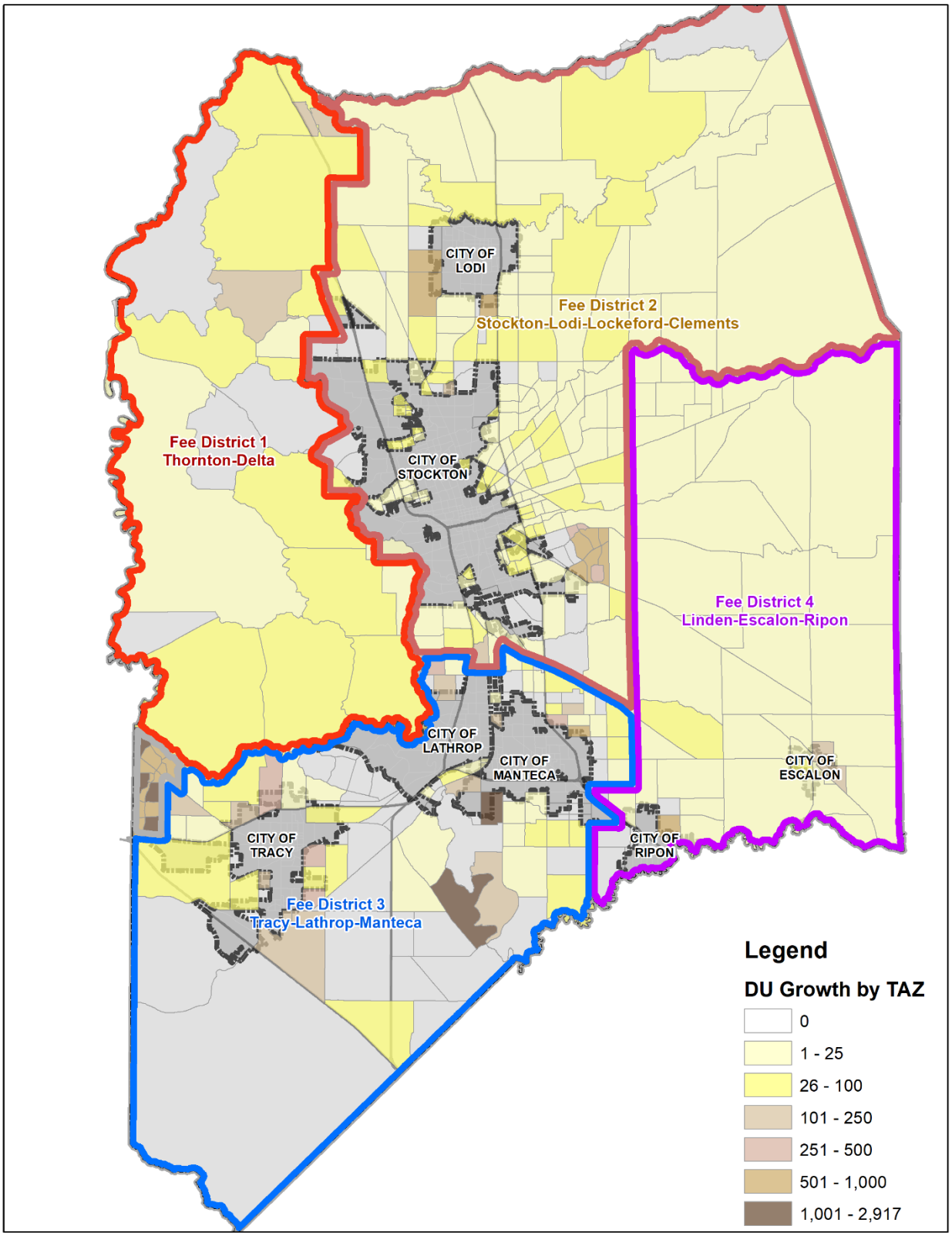

**FIGURE 5. SAN JOAQUIN COUNTY EMPLOYMENT GROWTH FORECASTS**

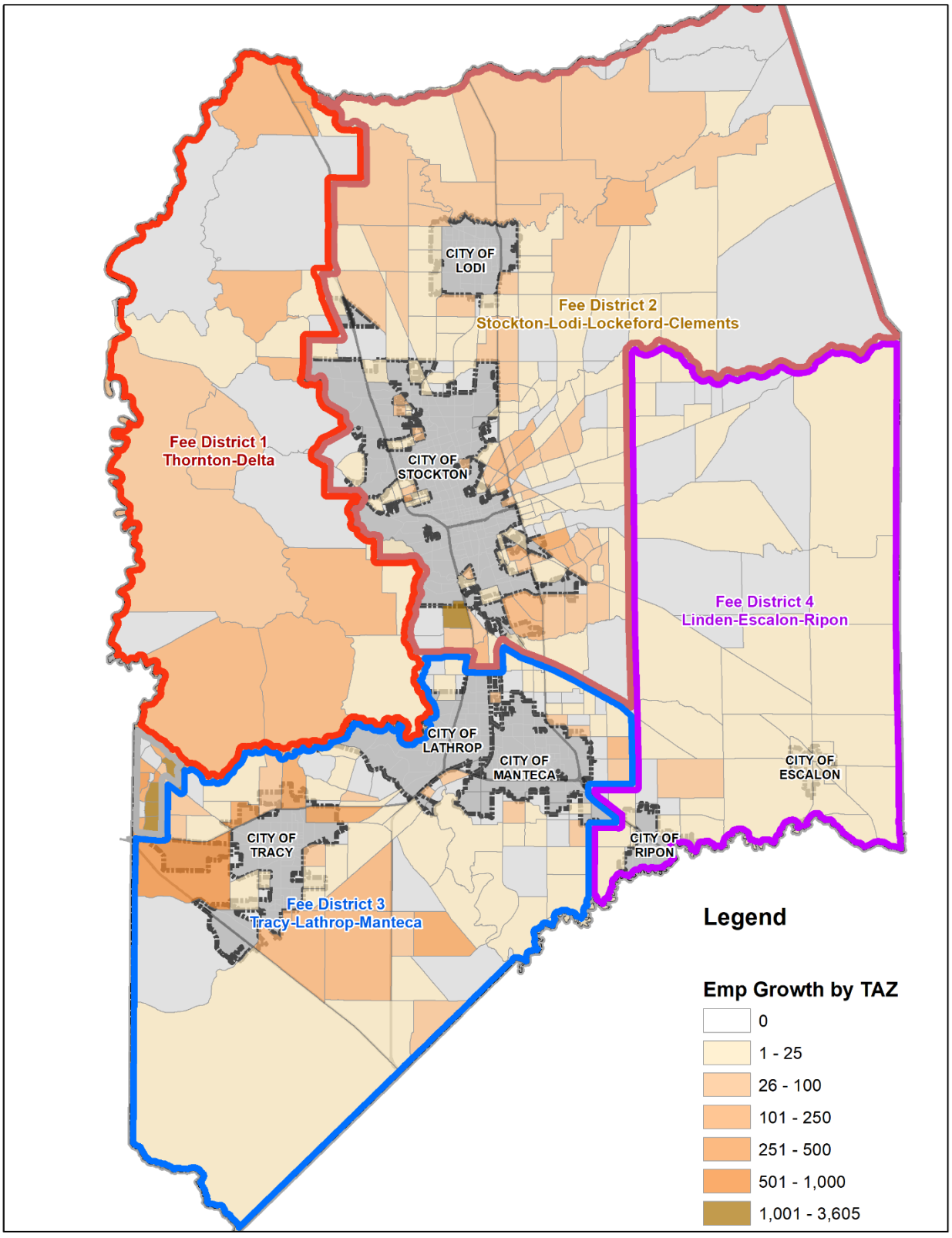




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**TABLE 2. UNINCORPORATED ESTIMATES AND PROJECTIONS BY FEE BENEFIT ZONE**

| | TIM Fee Benefit Zone | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Time Period and Land Use | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House | Total |
| ***2020 (Existing)*** | | | | | | |
| **Residential (DU-dwelling units)** | | | | | | |
| Single Family | 532 | 12,174 | 2,405 | 2,744 | 6,150 | 24,006 |
| Multi Family | 385 | 1,890 | 329 | 274 | 500 | 3,378 |
| *Total* | 917 | 14,065 | 2,734 | 3,018 | 6,650 | 27,384 |
| **Non-Residential (employment)** | | | | | | |
| Retail | 67 | 2,140 | 171 | 229 | 102 | 2,709 |
| Service | 95 | 2,776 | 1,133 | 450 | 293 | 4,747 |
| Other | 1,620 | 13,085 | 6,376 | 5,927 | 809 | 27,815 |
| *Total* | 1,782 | 18,001 | 7,680 | 6,606 | 1,203 | 35,271 |
| **Non-Residential (KSF-thousand building square feet)** | | | | | | |
| Retail | 24 | 749 | 60 | 80 | 36 | 948 |
| Service | 67 | 1,943 | 793 | 315 | 205 | 3,323 |
| Other | 1,134 | 9,159 | 4,463 | 4,149 | 566 | 19,471 |
| *Total* | 1,224 | 11,852 | 5,316 | 4,544 | 806 | 23,742 |
| ***2042 (Forecast)*** | | | | | | |
| **Residential (DU-dwelling units)** | | | | | | |
| Single Family | 1,248 | 21,511 | 9,505 | 3,753 | 10,438 | 46,455 |
| Multi Family | 695 | 3,332 | 1,807 | 337 | 2,224 | 8,395 |
| *Total* | 1,943 | 24,843 | 11,312 | 4,090 | 12,662 | 54,850 |
| **Non-Residential (employment)** | | | | | | |
| Retail | 300 | 2,811 | 440 | 298 | 1,020 | 4,869 |
| Service | 732 | 7,546 | 2,113 | 519 | 5,703 | 16,613 |
| Other | 2,580 | 15,204 | 7,734 | 6,673 | 990 | 33,181 |
| *Total* | 3,612 | 25,560 | 10,287 | 7,490 | 7,713 | 54,663 |
| **Non-Residential (KSF-thousand building square feet)** | | | | | | |
| Retail | 105 | 984 | 154 | 104 | 357 | 1,704 |
| Service | 513 | 5,282 | 1,479 | 363 | 3,992 | 11,629 |
| Other | 1,806 | 10,643 | 5,414 | 4,671 | 693 | 23,227 |
| *Total* | 2,423 | 16,908 | 7,047 | 5,139 | 5,042 | 36,560 |

**TABLE 3. UNINCORPORATED GROWTH BY PLANNING AREA**

| Time Period and Land Use | TIM Fee Benefit Zone 1 Thornton-Delta | 2 Stockton-Lodi-Lockeford-Clements | 3 Tracy-Lathrop-Manteca | 4 Linden-Escalon-Ripon | 5 Mountain House | Total |
|---|---|---|---|---|---|---|
| ***Growth (2020-2042)*** | | | | | | |
| **Residential (DU-dwelling units)** | | | | | | |
| Single Family | 716 | 9,337 | 7,100 | 1,009 | 4,288 | 22,449 |
| Multi Family | 310 | 1,442 | 1,478 | 63 | 1,724 | 5,017 |
| *Total* | 1,026 | 10,778 | 8,578 | 1,072 | 6,012 | 27,466 |
| **Non-Residential (employment)** | | | | | | |
| Retail | 233 | 671 | 269 | 69 | 918 | 2,160 |
| Service | 637 | 4,769 | 980 | 69 | 5,410 | 11,865 |
| Other | 960 | 2,119 | 1,358 | 747 | 182 | 5,366 |
| *Total* | 1,830 | 7,559 | 2,608 | 885 | 6,510 | 19,392 |
| **Non-Residential (KSF-thousand building square feet)** | | | | | | |
| Retail | 81 | 235 | 94 | 24 | 321 | 756 |
| Service | 446 | 3,338 | 686 | 48 | 3,787 | 8,306 |
| Other | 672 | 1,483 | 951 | 523 | 127 | 3,756 |
| *Total* | 1,200 | 5,057 | 1,731 | 595 | 4,236 | 12,818 |

## SQUARE FEET PER EMPLOYEE

To convert employees to thousands of square feet of building space a conversion factor is used. The factors are displayed in **Table 4** and are consistent with the factors used in previous TIMF updates.

**TABLE 4. SQUARE FEET PER EMPLOYEE**

| Land Use | Gross Square Feet per Employee |
|---|---|
| Retail | 350 |
| Service | 700 |
| Other | 700 |

**FIGURE 6. SAN JOAQUIN COUNTY UNINCORPORATED HOUSING UNIT AND EMPLOYMENT FORECASTS**

## DWELLING UNIT EQUIVALENT (DUE) FACTORS

The County's TIMF Program allocates the cost of roadway improvements by land use type based on "Dwelling Unit Equivalent" (DUE) Factors (i.e., the demand placed on the transportation network relative to one single family dwelling unit). DUEs for the County's TIMF have historically calculated based on the number of new vehicle trips generated by that land use in the PM peak hour. The methodology applied for this TIMF update uses vehicle trip generation and average trip length to calculate VMT for DUE Factors. This allows DUE Factors to reflect the average weekday PM peak hour demand (trips and VMT) placed on the County's roadway system for each land use type.

The source of the PM peak hour weekday trip rates is the *ITE Trip Generation Manual 11th Edition* (except for Service Commercial which is from the 9th edition). Trip Length was calculated for residential and non-residential land uses based on modeling performed for the *San Joaquin County VMT Thresholds Study* (July 2020). Using the same SJCOG VMIP2 travel demand model, the latter study established the County's VMT thresholds for identification traffic impacts under the California Environmental Quality Act (CEQA) pursuant to SB 743. Based on that study, an average trip length of 10.45 miles and 9.91 miles for residential and non-residential land uses was determined respectively. All residential land uses (single family dwelling unit and multi-family dwelling unit) were modeled together to yield the same weighted average residential land use trip length. For non-residential land uses, trip length was calculated proportional to the "Office" average trip length for Sacramento County. Sacramento County's "Office" average trip length of 5.1 miles was assumed to be the baseline length. All other non-residential land use trip lengths were calculated proportional to that value using the weighted average employment trip length from the San Joaquin County VMT Threshold Study. The average trip lengths for each land use category are presented in **Table 5.**

**TABLE 5. AVERAGE TRIP LENGTH BY LAND USE CATEGORY**

| LAND USE | TRIP LENGTH | |
|---|---|---|
| | SACRAMENTO COUNTY | SAN JOAQUIN COUNTY |
| **RESIDENTIAL** | | |
| SINGLE FAMILY | 5.1 | 10.45 |
| MULTI-FAMILY | 5.1 | 10.45 |
| **NON-RESIDENTIAL** | | |
| RETAIL[a] | 2.3 | 4.47 |
| SERVICE COMMERCIAL[a] | 2.3 | 4.47 |
| OFFICE | 5.1 | 9.91 |
| MANUFACTURING[b] | 4.8 | 9.33 |
| WAREHOUSE[b] | 4.8 | 9.33 |

[a] Assumed to be equivalent to "Commercial"
[b] Assumed to be equivalent to "Industrial"

The peak hour trip rates reflect all vehicles including heavy duty trucks. The traffic counts used for this TIMF update were also adjusted based on truck classification counts to reflect passenger car equivalencies (PCE). These steps are typically taken to ensure that the added roadway capacity requirements to accommodate STAA-size trucks (48-52 feet from kingpin to rear axle) are addressed.

DUE factors compare the VMT, by land use, to a single-family dwelling unit as a common metric for analysis. The percent of new trips was based on surveys conducted in San Diego which identified the proportion of diverted trips (pre-existing trips) relative to entirely "new" trips attributable to a particular new development. The final DUE Factors were calculated as the proportion of VMT to the baseline VMT for Single Family Detached Residential, greater than 1,200 square feet. **Table 6** presents the weekday PM peak hour VMT-based DUE rates.

**TABLE 6. DWELLING UNIT EQUIVALENCY (DUE) FACTORS**

| LAND USE | ITE CODE | WEEKDAY TRIP RATE | UNIT | TRIP LENGTH (MILES) | % NEW TRIPS | VEHICLE MILES OF TRAVEL | DUE FACTOR |
|---|---|---|---|---|---|---|---|
| **RESIDENTIAL** | | | | | | | |
| **SINGLE FAMILY** | 210 | .99 | Dwelling Unit | 10.45 | 100% | 10.35 | 1.00 |
| **MULTI-FAMILY** | 220 | .57 | | 10.45 | 100% | 5.96 | 0.58 |
| **NON-RESIDENTIAL** | | | | | | | |
| **RETAIL** | 820 | 4.09 | 1,000 Square Feet | 4.47 | 50% | 9.14 | 0.88 |
| **SERVICE COMMERCIAL** | 826 | 2.71[a] | | 4.47 | 65% | 7.87 | 0.76 |
| **OFFICE** | 710 | 1.44 | | 9.91 | 65% | 9.28 | 0.90 |
| **MANUFACTURING** | 140 | .74 | | 9.33 | 85% | 5.87 | 0.57 |
| **WAREHOUSE** | 150 | .18 | | 9.33 | 85% | 1.43 | 0.14 |

[a] *Source: 9th edition of the ITE Trip Generation Manual*

*Sources:* Institute for Transportation Engineers, *Trip Generation 11th Edition*, 2012; San Diego Association of Governments, *Brief Guide of Vehicular Trip Generation Rates*, April 2002.

**Table 7** shows the dwelling unit equivalent growth by Fee Benefit Zone. For nonresidential land uses, the projection of employees is converted to thousands of square feet of building space using the factors presented in **Table 4**.

**Figure 7** compares the DUE growth by Fee Benefit Zone for the unincorporated areas of the county relative to the previous 2008 and 2015 TIMF update projections. Similar to the demographic projection comparisons presented earlier and for similar reasons, generally lower DUE growth is being projected relative to the 2008 and 2015 TIMF updates. Two Fee Benefit Zones in particular, Thornton-Delta and Linden-Escalon-Ripon, show very little DUE growth.

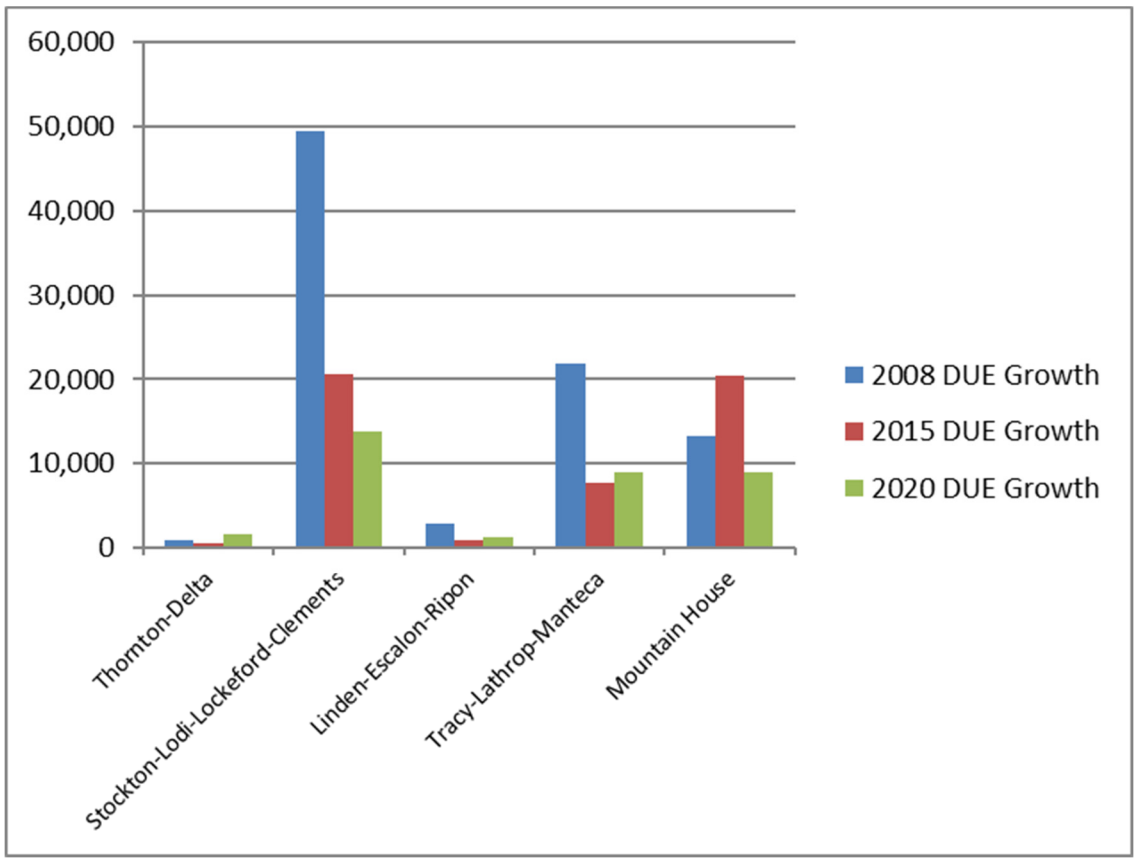
**TABLE 7. DWELLING UNIT EQUIVALENT GROWTH (2020-2042)**

| | TIM Fee Benefit Zone | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Land Use | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House | Total |
| ***Single Family*** | | | | | | |
| Dwelling Units | 716 | 9,337 | 7,100 | 1,009 | 4,288 | 22,450 |
| DUE Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| DUE | 716 | 9,337 | 7,100 | 1,009 | 4,288 | 22,450 |
| ***Multi Family*** | | | | | | |
| Dwelling Units | 310 | 1,442 | 1,478 | 63 | 1,724 | 5,017 |
| DUE Factor | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 |
| DUE | 179 | 830 | 851 | 36 | 993 | 2,889 |
| ***Retail*** | | | | | | |
| Sq. Ft. (1,000s) | 81 | 235 | 94 | 24 | 321 | 756 |
| DUE Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| DUE | 67 | 192 | 77 | 20 | 264 | 620 |
| ***Service*** | | | | | | |
| Sq. Ft. (1,000s) | 446 | 3,338 | 686 | 48 | 3,787 | 8,306 |
| DUE Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| DUE | 400 | 2,993 | 615 | 43 | 3,396 | 7,447 |
| ***Other*** | | | | | | |
| Sq. Ft. (1,000s) | 672 | 1,483 | 951 | 523 | 127 | 3,756 |
| DUE Factor | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| DUE | 235 | 519 | 333 | 183 | 45 | 1,315 |
| ***Total DUE Growth*** | **1,597** | **13,871** | **8,976** | **1,291** | **8,986** | **34,721** |

Note: The Retail DUE factor is the average of the Retail and Service Commercial factors, the Service DUE factor is equal to the Office DUE factor, and the Other DUE factor is the average of the Manufacturing and Warehouse factors (see Table 4).

Source: Tables 3 and 4.

**FIGURE 7. DWELLING UNIT EQUIVALENT GROWTH (2008, 2015 & 2022 TIMF UPDATES) BY FEE BENEFIT ZONE**



# Section 3 DEFICIENCY ANALYSIS & CAPITAL IMPROVEMENT PROGRAM

# DEFICIENCY ANALYSIS & CAPITAL IMPROVEMENT PROGRAM

This section describes the analysis approach used to identify roadway deficiencies required to develop the TIMF Capital Improvement Program (CIP) list of projects.

## TIMF TRAFFIC DATA COLLECTION

As part of the TIMF update, a comprehensive inventory of existing traffic counts was performed. In all, three traffic count data sources were used to develop the existing count inventory:

1. San Joaquin County 2021 TIMF Update Count Data (40 segment counts)
2. SJCOG 2017 Regional Congestion Management Program Count Data[1]
3. Counts performed as part of Local Traffic Studies

A total of 40 "new" roadway segment counts were performed as part of this TIMF update (TIMF Data Collection Memorandum is provided in **Appendix 3**). These were combined with the other count sources listed above to yield a total of 64 roadway segment counts on unincorporated roadways throughout San Joaquin County were used as part of this TIMF update. This sample size was considered adequate for determining existing travel demand on unincorporated county roadways. The 64 roadway segment counts are shown in **Figure 8**. All 24-hour counts were based on 72-hour continuous ADT segment counts (Tues-Thurs) and adjusted to reflect passenger car equivalencies (PCE). Intersection turning movements are not addressed as part of the TIMF deficiency analysis.

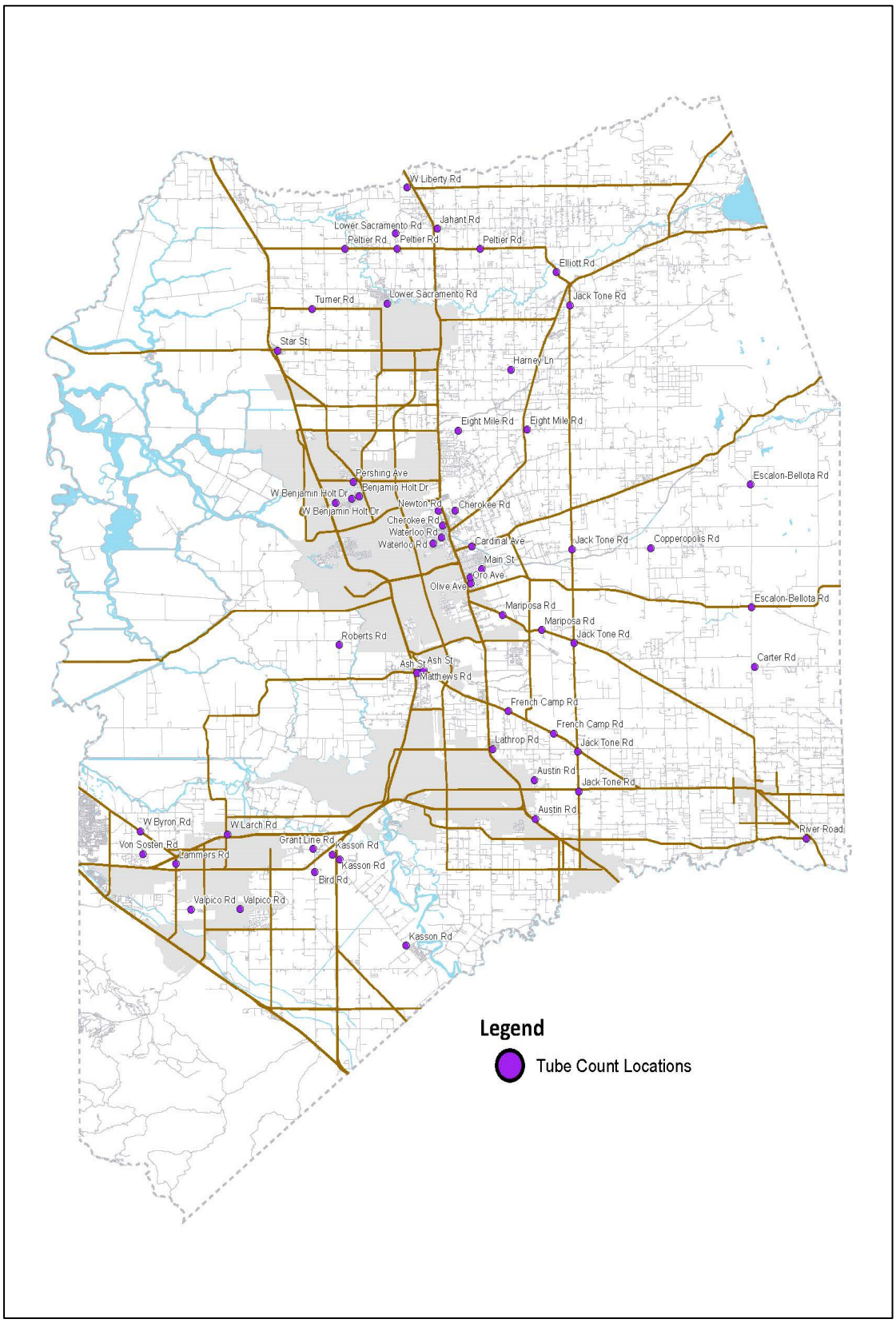
Given the desire to reflect pre-pandemic COVID-19 traffic conditions[2], a factoring process was applied to address potentially non-representative traffic counts performed in May 2021. Historical counts from past TIMF updates and other studies were used to identify matching locations where traffic counts had been previously performed. For matching locations, a composite annual average growth (AAG) percentage was computed. The AAG percentage was then applied to grow the past counts to reflect 2021 conditions. These adjusted counts were then compared with the May 2021 traffic counts. If the adjusted historical count was greater than the May 2021 count, it was considered more reflective of pre-pandemic traffic conditions and was used in lieu of the May 2021 count. If the adjusted count was approximately the same or less than the May 2021 count, the May count was used with no adjustment. The San Joaquin County TIMF Update Traffic Count Factoring Process Memorandum is provided in **Appendix 4**).

TIMF count data were used to: 1) identify existing deficiencies; and, 2) adjust future year "raw" link volumes as generated by the SJCOG travel model used to determine future year deficiencies.

[1] Counts were collected in 2017.

[2] Shelter-in-place mandates, work-from-home policies, building capacity restrictions, and other COVID-related changes have influenced individual travel behavior in San Joaquin County.

**FIGURE 8. MAP OF 2021 SAN JOAQUIN COUNTY TIMF TRAFFIC COUNT LOCATIONS**



## BASE YEAR ANALYSIS

The 2020 base year model land use file was developed for the following purposes:

- Determine number of trips generated by new development within each Fee Benefit Zone (necessary for the $/trip fee estimate);
- Allow a new baseline traffic model to be developed; and,
- Develop traffic model baseline difference adjustment factors used for adjusting "raw" 2042 forecast traffic volumes.

Identification of existing deficiencies was based on the traffic count information described above. Only unincorporated roadways were evaluated - excluding those facilities listed in the RTIF project list and roadways located within the incorporated areas of San Joaquin County.

Identification of existing deficiencies was based on comparing roadway segment daily traffic counts to San Joaquin County's ADT Thresholds by County Functional Classification[3].

All roadway segments currently on the TIMF capital improvement list were reanalyzed based on the more recent traffic count data. For roadways shown to be deficient under baseline conditions, only the degree of future degradation, as measured by the share of new daily unincorporated traffic growth impacting the facility, is applicable to the TIMF. This is described in a subsequent section of this report.

## 2042 FORECAST ANALYSIS

The 2042 forecast land use was developed using the County's General Plan land use build-out for the unincorporated areas and the SJCOG's 2018 RTP/SCS land use for the incorporated areas. All future planned or programmed unincorporated roadway improvements were removed from the SJCOG model network while programmed improvements located within the incorporated areas and/or on state/regional roadways (i.e., RTIF system) were retained. The unincorporated planned or programmed improvements were identified in 2018 RTP/SCS financially constrained (i.e., Tier I) capital improvement list.

As part of the unincorporated area deficiency analysis, 64 county roadway segments were analyzed. Roadway segment selection was based on the existing TIMF project list, segments with known operational issues, and segments with recent existing traffic counts.

The 2042 SJCOG model forecast was adjusted based on the *Highway Traffic Data for Urbanized Area Project Planning and Design* report (NCHRP Report 255, 1982). NCHRP 255 adjustments entail measuring the difference (in absolute and ratio terms) between base year model volumes and the

[3] Source: San Joaquin County General Plan.

base year traffic counts and applying this mathematical relationship to adjust model forecasts. Mathematical conditions were established to ensure that the most reasonable adjustment - the difference method, ratio method, or the average between the two - was systematically selected. The adjusted baseline counts and adjusted 2042 daily volumes are provided in **Appendix 3**.

The final adjusted segment volumes were then compared against the County's General Plan ADT capacity thresholds to determine needed improvements. The County's ADT LOS Thresholds define a "target" LOS of C for all roadway segments. Capacities are determined by functional classification of roadway and are provided in **Table 8** below.

**TABLE 8. SAN JOAQUIN COUNTY ADT THRESHOLDS (LOS C)**

| Functional Class | Lanes | Capacity Threshold Daily |
|---|---|---|
| **Major Arterial** | 2 | 12,500 |
| | 3 | 15,000 |
| | 4 | 30,100 |
| | 5 | 35,000 |
| | 6 | 45,000 |
| **Minor Arterial** | 2 | 12,500 |
| | 3 | 15,000 |
| | 4 | 25,000 |
| **Collector, Commercial/Industrial** | 2 | 10,000 |
| **Collector, Residential** | 2 | 7,000 |
| **Local, Commercial/Industrial** | 2 | 7,000 |
| **Local, Residential** | 2 | 2,000 |

*Source:* San Joaquin County General Plan

Applying the County General Plan capacity thresholds establishes a clear relationship between the County's TIMF and General Plan. In addition to the capacity threshold analysis, the following secondary deficiency screens were also used to identify deficient conditions:

1. Available traffic studies developed for the County were reviewed. Several studies identified future peak hour deficiencies based on more detailed operational analyses. County roadways identified as being deficient based on the cumulative plus project traffic analyses were included in the list of deficient segments.
2. Several County maintained roadways function as parallel routes to congested RTIF segments (i.e., state and regional facilities identified on the RTIF system). Given that these parallel segments provide additional capacity that serves several prominent regional origin-destination pairs, they were included in the list of future improvement needs.

3. Given the potential model error associated with long-term 20+ year travel forecasts, a 5 percent error tolerance was used if a given segment's daily forecast fell just shy or over the ADT capacity threshold.
4. Identifying all 2042 daily traffic volumes shown to have an AM/PM peak hour volume-to-capacity ratio of 0.75 or higher as defined by the SJCOG Travel Model Daily 2042 forecast.
5. Segments identified in the County's General Plan EIR as exceeding the County's ADT capacity thresholds were considered deficient.

The TIMF deficiency analysis results are shown in **Table 9**. Roadway segments are classified as either a forecasted deficiency or a screening deficiency (as described by bullets 1 – 5). A total of 64 roadway segments were analyzed. Nine of the 64 segments were shown to be deficient in the 2020 base year. Three of the eight existing deficiencies were removed from consideration due to right-of-way and/or community restrictions and another overlapped with a larger future deficiency segment. Including future deficiencies, a total of 38 deficient segments were identified to form the basis for developing the TIMF capital improvement program list. Upon determining the list of deficient County roadways, link IDs were established for the TIMF capital improvement list. Roadways located entirely within the Mountain House Planning Area were not considered given that these roadways are already subject to the Mountain House Transportation Improvement Fee.

## CAPITAL IMPROVEMENT PROGRAM LIST OF PROJECTS

To establish contiguous project limits, each deficient segment listed in **Table 9** was reviewed relative to its respective SJCOG travel demand model link volume-to-capacity results and jurisdictional and Fee Benefit Zone boundaries. In some cases, segments were combined with contiguous segments to preclude gaps and establish logical continuity in terms of project limits. Based on these assessments, a total of 38 roadway improvement needs spanning 26 roadways were identified.

Once project limits were established, the minimum amount of capacity to remedy the deficiency was determined. These options include: 1) upgrading the roadways roadway profile and functional classification (median, shoulder, curb and gutter improvements); 2) widening for one continuous shared left turn lane; or 3) providing an additional through lane in each direction. In this way, right-of-way (ROW) costs could be more accurately estimated and minimized to the greatest extent possible when estimating total project costs.

The number of existing structures for each CIP project was determined based on the County's GIS structures layer. Based on this analysis, the exact number of affected structures of a given TIMF CIP project was determined and resulting costs estimated.

The TIMF project list is shown in **Table 10** and graphically shown on **Figure 9**. The TIMF project numbers shown in **Figure 9** correspond to the "ID #" field in **Table 10**.

## TABLE 9. SAN JOAQUIN COUNTY TIMF ADT DEFICIENCY ANALYSIS

| Index | Street Name | Location/Limits | 2021 Functional Class | Count Year | Existing Lanes | Existing ADT | 2042 ADT | ADT Threshold | A-B Volume-to-Capacity (AM) | B-A Volume-to-Capacity (AM) | A-B Volume-to-Capacity (PM) | B-A Volume-to-Capacity (PM) | Planned Improvement RTP/SCS | Base Year Deficiency | Forecast Deficiency | Secondary Deficiency | Secondary Deficiency Screen[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Ash St[6] | El Dorado St to Mc Kinley Ave | Major Collector | 2021 | 2 | 5,948 | 10,556 | 10,000 | 0.23 | 0.15 | 0.16 | 0.15 | Y | | | | |
| 2 | Ash St | 7th St to French Camp Rd | Major Collector | 2021 | 2 | 4,670 | 6,180 | 7,000 | 0.15 | 0.22 | 0.13 | 0.13 | | | | | |
| 3 | Austin Rd | E Louise Ave to SR-120 | Major Collector | 2021 | 2 | 2,856 | 3,647 | 10,000 | 0.36 | 0.08 | 0.09 | 0.22 | | | | | |
| 4 | Austin Rd | Graves Rd to Moffat Blvd | Minor Collector | 2021 | 2 | 5,756 | 11,063 | 7,000 | 0.18 | 1.13 | 0.44 | 0.15 | | | Yes | Yes | 4 |
| 5 | Benjamin Holt Dr[5] | Harrisburg Pl to Pershing Ave | Minor Arterial | 2021 | 3 | 16,273 | 17,100 | 15,000 | 0.32 | 0.29 | 0.36 | 0.32 | Y | Yes | Yes | | |
| 6 | Benjamin Holt Dr[5] | Plymouth Rd to Alexandria Pl | Minor Arterial | 2021 | 3 | 19,818 | 20,703 | 15,000 | 0.40 | 0.30 | 0.38 | 0.39 | Y | Yes | Yes | | |
| 7 | Benjamin Holt Dr | Leesburg Pl to Pacific Ave | Minor Arterial | 2021 | 4 | 14,107 | 14,166 | 25,000 | 0.30 | 0.35 | 0.42 | 0.38 | | | | | |
| 8 | Cherokee Rd | SR-99 to Canal | Minor Arterial | 2021 | 2 | 8,687 | 12,308 | 12,500 | 0.39 | 0.30 | 0.37 | 0.32 | | | | Yes | 3 |
| 9 | Cherokee Rd | SR-99 to Suburban Rd | Minor Arterial | 2021 | 2 | 4,220 | 5,116 | 12,500 | 0.15 | 0.12 | 0.14 | 0.16 | | | | Yes | 2 |
| 10 | E Larch Rd | Corral Hollow Rd to City Limit | Minor Arterial | 2021 | 2 | 4,266 | 6,122 | 12,500 | 0.49 | 0.07 | 0.10 | 0.18 | | | | | |
| 11 | Elliott Rd | Peltier Rd to SR-12/88 | Major Collector | 2021 | 2 | 3,764 | 8,289 | 10,000 | 0.56 | 0.10 | 0.12 | 0.26 | | | | | |
| 12 | French Camp Rd | SR-99 to S Austin Rd | Minor Arterial | 2021 | 2 | 5,808 | 9,441 | 12,500 | 0.70 | 0.32 | 0.33 | 0.54 | | | | | |
| 13 | French Camp Rd | S Austin Rd to Jack Tone Rd | Major Collector | 2021 | 2 | 5,923 | 10,050 | 7,000 | 0.79 | 0.33 | 0.34 | 0.60 | | | Yes | | |
| 14 | Harney Ln | SR-99 to Jack Tone Rd | Major Collector | 2021 | 2 | 4,470 | 5,269 | 10,000 | 0.18 | 0.05 | 0.07 | 0.18 | | | | | |
| 15 | Jahant Road | East of SR-99 | Local | 2021 | 2 | 2,912 | 4,506 | 2,000 | 0.49 | 0.09 | 0.18 | 0.41 | | Yes | Yes | | |
| 16 | Kasson Rd | W 11th St to I-5 | Major Collector | 2021 | 2 | 4,581 | 16,021 | 10,000 | 1.35 | 0.39 | 0.65 | 1.02 | | | Yes | Yes | 4 |
| 17 | Kasson Rd | I-5 to UPRR | Major Collector | 2021 | 2 | 4,301 | 5,380 | 10,000 | 0.58 | 0.21 | 0.22 | 0.47 | | | | | |
| 18 | Kasson Rd | W Linne Rd to Durham Ferry Rd | Major Collector | 2021 | 2 | 3,947 | 6,593 | 7,000 | 0.83 | 0.06 | 0.09 | 0.46 | | | | | |
| 19 | Lammers Rd | 11th St to Tracy City Limit | Major Collector | 2021 | 4 | 6,079 | 6,079 | 10,000 | 0.40 | 0.59 | 0.51 | 0.08 | | | | Yes | 1 |
| 20 | Lathrop Rd | East of SR-99 and Frontage Rd | Minor Arterial | 2021 | 2 | 6,754 | 8,208 | 12,500 | 0.29 | 0.10 | 0.08 | 0.04 | | | | | |
| 21 | Lower Sacramento Rd | Eilers Ln to Academy St | Minor Arterial | 2021 | 3 | 9,661 | 13,949 | 15,000 | 0.70 | 0.25 | 0.43 | 0.54 | | | | Yes | 3 |
| 22 | Lower Sacramento Rd | Peltier Rd to Collier Rd | Major Collector | 2021 | 2 | 5,695 | 9,543 | 7,000 | 0.54 | 0.20 | 0.31 | 0.38 | | | Yes | | |
| 23 | Main St | SR-99 to Gillis Rd | Minor Arterial | 2021 | 2 | 8,207 | 14,443 | 12,500 | 0.56 | 0.46 | 0.45 | 0.75 | | | Yes | Yes | 2 |
| 24 | Mariposa Rd | SR-99 to S Austin Rd | Minor Arterial | 2021 | 2 | 9,234 | 16,025 | 12,500 | 0.87 | 0.51 | 0.57 | 0.73 | | | Yes | Yes | 4 |
| 25 | Mariposa Rd | S Austin Rd to Jack Tone Rd | Minor Arterial | 2021 | 2 | 7,228 | 12,538 | 12,500 | 0.96 | 0.44 | 0.48 | 0.71 | | | Yes | Yes | 4 |
| 26 | Matthews Rd | I-5 to El Dorado St | Major Collector | 2021 | 2 | 7,264 | 12,481 | 10,000 | 0.19 | 0.18 | 0.16 | 0.27 | | | Yes | | |
| 27 | Olive Ave | Section Ave to E 4th St | Local | 2021 | 2 | 668 | 1,176 | 2,000 | 0.08 | 0.38 | 0.12 | 0.23 | | | | | |
| 28 | Oro Ave | Main St to Section Ave | Local | 2021 | 2 | 2,739 | 4,058 | 2,000 | 0.35 | 0.43 | 0.17 | 0.64 | | Yes | Yes | | |
| 29 | Pershing Ave | Thornton Rd to Meadow Ave | Major Arterial | 2021 | 2 | 11,741 | 14,754 | 12,500 | 0.17 | 0.16 | 0.18 | 0.14 | Y | | Yes | Yes | 2 |
| 30 | River Rd | Ripon City Limit to Santa Fe Rd | Major Collector | 2021 | 2 | 4,985 | 4,985 | 10,000 | 0.08 | 0.05 | 0.07 | 0.15 | | | | Yes | 2 |
| 31 | Roberts Rd | Howard Rd to SR-4 | Major Collector | 2021 | 2 | 2,884 | 5,141 | 10,000 | 0.22 | 0.21 | 0.16 | 0.21 | | | | | |
| 32 | Thornton Rd | SR-12 to W Banner St | Major Collector | 2021 | 5 | 6,952 | 13,590 | 10,000 | 0.73 | 0.11 | 0.21 | 0.48 | | | Yes | | |
| 33 | Turner Rd | I-5 to Lodi City Limits | Major Collector | 2021 | 2 | 4,571 | 5,657 | 7,000 | 0.56 | 0.03 | 0.00 | 0.27 | | | | Yes | 2 |
| 34 | Valpico Rd | Corral Hollow Rd to City Limit | Principal Arterial | 2021 | 2 | 14,083 | 15,820 | 12,500 | 0.47 | 0.23 | 0.23 | 0.39 | | Yes | Yes | Yes | 1 |
| 35 | Valpico Rd[6] | Lammers Rd to Corral Hollow Rd[6] | Major Collector | 2021 | 2 | 6,452 | 10,022 | 10,000 | 0.77 | 0.13 | 0.21 | 0.68 | | | | | |
| 36 | Von Sosten Rd[5] | Mt House Parkway to Byron Rd | Local | 2021 | 2 | 1,900 | 9,653 | 2,000 | 0.83 | 0.56 | 0.60 | 0.70 | | | Yes | | |
| 37 | W Byron Rd | Hansen Rd to Reeve Rd | Minor Arterial | 2021 | 2 | 14,241 | 19,370 | 12,500 | 0.77 | 0.64 | 0.78 | 0.71 | | Yes | Yes | | |
| 38 | W Liberty Rd | Lower Sacramento Rd to SR-99 | Local | 2021 | 2 | 3,991 | 6,192 | 7,000 | 0.07 | 0.37 | 0.34 | 0.23 | | | | | |
| 39 | Waterloo Rd | E St to Filbert St | Principal Arterial | 2021 | 4 | 12,823 | 14,902 | 30,100 | 0.21 | 0.20 | 0.19 | 0.28 | | | | | |
| 40 | Waterloo Rd | Filbert St to SR-99 | Principal Arterial | 2021 | 4 | 13,551 | 16,174 | 30,100 | 0.19 | 0.29 | 0.21 | 0.31 | | | | | |
| 41 | Bird Rd | Lovely Rd to Linne Rd | Major Collector | 2021 | 2 | 3,294 | 5,452 | 7,000 | 0.74 | 0.11 | 0.25 | 0.49 | | | | | |
| 42 | Cardinal Ave | SR-26/Fremont St to Hobart Ave | Local | 2021 | 2 | 6,468 | 9,014 | 7,000 | 0.44 | 0.23 | 0.31 | 0.36 | | | Yes | | |
| 43 | Carter Rd | Henry Rd to Escalon Bellota Rd | Minor Collector | 2021 | 2 | 533 | 715 | 7,000 | 0.10 | 0.00 | 0.01 | 0.01 | | | | | |
| 44 | Copperopolis Rd | Dietrich Rd to Drais Ave | Major Collector | 2021 | 2 | 2,379 | 5,797 | 7,000 | 0.42 | 0.06 | 0.07 | 0.32 | | | | | |
| 45 | Eight Mile Rd | Jack Tone Rd to SR-88 | Major Collector | 2021 | 2 | 3,226 | 3,956 | 7,000 | 0.17 | 0.16 | 0.16 | 0.38 | | | | | |
| 46 | Eight Mile Rd | SR-99 to SR-88 | Major Collector | 2021 | 2 | 6,349 | 9,846 | 7,000 | 0.54 | 0.36 | 0.41 | 0.63 | | | Yes | Yes | 1, 2 |
| 47 | Escalon-Bellota Rd | Shelton Rd to Flood Rd | Major Collector | 2021 | 2 | 1,773 | 2,865 | 7,000 | 0.23 | 0.08 | 0.08 | 0.02 | | | | | |
| 48 | Escalon-Bellota Rd | SR-4 to Gawne Rd | Major Collector | 2021 | 2 | 4,208 | 7,845 | 7,000 | 0.63 | 0.21 | 0.34 | 0.22 | | | Yes | | |
| 49 | Grant Line Rd[4] | El Rancho Rd to Bird Rd | Major Collector | 2021 | 2 | 10,567 | 23,067 | 10,000 | 0.73 | 0.10 | 0.12 | 0.49 | | Yes | Yes | | |
| 50 | Jack Tone Rd | SR-99 to SR-120 | Major Collector | 2021 | 2 | 7,887 | 12,570 | 10,000 | 0.49 | 0.48 | 0.43 | 0.55 | | | Yes | | |
| 51 | Jack Tone Rd | South of French Camp Rd | Major Collector | 2021 | 2 | 6,338 | 10,864 | 7,000 | 0.30 | 0.76 | 0.70 | 0.48 | | | Yes | | |
| 52 | Jack Tone Rd | SR-4 to French Camp Rd | Major Collector | 2021 | 2 | 4,595 | 9,278 | 7,000 | 0.57 | 0.23 | 0.34 | 0.32 | | | Yes | | |
| 53 | Jack Tone Rd | SR-4 to SR-26 | Major Collector | 2021 | 2 | 6,055 | 10,290 | 7,000 | 0.54 | 0.13 | 0.17 | 0.33 | | | Yes | | |
| 54 | Jack Tone Rd | North of Brandt Rd | Major Collector | 2021 | 2 | 2,622 | 5,153 | 7,000 | 0.31 | 0.08 | 0.13 | 0.19 | | | | Yes | 2 |
| 55 | Newton Rd | Wilson Way to Cherokee Rd | Major Collector | 2021 | 2 | 15,742 | 16,924 | 10,000 | 0.40 | 0.61 | 0.54 | 0.60 | | Yes | Yes | Yes | 1 |
| 56 | Peltier Rd | East of Lower Sacramento Rd | Major Collector | 2021 | 2 | 3,978 | 4,985 | 7,000 | 0.21 | 0.10 | 0.15 | 0.26 | | | | | |
| 57 | Peltier Rd | West of Davis Rd | Major Collector | 2021 | 2 | 4,028 | 8,451 | 7,000 | 0.64 | 0.15 | 0.22 | 0.42 | | | Yes | | |
| 58 | Peltier Rd | SR-99 to Elliot Rd | Major Collector | 2021 | 2 | 3,505 | 5,928 | 7,000 | 0.42 | 0.04 | 0.10 | 0.30 | | | | | |
| 59 | Chrisman Rd | North of Schulte Rd | Minor Arterial | 2008 | 2 | 11,200 | 13,925 | 12,500 | 0.44 | 0.51 | 0.61 | 0.53 | | | Yes | Yes | 5 |
| 60 | Tracy Blvd | Clifton Court Rd to Grimes Rd | Major Collector | 2008 | 2 | 5,600 | 9,722 | 7,000 | 0.22 | 0.60 | 0.54 | 0.24 | | | Yes | Yes | 1, 5 |
| 61 | Tracy Blvd[5] | South of Finck Rd | Major Collector | 2008 | 2 | 7,200 | 11,161 | 7,000 | 0.69 | 0.26 | 0.28 | 0.62 | | Yes | Yes | Yes | 5 |
| 62 | McHenry Ave | Jones to County Boundary | Minor Arterial | 2008 | 3 | 13,100 | 18,208 | 15,000 | 0.92 | 0.59 | 0.69 | 0.72 | Y | | Yes | Yes | 4, 5 |
| 63 | French Camp Rd | South Priest Road to Airport Way | Major Collector | n/a | 2 | n/a | 21,450 | 10,000 | 0.80 | 0.65 | 0.73 | 0.79 | | | Yes | Yes | 1 |
| 64 | Eight Mile Rd | Lower Sacramento Rd to West Ln | Major Collector | n/a | 2 | n/a | 34,018 | 10,000 | 0.77 | 0.82 | 0.92 | 0.91 | | | Yes | Yes | 1,2,4 |

[1] Secondary Deficiency Screens:
1 - Traffic Study Deficiency
2 - Parallel Facility to Regional Roadway
3 - Model Error Tolerance (within 5% of Threshold)
4 - Forecast Volume-to-Capacity Deficiency (v/c > .8499)
5 - San Joaquin General Plan Update Deficiency

[4] Future volume derived from extrapolating growth from the ***Traffic Operations Report for Grant Line Road and Kasson Road Corridor Plan*** , Fehr & Peers, 2015.

[5] These deficient segments were not carried forward into capital improvement project list due to either ROW or community restrictions

[6] The deficient segments were not carried forward into capital improvement project list due to being 5% or less of threshold under future conditions with no secondary screens triggered.

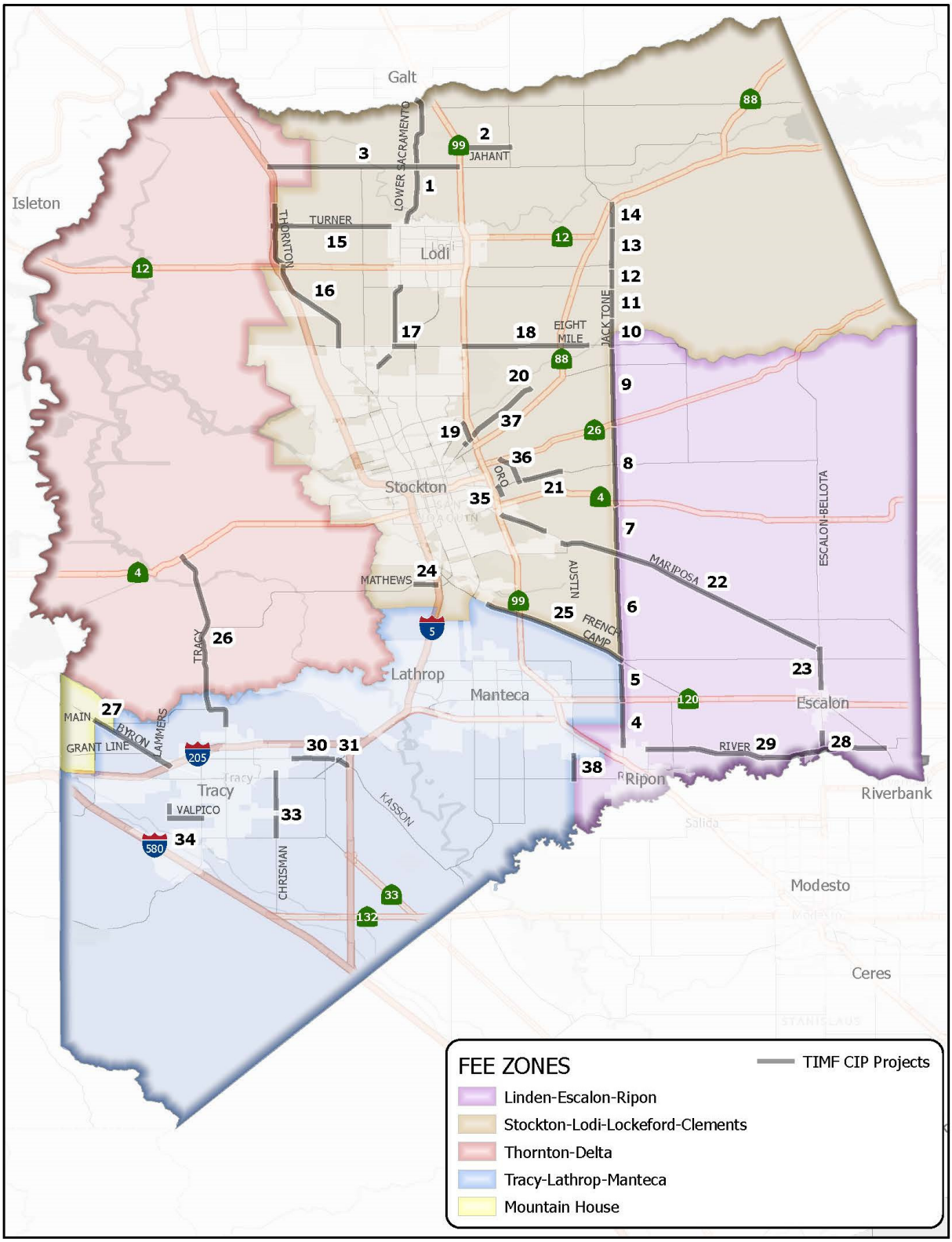
**TABLE 10. TIMF CAPITAL IMPROVEMENT PROGRAM PROJECT LIST**

| ID # | Street Name | Location/Limits | Fee Benefit Zone | 2021 Functional Class | 2021 Lanes | Improvement | Length in Miles | Improvement Lanes Needed | Number of Structures | Length of Structures (ft) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Lower Sacramento Rd | Stockton City Limit to County Line | Stockton-Lodi-Lockeford-Clements | Minor Arterial/Major Collector | 3/2 | Widen to 4 Lanes | 6.84 | 1 and 2 | 2 | 6.21 |
| 2 | Jahant Rd | SR 99 to Dustin Rd | Stockton-Lodi-Lockeford-Clements | Local | 2 | Upgrade to Major Collector | 2.02 | | 7 | |
| 3 | Peltier Rd | I-5 to SR 99 | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Upgrade to Minor Arterial | 7.75 | | 2 | 9.94 |
| 4 | Jack Tone Rd | Ripon City Limit to SR 120 | Tracy-Lathrop-Manteca / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 2.42 | | 2 | |
| 5 | Jack Tone Rd | SR 120 to French Camp Rd | Tracy-Lathrop-Manteca / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 2.01 | | 0 | |
| 6 | Jack Tone Rd | French Camp Rd to Mariposa Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 5.42 | | 6 | 45.02 |
| 7 | Jack Tone Rd | Mariposa Rd to SR 4 | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 2.57 | | 3 | 8.7 |
| 8 | Jack Tone Rd | SR 4 to SR 26 | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 4.06 | | 3 | 31.69 |
| 9 | Jack Tone Rd | SR 26 to Eight Mile Mile Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 3.99 | | 0 | |
| 10 | Jack Tone Rd | Eight Mile Rd to Live Oak Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 1.52 | | 2 | 12.42 |
| 11 | Jack Tone Rd | Live Oak Rd to Harney Ln | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Upgrade to Minor Arterial; Add TWLTL | 1.48 | | 2 | 6.21 |
| 12 | Jack Tone Rd | Harney Ln to Kettleman Ln | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Upgrade to Minor Arterial | 1.13 | | 1 | 3.73 |
| 13 | Jack Tone Rd | Kettleman Ln to Brandt Rd | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Upgrade to Minor Arterial | 1.99 | | 2 | 7.46 |
| 14 | Jack Tone Rd | Brandt Rd to Tully Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial; Add TWLTL | 1.13 | | 0 | |
| 15 | Turner Rd | I-5 to Lodi City Limit | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Upgrade to Minor Arterial Consider TWLTL | 4.62 | | 2 | |
| 16 | Thornton Rd | Stockton City Limit to SR 12 | Stockton-Lodi-Lockeford-Clements | Major Collector | 5 | Upgrade to Minor Arterial and Widen to 4 Lanes | 4.72 | 2 | 2 | |
| 17 | Eight Mile Rd | Lower Sacramento Rd to West Lane | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Widen to 6 Lanes-Discussion Required | 0.78 | 4 | 5 | 3.73 |
| 18 | Eight Mile Rd | SR 99 to SR 88 | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Upgrade to Minor Arterial | 3.86 | | 4 | 8.08 |
| 19 | Cherokee Rd | Newton Rd to Canal | Stockton-Lodi-Lockeford-Clements | Minor Arterial | 2 | Widen to 4 Lanes | 0.31 | 2 | 1 | 3.11 |
| 20 | Cherokee Rd | Newton Rd to Alpine Rd | Stockton-Lodi-Lockeford-Clements | Minor Arterial | 2 | Widen to 3 Lanes | 3.53 | 1 | | |
| 21 | Main St | SR 99 to Alpine Rd/Copperoplois Rd | Stockton-Lodi-Lockeford-Clements | Minor Arterial | 2 | Widen to 4 Lanes-Optional: Add TWLTL | 2.89 | 2 | 1 | 6.84 |
| 22 | Mariposa Rd | SR 99 to Escalon-Bellota Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | Minor Arterial | 2 | Widen to 4 Lanes | 14.8 | 2 | 11 | 48.47 |
| 23 | Escalon-Bellota Rd[1] | Escalon City Limit to Mariposa Rd | Linden-Escalon-Ripon | Major Collector | 2 | Widen to 4 Lanes and Upgrade to Minor Arterial | 1.93 | 2 | 2 | |
| 24 | Mathews Rd | Manthey Rd to Split with Howard Rd | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Widen to 3 Lanes | 0.82 | 1 | 0 | |
| 25 | French Camp Rd | Airport Way to Jack Tone Rd | Stockton-Lodi-Lockeford-Clements / Tracy-Lathrop-Manteca | Major Collector | 2 | Upgrade to Minor Arterial; Widen to 4 Lanes West of SR 99 | 2.14 | 2 | 0 | |
| 26 | Tracy Blvd | SR 4 to Tracy City Limit | Thornton-Delta / Tracy-Lathrop-Manteca | Major Collector | 2 | Upgrade to Minor Arterial | 9.44 | | 3 | 67.1 |
| 27 | Byron Rd | Wickland Rd to I-205 | Tracy-Lathrop-Manteca | Minor Arterial | 2 | Widen to 4 Lanes | 2.91 | 2 | 1 | |
| 28 | McHenry Ave | County Line to Escalon City Limit | Linden-Escalon-Ripon | Minor Arterial | 3 | Widen to 4 Lanes | 0.88 | 1 | 2 | 4.97 |
| 29 | River Rd | Rippon Rd to Santa Fe Rd | Linden-Escalon-Ripon | Major Collector | 2 | Upgrade to Minor Arterial | 9.68 | | 4 | 3.73 |
| 30 | Grant Line Rd | Paradise Rd to 11th St | Tracy-Lathrop-Manteca | Major Collector | 2 | Upgrade to Minor Arterial and Widen to 4 Lanes | 2.06 | 2 | 0 | |
| 31 | Kasson Rd | 11th St to I-5 | Tracy-Lathrop-Manteca | Major Collector | 2 | Upgrade to Minor Arterial and Widen to 4 Lanes | 0.54 | 2 | 0 | |
| 32 | Lammers Rd | Valpico Rd to W Schulte Rd (South) | Tracy-Lathrop-Manteca | Major Collector | 4 | Widen 2 Lane Sections to 4 Lanes | 0.61 | 2 | 1 | |
| 33 | Chrisman Rd | Linne Rd to 11th St excluding segments in | Tracy-Lathrop-Manteca | Minor Arterial | 2 | Install Left Turn Lanes where they are currently missing | 1.61 | 1 | 1 | |
| 34 | Valpico Rd | Lammers Rd to Corral Hollow Rd | Tracy-Lathrop-Manteca | Major Collector | 2 | Widen to 4 Lanes; Upgrade Major Collector Segment to Minor | 1.29 | 2 | 0 | |
| 35 | Oro Ave | Main St to Section Ave | Stockton-Lodi-Lockeford-Clements | Local | 2 | Upgrade to Major Collector | 0.38 | | 1 | 1.86 |
| 36 | Cardinal Ave | Main St to SR-26/Fremont St | Stockton-Lodi-Lockeford-Clements | Local | 2 | Upgrade to Major Collector (Commercial) Standard | 1.38 | | 0 | |
| 37 | Newton Rd | Cherokee Rd to Wilson Way | Stockton-Lodi-Lockeford-Clements | Major Collector | 2 | Upgrade to Major Collector | 0.83 | | 0 | |
| 38 | Austin Rd | SR 99 to Ripon Rd | Tracy-Lathrop-Manteca | Minor Collector | 2 | Upgrade to Major Collector | 2.44 | | 0 | |

[1] Project included for consistency with Mariposa and McHenry Segments

TWLTL: Two way left turn lane.

**FIGURE 9. TIMF CAPITAL IMPROVEMENT PROGRAM PROJECT LOCATIONS**




*Link ID numbers match "ID #" presented in Table 10.

# Section 4 TIMF Project Cost

# TIMF PROJECT COST

Capital improvement unit cost estimates from the 2015 TIMF were updated to reflect 2022 price conditions for construction. The Caltrans Price Index was used to establish percentage changes in material costs. The updated cost per linear foot of improvements for widening from a two-lane to a three-lane facility (i.e., adding a continuous shared left turn lane) is as follows:

| | |
|---|---|
| Roadway Widening (1 lane) | $194 |
| Traffic Signals | $95 |
| *Sub-Total* | $289 |
| 25% Engineering, Administration & Planning | $72 |
| 10% Miscellaneous[4] | $29 |
| 20% Contingency | $58 |
| 5% Inflation | $14 |
| *Cost per Linear Foot of Street* | *$462* |
| 5% Right of Way Cost | $23 |
| **Total Cost per Linear Foot of Street** | **$485** |

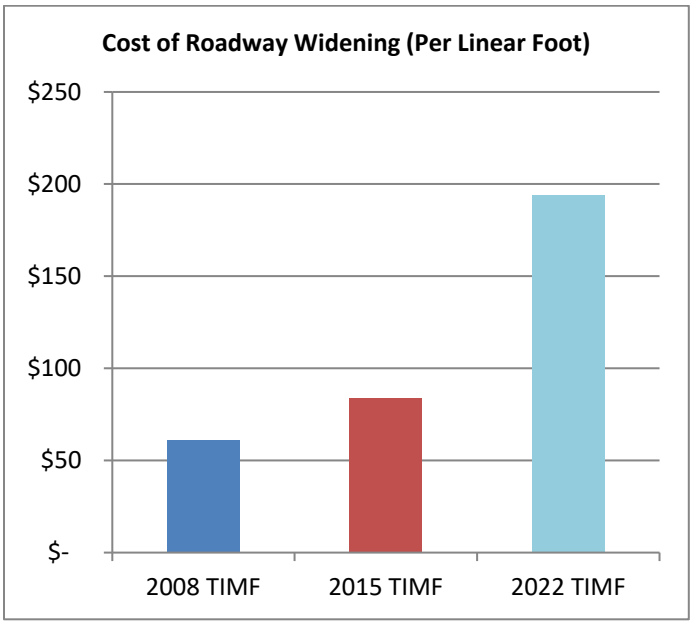
The updated per linear foot cost of improvements for widening from a two-lane to a four-lane facility (i.e., adding an additional through lane in each direction) is as follows:

| | |
|---|---|
| Roadway Widening (2 lanes) | $388 |
| Traffic Signals | $95 |
| *Sub-Total* | *$483* |
| 25% Engineering, Administration & Planning | $121 |
| 10% Miscellaneous | $48 |
| 20% Contingency | $97 |
| 5% Inflation | $24 |
| *Cost per Linear Foot of Street* | *$773* |
| 20% Right of Way Cost | $155 |
| **Total Cost per Linear Foot of Street** | **$928** |

These per lineal foot cost adjustments reflect a 130% increase in roadway construction relative to the per unit cost estimates developed for the 2015 TIMF (excluding structures, right-of-way, signals, or engineering costs). Comparison of the 2008, 2015 and 2022 TIMF per unit cost estimates are illustrated in **Figure 10**.

[4] Miscellaneous costs cover mandatory items that routinely come up on widening projects including driveway, mailbox, road sign, and ditch relocation; imported borrow; survey monument adjustment/relocation; cross-drain extensions, etc.

**FIGURE 10. PER LINEAL FOOT CONSTRUCTION COST (2008, 2015, 2022 TIMF UPDATES)**




Roadbed only excluding structures, right-of-way, signals, or engineering costs.

To accurately determine roadway improvement costs that entail reconstruction of structures (e.g., bridges, canal crossings, railroad lines), specific costs for structures were developed. The per linear foot cost for each structure reconstruction associated with a roadway widening is as follows:

| | |
|---|---|
| Bridge Reconstruction/Widening | *$8,928* |
| 25% Engineering, Administration & Planning | $2,232 |
| 10% Miscellaneous | $893 |
| 20% Contingency | $1,786 |
| 5% Inflation | $447 |
| *Cost per Linear Foot of Street* | *$14,286* |
| 20% Right of Way Cost | $2,858 |
| **Total Cost per Linear Foot of Street** | **$17,144** |

These cost estimates reflect roadway widening, intersection signalization improvements at intermediate locations within project limits (spot improvements), roadway shoulder improvements, as well as a separate reconstruction of structures (bridges, railroad and canal/creek crossings) cost. Intersection improvements are assumed to occur every one-half mile of roadway widening.

A detailed description of the cost per linear foot and the structure and ROW costs are provided in **Appendix 9**. Based on the unit costs above, **Table 11** provides the total unadjusted TIMF project costs for each improvement. Summing over all projects, the total TIMF project costs is approximately $257 million.

## TABLE 11. TOTAL TIMF CIP PROJECT COSTS

| ID # | Street Name | Location/Limits | Fee Benefit Zone | Cost |
|---|---|---|---|---|
| 1 | Lower Sacramento Rd | Stockton City Limit to County Line | Stockton-Lodi-Lockeford-Clements | $ 32,347,800 |
| 2 | Jahant Rd | SR 99 to Dustin Rd | Stockton-Lodi-Lockeford-Clements | $ 682,598 |
| 3 | Peltier Rd | I-5 to SR 99 | Stockton-Lodi-Lockeford-Clements | $ 2,618,880 |
| 4 | Jack Tone Rd | Ripon City Limit to SR 120 | Tracy-Lathrop-Manteca / Linden-Escalon-Ripon | $ 817,766 |
| 5 | Jack Tone Rd | SR 120 to French Camp Rd | Tracy-Lathrop-Manteca / Linden-Escalon-Ripon | $ 679,219 |
| 6 | Jack Tone Rd | French Camp Rd to Mariposa Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | $ 1,831,526 |
| 7 | Jack Tone Rd | Mariposa Rd to SR 4 | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | $ 868,454 |
| 8 | Jack Tone Rd | SR 4 to SR 26 | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | $ 1,371,955 |
| 9 | Jack Tone Rd | SR 26 to Eight Mile Mile Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | $ 1,348,301 |
| 10 | Jack Tone Rd | Eight Mile Rd to Live Oak Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | $ 513,638 |
| 11 | Jack Tone Rd | Live Oak Rd to Harney Ln | Stockton-Lodi-Lockeford-Clements | $ 500,122 |
| 12 | Jack Tone Rd | Harney Ln to Kettleman Ln | Stockton-Lodi-Lockeford-Clements | $ 381,850 |
| 13 | Jack Tone Rd | Kettleman Ln to Brandt Rd | Stockton-Lodi-Lockeford-Clements | $ 672,461 |
| 14 | Jack Tone Rd | Brandt Rd to Tully Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | $ 381,850 |
| 15 | Turner Rd | I-5 to Lodi City Limit | Stockton-Lodi-Lockeford-Clements | $ 1,561,190 |
| 16 | Thornton Rd | Stockton City Limit to SR 12 | Stockton-Lodi-Lockeford-Clements | $ 23,127,245 |
| 17 | Eight Mile Rd | Lower Sacramento Rd to West Lane | Stockton-Lodi-Lockeford-Clements | $ 6,139,035 |
| 18 | Eight Mile Rd | SR 99 to SR 88 | Stockton-Lodi-Lockeford-Clements | $ 1,304,371 |
| 19 | Cherokee Rd | Newton Rd to Canal | Stockton-Lodi-Lockeford-Clements | $ 1,572,268 |
| 20 | Cherokee Rd | Newton Rd to Alpine Rd | Stockton-Lodi-Lockeford-Clements | $ 9,039,624 |
| 21 | Main St | SR 99 to Alpine Rd/Copperoplois Rd | Stockton-Lodi-Lockeford-Clements | $ 14,277,803 |
| 22 | Mariposa Rd | SR 99 to Escalon-Bellota Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | $ 81,658,298 |
| 23 | Escalon-Bellota Rd[1] | Escalon City Limit to Mariposa Rd | Linden-Escalon-Ripon | $ 9,456,691 |
| 24 | Mathews Rd | Manthey Rd to Split with Howard Rd | Stockton-Lodi-Lockeford-Clements | $ 2,099,856 |
| 25 | French Camp Rd | Airport Way to Jack Tone Rd | Stockton-Lodi-Lockeford-Clements / Tracy-Lathrop-Manteca | $ 10,485,658 |
| 26 | Tracy Blvd | SR 4 to Tracy City Limit | Thornton-Delta / Tracy-Lathrop-Manteca | $ 3,189,965 |
| 27 | Byron Rd | Wickland Rd to I-205 | Tracy-Lathrop-Manteca | $ 14,258,534 |
| 28 | McHenry Ave | County Line to Escalon City Limit | Linden-Escalon-Ripon | $ 2,423,915 |
| 29 | River Rd | Rippon Rd to Santa Fe Rd | Linden-Escalon-Ripon | $ 3,271,066 |
| 30 | Grant Line Rd | Paradise Rd to 11th St | Tracy-Lathrop-Manteca | $ 10,093,670 |
| 31 | Kasson Rd | 11th St to I-5 | Tracy-Lathrop-Manteca | $ 2,645,914 |
| 32 | Lammers Rd | Valpico Rd to W Schulte Rd (South) | Tracy-Lathrop-Manteca | $ 2,988,902 |
| 33 | Chrisman Rd | Linne Rd to 11th St excluding segments in | Tracy-Lathrop-Manteca | $ 4,122,888 |
| 34 | Valpico Rd | Lammers Rd to Corral Hollow Rd | Tracy-Lathrop-Manteca | $ 6,320,794 |
| 35 | Oro Ave | Main St to Section Ave | Stockton-Lodi-Lockeford-Clements | $ 128,410 |
| 36 | Cardinal Ave | Main St to SR-26/Fremont St | Stockton-Lodi-Lockeford-Clements | $ 466,330 |
| 37 | Newton Rd | Cherokee Rd to Wilson Way | Stockton-Lodi-Lockeford-Clements | $ 280,474 |
| 38 | Austin Rd | SR 99 to Ripon Rd | Tracy-Lathrop-Manteca | $ 824,525 |

[1] Project included for consistency with Mariposa and McHenry Segments

TWLTL: Two way left turn lane.

**TOTAL** **$ 256,753,846**



DKS

## TIMF PROJECT COST ADJUSTMENTS

Adjustments to the costs presented in **Table 11** are required for projects identified as being deficient under existing baseline conditions.

For existing deficiencies, only the share attributable to new unincorporated growth can be applicable to the TIMF. As shown previously in **Table 9**, nine segments were shown to be deficient in the 2021 base year. Two segments (both on Benjamin Holt Drive) identified as being deficient under existing conditions were not carried forward into capital improvement project list due to either ROW or community restrictions. Two segments (Tracy Boulevard and Valpico Road) are part of a larger future deficient segments on those roadways and therefore for continuity were classified as future deficiencies. The five remaining existing deficiencies and the percentage of the incremental impact of new development traffic for each is shown below in **Table 12**. The degree of future degradation as measured by the share of new daily traffic growth and, the percent of that new increment of traffic that originates from unincorporated areas of the county, establish the basis for estimating the unincorporated fair share of the improvement cost.

**TABLE 12. EXISTING DEFICIENCY GROWTH ALLOCATION**

| Street Name | Location/Limits | Existing ADT | 2042 ADT | 2021 ADT Threshold | Percent of New Total Traffic Growth | Percent from Unincorporated County |
|---|---|---|---|---|---|---|
| Jahant Road | East of SR-99 | 2,912 | 4,506 | 2,000 | 55% | 27% |
| Oro Ave | Main St to Section Ave | 2,739 | 4,058 | 2,000 | 48% | 25% |
| W Byron Rd | Hansen Rd to Reeve Rd | 14,241 | 19,370 | 12,500 | 36% | 46% |
| Grant Line Rd | El Rancho Rd to Bird Rd | 10,567 | 15,645 | 10,000 | 48% | 18% |
| Newton Rd | Wilson Way to Cherokee Rd | 15,742 | 16,924 | 10,000 | 8% | 27% |

Reflecting the cost adjustments for existing deficiencies yields a total combined cost for the 38 TIMF capital improvement projects of **$239,912,046**.

# Section 5 Cost Allocation and Fee Estimation

# COST ALLOCATION AND FEE ESTIMATION

## TRIP ALLOCATION

To compute the percentage of trip ends applicable to the County's TIMF, trip ends that originate from incorporated and external Traffic Analysis Zone (TAZ) must be removed from consideration. To determine this as "cleanly" as possible, the exterior boundaries of the County's 12 Planning Area boundaries were adjusted/realigned to conform to the applicable SJCOG model TAZ boundaries (**Figure 11**). The 12 Planning Areas are then combined to form the County's four TIMF Fee Benefit Zones (plus Mountain House) shown in **Figure 12**.

For each deficient roadway segment, the model tracks the growth in total trips and specifically the total growth in trips from unincorporated areas. The model then automatically computes total new unincorporated trips by Fee Benefit Zone through application of a TAZ correspondence table. The link volume delta (or difference) between these model runs represents "new" trips generated by future growth. Of the unincorporated share of new trips, the traffic model was used to determine the percentage of external, incorporated, or unincorporated travel of trips originating or destined to a given Fee Benefit Zone.

The modeling analysis (i.e., select link analysis) excludes one-half of trips whose origin or destination are from incorporated areas or areas outside San Joaquin County (I-X or X-I trips) and completely excludes trips which do not have an origin or destination within the county (X-X). This establishes a reasonable relationship between the TIMF fees collected and the impacts expected from development occurring specifically within the unincorporated areas of San Joaquin County.

The resulting percentages for each TIMF roadway improvement, which reflect the fair share of the improvement costs to new development by Fee Benefit Zone, is shown in **Table 13**.

The Mountain House Fee Benefit Zone includes no local roadway improvements given that Mountain House has its own traffic impact mitigation fee program to address those needed improvements. However, trips and VMT originating from the Mountain House Fee Benefit Zone that utilize deficient roadway segments located outside the Mountain House Fee Benefit Zone are reflected in the fair share allocations shown in the table.

**FIGURE 11. SAN JOAQUIN COUNTY PLANNING AREA GEOGRAPHY**

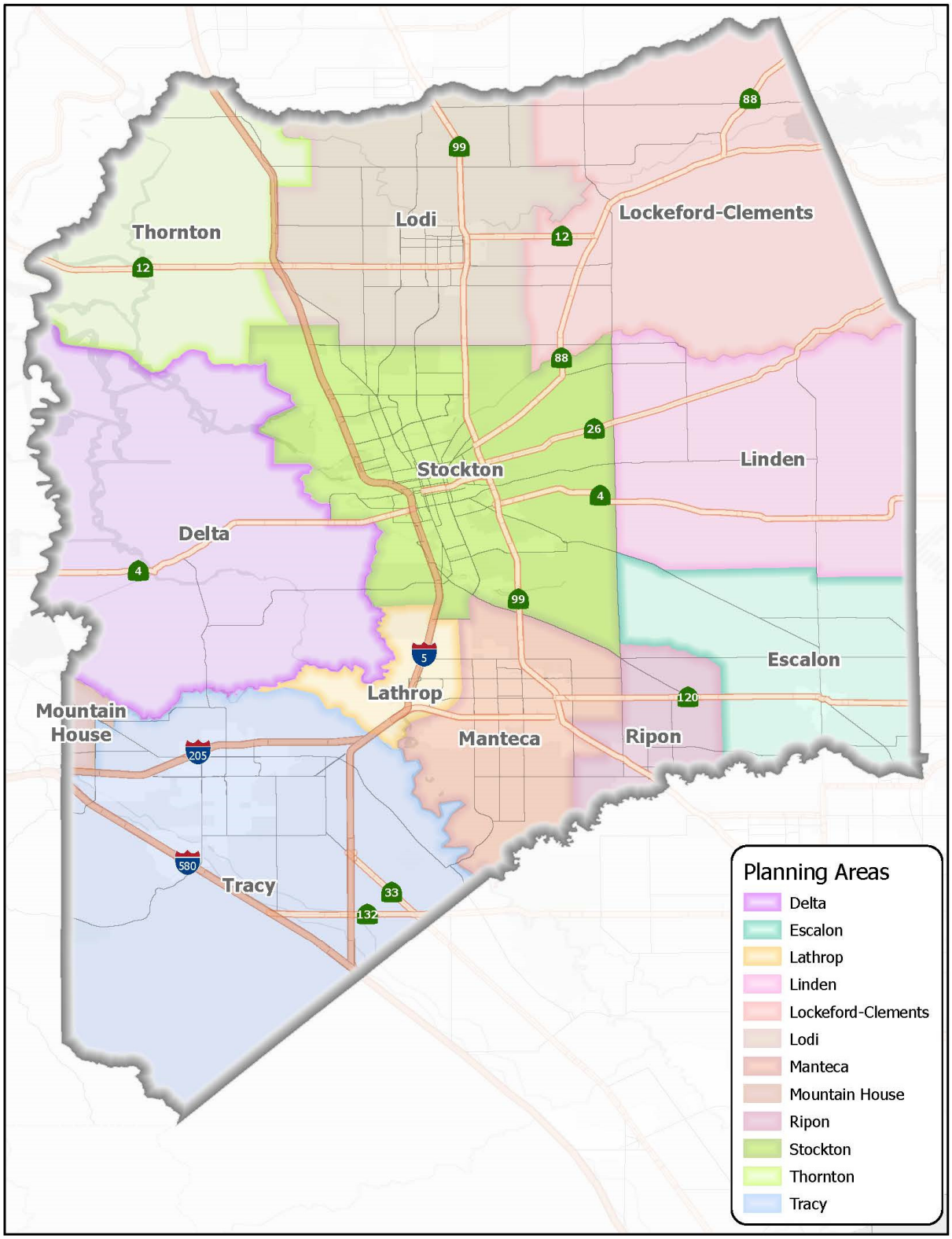
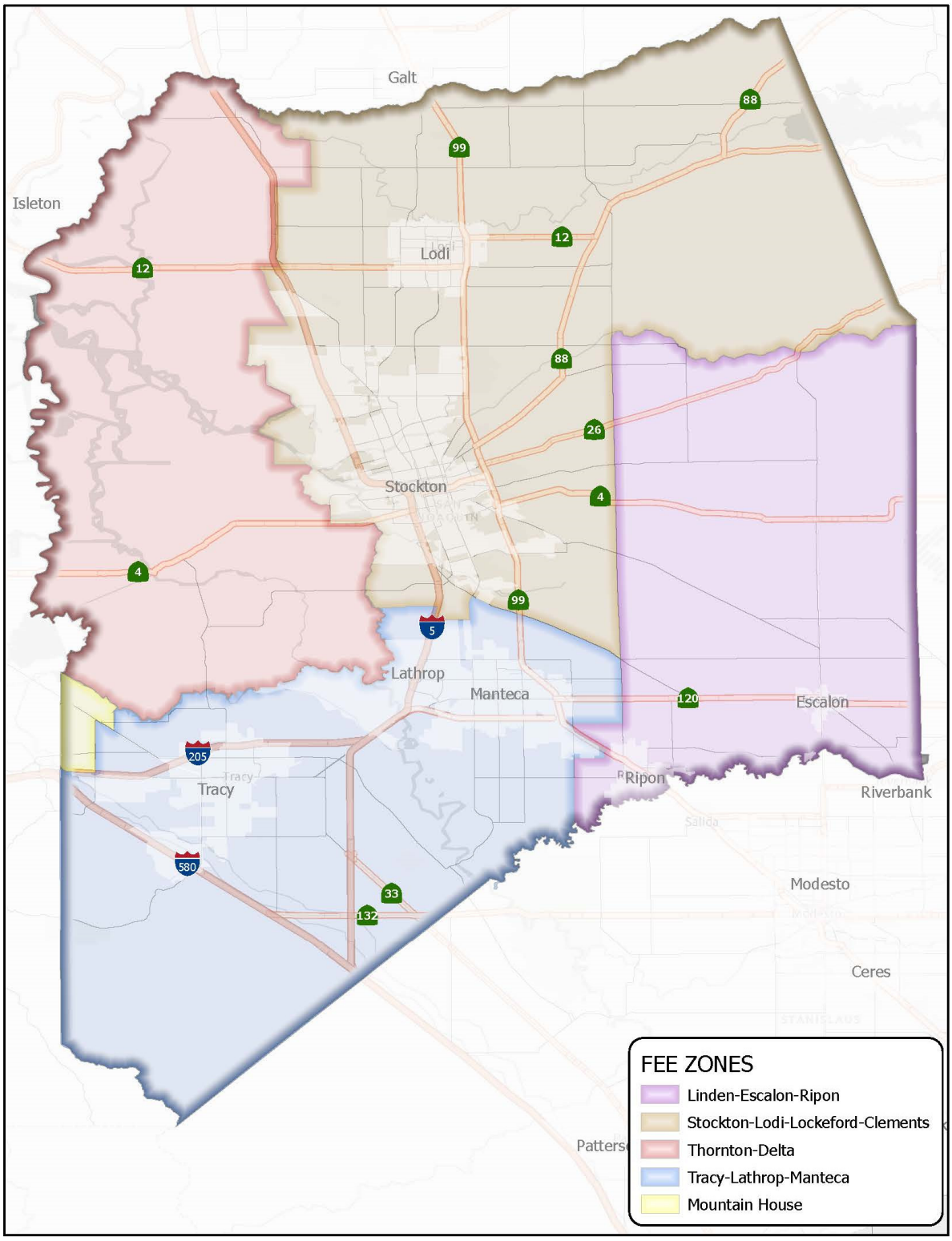


**FIGURE 12. SAN JOAQUIN COUNTY TIMF FEE BENEFIT ZONE GEOGRAPHY**



## DISCOUNTED FAIR SHARE

Per California Code–Section 66005.1 (effective January 1, 2011), housing development projects that satisfy all of the following "Smart Growth" characteristics shall be provided a discounted fee:

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

A discounted fee amount of 15% was established as part of the 2015 TIMF and was based on Smart Growth Trip Generation Study (SANDAG, June 2010). This study compared the vehicle trip generation characteristics of seven development projects in the San Diego region with similar "smart growth" characteristics identified above. The average reduction in trip generation was shown to be approximately 15% relative to the Institute of Transportation Engineers (ITE) based trip generation factors for housing developments without these characteristics. This discount was carried forward and is applied to the 2022 TIMF.

As used in this section, "housing development" means a development project with common ownership and financing consisting of residential use or mixed use where not less than 50 percent of the floor space is for residential use.

For the purposes of this section, "transit station" has the meaning set forth in paragraph (4) of subdivision (b) of Section 65460.1. "Transit station" includes planned transit stations otherwise meeting this definition whose construction is programmed to be completed prior to the scheduled completion and occupancy of the housing development. Transit headway criteria of 10 minutes or less at a transit hub served by three or more transit service lines is defined as cumulative headway versus individual service line headways.

The applicant/developer will be responsible for conducting the initial analysis of the relationship of the new project to the criteria in order to consider eligibility for the discount. The County will verify the determination of discount eligibility on a case-by-case basis. It is recommended that the County coordinate with SJCOG who has included the same discount in the RTIF program.

## COST ALLOCATION

The share of costs attributable to unincorporated development (shown as "Total Unincorporated Share" in **Table 13**) is multiplied by the total adjusted cost of each project to determine the cost of each project attributable to growth in the unincorporated areas of the County. The unincorporated share of the costs, per segment, is then multiplied by the fair share percentage for each planning area in **Table 13** to determine the cost of all projects attributable to the unincorporated areas of each fee zone. **Table 14** shows the calculation of the unincorporated share of the improvement cost and the fair share allocation to each planning area of the unincorporated area share for each project as identified through traffic modeling.

As presented in **Table 14**, holistically dividing unincorporated daily trip growth relative to total daily trip growth yields a 19% unincorporated share. This results in an unincorporated share of total TIMF project cost of $49,132,000. Existing fund balances as of December 31, 2021 provide another $11,789,000 TIMF funding to be carried forward. This yields a net need of $37,343,000.

## TABLE 13. TRIP ALLOCATION – FAIR SHARE PERCENTAGE

| | | | | Total TIMF Fair Share | | | Project Share within Each Zone | | | | | Fair Share TIMF Percentages by Fee Benefit Zones | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Map No. | Project | Extent | Location (Fee Benefit Zone) | Unincorporated Share | Existing Deficiency Adjustment | Net TIMF Share | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House |
| 1 | Lower Sacramento Rd | Stockton City Limit to County Line | Stockton-Lodi-Lockeford-Clements | 36% | N/A | 36% | 0% | 100% | 0% | 0% | 0% | 6% | 94% | 0% | 0% | 0% |
| 2 | Jahant Rd | SR 99 to Dustin Rd | Stockton-Lodi-Lockeford-Clements | 8% | 27% | 8% | 0% | 100% | 0% | 0% | 0% | 7% | 89% | 1% | 3% | 0% |
| 3 | Peltier Rd | I-5 to SR 99 | Stockton-Lodi-Lockeford-Clements | 48% | N/A | 11% | 22% | 78% | 0% | 0% | 0% | 55% | 45% | 0% | 0% | 0% |
| 4 | Jack Tone Rd | Ripon City Limit to SR 120 | Tracy-Lathrop-Manteca / Linden-Escalon-Ripon | 18% | N/A | 18% | 0% | 0% | 50% | 50% | 0% | 1% | 37% | 45% | 17% | 0% |
| 5 | Jack Tone Rd | SR 120 to French Camp Rd | Tracy-Lathrop-Manteca / Linden-Escalon-Ripon | 18% | N/A | 18% | 0% | 0% | 50% | 50% | 0% | 1% | 37% | 45% | 17% | 0% |
| 6 | Jack Tone Rd | French Camp Rd to Mariposa Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | 11% | N/A | 11% | 0% | 50% | 0% | 50% | 0% | 1% | 60% | 16% | 22% | 1% |
| 7 | Jack Tone Rd | Mariposa Rd to SR 4 | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | 12% | N/A | 12% | 0% | 50% | 0% | 50% | 0% | 0% | 61% | 13% | 26% | 0% |
| 8 | Jack Tone Rd | SR 4 to SR 26 | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | 14% | N/A | 14% | 0% | 50% | 0% | 50% | 0% | 1% | 61% | 8% | 30% | 0% |
| 9 | Jack Tone Rd | SR 26 to Eight Mile Mile Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | 18% | N/A | 18% | 0% | 50% | 0% | 50% | 0% | 0% | 71% | 4% | 25% | 0% |
| 10 | Jack Tone Rd | Eight Mile Rd to Live Oak Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | 22% | N/A | 22% | 0% | 75% | 0% | 25% | 0% | 1% | 83% | 3% | 13% | 0% |
| 11 | Jack Tone Rd | Live Oak Rd to Harney Ln | Stockton-Lodi-Lockeford-Clements | 15% | N/A | 15% | 0% | 100% | 0% | 0% | 0% | 0% | 66% | 8% | 26% | 0% |
| 12 | Jack Tone Rd | Harney Ln to Kettleman Ln | Stockton-Lodi-Lockeford-Clements | 20% | N/A | 20% | 0% | 100% | 0% | 0% | 0% | 1% | 82% | 2% | 15% | 0% |
| 13 | Jack Tone Rd | Kettleman Ln to Brandt Rd | Stockton-Lodi-Lockeford-Clements | 17% | N/A | 17% | 0% | 100% | 0% | 0% | 0% | 1% | 81% | 2% | 16% | 0% |
| 14 | Jack Tone Rd | Brandt Rd to Tully Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | 16% | N/A | 16% | 0% | 100% | 0% | 0% | 0% | 1% | 83% | 2% | 14% | 0% |
| 15 | Turner Rd | I-5 to Lodi City Limit | Stockton-Lodi-Lockeford-Clements | 16% | N/A | 16% | 0% | 100% | 0% | 0% | 0% | 61% | 39% | 0% | 0% | 0% |
| 16 | Thornton Rd | Stockton City Limit to SR 12 | Stockton-Lodi-Lockeford-Clements | 16% | N/A | 16% | 0% | 100% | 0% | 0% | 0% | 23% | 70% | 1% | 6% | 0% |
| 17 | Eight Mile Rd | Lower Sacramento Rd to West Lane | Stockton-Lodi-Lockeford-Clements | 25% | N/A | 25% | 0% | 100% | 0% | 0% | 0% | 10% | 86% | 0% | 4% | 0% |
| 18 | Eight Mile Rd | SR 99 to SR 88 | Stockton-Lodi-Lockeford-Clements | 31% | N/A | 31% | 0% | 100% | 0% | 0% | 0% | 2% | 82% | 0% | 16% | 0% |
| 19 | Cherokee Rd | Newton Rd to Canal | Stockton-Lodi-Lockeford-Clements | 25% | N/A | 25% | 0% | 100% | 0% | 0% | 0% | 0% | 97% | 2% | 0% | 1% |
| 20 | Cherokee Rd | Stockton City Limit to Alpine Rd | Stockton-Lodi-Lockeford-Clements | 67% | N/A | 67% | 0% | 100% | 0% | 0% | 0% | 0% | 97% | 1% | 2% | 0% |
| 21 | Main St | SR 99 to Alpine Rd/Copperoplois Rd | Stockton-Lodi-Lockeford-Clements | 7% | N/A | 7% | 0% | 100% | 0% | 0% | 0% | 3% | 89% | 0% | 8% | 0% |
| 22 | Mariposa Rd | SR 99 to Escalon-Bellota Rd | Stockton-Lodi-Lockeford-Clements / Linden-Escalon-Ripon | 9% | N/A | 9% | 0% | 35% | 0% | 65% | 0% | 1% | 71% | 0% | 28% | 0% |
| 23 | Escalon-Bellota Rd4 | Escalon City Limit to Mariposa Rd | Linden-Escalon-Ripon | 8% | N/A | 8% | 0% | 0% | 0% | 100% | 0% | 1% | 49% | 4% | 45% | 1% |
| 24 | Mathews Rd | El Dorado St to Split with Howard Rd | Stockton-Lodi-Lockeford-Clements | 24% | N/A | 24% | 0% | 100% | 0% | 0% | 0% | 5% | 75% | 14% | 1% | 5% |
| 25 | French Camp Rd | Airport Way to Jack Tone Rd | Stockton-Lodi-Lockeford-Clements / Tracy-Lathrop-Manteca | 18% | N/A | 18% | 0% | 50% | 50% | 0% | 0% | 6% | 48% | 40% | 6% | 0% |
| 26 | Tracy Blvd | SR 4 to Tracy City Limit | Thornton-Delta / Tracy-Lathrop-Manteca | 34% | N/A | 34% | 78% | (0%) | 22% | 0% | 0% | 42% | 8% | 16% | 1% | 33% |
| 27 | Byron Rd | Wickland Rd to I-205 | Tracy-Lathrop-Manteca | 82% | 46% | 38% | 0% | 0% | 100% | 0% | 0% | 0% | 1% | 9% | 0% | 90% |
| 28 | McHenry Ave | County Line to Escalon City Limit | Linden-Escalon-Ripon | 15% | N/A | 15% | 0% | 0% | 0% | 100% | 0% | 0% | 18% | 1% | 81% | 0% |
| 29 | River Rd | Rippon Rd to Santa Fe Rd | Linden-Escalon-Ripon | 8% | N/A | 8% | 0% | 0% | 0% | 100% | 0% | 1% | 17% | 33% | 40% | 9% |
| 30 | Grant Line Rd | Paradise Rd to 11th St | Tracy-Lathrop-Manteca | 29% | 18% | 5% | 0% | 0% | 100% | 0% | 0% | 1% | 7% | 76% | 1% | 15% |
| 31 | Kasson Rd | 11th St to I-5 | Tracy-Lathrop-Manteca | 31% | N/A | 31% | 0% | 0% | 100% | 0% | 0% | 2% | 9% | 70% | 0% | 19% |
| 32 | Lammers Rd | Valpico Rd to W Schulte Rd (South) | Tracy-Lathrop-Manteca | 23% | N/A | 23% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 58% | 0% | 42% |
| 33 | Chrisman Rd | Linne Rd to 11th St excl. C. of Tracy | Tracy-Lathrop-Manteca | 21% | N/A | 21% | 0% | 0% | 100% | 0% | 0% | 1% | 9% | 87% | 1% | 2% |
| 34 | Valpico Rd | Lammers Rd to Corral Hollow Rd | Tracy-Lathrop-Manteca | 24% | N/A | 24% | 0% | 0% | 100% | 0% | 0% | 0% | 4% | 70% | 0% | 26% |
| 35 | Oro Ave | Main St to Section Ave | Stockton-Lodi-Lockeford-Clements | 53% | 25% | 13% | 0% | 100% | 0% | 0% | 0% | 1% | 96% | 2% | 1% | 0% |
| 36 | Cardinal Ave | Main St to SR-26/Fremont St | Stockton-Lodi-Lockeford-Clements | 37% | N/A | 37% | 0% | 100% | 0% | 0% | 0% | 0% | 99% | 0% | 1% | 0% |
| 37 | Newton Rd | Cherokee Rd to Wilson Way | Stockton-Lodi-Lockeford-Clements | 39% | 27% | 11% | 0% | 100% | 0% | 0% | 0% | 0% | 90% | 6% | 4% | 0% |
| 38 | Austin Rd | SR 99 to Ripon Rd | Tracy-Lathrop-Manteca | 14% | N/A | 14% | 0% | 0% | 60% | 40% | 0% | 1% | 16% | 47% | 25% | 11% |

| Fee Zone ID | Planning Areas |
|---|---|
| 1 | Thornton-Delta |
| 2 | Stockton-Lodi-Lockeford-Clements |
| 3 | Tracy-Lathrop-Manteca |
| 4 | Linden-Escalon-Ripon |
| 5 | Mountain House |

## TABLE 14. COST ALLOCATION BY FEE BENEFIT ZONE

| ID No. | Project | TIMF Cost Allocation | | | | | | Cost Allocation By TIM Fee Benefit Zone | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Project Cost ($) | Net TIMF Share | Pro-grammed Funding | TIMF Fair Share ($) | Local Zone Allocation | Local Zone Cost | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House |
| ***Stockton-Lodi-Lockeford-Clemens*** | | | | | | | | | | | | |
| 1 | Lower Sacramento Rd | 32,347,800 | 36% | - | 11,645,208 | 100% | 11,645,208 | 698,712 | 10,946,496 | - | - | - |
| 2 | Jahant Rd | 682,598 | 8% | - | 54,608 | 100% | 54,608 | 3,823 | 48,601 | 546 | 1,638 | - |
| 3 | Peltier Rd | 2,618,880 | 11% | - | 288,077 | 78% | 224,700 | 123,585 | 101,115 | - | - | - |
| 6 | Jack Tone Rd | 1,831,526 | 11% | - | 201,468 | 50% | 100,734 | 1,007 | 60,442 | 16,117 | 22,161 | 1,007 |
| 7 | Jack Tone Rd | 868,454 | 12% | - | 104,215 | 50% | 52,108 | - | 31,786 | 6,774 | 13,548 | - |
| 8 | Jack Tone Rd | 1,371,955 | 14% | - | 192,074 | 50% | 96,037 | 960 | 58,583 | 7,683 | 28,811 | - |
| 9 | Jack Tone Rd | 1,348,301 | 18% | - | 242,694 | 50% | 121,347 | - | 86,156 | 4,854 | 30,337 | - |
| 10 | Jack Tone Rd | 513,638 | 22% | - | 113,000 | 75% | 84,750 | 848 | 70,341 | 2,543 | 11,018 | - |
| 11 | Jack Tone Rd | 500,122 | 15% | - | 75,018 | 100% | 75,018 | - | 49,512 | 6,001 | 19,505 | - |
| 12 | Jack Tone Rd | 381,850 | 20% | - | 76,370 | 100% | 76,370 | 764 | 62,623 | 1,527 | 11,456 | - |
| 13 | Jack Tone Rd | 672,461 | 17% | - | 114,318 | 100% | 114,318 | 1,143 | 92,598 | 2,286 | 18,291 | - |
| 14 | Jack Tone Rd | 381,850 | 16% | - | 61,096 | 100% | 61,096 | 611 | 50,710 | 1,222 | 8,553 | - |
| 15 | Turner Rd | 1,561,190 | 16% | - | 249,790 | 100% | 249,790 | 152,372 | 97,418 | - | - | - |
| 16 | Thornton Rd | 23,127,245 | 16% | - | 3,700,359 | 100% | 3,700,359 | 851,083 | 2,590,250 | 37,004 | 222,022 | - |
| 17 | Eight Mile Rd | 6,139,035 | 25% | - | 1,534,759 | 100% | 1,534,759 | 153,476 | 1,319,893 | - | 61,390 | - |
| 18 | Eight Mile Rd | 1,304,371 | 31% | - | 404,355 | 100% | 404,355 | 8,087 | 331,571 | - | 64,697 | - |
| 19 | Cherokee Rd | 1,572,268 | 25% | - | 393,067 | 100% | 393,067 | - | 381,275 | 7,861 | - | 3,931 |
| 20 | Cherokee Rd | 9,039,624 | 67% | - | 6,056,548 | 100% | 6,056,548 | - | 5,874,852 | 60,565 | 121,131 | - |
| 21 | Main St | 14,277,803 | 7% | - | 999,446 | 100% | 999,446 | 29,983 | 889,507 | - | 79,956 | - |
| 22 | Mariposa Rd | 81,658,298 | 9% | - | 7,349,247 | 35% | 2,572,236 | 25,722 | 1,826,288 | - | 720,226 | - |
| 24 | Mathews Rd | 2,099,856 | 24% | - | 503,965 | 100% | 503,965 | 25,198 | 377,974 | 70,555 | 5,040 | 25,198 |
| 25 | French Camp Rd | 10,485,658 | 18% | - | 1,887,418 | 50% | 943,709 | 56,623 | 452,979 | 377,484 | 56,623 | - |
| 35 | Oro Ave | 128,410 | 13% | - | 16,693 | 100% | 16,693 | 167 | 16,025 | 334 | 167 | - |
| 36 | Cardinal Ave | 466,330 | 37% | - | 172,542 | 100% | 172,542 | - | 170,817 | - | 1,725 | - |
| 37 | Newton Rd | 280,474 | 11% | - | 30,852 | 100% | 30,852 | - | 27,767 | 1,851 | 1,234 | - |
| | **Subtotal** | **195,379,523** | **19%** | **-** | **36,467,187** | | **30,284,615** | **2,134,164** | **26,015,579** | **605,207** | **1,499,529** | **30,136** |
| ***Linden-Escalon-Ripon*** | | | | | | | | | | | | |
| 4 | Jack Tone Rd | 817,766 | 18% | - | 147,198 | 50% | 73,599 | 736 | 27,231 | 33,120 | 12,512 | - |
| 5 | Jack Tone Rd | 679,219 | 18% | - | 122,259 | 50% | 61,130 | 611 | 22,618 | 27,509 | 10,392 | - |
| 6 | Jack Tone Rd | 1,831,526 | 11% | - | 201,468 | 50% | 100,734 | 1,007 | 60,442 | 16,117 | 22,161 | 1,007 |
| 7 | Jack Tone Rd | 868,454 | 12% | - | 104,215 | 50% | 52,108 | - | 31,786 | 6,774 | 13,548 | - |
| 8 | Jack Tone Rd | 1,371,955 | 14% | - | 192,074 | 50% | 96,037 | 960 | 58,583 | 7,683 | 28,811 | - |
| 9 | Jack Tone Rd | 1,348,301 | 18% | - | 242,694 | 50% | 121,347 | - | 86,156 | 4,854 | 30,337 | - |
| 10 | Jack Tone Rd | 513,638 | 22% | - | 113,000 | 25% | 28,250 | 283 | 23,446 | 848 | 3,673 | - |
| 22 | Mariposa Rd | 81,658,298 | 9% | - | 7,349,247 | 65% | 4,777,011 | 47,770 | 3,391,678 | - | 1,337,563 | - |
| 23 | Escalon-Bellota Rd4 | 9,456,691 | 8% | - | 756,535 | 100% | 756,535 | 7,565 | 370,703 | 30,261 | 340,441 | 7,565 |
| 28 | McHenry Ave | 2,423,915 | 15% | - | 363,587 | 100% | 363,587 | - | 65,446 | 3,636 | 294,505 | - |
| 29 | River Rd | 3,271,066 | 8% | - | 261,685 | 100% | 261,685 | 2,617 | 44,486 | 86,356 | 104,674 | 23,552 |
| 38 | Austin Rd | 824,525 | 14% | - | 115,433 | 40% | 46,173 | 462 | 7,388 | 21,701 | 11,543 | 5,079 |
| | **Subtotal** | **105,065,356** | **9%** | **-** | **9,969,395** | | **6,738,196** | **62,011** | **4,189,963** | **238,859** | **2,210,160** | **37,203** |
| ***Tracy-Lathrop-Manteca*** | | | | | | | | | | | | |
| 4 | Jack Tone Rd | 817,766 | 18% | - | 147,198 | 50% | 73,599 | 736 | 27,231 | 33,120 | 12,512 | - |
| 5 | Jack Tone Rd | 679,219 | 18% | - | 122,259 | 50% | 61,130 | 611 | 22,618 | 27,509 | 10,392 | - |
| 25 | French Camp Rd | 10,485,658 | 18% | - | 1,887,418 | 50% | 943,709 | 56,623 | 452,979 | 377,484 | 56,623 | - |
| 26 | Tracy Blvd | 3,189,965 | 34% | - | 1,084,588 | 22% | 238,609 | 100,216 | 19,089 | 38,177 | 2,386 | 78,741 |
| 27 | Byron Rd | 14,258,534 | 38% | - | 5,418,243 | 100% | 5,418,243 | - | 54,182 | 487,642 | - | 4,876,419 |
| 30 | Grant Line Rd | 10,093,670 | 5% | - | 504,684 | 100% | 504,684 | 5,047 | 35,327 | 383,560 | 5,047 | 75,703 |
| 31 | Kasson Rd | 2,645,914 | 31% | - | 820,233 | 100% | 820,233 | 16,405 | 73,821 | 574,163 | - | 155,844 |
| 32 | Lammers Rd | 2,988,902 | 23% | - | 687,448 | 100% | 687,448 | - | - | 398,720 | - | 288,728 |
| 33 | Chrisman Rd | 4,122,888 | 21% | - | 865,806 | 100% | 865,806 | 8,658 | 77,923 | 753,251 | 8,658 | 17,316 |
| 34 | Valpico Rd | 6,320,794 | 24% | - | 1,516,990 | 100% | 1,516,990 | - | 60,680 | 1,061,893 | - | 394,417 |
| 38 | Austin Rd | 824,525 | 14% | - | 115,433 | 60% | 69,260 | 693 | 11,081 | 32,552 | 17,315 | 7,619 |
| | **Subtotal** | **56,427,835** | **23%** | **-** | **13,170,300** | | **11,199,711** | **188,989** | **834,931** | **4,168,071** | **112,933** | **5,894,787** |
| ***Thornton-Delta*** | | | | | | | | | | | | |
| 3 | Peltier Rd | 2,618,880 | 11% | - | 288,077 | 22% | 63,377 | 34,857 | 28,520 | - | - | - |
| 26 | Tracy Blvd | 3,189,965 | 34% | - | 1,084,588 | 78% | 845,979 | 355,311 | 67,678 | 135,357 | 8,460 | 279,173 |
| | **Subtotal** | **5,808,845** | **24%** | **-** | **1,372,665** | | **909,356** | **390,168** | **96,198** | **135,357** | **8,460** | **279,173** |
| | **Total** | **256,753,846** | **19%** | **-** | | | **49,131,878** | **2,775,332** | **31,136,671** | **5,147,494** | **3,831,082** | **6,241,299** |
| | **Local** | | | | **32,783,978** | | | **390,168** | **26,015,579** | **4,168,071** | **2,210,160** | **-** |
| | **Regional** | | | | **16,347,900** | | | **2,385,164** | **5,121,092** | **979,423** | **1,620,922** | **6,241,299** |
| ***Fund Balance (11/30/2021)*** | | | | | | | | | | | | |
| | Total | | | | 11,788,858 | | | 227,834 | 3,768,095 | 1,498,957 | 505,393 | 5,788,579 |
| | Local | | | | 3,107,774 | | | 17,372 | 1,880,162 | 922,190 | 288,049 | - |
| | Regional | | | | 8,681,084 | | | 210,461 | 1,887,932 | 576,767 | 217,344 | 5,788,579 |
| ***Net TIMF Funding Need*** | | | | | | | | | | | | |
| | **Total** | | | | **37,343,020** | | | **2,547,498** | **27,368,576** | **3,648,537** | **3,325,689** | **452,720** |
| | **Local** | | | | **29,676,204** | | | **372,796** | **24,135,417** | **3,245,881** | **1,922,111** | **-** |
| | **Regional** | | | | **7,666,816** | | | **2,174,703** | **3,233,160** | **402,656** | **1,403,578** | **452,720** |

## FEE CALCULATION

To determine the cost per DUE, the fair share costs per Fee Benefit Zone is divided by the projected growth in DUE. **Table 15** shows the cost per DUE by Fee Benefit Zone. Given that disparities in growth and needed improvements can create geographic inequities in fees, averaging can be applied to "smooth" fee amounts across fee zones. Averaging fees together across the two most urban Fee Benefit Zones (Stockton-Lodi-Lockeford and Tracy-Lathrop-Manteca) and the two more rural Fee Benefit Zones (Thornton-Delta and Linden-Escalon-Ripon) respectively yielded the least fee variance. The averaging of these zones is depicted in **Figure 13.**

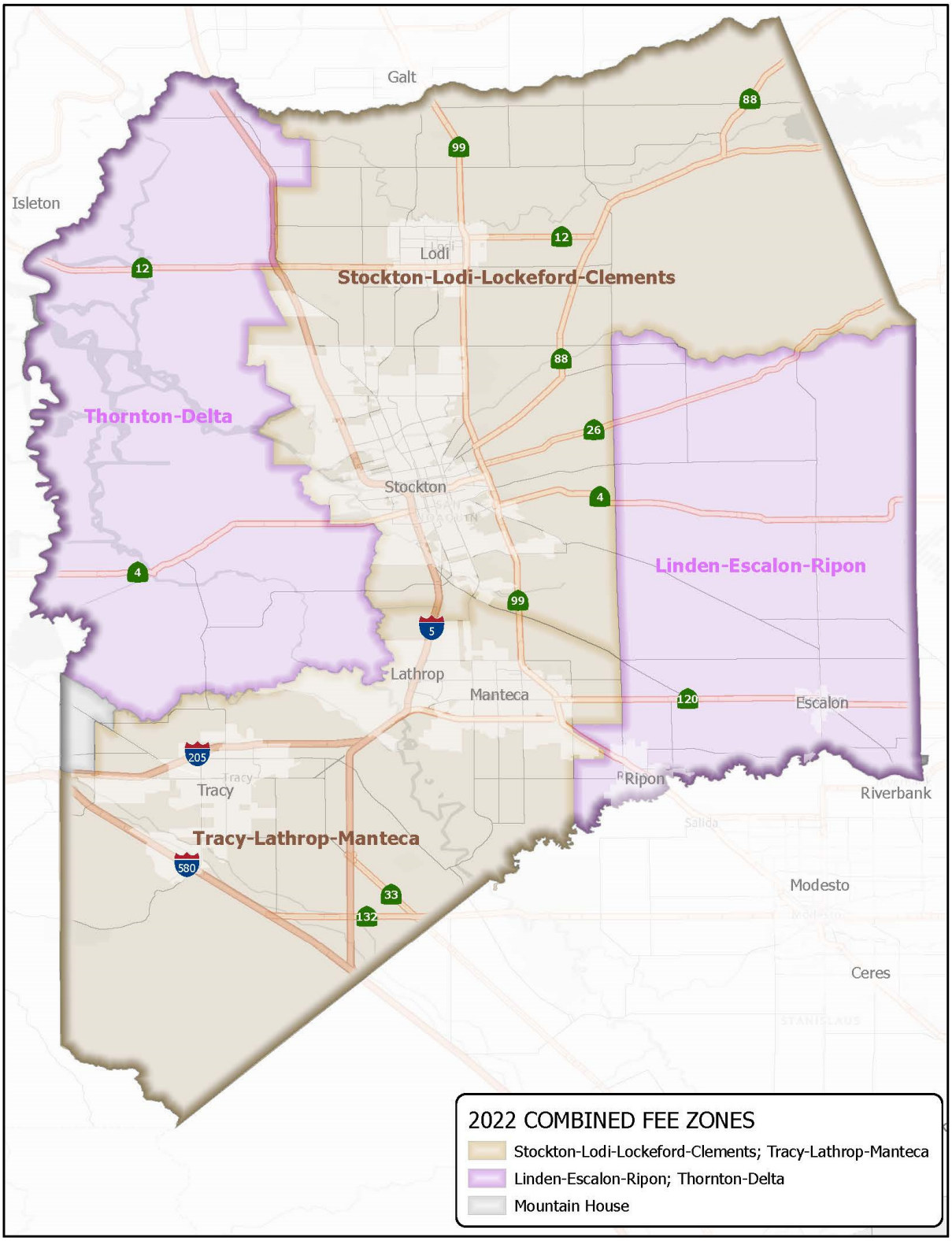
The cost per DUE is equal to the fee for a single-family residential unit. The cost per DUE is allocated between a local component (the fair share of costs allocated to the zone in which the project is located) and a regional component (for all other projects, representing fair share obligations between zones). The local component of the fee revenues would be kept in separate accounts to fund projects in that zone. The regional component would be consolidated into a single account to fund the regional share of projects across all zones.

**TABLE 15. COST PER DUE BY FEE BENEFIT ZONE**

| | TIM Fee Benefit Zone | | | | |
|---|---|---|---|---|---|
| | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House |
| New Development (DUEs) | 2,888 | 22,847 | 22,847 | 2,888 | 8,986 |
| Costs | | | | | |
| Local Projects | $ 2,294,906 | $ 27,381,298 | $ 27,381,298 | $ 2,294,906 | $ - |
| Regional Projects | $ 3,578,280 | $ 3,635,816 | $ 3,635,816 | $ 3,578,280 | $ 452,720 |
| Cost per DUE | | | | | |
| Local Projects Share | $ 795 | $ 1,198 | $ 1,198 | $ 795 | $ - |
| Regional Projects Share | $ 1,239 | $ 159 | $ 159 | $ 1,239 | $ 50 |
| Alternative Modes | $ 239 | $ 160 | $ 160 | $ 239 | $ 6 |
| Administrative Fee | $ 120 | $ 80 | $ 80 | $ 120 | $ 3 |
| Total Cost per DUE | $ 2,393 | $ 1,597 | $ 1,597 | $ 2,393 | $ 59 |

Note: For this nexus update the Tracy-Lathrop-Manteca and Stockton-Lodi-Lockerford-Clements zones are combined, and the Thornton-Delta and Linden-Escalon-Ripon zones are combined.

**FIGURE 13. AVERAGING OF FEE BENEFIT ZONES**






DKS

In addition to the local and regional costs, ten percent (10%) of the total cost per DUE is allocated to fund alternative modes of transportation. The historical approach for developing an alternative mode fair share allocation percentage in the TIMF was using the percent alternative mode share of journey-to-work trips from the American Community Survey or Census data. This typically yielded a fair share percentage of approximately five percent. Given that this approach only reflects commute trips, a more robust approach that addresses all trip purposes was applied based on the percentage of total person trips from the 2042 SJCOG VMIP2 forecast. **Table 16** shows the number of daily trips by non-motorized modes under baseline and future year conditions for the unincorporated County. Model output indicates that non-motorized trips make up 8.5% of total person trips under baseline conditions, and 9.9% of total trips under future year (2042) conditions. Based on this analysis, a ten percent (10%) TIMF fair share for alternative modes is justified. A more detailed description of this analysis is provided in **Appendix 7**.

**TABLE 16. UNINCORPORATED SAN JOAQUIN COUNTY PEDESTRIAN/BIKE MODE SHARE**

| TRIP MODE | 2015 | | 2042 | |
|---|---|---|---|---|
| UNINCORPORATED COUNTY | PERSON TRIPS | % OF TOTAL TRIPS | PERSON TRIPS | % OF TOTAL TRIPS |
| Total Person Trips | 363,707 | 100% | 576,627 | 100% |
| Walk Trips | 23,190 | 6.4% | 44,444 | 7.7% |
| Bike Trips | 4,767 | 1.3% | 7,885 | 1.4% |
| Walk to Transit Trips | 2,873 | 7.9% | 4,776 | 0.8% |
| **Total Non-Motorized** | **30,830** | **8.5%** | **57,105** | **9.9%** |

The total cost per DUE is translated into a full fee schedule using the DUE factors. The full fee schedule corresponding with **Table 15** is summarized in **Table 17**. Note that residential fees are expressed in both per dwelling unit and per square foot. With the passage of AB 602, all residential traffic impact fees must be applied on a cost per square foot basis starting July 1, 2022. As such, the cost per square foot fee will be the operable fee for implementation of the TIMF moving forward. The corresponding cost per dwelling unit in documented herein for comparative purposes with historical TIMF residential fees. The fee per square foot is based on the total area of covered floor area of the residential unit. It does not reflect yard area or other non-covered portions of a property.

Mountain House TIMF fees are significantly lower than the other Fee Benefit Zones given that there is no local share (Mountain House has their own traffic impact fee) and their relatively small regional fee burden is spread across relatively more growth.

For administration, the current allocation of five percent (5%) of the total cost per DUE was not revised.

**Table 18** shows the fee revenue allocation for each fee zone to regional, local, alternative modes, and administrative costs.

**TABLE 17. FEE BENEFIT ZONE SCHDUELE SUMMARY - TOTAL FEE**

| | | TIM Fee Benefit Zone | | | | |
|---|---|---|---|---|---|---|
| | DUE | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House |
| Cost per DUE | | $ 2,393 | $ 1,597 | $ 1,597 | $ 2,393 | $ 59 |
| ***Residential (per Dwelling Unit)*** | | | | | | |
| Single Family | 1.00 | $ 2,393 | $ 1,597 | $ 1,597 | $ 2,393 | $ 59 |
| Multi Family | 0.58 | $ 1,378 | $ 919 | $ 919 | $ 1,378 | $ 34 |
| ***Residential (per Square Foot)*** [1] | | | | | | |
| Single Family[1] | | $ 1.29 | $ 0.86 | $ 0.86 | $ 1.29 | $ 0.03 |
| Multi Family | | $ 1.49 | $ 0.99 | $ 0.99 | $ 1.49 | $ 0.04 |
| ***Non-Residential (per Thousand Square Feet)*** | | | | | | |
| Retail | 0.88 | $ 2,114 | $ 1,411 | $ 1,411 | $ 2,114 | $ 52 |
| Service Commercial* | 0.76 | $ 1,821 | $ 1,215 | $ 1,215 | $ 1,821 | $ 45 |
| Office | 0.90 | $ 2,146 | $ 1,432 | $ 1,432 | $ 2,146 | $ 53 |
| Manufacturing | 0.57 | $ 1,357 | $ 906 | $ 906 | $ 1,357 | $ 33 |
| Warehouse | 0.14 | $ 330 | $ 220 | $ 220 | $ 330 | $ 8 |

[1] Assumes average sized single family unit is 1,857 square feet and average multifamily unit is 925 square feet, based on 2019 American Housing Survey data.

Sources: 2019 American Housing Survey; Tables 6 and 15.

**TABLE 18. TIMF FEE ALLOCATION PERCENTAGES**

| | TIM Fee Benefit Zone | | | | |
|---|---|---|---|---|---|
| | Thornton-Delta | Stockton-Lodi-Lockeford-Clements | Tracy-Lathrop-Manteca | Linden-Escalon-Ripon | Mountain House |
| Local Projects Share | 33% | 75% | 75% | 33% | 0% |
| Regional Projects Share | 52% | 10% | 10% | 52% | 85% |
| Alternative Modes | 10% | 10% | 10% | 10% | 10% |
| Administrative Fee | 5% | 5% | 5% | 5% | 5% |
| | 100% | 100% | 100% | 100% | 100% |

In summary, while the 2015 TIMF averaged fees using a north-south combination of fee zones, the 2022 TIMF averages fees based on an urban / rural basis. The latter fee zone combinations result in the least amount of fee variance across the four Fee Benefit Zones. The Fee Benefit Zone combinations are shown in **Figure 14**. For comparative purposes, single family dwelling unit fees between the current and proposed TIMF fees is shown in **Figure 15**.

**FIGURE 14. FEE GEOGRAPHY SUMMARY**

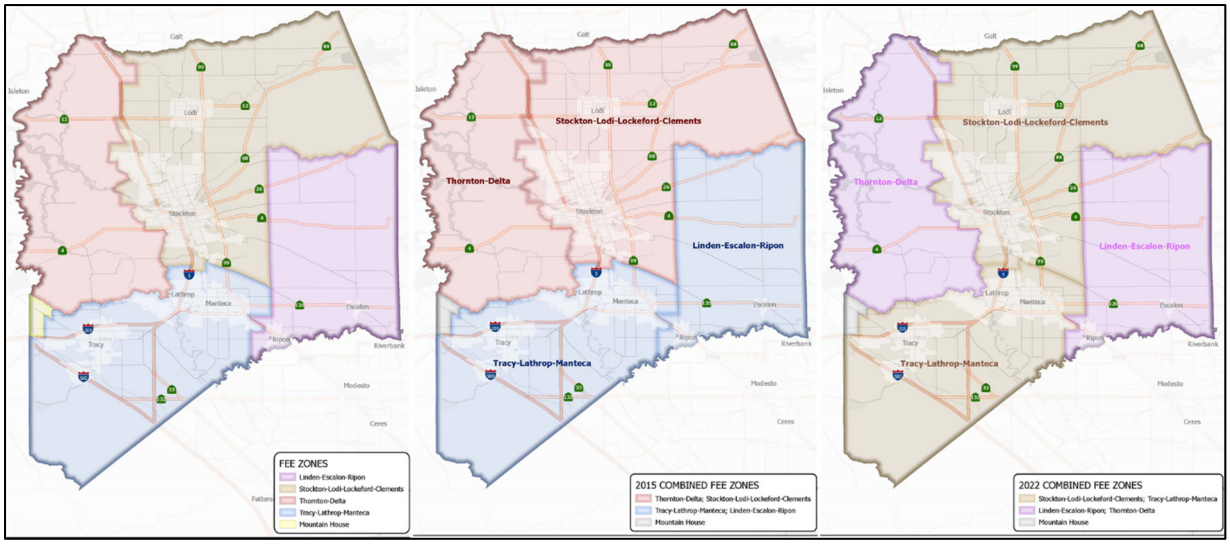
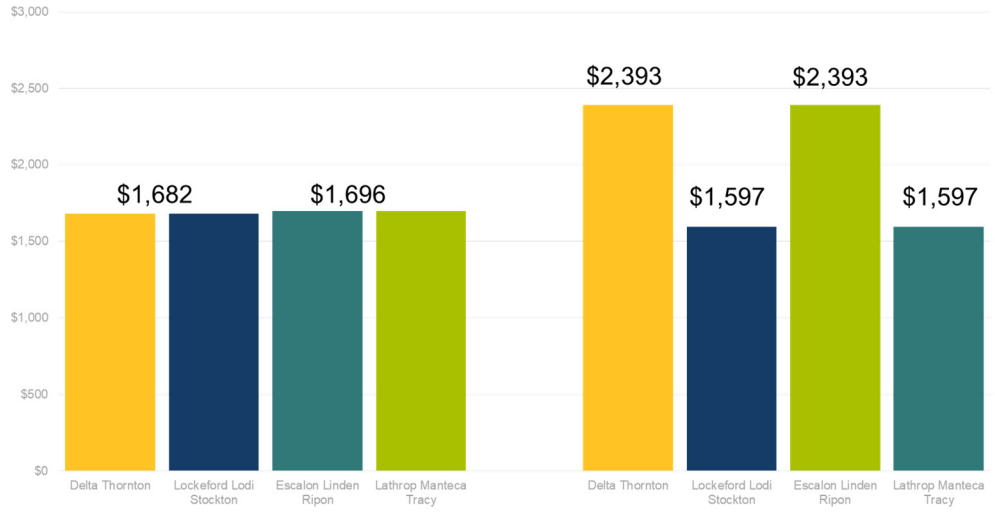


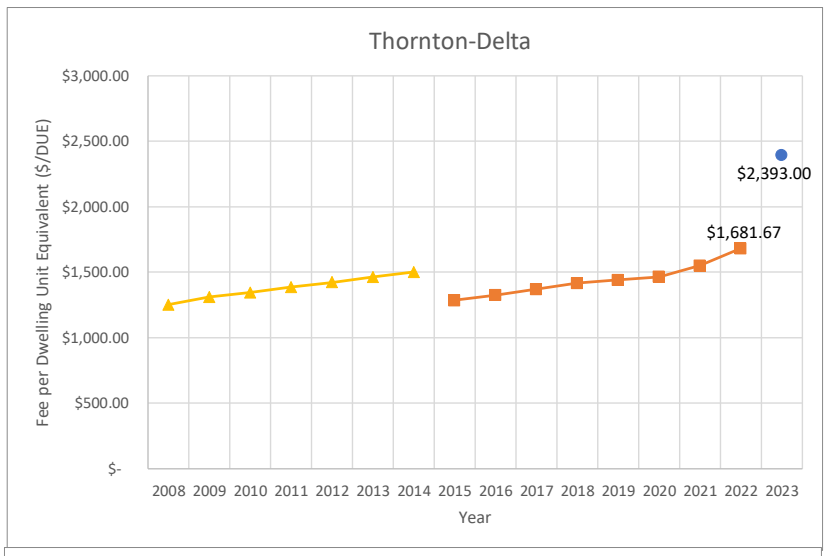

**FIGURE 15. COST PER SINGLE FAMILY DWELLING UNIT COMPARISON: CURRENT VS PROPOSED TIMF**

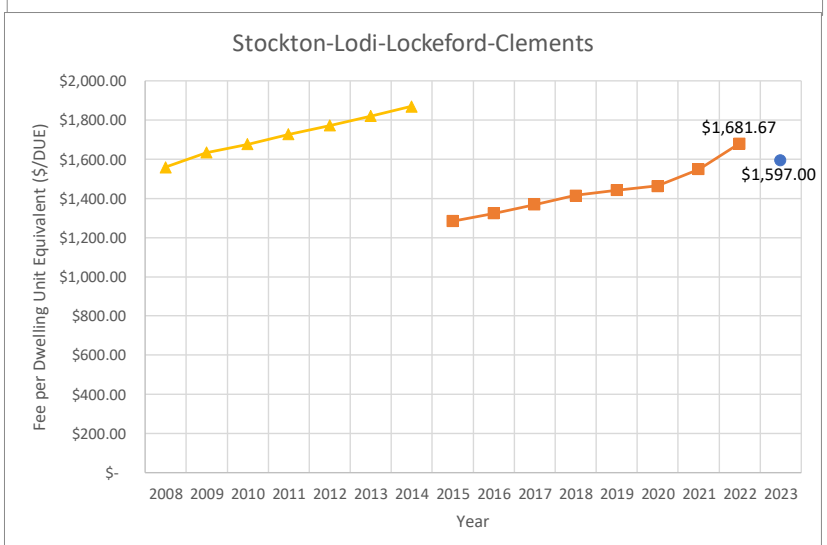


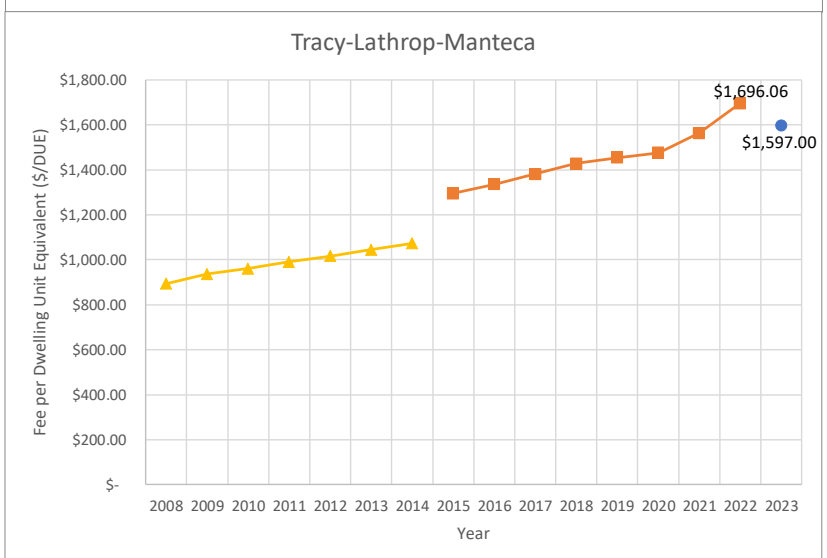

Fee comparisons charged per year since the 2008 TIMF are provided for each land use type in **Figure 16** through **Figure 22**. As shown, residential fees are generally lower than historical in the more urban Fee Benefit Zones and higher in the rural fee zones. Generally higher construction costs, more and

longer project limits, and relatively less unincorporated area growth to spread the CIP costs are the reasons for the increase in fees within the rural Fee Benefit Zones. The residential fee structure is consistent with state and regional policies for promoting more compact development patterns in or near existing developed areas. For retail and commercial uses, fees are significantly lower countywide. The primary explanation for this is the application of VMT as part of the DUE calculation. Retail and commercial uses are characterized by the lowest average trip lengths (i.e., VMT) relative to the other land use types. Similar to the residential fees, Office and Manufacturing fees are generally lower than historical in the more urban Fee Benefit Zones and higher in the rural fee zones. The 2022 TIMF continues the historical trend in lowering fees for warehousing uses. As described previously, growth in warehousing and distribution centers has been a significant trend in San Joaquin County over the last 5 to 10 years. This trend is anticipated to continue.

**FIGURE 16. HISTORIC VS. PROPOSED FEE – SFDU**



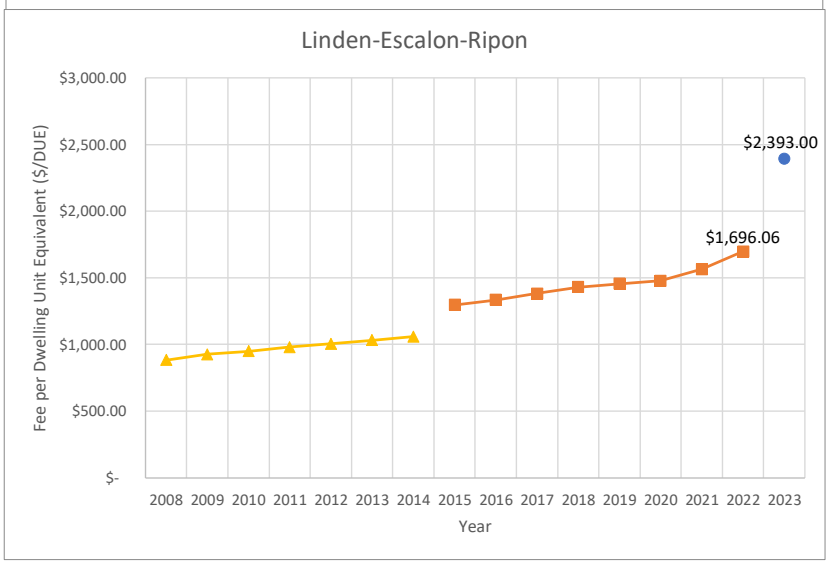
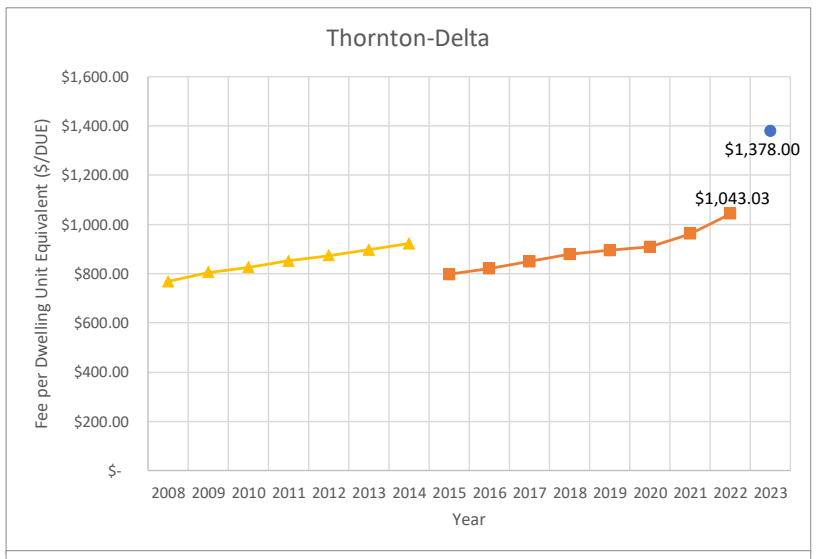
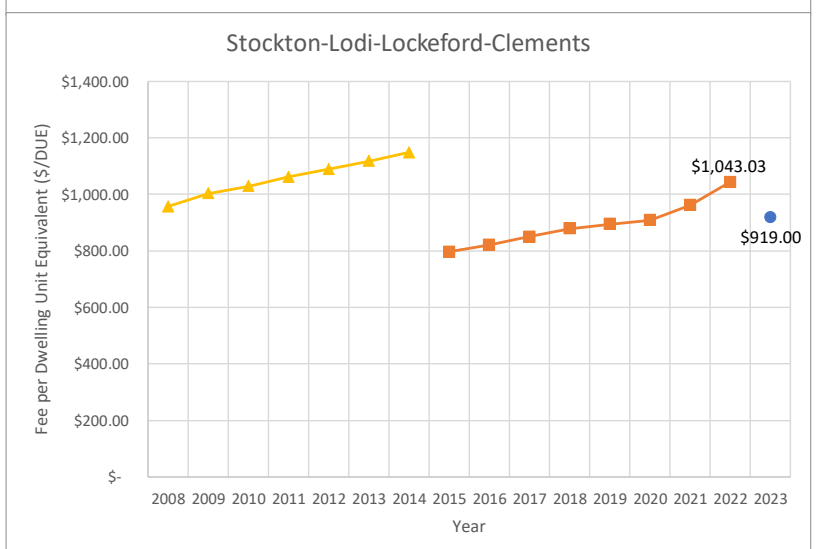
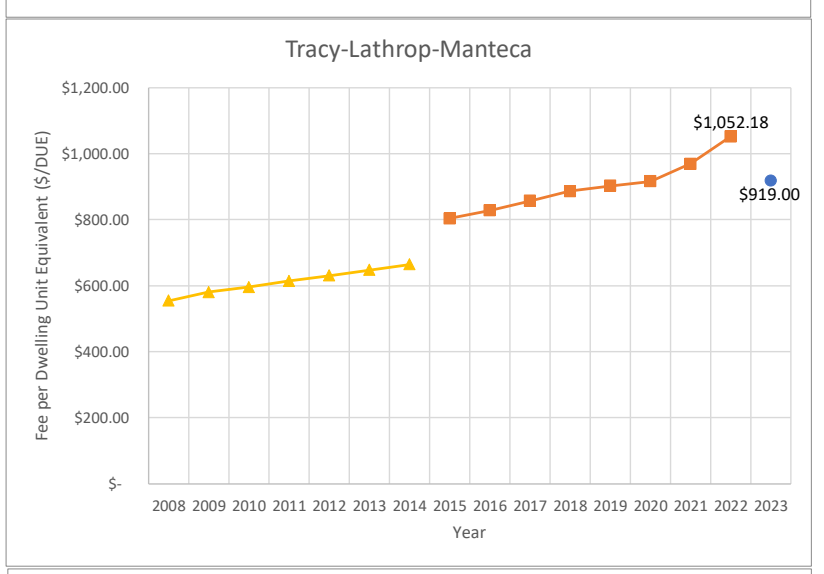




**FIGURE 17. HISTORIC VS. PROPOSED FEE – MFDU**



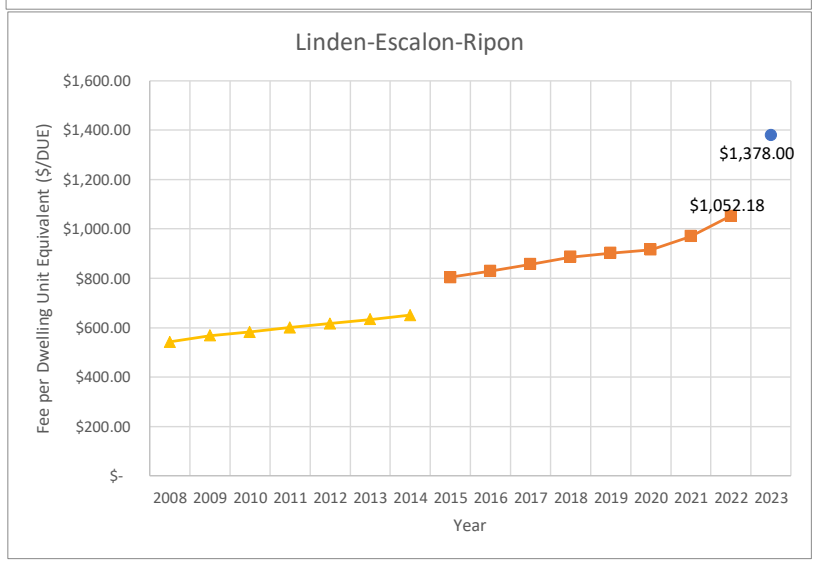
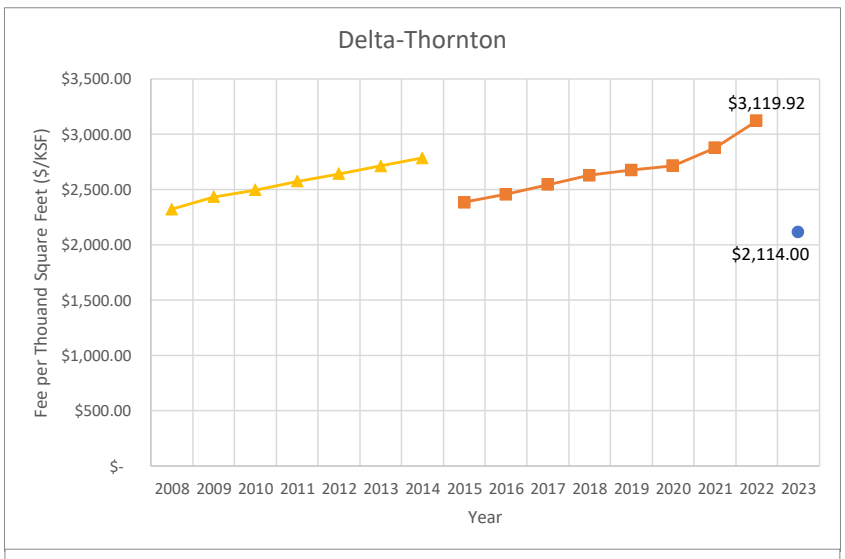
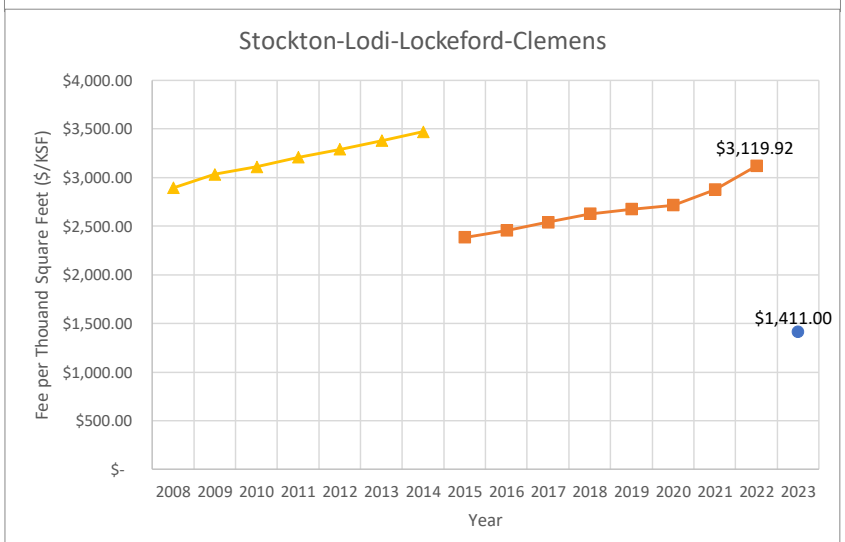
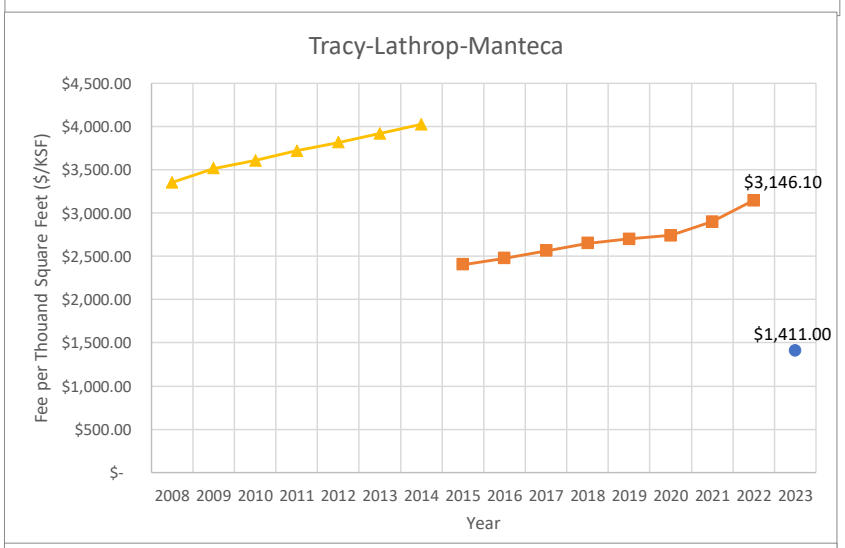



**FIGURE 18. HISTORIC VS. PROPOSED FEE – RETAIL**



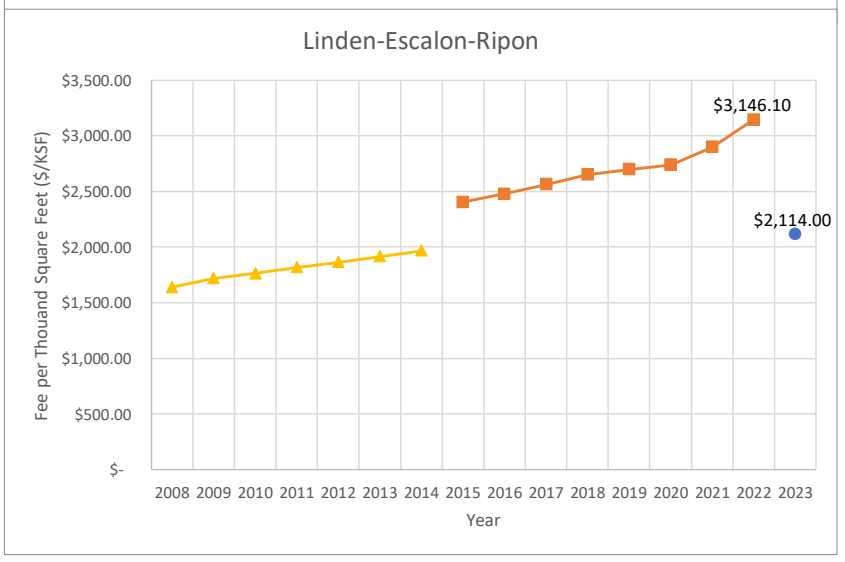
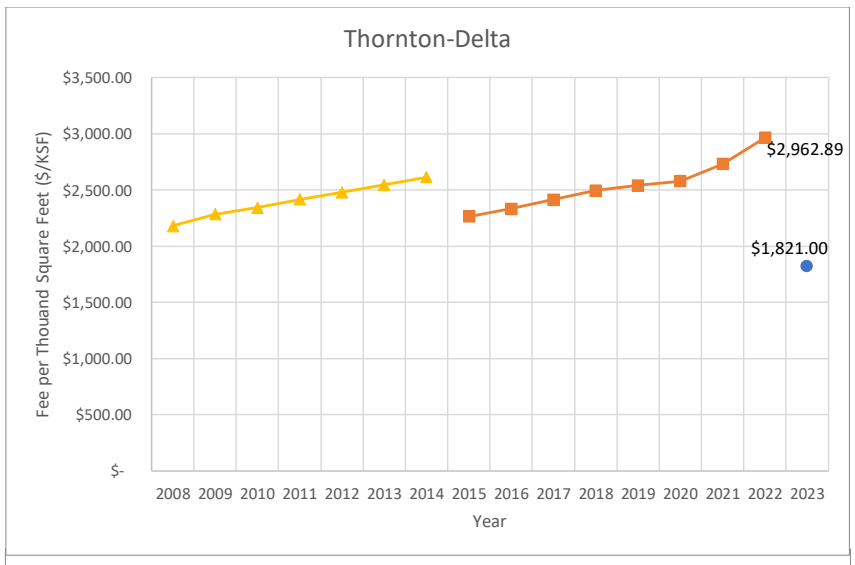
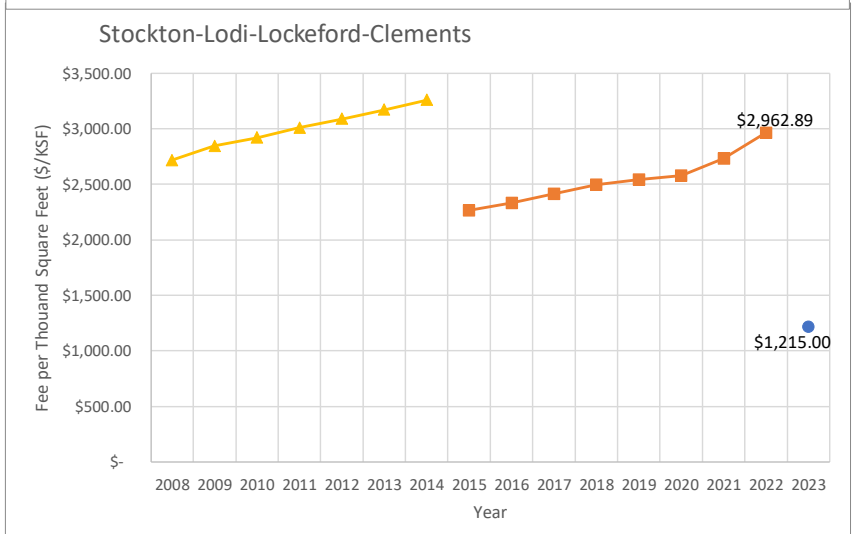
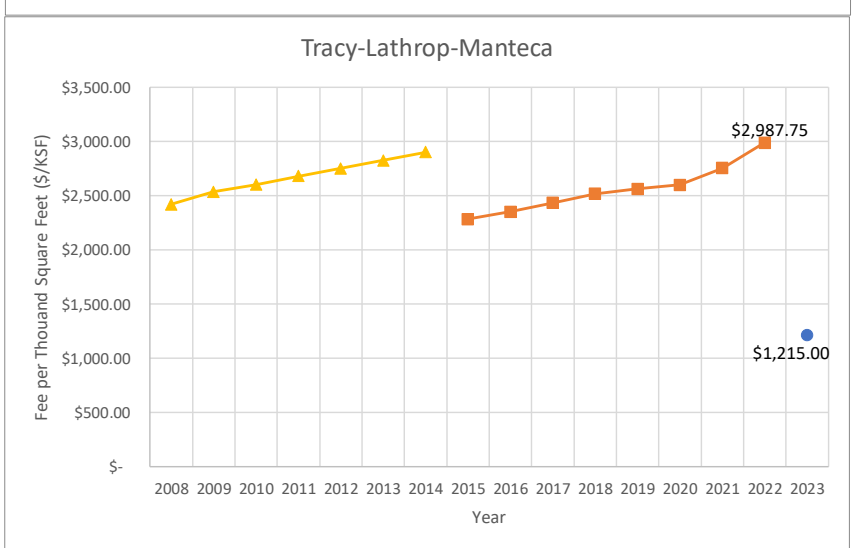




**FIGURE 19. HISTORIC VS. PROPOSED FEE – SERVICE COMMERCIAL**



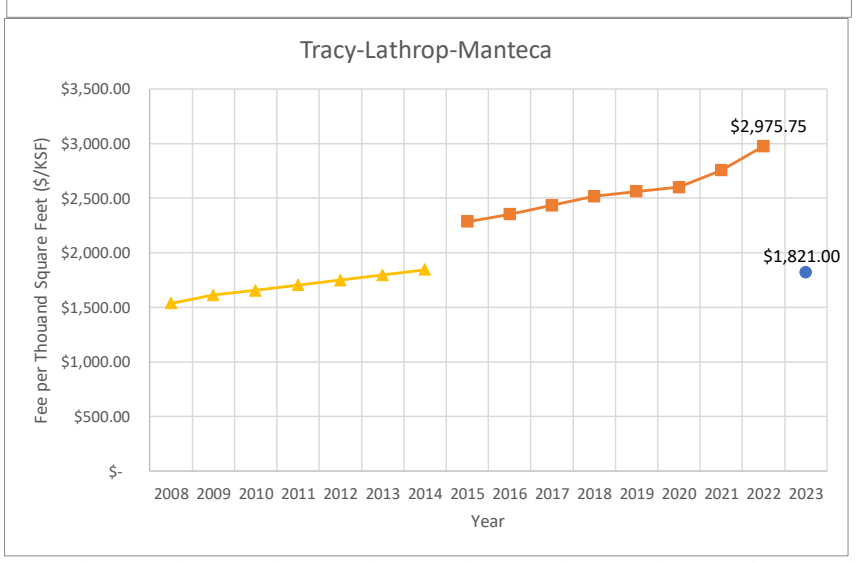
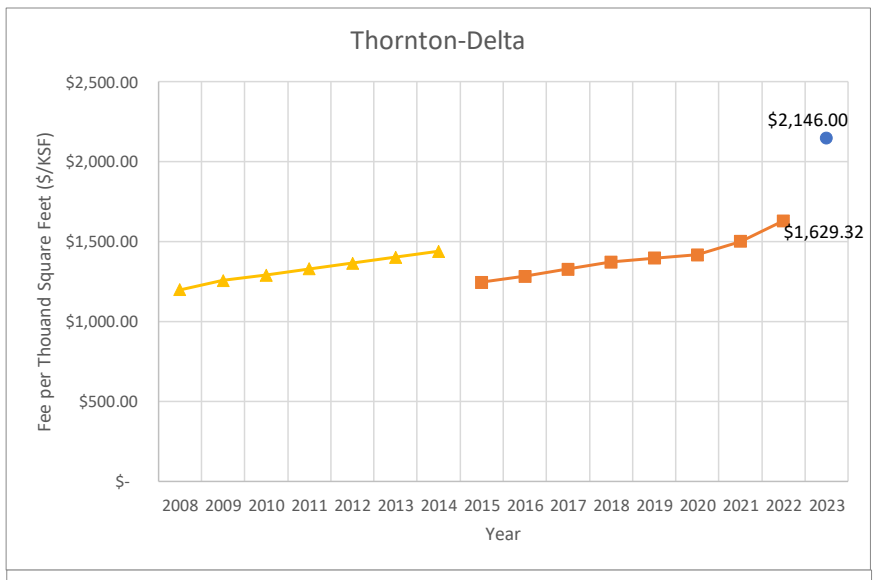
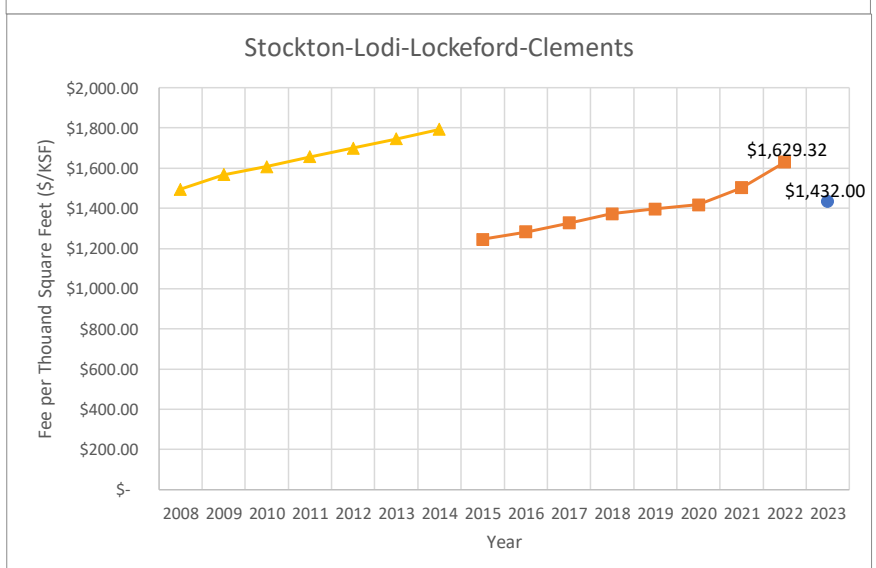
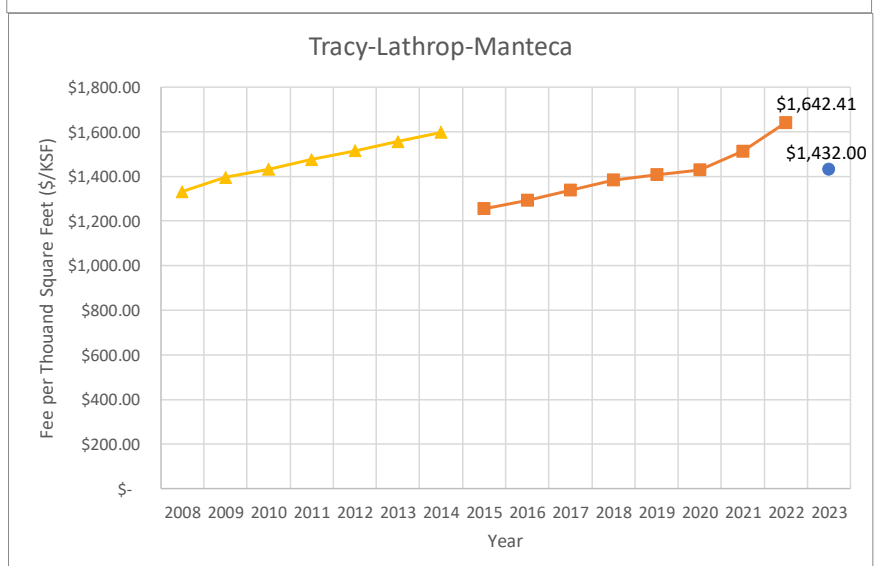



**FIGURE 20. HISTORIC VS PROPOSED FEE – OFFICE**



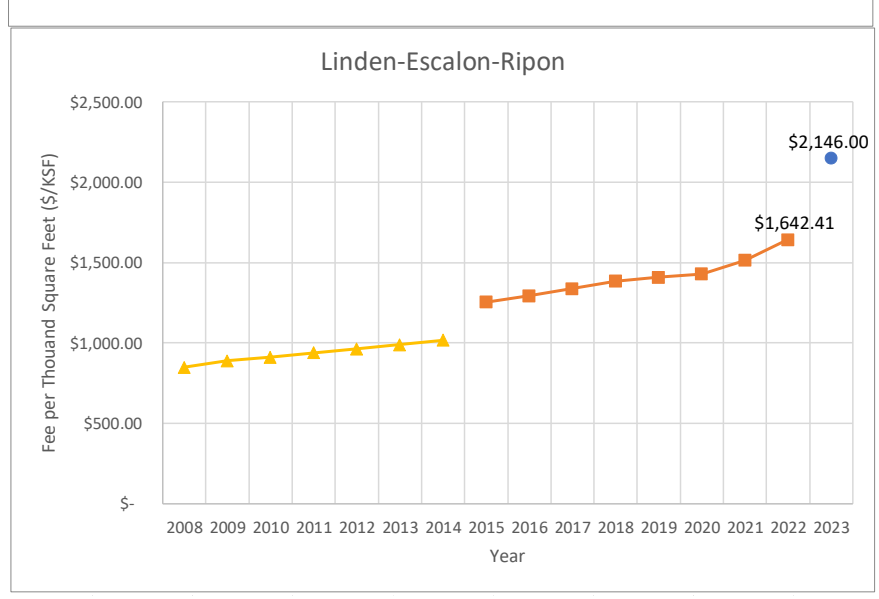
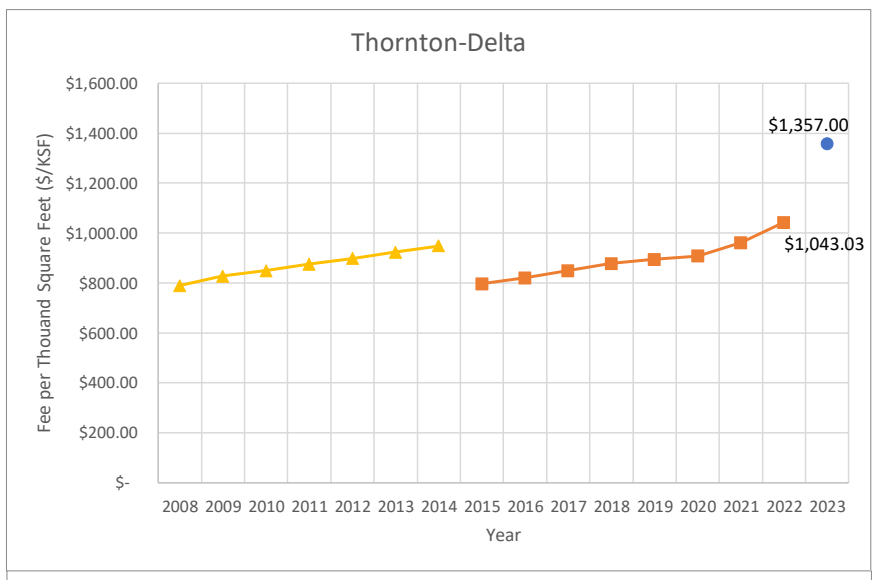
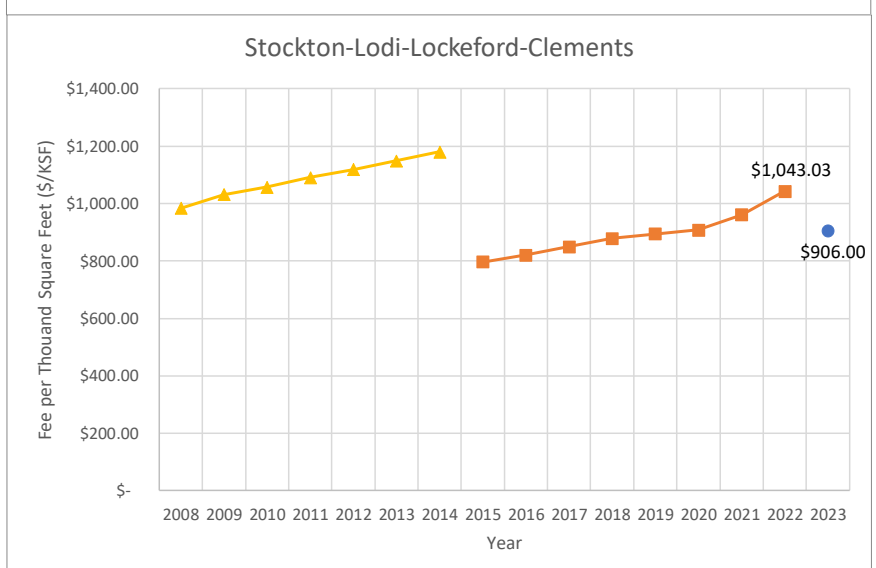
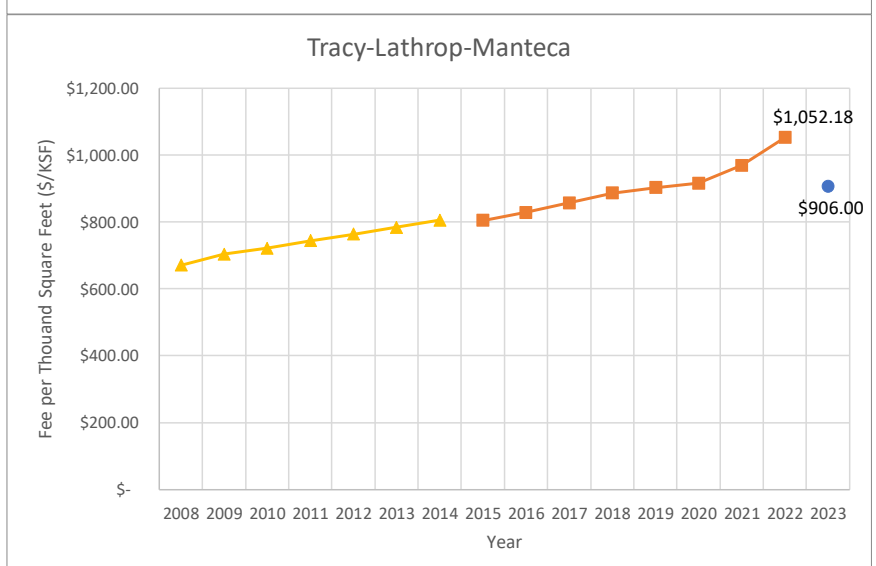




**FIGURE 21. HISTORIC VS PROPOSED FEE – MANUFACTURING**



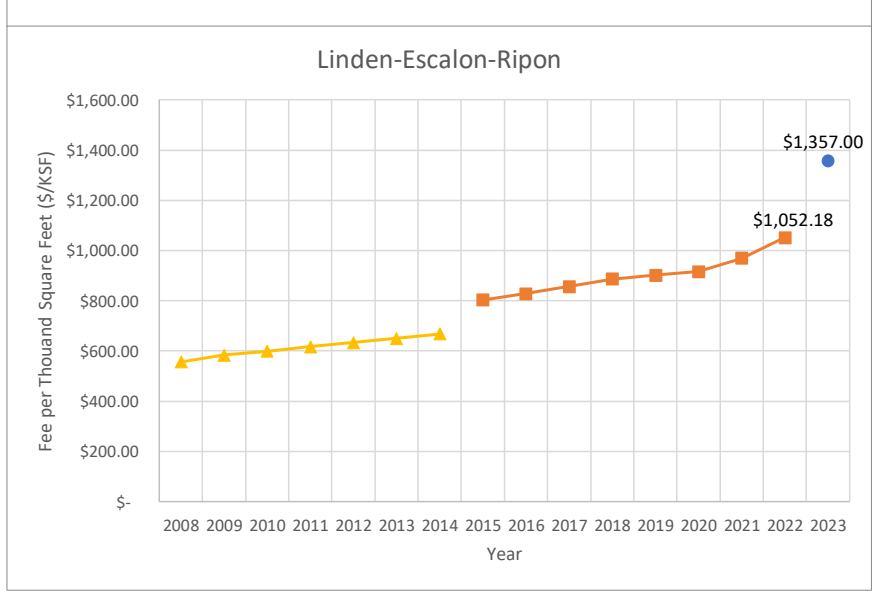
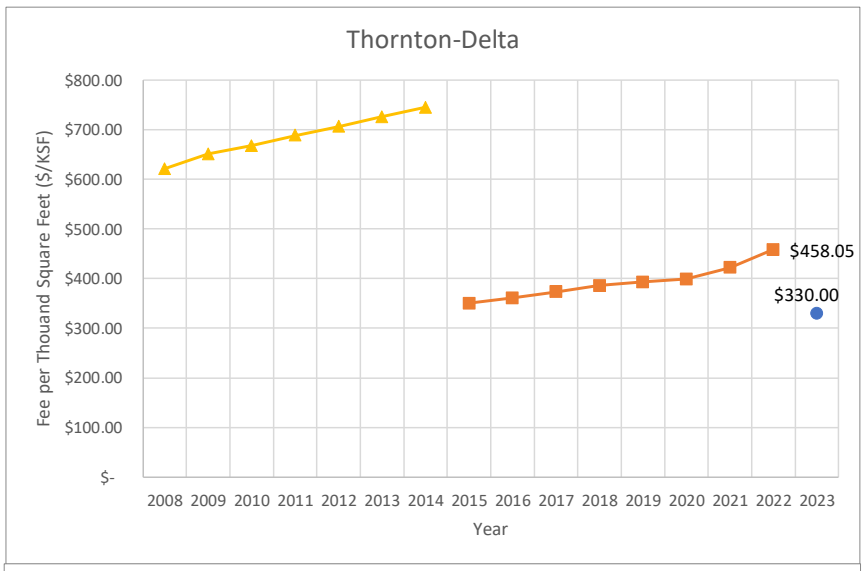
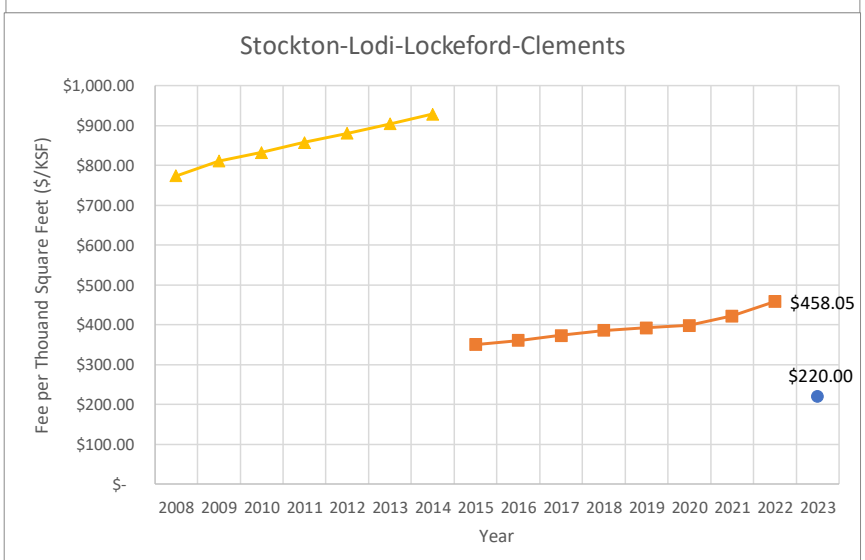
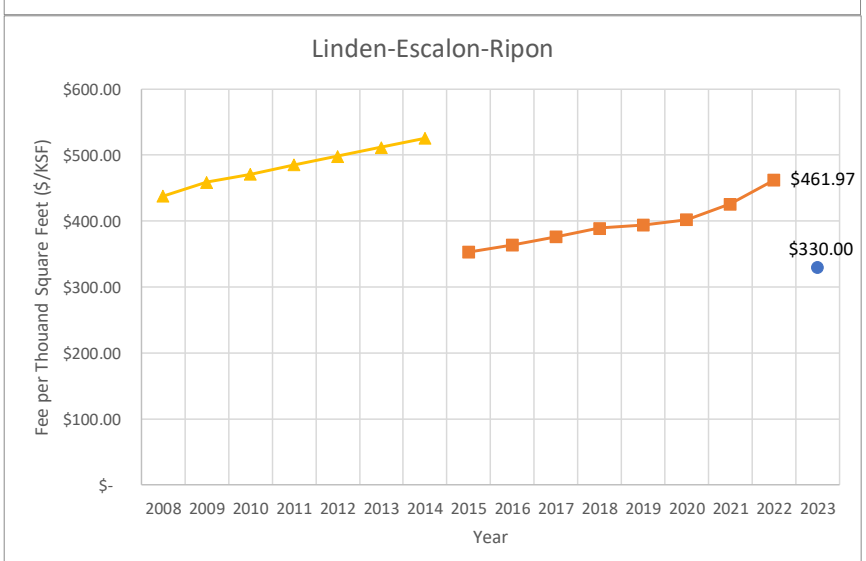
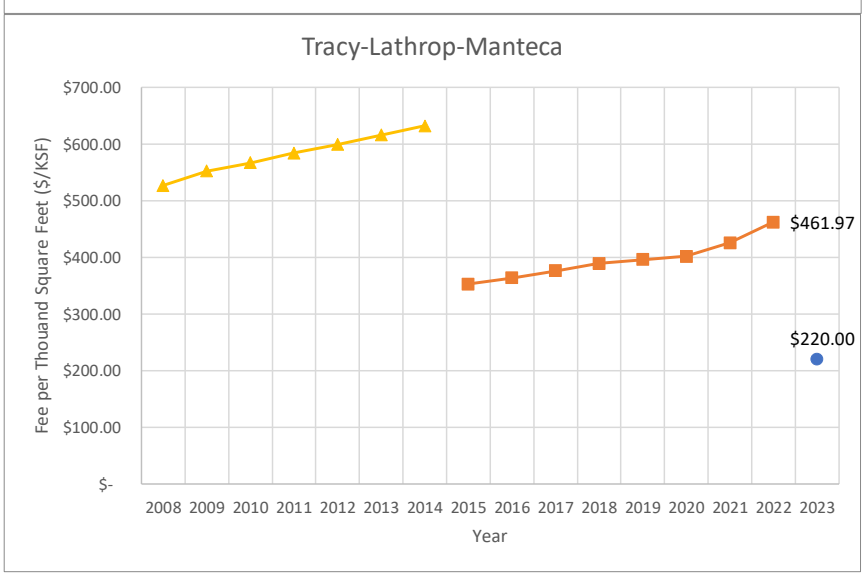



**FIGURE 22. HISTORIC VS. PROPOSED FEE – WAREHOUSE**



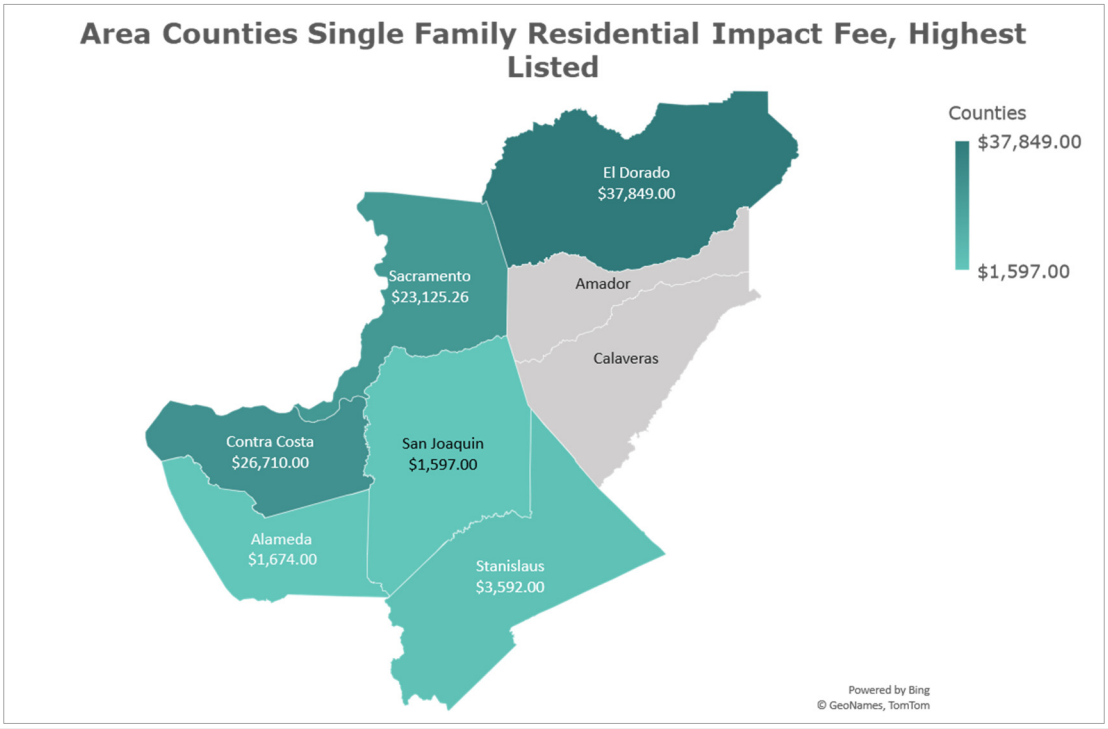



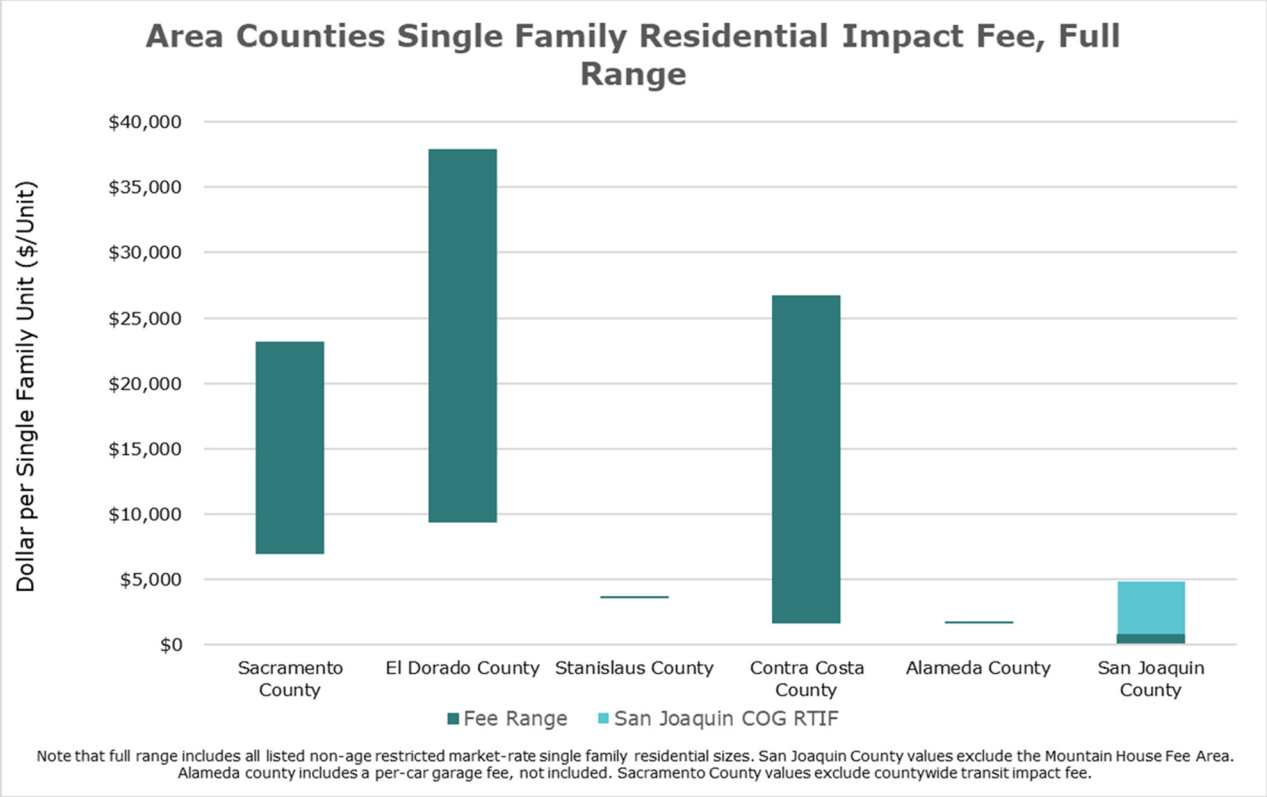



Given that developer fees can influence the attractiveness of a geographic area for future development interests, the proposed 2022 TIMF fees are compared with existing traffic impact fees being levied in neighboring counties (i.e., this does not include the fees being charged in incorporated cities within a given county). The 2022 TIMF proposed fees for Single-Family Dwelling Units, Office and Retail are compared to neighboring counties **Figure 23** through **Figure 25**. For a valid comparison to be made, the 2022 TIMF fees are augmented with SJCOG's Regional Traffic Impact Fee (RTIF) fees.

These figures show that fees being charged in San Joaquin County are generally lower (i.e., are competitive) relative to like traffic impact fees being levied in neighboring counties.

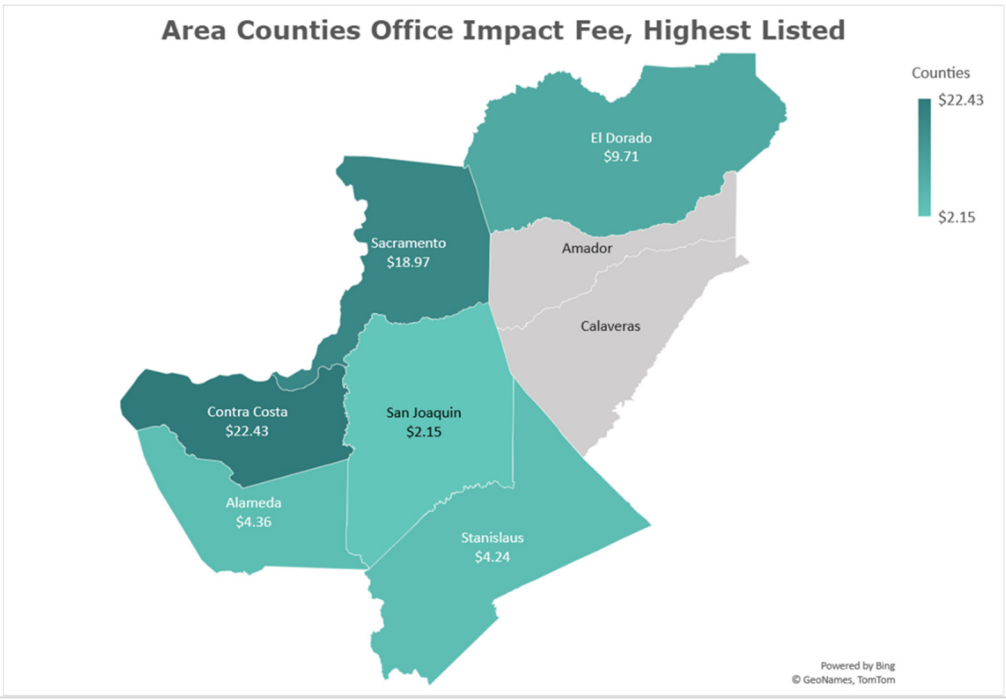
**FIGURE 23. FEE COMPARISONS WITH NEIGHBORING COUNTIES – SINGLE FAMILY DWELLING UNITS**




Note that full range includes all listed non-age restricted market-rate single family residential sizes. San Joaquin County values exclude the Mountain House Fee Area. Alameda county includes a per-car garage fee, not included. Sacramento County values exclude countywide transit impact fee.

**FIGURE 24. FEE COMPARISONS WITH NEIGHBORING COUNTIES – OFFICE**



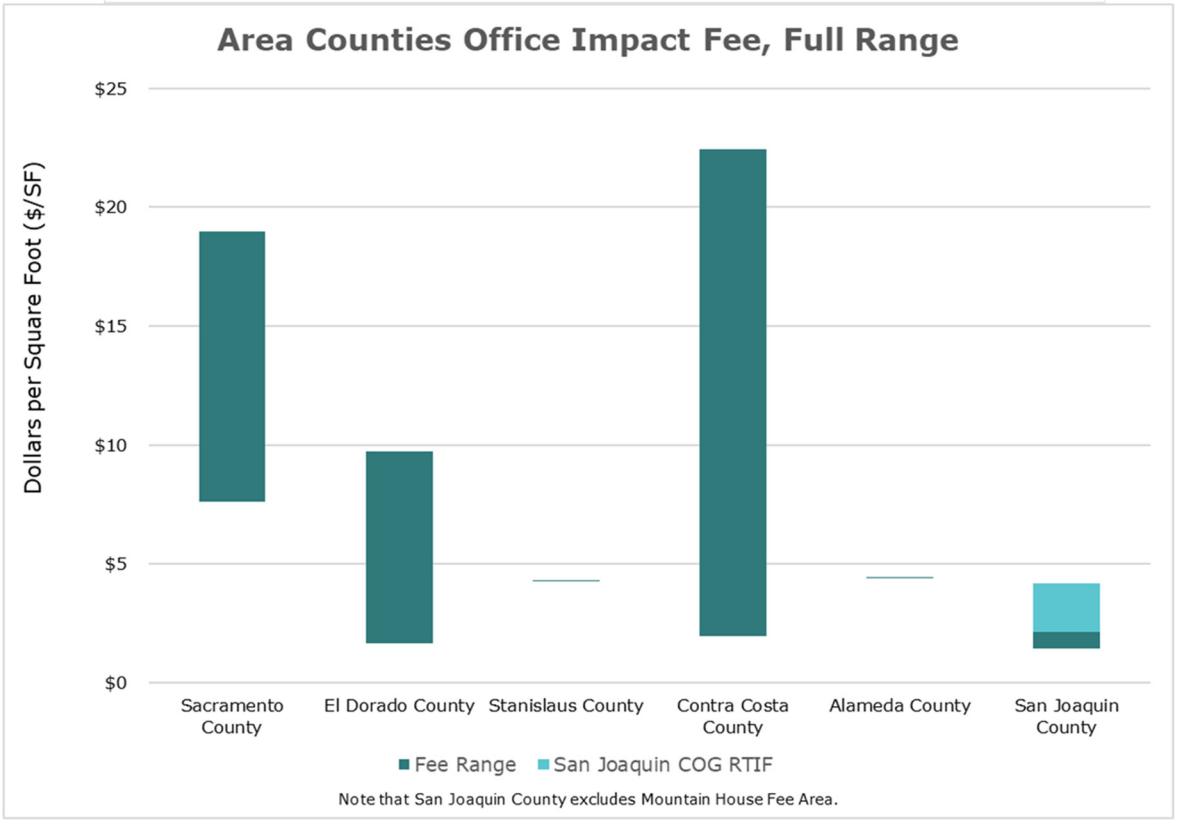






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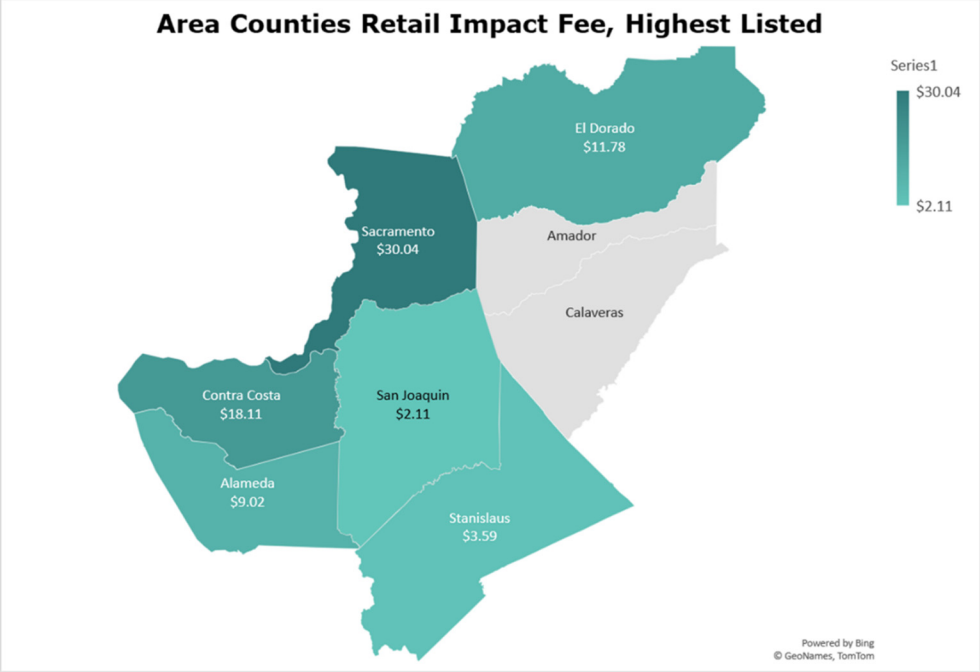
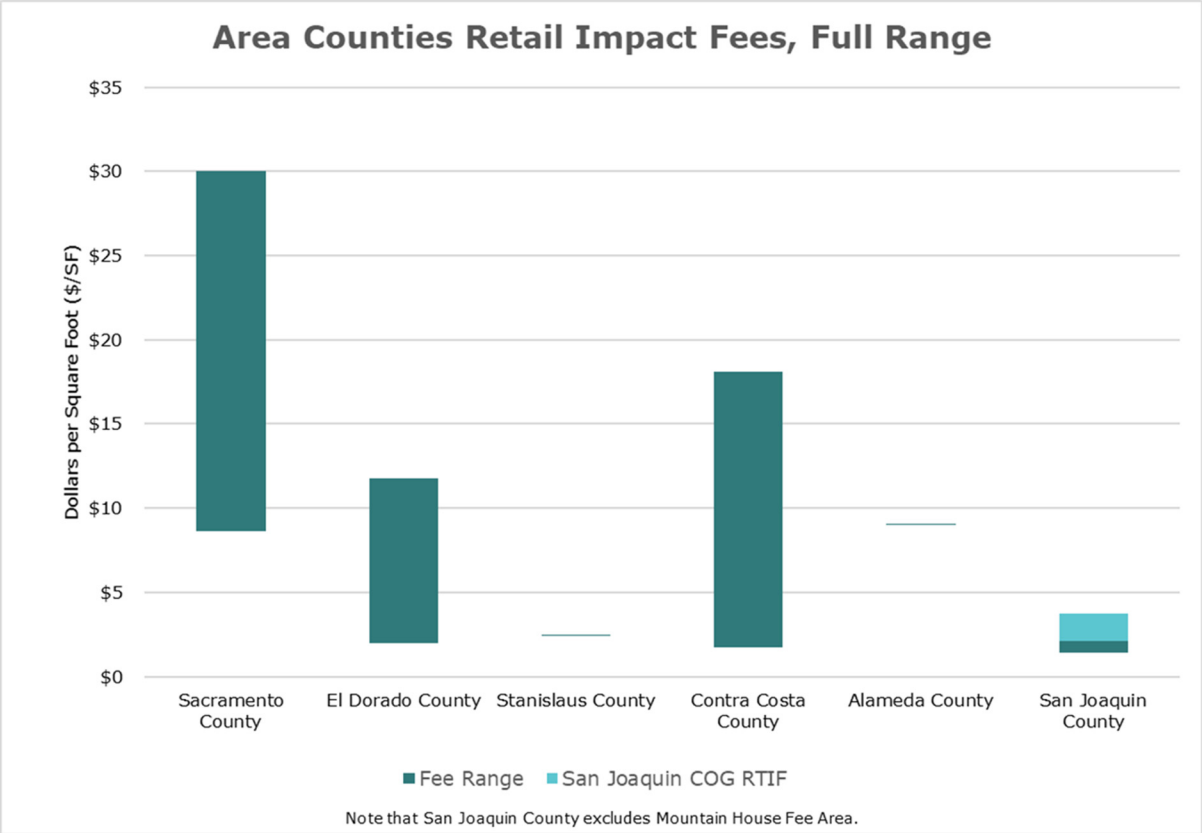
**FIGURE 25. FEE COMPARISONS WITH NEIGHBORING COUNTIES – RETAIL**



# Section 6 Alternative Funding Sources

# ALTERNATIVE FUNDING SOURCES

The TIMF update is designed to fully recover the share of transportation improvement costs in the unincorporated area associated with unincorporated growth through the 20-year planning horizon. This section describes alternative (non-impact fee) funding sources that could fund the share of project costs not funded by the TIMF update.

As described in the prior section, the TIMF update identified approximately $257 million in transportation capital projects needed to accommodate growth countywide. Of those total costs the TIMF update will fund approximately $49 million leaving $208 million to be funded by alternative sources.

## COUNTY TRANSPORTATION FUNDING PLANS

Countywide transportation planning in San Joaquin County is the responsibility of SJCOG. SJCOG is a Metropolitan Planning Organization (MPO)[5], the agency responsible under federal law for coordinating state and federal transportation funding programs at the regional level. SJCOG is responsible for producing the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Regional Transportation Improvement Program (RTIP), two documents that identify needed capital projects and program available funds respectively.

The RTP/SCS is a long-range transportation planning document. The RTP/SCS is designed to satisfy state and federal requirements so that capital projects listed in the RTP/SCS can be eligible for state and federal funding. The San Joaquin RTP/SCS is a countywide plan designed to address the needs of the unincorporated area and the seven cities in the County. The 2018 RTP/SCS has a 25-year planning horizon (2018-2042), similar to the remaining 20-year horizon of the TIMF update (2023-2042)[6].

The RTIP is a five-year capital improvement program with projects drawn from the RTP/SCS. State statutes require regional transportation planning agencies (such as SJCOG) to prepare and submit an RTIP to the California Transportation Commission (CTC) for approval. The RTIP is used to budget state, federal, and other transportation funding sources for programming capital projects in the near-term for the unincorporated area and the seven cities in the County.

Projects included in the TIMF update that are in the 2018 RTP/SCS include[7]:

[5] MPOs are regional transportation planning organizations required by federal law to coordinate transportation planning in metropolitan areas. SJCOG is the MPO for San Joaquin County.

[6] SJCOG recently adopted 2022 RTP/SCS has a 24-year planning horizon (2022-2046).

[7] Although there are other roadways that appear in both the TIMF and the 2018 RTP/SCS, the portions of roadways identified for improvement differ – namely incorporated vs. unincorporated segments.

- Mariposa Road (Project ID #22). The 2018 RTP/SCS includes a 5-mile segment of this 14.7-mile TIMF project.
- Escalon-Bellota Road (Project ID #23). The 2018 RTP/SCS includes the entire a 2.1-mile TIMF project.

**Table 19** summarizes the current alternative funding allocated to TIMF update projects.

**TABLE 19. CURRENT ALTERNATIVE FUNDING ALLOCATED TO TIMF PROJECTS**

| ID. No | Project | TIMF Total Project Cost | 2018 RTP/SCS | | |
|---|---|---|---|---|---|
| | | | Project Segment[1] | TIMF Alternative Funding Share | Alternative Funding Estimate |
| 22 | Mariposa Rd | 81,658,298 | 34% | 91% | 25,275,188 |
| 23 | Escalon-Bellota Rd. | 9,456,691 | 100% | 92% | 8,700,156 |
| Total | | 100,443,989 | | | 33,975,344 |

[1] Calculated based on segment length included in 2018 RTP/SCS compared to TIMF update.

Sources: San Joaquin Council of Governments, *Regional Transportation Plan/Sustainable Communities Strategy for San Joaquin County, 2018-2042 (2018 RTP/SCS, Appendix F, Table 6-3;* TIMF update project descriptions and Table 8.

Alternative funding sources potentially available to complete the roadway capacity improvement projects funded by the TIMF and listed in **Table 14**, above, are described in the following sections. These funding sources were derived from Appendix G of the 2018 RTP/SCS. The 2018 RTP/SCS provided a total estimate for the Plan's 25-year planning horizon in current (inflated) dollars. For the TIMF update these estimates were discounted to an annual average amount in 2022 dollars, multiplied by the TIMF update 20-year planning horizon, and allocated to the unincorporated area. At the end of this chapter the total 20-year estimate is compared to the total TIMF update alternative funding need that is also expressed in 2022 dollars.

The TIMF also allocates funding for alternative mode projects (transit, bicycle, and pedestrian). Specific alternative mode projects are not identified in the TIMF update and will be identified through the County's five-year capital improvement plan. There is no requirement in the nexus analysis to identify additional funding sources to complete alternative mode projects to be funded by the TIMF. However, as detailed in Appendix G of the 2018 RTP/SCS, there are multiple funding sources to complement TIMF funds for alternative mode projects.

# LOCAL FUNDING SOURCES FOR CAPACITY IMPROVEMENTS

## Measure K

Measure K provides funding countywide for transportation programs in San Joaquin County from a half-cent sales tax. In 2006 voters approved a 30-year extension of the measure to 2041 (the measure would have sunset in 2011). The implementing ordinance allocates 32.5 percent of total funding to congestion relief project that could be used for TIMF projects. The remainder is used for local street repairs and roadway safety projects, railroad crossing safety projects, and passenger rail, bus, and bicycle projects.

The 2018 RTP/SCS estimates that Measure K will generate $2.054 billion over the 25-year planning horizon for the current half-cent sales tax, or $55 million annually in 2022 dollars. The TIMF update assumes that 32.5 percent of the combined annual average amount could be allocated to local roadway capacity improvement projects. The annual discount rate used to convert the 2018 RTP/SCS estimate to 2022 dollars is equal to the assumed growth rate of 4.5 percent. The unincorporated area is assumed to receive 25 percent of total funding based on the 2022 population share.

## Local Transportation Fund

The Local Transportation Fund (LTF) is a portion of Transportation Development Act (TDA) dollars derived from a ¼-cent general sales tax imposed statewide for transportation purposes. LTF funds are considered local funds because they are not subject to state appropriation or apportionment. SJCOG administers the LTF.

The 2018 RTP/SCS estimates that LTF will generate $1.268 billion over the 25-year planning horizon, or $35 million annually in 2022 dollars. The TIMF update assumes that 32.5 percent of the combined annual average amount could be allocated to local roadway capacity improvement projects based on the same allocation assumed for Measure K funds discussed above. The annual discount rate used to convert the 2018 RTP/SCS estimate to 2022 dollars is equal to the assumed growth rate of 4.3 percent. The unincorporated area is assumed to receive 25 percent of total funding based on the 2022 population share.

## Mountain House Mitigation Program

No projects in the TIMF project list overlap with projects in the Mountain House Mitigation Program so no funding from Mountain House is included in the alternative funding estimates for the TIMF update.

## Regional Transportation Impact Fee (RTIF) Program

No projects in the TIMF project list overlap with projects in the Regional Transportation Impact Fee Program so no RTIF funding is included in the alternative funding estimates for the TIMF update.

# STATE FUNDING SOURCES FOR CAPACITY IMPROVEMENTS

## State Transportation Improvement Program (STIP)

The STIP is primarily funded by state and federal taxes on gasoline collected in the State Highway Account (SHA). The County competes with the cities for STIP funding. No STIP funds are included in the TIMF update because the County has not received any STIP funding in recent years, and TIMF projects are unlikely to be competitive with projects proposed by cities.

## Senate Bill 1 / State Gas Tax

Funding estimates are based on the revised gasoline tax from Senate Bill 1 in 2017. The 2018 RTP/SCS estimates that the gas tax will generate $2.6 billion over the 25-year planning horizon or $88 million annually in 2022 dollars based on the current statutory allocation formula. The TIMF update assumes that 75 percent could be allocated to local roadway capacity improvement projects. The annual discount rate used to convert the 2018 RTP/SCS estimate to 2022 dollars is equal to the assumed growth rate of two percent. The unincorporated area is assumed to receive 25 percent of total funding based on the 2022 population share.

# FEDERAL FUNDING SOURCES FOR CAPACITY IMPROVEMENTS

## Surface Transportation Block Grant Program (STBGP)

The Surface Transportation Block Grant Program (STBGP) (formally called the Regional Surface Transportation Program) utilizes federal Surface Transportation Program Funds identified in Section 133 of Title 23 of the United States Code. Use of STBGP funds is highly flexible and could fund TIMF projects.

The 2018 RTP/SCS estimates that the STBGP program will generate $325 million over the 25-year planning horizon or $10 million annually in 2022 dollars based on the current statutory allocation formula. The TIMF update assumes that the entire amount could be allocated to local roadway capacity improvement projects. The annual discount rate used to convert the 2018 RTP/SCS estimate to 2022 dollars is equal to the assumed growth rate of 2.6 percent. The unincorporated area is assumed to receive 25 percent of total funding based on the 2022 population share.

## Congestion Mitigation and Air Quality (CMAQ) Improvement Program

The Federal Highway Administration and the Federal Transit Administration jointly administer the CMAQ program. Congress adopted the CMAQ program to support surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief. Funding is targeted to areas that do not meet the National Ambient Air Quality Standards (non-

attainment areas) as well as former non-attainment areas that are now in compliance (maintenance areas).

The formula for distribution of CMAQ funds considers an area's population by county and the severity of its ozone, particulate matter, and carbon monoxide problems within the non-attainment or maintenance area. Greater weight is given to areas that are non-attainment/maintenance areas for multiple pollutants.

The 2018 RTP/SCS estimates that the CMAQ program will generate $350 million over the 25-year planning horizon or $11 million annually in 2022 dollars based on the current statutory allocation formula. The TIMF update assumes that the entire amount could be allocated to local roadway capacity improvement projects. The annual discount rate used to convert the 2018 RTP/SCS estimate to 2022 dollars is equal to the assumed growth rate of 2.6 percent. The unincorporated area is assumed to receive 25 percent of total funding based on the 2022 population share.

The CMAQ program is competitive in which eligible projects are ranked and selected for programming based on their air quality benefits. Consequently, the unincorporated area may receive more or less than its fair share of funding depending on the air quality merits of its projects relative to projects submitted by other jurisdictions.

## Safety Program

The 2018 RTP/SCS includes funding from several sources under the Safety Program. These sources include the Highway Bridge Replacement and Rehabilitation Program (HBRRP) that provides funding to replace or rehabilitate bridges identified as deficient. TIMF roadway projects may include bridges eligible for this funding. These sources also include the Highway Safety Improvement Program (HSIP) that provides funding for intersection improvements to address safety issues. TIMF roadway projects may include intersections eligible for HSIP funding if identified through the County's Local road Safety Plan.

The 2018 RTP/SCS estimates that the Safety Program will generate $259 million over the 25-year planning horizon for all safety programs or $8 million annually in 2022 dollars. The TIMF update assumes that 75 percent of this funding is associated the HBRRP and HSIP and could be allocated to local roadway capacity improvement projects that also require safety improvements. The annual discount rate used to convert the RTP/SCS estimate to 2022 dollars is equal to the assumed growth rate of 2.6 percent. The unincorporated area is assumed to receive 25 percent of total funding based on the 2022 population share.

## Federal Demonstration/Earmarks

Additional funding may be available from future federal demonstration projects or earmarks. The TIMF update assumes that any alternative funding from this source would be focused on highway and interchange projects and not the local roadways identified for TIMF projects.

## ALTERNATIVE FUNDING SUMMARY

**Table 20** estimates total revenue of $615 million from the alternative funding sources described above through the TIMF planning horizon of 2042. The funding sources and amounts shown in the table represent the full spectrum of funding potentially available for TIMF update projects. Revenue estimates are based on (1) continuation of current state and federal transportation funding policies and formulas, and (2) allocation of countywide funds to roadway capacity improvement projects in the unincorporated area based on 2022 population.

The bottom of **Table 20** compares the total estimate of alternative funding to the alternative funding need for the TIMF update projects based on the fair share amounts shown in **Table 14**. Total project costs equal approximately $257 million of which $49 million could be funded by the TIMF program, leaving a need for $208 million in alternative funding. This amount equals 34 percent of the total estimate of $615 million in potential RTP/SCS funding. Of this total amount $33,975,344 is already allocated to TIMF update projects through the 2018 RTP/SCS.

The alternative funding need for the TIMF update represents a minority share of the potentially available funds (34 percent) indicating that sufficient funding should be available to complete the projects on the TIMF update list. However, the County will need to be aggressive to secure all the funding needed. First, the 2018 RTP/SCS already allocates this funding to other projects (except for the $33,975,344 discussed above). Second, the County will likely need funding for projects in addition to those on the TIMF update list. Consequently, the County must work closely with SJCOG and the other local jurisdictions to prioritize TIMF update projects in future updates to the RTP/SCS.

**TABLE 20. TIMF UPDATE ALTERNATIVE FUNDING SOURCE**

| RTP/SCS Funding Sources Potentially Allocable To Local Roadway Capacity Improvements | 2018 RTP/SCS Annual Average (2022 $)[1] | Local Roadway Capacity Improvement Projects | | Unincorporated Area Share | |
|---|---|---|---|---|---|
| | | Share[2] | Annual Amount | Annual Annual[3] | 20-Year Total |
| **Local & Regional Sources** | | | | | |
| Local Transportation Fund | $34,597,000 | 32.5% | $11,244,000 | $2,810,000 | $56,200,000 |
| Measure K Sales Tax | $54,971,000 | 32.5% | $17,866,000 | $4,470,000 | $89,400,000 |
| | | | | | |
| **State Sources** | | | | | |
| Senate Bill 1 / Gas Tax | $88,009,000 | 75.0% | $66,007,000 | $16,500,000 | $330,000,000 |
| | | | | | |
| **Federal Sources** | | | | | |
| Congestion Mitigation and Air Quality | $11,224,000 | 100.0% | $11,224,000 | $2,810,000 | $56,200,000 |
| Surface Transportation Block Grant Program | $10,416,000 | 100.0% | $10,416,000 | $2,600,000 | $52,000,000 |
| Highway Bridge Replacement and Rehabilitation Program, Highway Safety Improvement Programs | $8,282,000 | 75.0% | $6,212,000 | $1,550,000 | $31,000,000 |
| | | | | | |
| Total Alternative Funding | $207,499,000 | | $122,969,000 | $30,740,000 | $614,800,000 |
| | | | | | |
| Total TIMF Alternative Funding Need | | | | $10,400,000 | $207,620,000 |
| Alternative Funding Need Share of Potential Funding | | | | | 34% |

Note: Sources only include those available for roadway capacity improvements. Excludes Regional Transportation Impact Fee (RTIF) and Mountain House Mitigation Program because project lists do not overlap with TIMF.
[1] Calculated from 2018 RTP/SCS projection for 25-year total (2018-2042) discounted to 2022 dollars based on revenue growth rate assumptions.
[2] See text for explanation.
[2] Based on unincorporated area 25 percent share of countywide population in 2022.

Sources: San Joaquin Council of Governments, *Regional Transportation Plan/Sustainable Communities Strategy for San Joaquin County, 2018-2040 (2018 RTP/SCS)*, 2018, Appendix G.

# Section 7 Implementation

# IMPLEMENTATION

This section provides guidelines for implementation of the TIMF update. The County should consider these guidelines in the context of its experience with its current TIMF program and modify them accordingly. These guidelines are not a substitute for legal advice. The County should consult with its legal counsel regarding compliance with the Mitigation Fee Act.

## IMPACT FEE PROGRAM ADOPTION PROCESS

Impact fee program adoption procedures are found in the California Government Code Section 66016. Adoption of an impact fee program requires the boards of supervisors to follow certain procedures including holding a public meeting. Pursuant to AB 602, a 30-day mailed (or electronic) public notice is required for those registering for such notification. Data, such as an impact fee report, must be made available at least 14 days prior to the public meeting. This includes data indicating the amount of cost, or the estimated cost, required to provide the public facilities and the revenue sources anticipated to fund those public facilities, including general fund revenues. After adoption there is a mandatory 60-day waiting period before the fees go into effect. This procedure must also be followed for fee increases in the future.

## FEE COLLECTION

The County will calculate and collect the fee at the issuance of a building permit. To ensure a reasonable relationship between each fee and the type of development paying the fee, the fee schedule distinguishes between different land use types. The land use types used in the TIMF update are:

- Single family
- Multi-family
- Retail
- Office
- Warehouse
- Service Commercial
- Manufacturing

Some developments may include more than one land use type, such as a business park that includes retail uses or a planned unit development with both single and multi-family uses. In these cases, the TIMF would be calculated separately for each land use type.

The characteristics of some developments may not fall cleanly within the seven land use categories listed above. In these cases the County's existing fee ordinance provides administrative discretion to calculate the TIMF fee based on empirical survey data or ITE trip generation rates more reflective of the proposed development. A fee per daily trip table is provided in **Appendix 10** which that is to be used in such cases.

The existing TIMF ordinance also provides for an appeals process. The appeals process allows a project proponent to demonstrate with an adequate technical study acceptable to the County that a different trip generation rate should apply to the project. These existing TIMF ordinance provisions will continue as part of this TIMF update.

## INFLATION ADJUSTMENT

The impact fee rates documented in this report generally reflect 2021-2022 costs for capital projects to be funded by fee revenues. Consequently, the fees should be adjusted annually for cost inflation to maintain the purchasing power of the revenue stream. The County has identified an appropriate inflation index for making annual updates to the fee. The TIMF schedule is adjusted annually based on the Engineering News-Record (ENR) Construction Cost Index. The County applies the published ENR May figures the first week of June so fees can be updated as of July 1 each year.

## COMPREHENSIVE FEE PROGRAM UPDATES

Annual fee updates using inflation indexes are only appropriate for the short term to ensure that fee revenues keep pace with capital project cost increases. Periodically the County should conduct a comprehensive TIMF Program update to adjust for changes in:

- growth projections;
- impacts on the transportation system;
- capital projects needed to accommodate growth; and,
- capital project costs.

Pursuant to AB 602, comprehensive updates to the TIMF must occur at least every eight years[8].

## REPORTING REQUIREMENTS

The County currently complies with the annual and five-year reporting requirements of the Mitigation Fee Act. Because a combination of development impact fees and other revenues will fund the planned improvements, identification of the source and amount of the non-fee revenues is essential. Identification of the timing of receipt of other revenues to fund the facilities is also important.

## CREDITS AND REIMBURSEMENTS

The County currently allows credit and reimbursement procedures as part of the current TIMF. Procedures for applying credits and reimbursements are necessary for capital projects funded by the fee that are constructed privately by developers and dedicated to the County. A “credit” is the consideration

[8] AB 602 revised the update frequency for transportation fee programs from every 5 years to every 8 years.

given for costs up to the developer's fee obligation. A "reimbursement" is the consideration given for costs that exceed the developer's fee obligation.

The following credit and reimbursement procedures should be continued by the County as part of this TIMF update:

- Credit or reimbursement amounts should not exceed the estimated project cost contained in the current TIMF report.
- During the annual capital improvement budget process, the County should continue to allocate a specified share of anticipated fee revenue to fund credits and reimbursements. The amount allocated considers current and anticipated credit and reimbursement obligations while maintaining sufficient cash flow needed to fund non-developer projects. The share allocated to credits and reimbursements should be no more than 30 percent of a fee district's total annual estimated revenues.
- Credits may receive higher priority for funding than reimbursements to minimize situations where a developer is both paying the impact fee and funding a capital project. Typically, credits are allowed up to the developer's fee obligation as building permits are issued. Reimbursements, however, are paid over time following completion of the project as funds are budgeted for this liability.
- The timing of reimbursements will depend on the phasing of the capital project in the RTIP and the amount of budgeted reimbursement funds. Reimbursements are made annually on a first-come - first-served basis. Projects scheduled in the current RTIP are eligible for reimbursements based on budgeted funds. Reimbursement for projects not scheduled in the current RTIP will be subject to negotiation.
- The County enters into an agreement with each developer eligible for credits or reimbursement to ensure that terms are adequately documented. Reimbursements are paid with interest.

## REVENUE ALLOCATION AND EXPENDITURES BY ZONE

The 2008 TIMF update resulted in a new account structure to reflect the merging of 12 zones into four zones. This account structure should be continued with the proposed update and includes the following seven fee accounts:

- Four "local" accounts (one for each fee zone);
- One "regional" account for all inter-zone project cost shares;
- One "alternative modes" account for all alternative modes projects; and,
- Administration account.

Allocations of a fee payment to each account should be based on the percentages shown in **Table 18** in the prior section. Interest should be credited separately to each account based on the account balance.

Fund balances may be lent and borrowed among accounts as long as a record of credit and debits is maintained.

The administrative component of the fee may be transferred directly into the appropriate fund (e.g., Local Roadway Fund) to reimburse for TIMF program administrative expenditures. The County should track its administrative expenditures and adjust as appropriate.

The use of the local, regional, and alternative mode accounts will maintain a reasonable relationship between the development project paying the fee and the benefit received from the expenditure of fee revenues. Expenditures from the "local" and "regional" accounts should be for those projects identified in **Table 14** in the prior section. Expenditures from the local fee zone account should be limited to projects within that zone. Expenditures from the regional account may be used for any project listed in **Table 14**.

Expenditures from each of these accounts (less administration) need not be constrained to the project-by-project cost shares shown in **Table 14**. To deliver projects efficiently and effectively the County may combine funds from the applicable local account with the regional account in shares that may vary from those shown in **Table 14**. The account structure, by segregating local cost shares from regional cost shares and by identifying which specific projects may be funded by each zone, maintains a reasonable relationship between the development project paying the fee and the benefit received from the expenditure of fee revenues. This relationship is maintained without the need to be constrained to the precise cost allocation analysis used to develop the fee schedule for each local account and the regional account. Expenditures from the alternative modes account should be limited to alternative modes projects that expand capacity to accommodate new development.

# Section 8 Mitigation Fee Act Findings

# MITIGATION FEE ACT FINDINGS

Traffic impact fees are one-time fees typically paid when a building permit is issued and imposed on development projects by local agencies responsible for regulating land use (cities and counties). To guide the imposition of public facilities fees, the State Legislature adopted the Mitigation Fee Act (MFA) with Assembly Bill 1600 in 1987 and subsequent amendments. The MFA, contained in California Government Code §§66000-66025, establishes requirements on local agencies for the imposition and administration of fee programs. The MFA requires local agencies to document five findings when adopting a fee.

The five statutory findings required for adoption of the maximum justified fee documented in this report described below and supported in detail by this report. All statutory references are to the MFA.

## PURPOSE OF FEE

For the first finding, the County must:

> *Identify the purpose of the fee. (§66001(a)(1))*

The San Joaquin County TIMF program has been established to finance transportation facilities that mitigate the impacts due to new or expanded development within the unincorporated areas of San Joaquin County.

## USE OF FEE REVENUES

For the second finding, the County must:

> *Identify the use to which the fee is to be put. If the use is financing public facilities, the facilities shall be identified. That identification may, but need not, be made by reference to a capital improvement plan as specified in Section 65403 or 66002, may be made in applicable general or specific plan requirements, or may be made in other public documents that identify the public facilities for which the fee is charged.* (§66001(a)(2))

The traffic impact fee will be used to either construct new development's fair share of the traffic improvements described herein or to reimburse a private developer for the actual cost of improvements included in this study that are funded by the developer.

## BENEFIT RELATIONSHIP

For the third finding, the County must:

> *Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed.* (§66001(a)(3))

Section 3 of this TIMF Update identifies a list of improvements necessary to support projected development in unincorporated San Joaquin County based on the impacts of that development.

Improvements funded by the fee will be limited to those listed projects, adding capacity to the network of transportation infrastructure and benefiting new development. Thus, there is a reasonable relationship between the use of fee revenues and the residential and nonresidential types of new development that will pay the fee.

## BURDEN RELATIONSHIP

For the fourth finding, the County must:

> *Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed.* (§66001(a)(4))

Increases in residential dwelling units and nonresidential building square footage are an indicator of the demand for traffic facilities needed to accommodate growth. As new dwelling units or building square footage is created, the occupants of the new structures will place additional burdens on the traffic facilities. The need for the fee is based on the analysis described in Section 3 of this TIMF Update that estimated the expected traffic impacts of new development. When accounting for the projected impacts of new development, any road segments that will experience daily volumes in excess of the County's ADT Thresholds (LOS C) or trigger one of several secondary deficiency screens are to be deemed in need of improvement or expanded capacity and included in the fee program.

Thus, there is a reasonable relationship between the need for the planned improvements, the scope of the improvements, and the development that will pay the fee.

## PROPORTIONALITY

For the fifth finding, the County must:

> *Determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed.* (§66001(b))

There is a reasonable relationship between the traffic impact fee for a specific development project and the cost of the facilities attributable to that development based on the estimated vehicle trip demand the development will generate in the county. The total fee for a specific development is based on the amount of additional building square footage. Larger projects of a certain land use type will have a higher trip generation and pay a higher fee than smaller projects of the same land use type. Thus, the fee schedule ensures a reasonable relationship between the traffic impact fee for a specific development project and the cost of the facilities attributable to that project.

# Appendix 1 Participation Plan

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# MEMORANDUM

DATE: September 3, 2021

TO: Jeffrey Levers | San Joaquin County Public Works

FROM: Kendall Flint | DKS Associates Outreach Task Manager
Jim Damkowitch | DKS Associates Project Manager

SUBJECT: San Joaquin County TIMF Update | Updated Draft Outreach Plan Project #21034-000

## OVERVIEW OF OUTREACH PLAN

The Public Involvement Plan will use a multi-faceted approach, with a goal of engaging specific stakeholders with an interest in the Transportation Impact Mitigation Fee Update. Information will also be shared with the general public throughout the process via social media, news and County resources.

### TASK 1 STAKEHOLDER ENGAGEMENT

DKS will conduct a series of two virtual round tables with key stakeholders throughout this process to:

- Identify issues of concern.
- Educate stakeholders regarding the legal requirements of AB 1600.
- Establish a clear mechanism for calculating fees which is compliant with State law.
- Develop, maintain and expand broad stakeholder database throughout the life of the project.

Proposed stakeholders include representatives from:

*San Joaquin County Farm Bureau*

*BIA Greater Valley*

*San Joaquin County Business Council*

*San Joaquin Partnership*

*California Partnership for the San Joaquin Valley*

*San Joaquin County Work-Net*

*Housing Authority of San Joaquin*

*Greater Stockton Chamber of Commerce*

*Manteca Chamber of Commerce*

*Lodi Chamber of Commerce*

*Tracy Chamber of Commerce*

*San Joaquin County Hispanic Chamber of Commerce*

*Central Valley Asian American Chamber of Commerce*

*Stockton Convention and Visitors Bureau*

*African American Chamber of Commerce of SJC*

*San Joaquin County Wine Association*

*Central Valley Association of Realtors*

*San Joaquin Valley Regional Policy Council*

*California Coalition for Rural Housing*

*Visionary Homebuilders of CA*

*Builders Exchange of Stockton*

*Golden State Builders Exchange*

*National Association of Woman in Construction/Sacramento*

*Council of Infill Builders*

*Lodi Wine Grape Commission*

DKS will hold a rehearsal with County staff prior to the sessions to review agenda, presentation and overall content.

## TASK 2: COLLATERAL DEVELOPMENT

DKS will develop materials for distribution to the key stakeholders and members of the public. This will include:

- Development of a Project Fact Sheet
  - Purpose of the Update
  - Process and Timeline
  - Criteria for Establishing Fees
- Virtual Presentations

## TASK 3: VIRTUAL/COMMUNITY PRESENTATIONS (UPON REQUEST AND UP TO 6)

If requested, DKS will coordinate with the County and make ourselves available to our stakeholder representatives to present information of the process of development the TIMF Update to members of larger groups. We will make arrangements to attend their virtual meetings and/or establish an in-person meeting for them depending on Covid protocols.

Potential groups who may be interested in receiving a presentation include:

- The BIA Greater Valley
- San Joaquin Farm Bureau
- Council of Infill Builders
- Greater Stockton Chamber of Commerce

- California Coalition for Rural Housing

## TASK 4: SOCIAL MEDIA

Social media platforms including Facebook and Instagram will be used to enable community members to participate, collaborate, and inform decision making as convenient, without the need to physically attend meetings.

- Facebook/Instagram
  All participants including will push information via their Facebook pages to remind followers of public events and to announce when new materials have been posted to the County website's homepage. DKS will provide art and links to ensure consistency in this process.

## TASK 5: STAKEHOLDER WORKSHOPS

These meetings will be held via Zoom in a virtual environment. Powerpoint presentations show all relevant information. The purpose of the workshops will be to review the proposed changes to the County's TIMF program and provide comments.

DKS will hold a rehearsal with County staff prior to the sessions to review agenda, presentation and overall content.

## TASK 6: SUMMARY REPORT

DKS will prepare a summary report of all outreach activities, documenting all comments received and overall participation.

## OVERALL SCHEDULE

| | |
|---|---|
| Stakeholder Meeting #1 | September 2021 |
| Stakeholder Meeting #2 | September 2022 |

# Appendix 2 Warehousing Growth Reallocation

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# MEMORANDUM

DATE: March 7, 2022

TO: Jeffrey Levers | San Joaquin County

FROM: Jim Damkowitch, David Tokarski | DKS Associates

SUBJECT: San Joaquin County TIMF Update: Land Use Forecasts Project #21034-000

## INTRODUCTION

Based on review of the County permit data (2015-2021), it was determined that significantly more warehouse and distribution center development occurred than what was assumed under the County's General Plan. This is indicative of growth industries like Amazon, agricultural processors, and other large distributors of goods (diverging facilities where products are shipped to consumers and outlets) relative to traditional retail development (converging facilities – where consumers travel to an outlet to purchase goods). In particular, the Tracy subarea within the Tracy/Manteca/Lathrop fee zone and the Stockton/Lodi fee zone experienced much higher than expected warehousing growth during this short time five-year period. The County has also seen significant development from wineries in the past decade. Three key warehouse developments in Tracy/Manteca/Lathrop fee zone include:

- 14900 Schulte Road, Tracy: 490,000 sq.ft. warehouse, Oct 2017
- Delicato Winery, Manteca: 731,000 sq.ft. expansion of bottling/distribution facilities, FY 17/18
- 20500 Holly Drive, Tracy: 925,000 sq.ft. warehouse, Oct 2019

Just these three developments resulted in over 2.15 million sq.ft. of warehouse growth exceeding the assumed 1.76 million sq.ft. assumed in this zone under the County's General Plan. Additionally, another warehouse development in the Tracy sub-area (located at 14800 Schulte Road), issued grading permits in 2021 to develop an additional three warehouses totaling approximately 680,000 sq.ft. The list of major warehousing related permits processed by the County since 2015 is provided in **Table 1**.

**Table 2** summarizes employment growth assumed in the model before adjustments between the base year (2015) and the horizon year (2042) as well as growth that has already taken place between 2015 and 2020. Areas where 2020 employment (calculated by adding 2015 to 2020 growth to the base year 2015 model) exceeds 2042 estimated model employment are highlighted in red. These represent locations that likely require increases in employment compared to the modeled land uses.

To reflect this emerging growth trend in warehousing, a bi-proportional adjustment was applied within the Traffic Analysis Zones (TAZ) of SJCOG's VMIP2 travel demand model to reallocate future growth assumed as traditional retail in the General Plan to warehousing. The reallocation process was performed bi-proportionally to maintain total unincorporated employment control totals at the planning horizon (essentially swapping office and warehouse employment in some zones with warehouse employment in others). A reallocation from Mountain House was warranted based on substantial excess development capacity in that zone. The reallocation of assumed employment by TAZ is shown in in greater detail in **Table 3** and **Table 4**. The tables show that a total shift of approximately 6,260 employees has been assumed to account for recent warehouse growth. Of this shift, 500 excess government employees have been shifted to industrial from one TAZ in Fee District 2, while approximately 2,380 education employees, 3,620 industrial employees, and 260 "other" employees have been shifted from Mountain House (where previous model employment growth appears too high) to TAZs in Fee Districts 2, 3, and 4 where growth (especially in warehouse development) is under-represented.

Locations that experienced significant growth in warehousing and subsequent shifts in modeled employment growth are shown in **Figure 1**. Areas (TAZs) requiring a reallocation of non-industrial to warehouse employment are shaded (green for TAZs with resultant decrease in employment and light red for TAZs with resultant increase in employment).

| Parcel #: | Address: | Warehouse Sq Ft: | TAZ #: |
|---|---|---|---|
| 101-220-45 | 2097 Beyer Lane | 22,000 | 2667 |
| 061-140-56 | 12450 Furry Road | 18,000 | 2557 |
| 225-020-50 | 25254 Arthur Road | 85,000 | 1704 |
| 091-080-37 | 16455 Comstock Road | 34,713 | 2524 |
| 089-020-08 | 9870 Pezzi Road | 18,000 | 2534 |
| 101-290-08 | 3601 Navone Road | 30,000 | 2665 |
| 253-190-15 | 31717 Chrisman Road | 15,000 | 2719 |
| 250-140-11 | 7777 Eleventh Street | 42,000 | 2411 |
| 209-240-34 | 14900 Schulte Road | 490,000 | 2476 |
| 204-050-49 | 12001 State Route 99 Frontage Road | 731,128 | 2609 |
| 245-060-30 | 1700 State Route 120 | 510,000 | 1913 |
| 065-140-04 | 11715 Clements Road | 50,400 | 2549 |
| 091-080-39 | 16283 Comstock Road | 53,010 | 2517 |
| 177-260-32 | 1642 Citation Street | 77,976 | 104 |
| 209-440-13 | 25451 Mountain House Parkway | 133,970 | 2476 |
| 007-250-70 | 24691 Graham Road | 39,075 | 2530 |
| 212-160-20 | 9409 Arbor Avenue | 249,192 | 2473 |
| 212-160-17 | 9375 Sugar Road | 925,475 | 2473 |
| 255-040-20 | 3590 Lehman Road | 16,000 | 2738 |
| 209-100-31 | 18049 Via Nicolo Road | 60,000 | 2476 |
| 255-020-61 | 3501 Lehman Road | 30,000 | 2738 |

**TABLE 2: UNINCORPORATED EMPLOYMENT ESTIMATES AND PROJECTIONS BY PLANNING AREA**

| Time Period | Land Use | TIM Fee Benefit Zone | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 Thornton -Delta | 2 Stockton-Lodi-Lockeford-Clements | 3 Tracy-Lathrop-Manteca | 4 Linden-Escalon-Ripon | 5 Mountain House | Total |
| Existing (2015) | Retail Employment | 65 | 1,900 | 100 | 165 | 7 | 2,237 |
| | Service Employment | 93 | 2,676 | 1,098 | 437 | 239 | 4,544 |
| | Other Employment | 1,496 | 12,188 | 2,009 | 4,502 | 76 | 20,270 |
| | **Total Employment** | **1,654** | **16,763** | **3,206** | **5,105** | **322** | **27,050** |
| Growth 2015 to 2020 | Retail Employment | 2 | 240 | 71 | 64 | 95 | 473 |
| | Service Employment | 2 | 100 | 35 | 13 | 53 | 204 |
| | Other Employment | 124 | 897 | 4,367 | 1,425 | 733 | 7,545 |
| | **Total Employment** | **128** | **1,238** | **4,474** | **1,501** | **881** | **8,222** |
| Existing (2020) | Retail Employment | 67 | 2,140 | 171 | 229 | 102 | 2,709 |
| | Service Employment | 95 | 2,776 | 1,133 | 450 | 293 | 4,747 |
| | Other Employment | 1,620 | 13,085 | 6,376 | 5,927 | 809 | 27,815 |
| | **Total Employment** | **1,782** | **18,001** | **7,680** | **6,606** | **1,203** | **35,271** |
| Future (2042) | Retail Employment | 300 | 2,911 | 440 | 198 | 1,020 | 4,869 |
| | Service Employment | 732 | 8,046 | 2,113 | 519 | 8,086 | 19,496 |
| | Other Employment | 2,580 | 13,790 | 4,529 | 4,529 | 4,871 | 30,298 |
| | **Total Employment** | **3,612** | **24,746** | **7,082** | **5,246** | **13,977** | **54,663** |
| Growth (2020-2042) | Retail Employment | 233 | 771 | 269 | -31 | 918 | 2,160 |
| | Service Employment | 637 | 5,269 | 980 | 69 | 7,793 | 14,748 |
| | Other Employment | 960 | 705 | -1,847 | -1,398 | 4,062 | 2,483 |
| | **Total Employment** | **1,830** | **6,745** | **-598** | **-1,360** | **12,774** | **19,392** |

Note: Retail Employment includes retail, food
Service Employment includes education, government, medical, and office
Other Employment includes industrial, other, agriculture

**FIGURE 1. SAN JOAQUIN COUNTY LOCATIONS OF SIGNIFICANT WAREHOUSING GROWTH (2015-2021)**

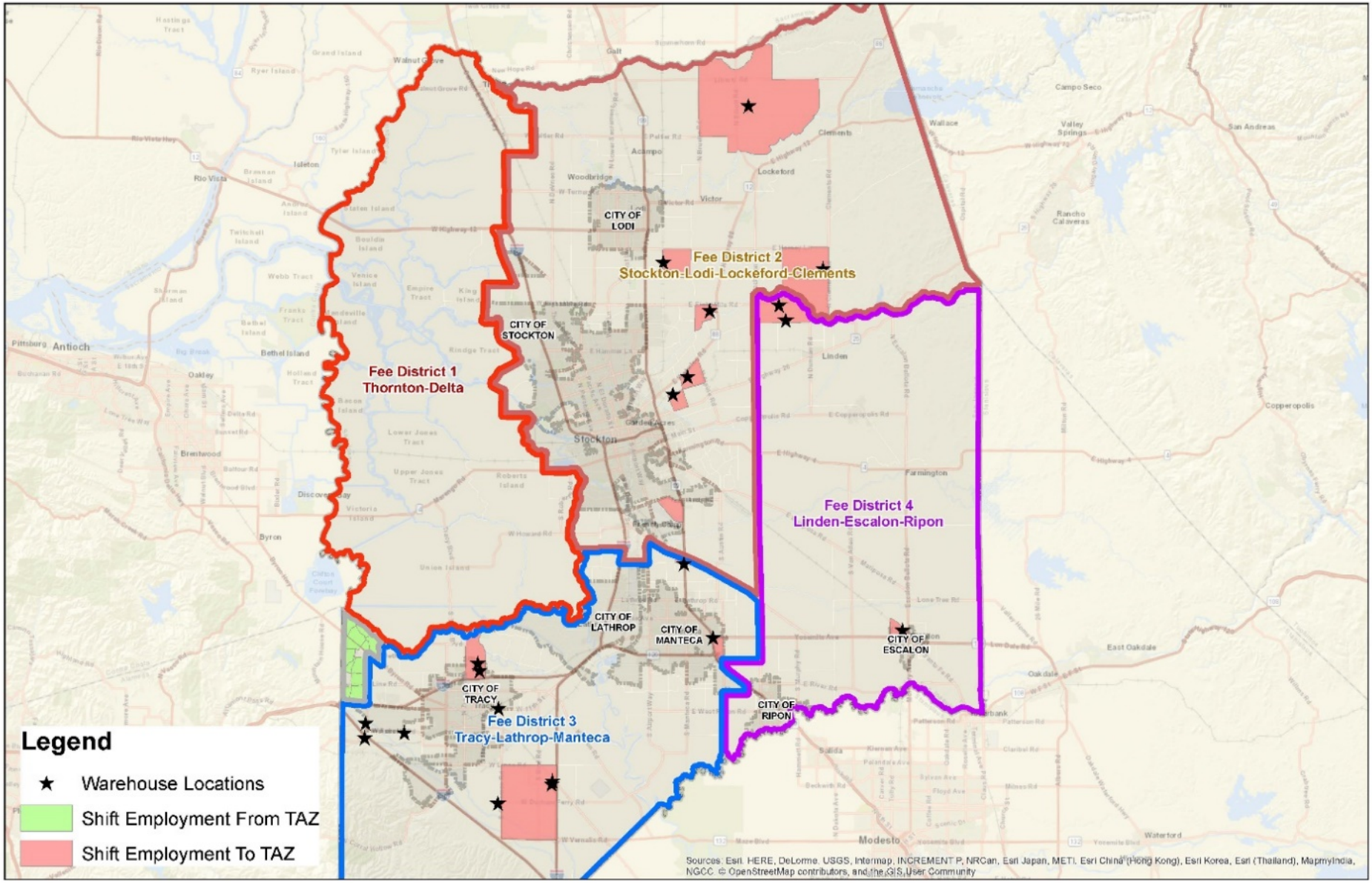

**TABLE 3. WAREHOUSING REALLOCATION (DESTINATION ZONES)**

| | | | Proposed Modification (Employment Shifts) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TAZ | Fee District | Total | Education | Food/Bev | Gov't | Industrial | Medical | Office | Other | Retail | Agriculture |
| 2354 | 2. Stockton/Lodi | | | | | | | | | | |
| 2356 | 2. Stockton/Lodi | **2,547** | | | (500) | 3,047 | | | | | |
| 2530 | 2. Stockton/Lodi | **30** | | | | 30 | | | | | |
| 2534 | 2. Stockton/Lodi | **102** | | | | 102 | | | | | |
| 2549 | 2. Stockton/Lodi | **70** | | | | 70 | | | | | |
| 2557 | 2. Stockton/Lodi | **23** | | | | 23 | | | | | |
| 2665 | 2. Stockton/Lodi | **12** | | | | 12 | | | | | |
| 2667 | 2. Stockton/Lodi | **29** | | | | 29 | | | | | |
| 1913 | 2. Stockton/Lodi | **520** | | | | 520 | | | | | |
| 2411 | 2. Stockton/Lodi | **-** | | | | | | | | | |
| 2473 | 3. Tracy/Lathrop/Manteca | **1,575** | | | | 1,575 | | | | | |
| 2476 | 3. Tracy/Lathrop/Manteca | **-** | | | | | | | | | |
| 2609 | 3. Tracy/Lathrop/Manteca | **1,044** | | | | 1,044 | | | | | |
| 2719 | 3. Tracy/Lathrop/Manteca | **-** | | | | | | | | | |
| 2738 | 3. Tracy/Lathrop/Manteca | **66** | | | | 66 | | | | | |
| 1704 | 4. Linden/Escalon/Ripon | **121** | | | | 121 | | | | | |
| 2517 | 4. Linden/Escalon/Ripon | **76** | | | | 76 | | | | | |
| 2524 | 4. Linden/Escalon/Ripon | **47** | | | | 47 | | | | | |
| **Total Shifts to Fee Districts 2,3 and 4** | | **6,264** | | | **(500)** | **6,764** | | | | | |

**TABLE 4. WAREHOUSING REALLOCATION (ORIGIN ZONES)**

| TAZ | Fee District | Total | Proposed Modification (Employment Shifts) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Education | Food/Bev | Gov't | Industrial | Medical | Office | Other | Retail | Agriculture |
| 2709 | 5. Mountain House | **(36)** | (24) | | | (11) | | | | | |
| 2710 | 5. Mountain House | **(286)** | (286) | | | | | | | | |
| 2711 | 5. Mountain House | | | | | | | | | | |
| 2712 | 5. Mountain House | | | | | | | | | | |
| 2713 | 5. Mountain House | **(908)** | (548) | | | (333) | | | (27) | | |
| 2714 | 5. Mountain House | **(52)** | (52) | | | - | | | | | |
| 2715 | 5. Mountain House | **(381)** | (261) | | | (120) | | | | | |
| 2716 | 5. Mountain House | | | | | | | | | | |
| 2726 | 5. Mountain House | **(0)** | | | | (0) | | | | | |
| 2743 | 5. Mountain House | **(2,222)** | | | | (2,060) | | | (162) | | |
| 2744 | 5. Mountain House | **(25)** | | | | (22) | | | (2) | | |
| 2745 | 5. Mountain House | **(0)** | | | | (0) | | | | | |
| 2746 | 5. Mountain House | **(187)** | | | | (187) | | | | | |
| 2754 | 5. Mountain House | **(4)** | | | | (4) | | | | | |
| 2755 | 5. Mountain House | **(2,164)** | (1,212) | | | (881) | | | (71) | | |
| **Total Shifts from Mountain House** | | **(6,264)** | **(2,383)** | | | **(3,618)** | **-** | **-** | **(262)** | **-** | **-** |
| **Total Shifts Countywide** | | **0** | **(2,383)** | **0** | **(500)** | **3,145** | **0** | **0** | **(262)** | **0** | **0** |

# Appendix 3 Land Use Forecast Process

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# MEMORANDUM

DATE: December 10, 2021

TO: Jeffrey Levers | San Joaquin County

FROM: Jim Damkowitch, David Tokarski | DKS Associates

SUBJECT: San Joaquin County TIMF Update: Land Use Forecasts Project #21034-000

## INTRODUCTION

As part of the County's TIMF update, the County's fee schedule will be updated to reflect among other things, the latest San Joaquin Council of Governments (SJCOG) tri-county travel demand model. Since the 2015 TIMF update, the San Joaquin Council of Governments (SJCOG) has twice updated its regional travel demand model (called the 3-County MIP and VMIP2 model updates). More recently, the baseline of the most recent VMIP2 model was also updated by SJCOG. The VMIP2 model will be the primary analysis tool to determine where future improvement needs occur as a direct result of new development within the county. Based on the identified deficiencies, the VMIP2 model will also determine the fair share allocation of fees and nexus requirements (i.e., AB 1600 proportionality). This will ensure that the updated fees reflect only new unincorporated development's share of the costs for improvements shown to be needed to accommodate future development.

Assumed growth within the unincorporated areas of the County is based on the County's General Plan build-out land use. Conversely, growth within the incorporated cities will reflect SJCOG RTP/SCS Preferred Land Use. The latter land use is already resident in the VMIP2 model. This requires the County's General Plan land use to be translated into the VMIP2 model land use. The translation process must first match the General Plan land use categories with those used in SJCOG's travel demand model.

SJCOG's SCS land use growth assumptions within the unincorporated County are generally not consistent with County General Plan build-out planning assumptions (by fee district control total or by traffic analysis zone). The purpose of this memo is to describe the data from the most recent model update (to be used for land use within the incorporated cities), the previous model used for the previous Countywide fee update (to be used to make land use growth assumptions in the unincorporated County), and a new revised model to be used for the updated fee calculations.

## SOURCE TRAVEL DEMAND MODEL DATA

In order to prepare land use data inputs for an updated travel demand model to be utilized for the TIMF update, the land use assumptions from the two previous models (used in the previous fee program update and the MTP/SCS, respectively) for the unincorporated areas of San Joaquin County were mapped.

**Figure 1** shows the extents of the County, along with the complex boundaries of the incorporated cities within the County, the boundaries of the four fee districts, and the traffic analysis zones (TAZs) that are defined in the County's GIS data as being within the unincorporated County. The figure shows that due to the complex city boundaries, the TAZ boundaries do not necessarily follow city boundaries in most cases. In this map, the darker grey areas represent the official incorporated cities, the colored areas represent the TAZs identified as unincorporated in the County's GIS (colored specifically by fee district) and the lighter grey areas represent those TAZs that are not within the City boundaries but are also not identified as unincorporated TAZs.

## GROWTH ALLOCATION

For those TAZs with overlapping boundaries (i.e., are not 100% in either an incorporated city or the unincorporated county), assumptions were developed to allocate existing development and future growth to incorporated or unincorporated areas. Generalized rules were developed to systematically perform the allocation process. These allocation assumptions were used to estimate total existing and forecast land use in the unincorporated area to meet the growth control totals for residential and non-residential growth. Two iterations of additional adjustments at select TAZs was required to complete the growth allocation process and achieve the County's General Plan future growth control totals for residential and non-residential growth.

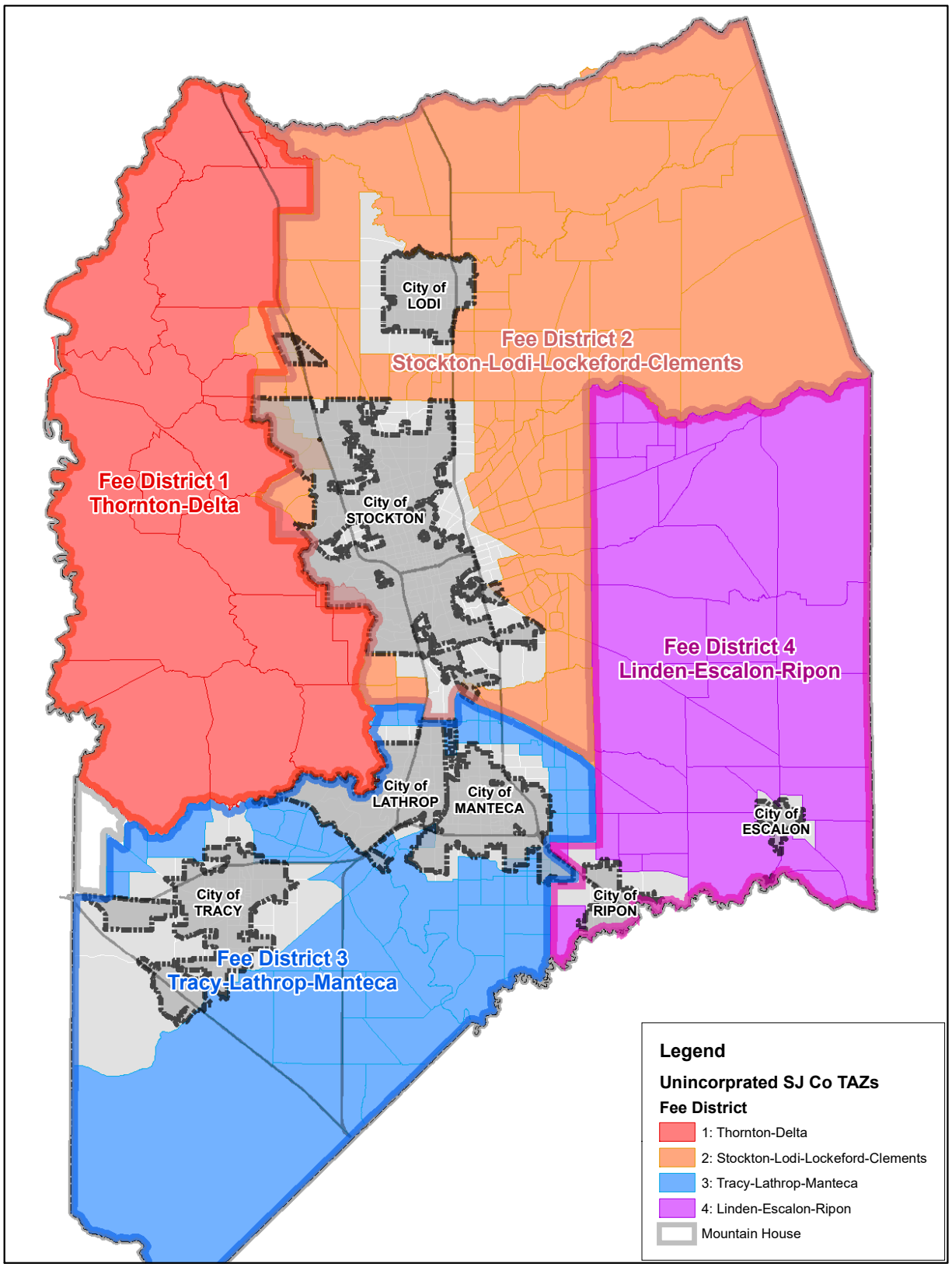



**FIGURE 1: COUNTY INCORPORATED AND UNINCORPORATED AREAS**

**Table 1** summarizes land use (total residential dwelling units and non-residential employment) for the areas (TAZs) identified as unincorporated San Joaquin County from both the previous fee update and the current three county travel demand model, based on the assumptions discussed above. The previous fee program identifies the base year as 2014 and the future year as 2035, while the current three county model identifies the base year as 2015 and the future year as 2042. The table shows that total unincorporated employment projections are significantly higher in the previous model, while overall dwelling unit growth is fairly similar between the two models, with the biggest difference being in the Mountain House district.

**TABLE 1: UNINCORPORATED LAND USE – PREVIOUS FEE PROGRAM AND CURRENT THREE COUNTY MODEL**

| | FEE DISTRICT | PREVIOUS FEE PROGRAM DOCUMENTATION | | | CURRENT THREE COUNTY MODEL | | |
|---|---|---|---|---|---|---|---|
| | | BASE YEAR (2014) | FUTURE YEAR (2035) | GROWTH | BASE YEAR (2015) | FUTURE YEAR (2042) | GROWTH |
| DWELLING UNITS | Thornton-Delta | 1,121 | 1,311 | +190 | 913 | 1,214 | +301 |
| | Stockton-Lodi-Lockeford-Clements | 14,648 | 32,985 | +18,338 | 13,737 | 41,410 | +27,674 |
| | Tracy-Lathrop-Manteca | 3,493 | 6,105 | +2,612 | 2,520 | 12,036 | +9,516 |
| | Linden-Escalon-Ripon | 2,353 | 5,276 | +2,923 | 2,915 | 3,789 | +874 |
| | Mountain House | 422 | 15,524 | +15,102 | 4,559 | 10,891 | +6,331 |
| | **Total** | **22,037** | **61,201** | **+39,165** | **24,644** | **69,340** | **+44,695** |
| EMPLOY-MENT | Thornton-Delta | 1,955 | 2,042 | +87 | 1,654 | 1,427 | -227 |
| | Stockton-Lodi-Lockeford-Clements | 12,533 | 26,125 | +13,593 | 16,763 | 42,456 | +25,693 |
| | Tracy-Lathrop-Manteca | 2,506 | 4,991 | +2,485 | 3,206 | 9,630 | +6,424 |
| | Linden-Escalon-Ripon | 3,051 | 3,940 | +890 | 5,105 | 4,809 | -296 |
| | Mountain House | 43.4 | 7,618 | +7,575 | 321.734 | 10,091 | +9,770 |
| | **Total** | **20,089** | **44,717** | **+24,628** | **27,050** | **68,413** | **+41,364** |

## GROWTH ALLOCATION ADJUSTMENTS

Based on input from the County, a series of adjustments were made in order to better represent growth in the unincorporated portions of the County. The basic methodology was to first calculate estimated growth by TAZ between the current model base year (2015) and the previous model future year (2035) and then apply that growth to each TAZ to estimate a new 2042 forecast based on the previous model. In cases where the future land use from the previous model is less than

the base year land use of the current model, the current model base year land use is maintained to avoid assuming negative growth at the TAZ level.

The first set of systematic adjustments described above did not result in a complete match of the desired General Plan by fee district control totals. In coordination with County staff, additional adjustments were made to TAZs in unincorporated areas adjacent to the incorporated cities. Only TAZs juxtaposed to developed areas were selected for further adjustment given the assumption that more growth will likely occur near currently developed areas than in more rural areas further from existing development centers. **Figure 2** shows the locations of the "border" TAZs selected for further adjustment.

## RECOMMENDED GROWTH

The results of completing the growth allocation adjustment steps described above are summarized in **Table 2**. The table shows substantial growth in both residential dwelling units and employment between the base year of 2015 and the future year of 2042. Because the base year dwelling unit totals are fairly similar between the previous fee program and the current model, the recommended growth is fairly similar to that of the previous fee program. Because employment in the current model is much higher than that documented in the previous fee program, recommended growth between 2015 and 2042 is significantly lower than that assumed previously. Recommended growth distribution by TAZ for dwelling units and employment is shown in **Figure 3** and **Figure 4**, respectively.

A complete breakdown of the final residential and non-residential growth by TAZ and TIMF Fee Benefit Zone is provided in **Table 3**.

**TABLE 2: RECOMMENDED UNINCORPORATED LAND USE GROWTH**

| | FEE DISTRICT | DWELLING UNITS | | | EMPLOYMENT | | |
|---|---|---|---|---|---|---|---|
| | | BASE YEAR | FUTURE YEAR | GROWTH | BASE YEAR | FUTURE YEAR | GROWTH |
| PROPOSED REVISED MODEL | 1. Thornton-Delta | 913 | 1,943 | +1,030 | 1,654 | 3,612 | +1,958 |
| | 2. Stockton-Lodi-Lockeford-Clements | 13,737 | 24,843 | +11,106 | 16,763 | 24,746 | +7,983 |
| | 3. Tracy-Lathrop-Manteca | 2,520 | 11,312 | +8,792 | 3,206 | 7,082 | +3,876 |
| | 4. Linden-Escalon-Ripon | 2,915 | 4,090 | +1,175 | 5,105 | 5,246 | +141 |
| | Mountain House | 4,559 | 12,662 | +8,103 | 321.734 | 13,977 | +13,655 |
| | **Total** | **24,644** | **54,850** | **+30,206** | **27,050** | **54,663** | **+27,613** |

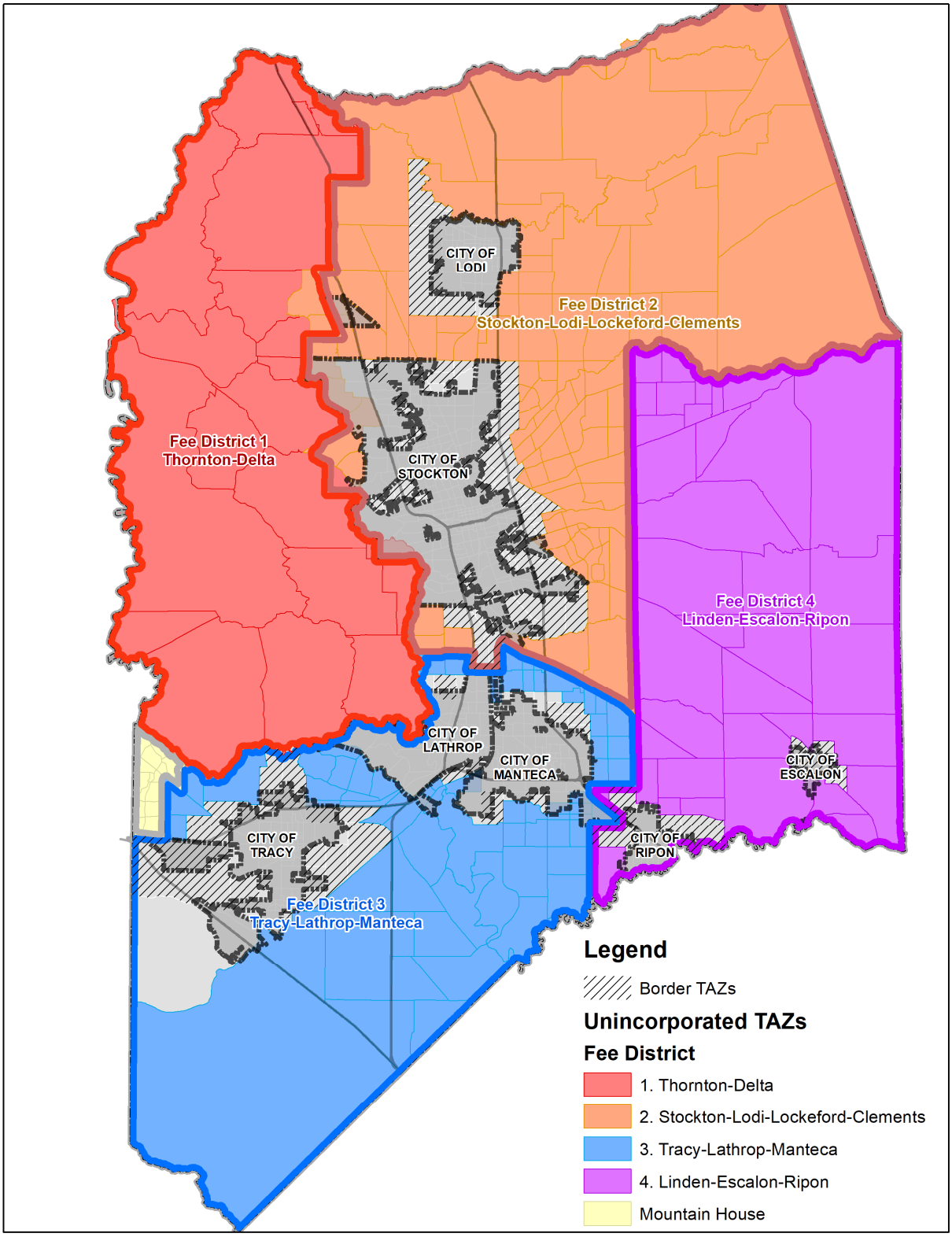



**FIGURE 2: UNINCORPORATED AREAS WITH ADDITIONAL LAND USE ADJUSTMENTS**

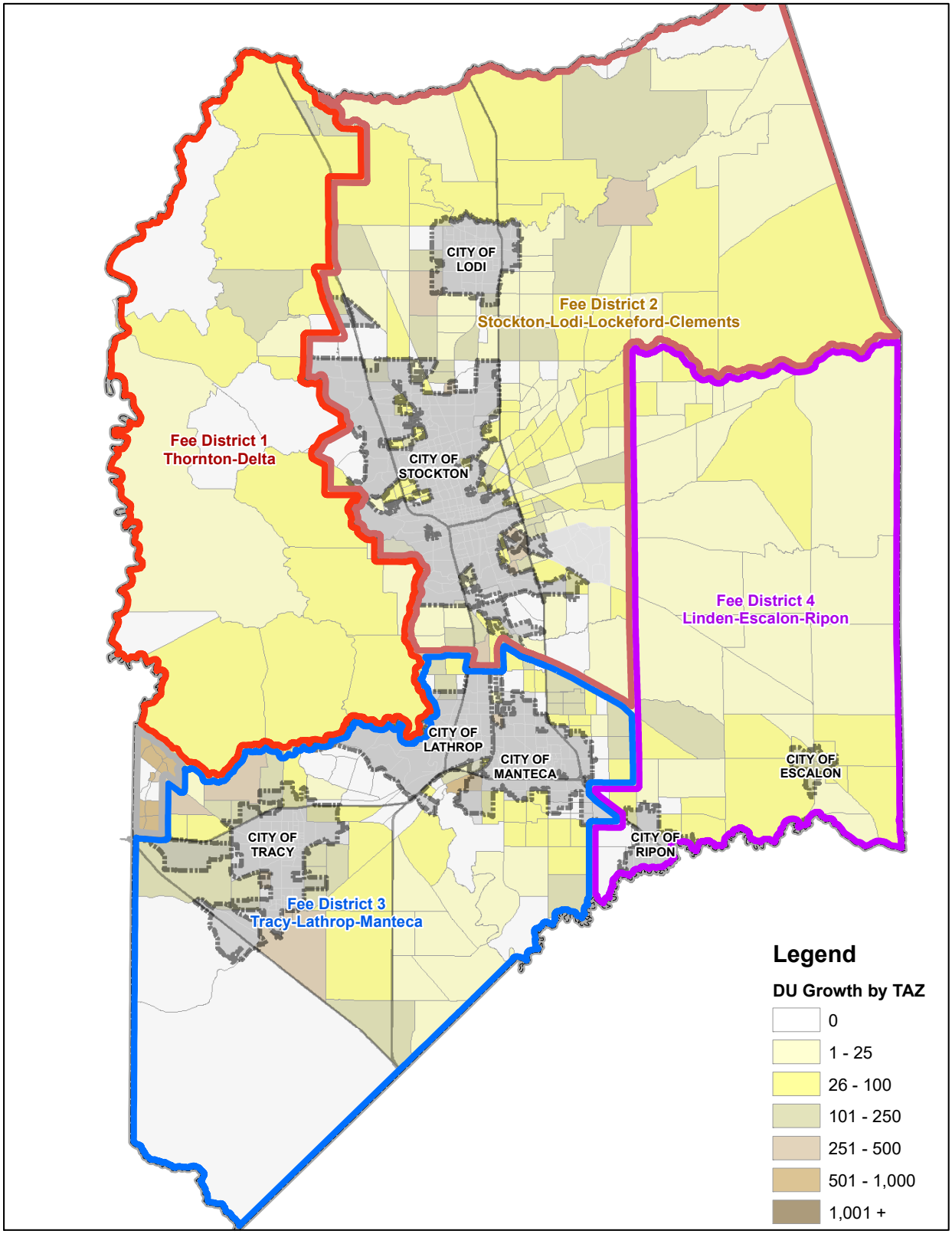



**FIGURE 3: DISTRIBUTION OF GROWTH IN DWELLING UNITS BY TAZ**

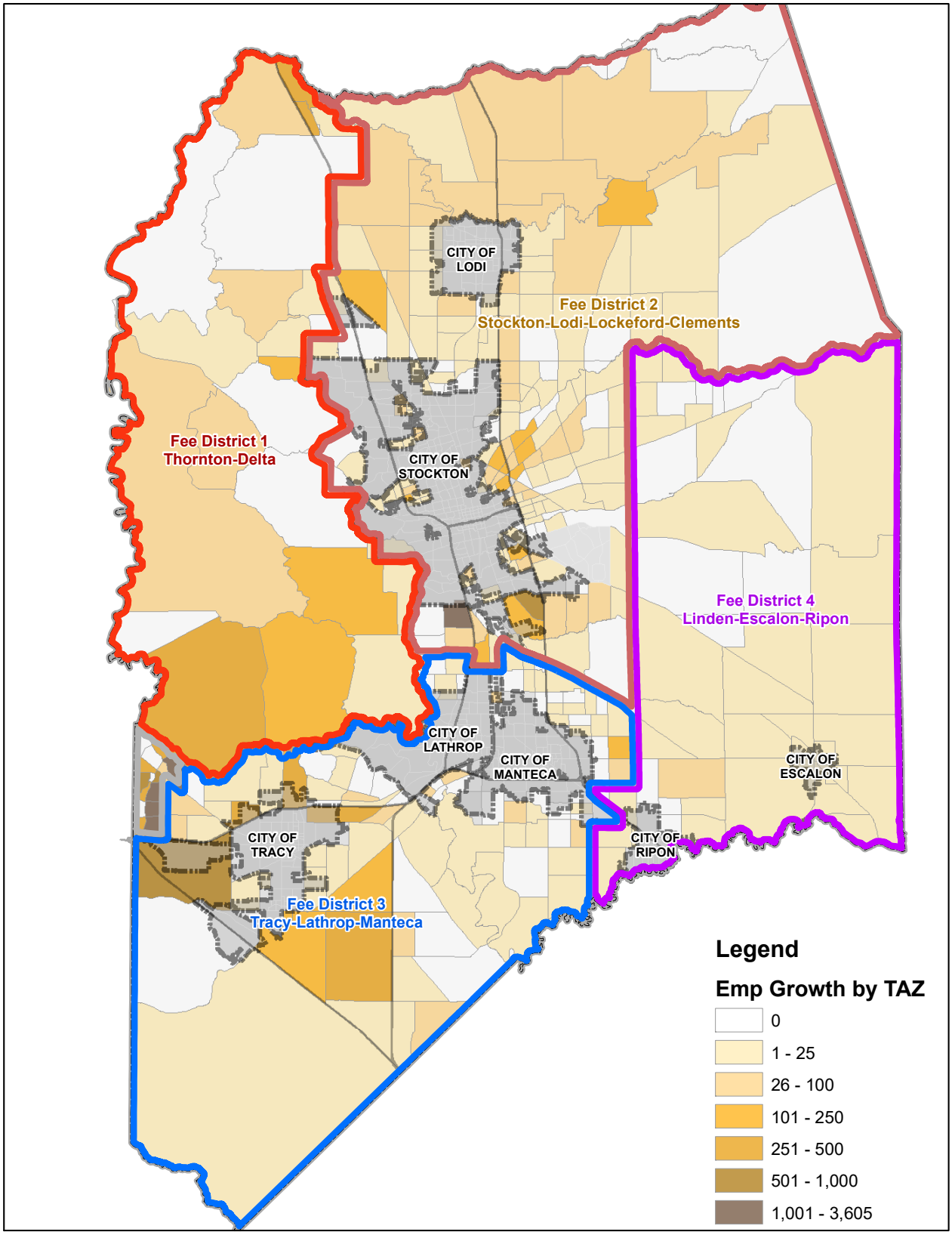



**FIGURE 4: DISTRIBUTION OF GROWTH IN EMPLOYMENT BY TAZ**

**TABLE 3: RECOMMENDED UNINCORPORATED LAND USE GROWTH BY TAZ**

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| 1. Thornton | **Total** | **913** | **1,943** | **+1,030** | **1,654** | **3,612** | **+1,958** |
| | 1751 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2647 | 15 | 15 | 0 | 28 | 28 | 0 |
| | 2648 | 4 | 4 | 0 | 449 | 540 | 91 |
| | 2683 | 42 | 75 | 33 | 96 | 206 | 110 |
| | 2684 | 31 | 80 | 49 | 85 | 481 | 396 |
| | 2685 | 0 | 10 | 10 | 0 | 6 | 6 |
| | 2686 | 0 | 54 | 54 | 0 | 0 | 0 |
| | 2687 | 21 | 37 | 16 | 76 | 154 | 78 |
| | 2688 | 71 | 98 | 27 | 98 | 306 | 208 |
| | 2689 | 49 | 76 | 27 | 69 | 75 | 6 |
| | 2692 | 1 | 1 | 0 | 70 | 70 | 0 |
| | 2694 | 115 | 223 | 109 | 1 | 299 | 298 |
| | 2695 | 8 | 84 | 76 | 52 | 500 | 447 |
| | 2699 | 15 | 205 | 190 | 136 | 155 | 19 |
| | 2700 | 6 | 17 | 11 | 0 | 6 | 6 |
| | 2701 | 386 | 548 | 163 | 141 | 212 | 71 |
| | 2702 | 3 | 3 | 0 | 16 | 16 | 0 |
| | 2703 | 46 | 100 | 54 | 291 | 291 | 0 |
| | 2704 | 55 | 120 | 65 | 25 | 109 | 84 |
| | 2705 | 5 | 103 | 98 | 6 | 25 | 19 |
| | 2707 | 40 | 89 | 49 | 16 | 132 | 117 |
| 2. Stockton/Lodi | **Total** | **13,737** | **24,843** | **+11,106** | **16,763** | **24,746** | **+7,983** |
| | 1851 | 0 | 236 | 236 | 0 | 1 | 1 |
| | 1853 | 310 | 362 | 52 | 87 | 126 | 39 |
| | 1854 | 0 | 86 | 86 | 0 | 53 | 53 |
| | 1855 | 0 | 0 | 0 | 0 | 9 | 9 |
| | 1856 | 0 | 162 | 162 | 0 | 1 | 1 |
| | 1857 | 0 | 262 | 262 | 0 | 2 | 2 |
| | 1858 | 0 | 8 | 8 | 0 | 78 | 78 |
| | 1859 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2035 | 0 | 0 | 0 | 0 | 5 | 5 |
| | 2036 | 0 | 142 | 142 | 0 | 0 | 0 |
| 2. Stockton/Lodi | 2037 | 4 | 165 | 160 | 11 | 13 | 2 |
| | 2038 | 0 | 0 | 0 | 0 | 0 | 0 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2039 | 0 | 17 | 17 | 0 | 54 | 54 |
| | 2040 | 0 | 0 | 0 | 0 | 49 | 49 |
| | 2041 | 540 | 672 | 132 | 179 | 208 | 28 |
| | 2042 | 0 | 78 | 78 | 0 | 13 | 13 |
| | 2043 | 0 | 72 | 72 | 0 | 50 | 50 |
| | 2044 | 335 | 405 | 70 | 491 | 611 | 119 |
| | 2045 | 0 | 50 | 50 | 0 | 4 | 4 |
| | 2046 | 0 | 20 | 20 | 0 | 11 | 11 |
| | 2047 | 0 | 69 | 69 | 0 | 7 | 7 |
| | 2048 | 0 | 47 | 47 | 0 | 7 | 7 |
| | 2049 | 0 | 50 | 50 | 0 | 4 | 4 |
| | 2050 | 445 | 507 | 62 | 221 | 248 | 27 |
| | 2051 | 0 | 47 | 47 | 0 | 176 | 176 |
| | 2052 | 0 | 29 | 29 | 0 | 7 | 7 |
| | 2053 | 0 | 40 | 40 | 0 | 5 | 5 |
| | 2054 | 0 | 35 | 35 | 0 | 7 | 7 |
| | 2056 | 120 | 251 | 130 | 303 | 332 | 28 |
| | 2057 | 0 | 321 | 321 | 0 | 122 | 122 |
| | 2058 | 0 | 13 | 13 | 0 | 2,931 | 2,931 |
| | 2059 | 20 | 51 | 32 | 41 | 41 | 0 |
| | 2060 | 39 | 59 | 20 | 614 | 673 | 59 |
| | 2061 | 11 | 19 | 8 | 490 | 556 | 66 |
| | 2062 | 153 | 187 | 33 | 11 | 16 | 5 |
| | 2063 | 237 | 282 | 45 | 5 | 7 | 2 |
| | 2064 | 463 | 556 | 94 | 10 | 13 | 2 |
| | 2065 | 383 | 460 | 77 | 102 | 112 | 10 |
| | 2066 | 171 | 290 | 119 | 77 | 84 | 7 |
| | 2067 | 284 | 343 | 58 | 3 | 14 | 11 |
| | 2068 | 272 | 416 | 144 | 206 | 230 | 25 |
| | 2069 | 331 | 481 | 150 | 99 | 105 | 6 |
| | 2071 | 0 | 315 | 315 | 0 | 124 | 124 |
| | 2072 | 0 | 48 | 48 | 0 | 5 | 5 |
| | 2073 | 0 | 53 | 53 | 0 | 3 | 3 |
| | 2074 | 0 | 232 | 232 | 0 | 37 | 37 |
| **2. Stockton/Lodi** | 2075 | 0 | 322 | 322 | 0 | 9 | 9 |
| | 2076 | 197 | 237 | 40 | 14 | 18 | 4 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2077 | 0 | 93 | 93 | 0 | 9 | 9 |
| | 2078 | 0 | 126 | 126 | 0 | 9 | 9 |
| | 2079 | 0 | 94 | 94 | 0 | 99 | 99 |
| | 2080 | 0 | 45 | 45 | 0 | 75 | 75 |
| | 2082 | 408 | 408 | 0 | 136 | 167 | 30 |
| | 2083 | 389 | 391 | 2 | 301 | 329 | 28 |
| | 2084 | 251 | 288 | 37 | 24 | 46 | 22 |
| | 2176 | 0 | 0 | 0 | 0 | 4 | 4 |
| | 2191 | 0 | 98 | 98 | 0 | 53 | 53 |
| | 2231 | 0 | 0 | 0 | 0 | 20 | 20 |
| | 2292 | 0 | 239 | 239 | 0 | 2 | 2 |
| | 2293 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2304 | 0 | 39 | 39 | 0 | 0 | 0 |
| | 2306 | 0 | 49 | 49 | 0 | 0 | 0 |
| | 2326 | 0 | 150 | 150 | 0 | 34 | 34 |
| | 2327 | 0 | 23 | 23 | 0 | 5 | 5 |
| | 2331 | 0 | 85 | 85 | 0 | 11 | 11 |
| | 2334 | 0 | 63 | 63 | 0 | 59 | 59 |
| | 2335 | 0 | 15 | 15 | 0 | 0 | 0 |
| | 2336 | 0 | 265 | 265 | 0 | 18 | 18 |
| | 2337 | 71 | 156 | 85 | 3 | 14 | 11 |
| | 2338 | 0 | 85 | 85 | 0 | 28 | 28 |
| | 2339 | 0 | 4 | 4 | 0 | 19 | 19 |
| | 2340 | 0 | 91 | 91 | 0 | 74 | 74 |
| | 2341 | 0 | 83 | 83 | 0 | 1 | 1 |
| | 2342 | 0 | 411 | 411 | 0 | 0 | 0 |
| | 2343 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2344 | 0 | 15 | 15 | 0 | 5 | 5 |
| | 2345 | 9 | 39 | 30 | 660 | 767 | 107 |
| | 2346 | 44 | 59 | 15 | 208 | 252 | 44 |
| | 2347 | 140 | 194 | 53 | 385 | 427 | 41 |
| | 2348 | 12 | 62 | 50 | 438 | 550 | 112 |
| | 2349 | 248 | 371 | 124 | 17 | 17 | 0 |
| | 2350 | 0 | 35 | 35 | 0 | 13 | 13 |
| 2. Stockton/Lodi | 2351 | 156 | 271 | 115 | 14 | 14 | 0 |
| | 2352 | 51 | 71 | 20 | 34 | 72 | 38 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2354 | 0 | 0 | 0 | 0 | 121 | 121 |
| | 2355 | 36 | 86 | 50 | 2 | 3 | 1 |
| | 2356 | 0 | 0 | 0 | 0 | 773 | 773 |
| | 2357 | 3 | 3 | 0 | 422 | 536 | 114 |
| | 2360 | 0 | 30 | 30 | 0 | 0 | 0 |
| | 2361 | 3 | 3 | 0 | 14 | 14 | 0 |
| | 2362 | 3 | 3 | 0 | 72 | 78 | 7 |
| | 2363 | 464 | 520 | 57 | 24 | 37 | 13 |
| | 2365 | 0 | 226 | 226 | 0 | 11 | 11 |
| | 2530 | 663 | 786 | 124 | 428 | 472 | 45 |
| | 2531 | 829 | 1,182 | 353 | 816 | 1,062 | 246 |
| | 2532 | 48 | 63 | 15 | 58 | 73 | 15 |
| | 2533 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2534 | 25 | 30 | 5 | 51 | 53 | 2 |
| | 2535 | 17 | 25 | 8 | 2 | 2 | 0 |
| | 2536 | 9 | 13 | 3 | 43 | 43 | 1 |
| | 2537 | 0 | 8 | 8 | 71 | 71 | 0 |
| | 2538 | 0 | 0 | 0 | 68 | 68 | 0 |
| | 2539 | 9 | 11 | 2 | 8 | 8 | 0 |
| | 2540 | 166 | 198 | 32 | 203 | 209 | 5 |
| | 2541 | 137 | 160 | 23 | 164 | 172 | 7 |
| | 2542 | 65 | 96 | 30 | 206 | 206 | 0 |
| | 2543 | 83 | 96 | 13 | 93 | 95 | 2 |
| | 2544 | 202 | 242 | 40 | 121 | 146 | 25 |
| | 2545 | 400 | 502 | 102 | 200 | 235 | 34 |
| | 2546 | 138 | 163 | 25 | 68 | 95 | 27 |
| | 2547 | 46 | 101 | 55 | 114 | 121 | 7 |
| | 2548 | 26 | 85 | 58 | 155 | 166 | 10 |
| | 2549 | 46 | 110 | 63 | 62 | 65 | 4 |
| | 2550 | 14 | 97 | 84 | 88 | 88 | 0 |
| | 2551 | 306 | 366 | 60 | 104 | 148 | 43 |
| | 2552 | 253 | 284 | 32 | 241 | 290 | 49 |
| | 2553 | 16 | 46 | 30 | 85 | 86 | 1 |
| | 2554 | 136 | 165 | 28 | 878 | 945 | 67 |
| 2. Stockton/Lodi | 2555 | 71 | 93 | 22 | 82 | 125 | 43 |
| | 2556 | 112 | 124 | 12 | 512 | 615 | 103 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2557 | 68 | 81 | 13 | 87 | 91 | 4 |
| | 2558 | 89 | 111 | 22 | 167 | 183 | 16 |
| | 2559 | 0 | 0 | 0 | 62 | 76 | 14 |
| | 2560 | 115 | 327 | 212 | 377 | 417 | 40 |
| | 2561 | 16 | 161 | 145 | 17 | 17 | 0 |
| | 2562 | 24 | 33 | 8 | 6 | 8 | 2 |
| | 2563 | 47 | 57 | 10 | 63 | 68 | 5 |
| | 2564 | 48 | 55 | 7 | 56 | 57 | 1 |
| | 2565 | 0 | 12 | 12 | 0 | 30 | 30 |
| | 2566 | 98 | 115 | 17 | 269 | 277 | 7 |
| | 2567 | 318 | 361 | 43 | 617 | 663 | 46 |
| | 2568 | 202 | 277 | 75 | 205 | 271 | 66 |
| | 2569 | 59 | 146 | 87 | 601 | 637 | 36 |
| | 2570 | 0 | 10 | 10 | 0 | 11 | 11 |
| | 2571 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2572 | 40 | 45 | 5 | 26 | 71 | 45 |
| | 2573 | 4 | 4 | 0 | 0 | 1 | 1 |
| | 2574 | 0 | 202 | 202 | 0 | 7 | 7 |
| | 2575 | 54 | 70 | 17 | 10 | 12 | 2 |
| | 2576 | 28 | 147 | 119 | 816 | 827 | 11 |
| | 2577 | 0 | 10 | 10 | 0 | 7 | 7 |
| | 2578 | 45 | 202 | 157 | 45 | 64 | 19 |
| | 2598 | 37 | 123 | 87 | 27 | 28 | 1 |
| | 2599 | 6 | 6 | 0 | 48 | 61 | 12 |
| | 2600 | 19 | 27 | 8 | 126 | 126 | 0 |
| | 2620 | 31 | 39 | 8 | 193 | 220 | 27 |
| | 2631 | 12 | 14 | 2 | 6 | 6 | 0 |
| | 2632 | 79 | 90 | 12 | 1 | 1 | 1 |
| | 2633 | 59 | 64 | 5 | 47 | 64 | 17 |
| | 2635 | 0 | 13 | 13 | 0 | 9 | 9 |
| | 2637 | 30 | 33 | 3 | 46 | 48 | 2 |
| | 2638 | 42 | 102 | 60 | 59 | 74 | 15 |
| | 2639 | 40 | 70 | 30 | 32 | 37 | 5 |
| | 2640 | 68 | 130 | 62 | 12 | 54 | 42 |
| 2. Stockton/Lodi | 2641 | 8 | 39 | 32 | 113 | 113 | 0 |
| | 2642 | 44 | 126 | 82 | 43 | 59 | 16 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2643 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2644 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2645 | 106 | 221 | 115 | 63 | 114 | 51 |
| | 2646 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2649 | 0 | 0 | 0 | 0 | 3 | 3 |
| | 2650 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2651 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2652 | 0 | 0 | 0 | 1 | 1 | 0 |
| | 2653 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2654 | 1 | 1 | 0 | 0 | 0 | 0 |
| | 2655 | 36 | 36 | 0 | 1 | 1 | 0 |
| | 2656 | 3 | 3 | 0 | 0 | 0 | 0 |
| | 2658 | 1 | 1 | 0 | 0 | 0 | 0 |
| | 2659 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2660 | 12 | 15 | 3 | 0 | 0 | 0 |
| | 2661 | 86 | 106 | 20 | 11 | 12 | 1 |
| | 2662 | 11 | 11 | 0 | 2 | 2 | 0 |
| | 2663 | 24 | 29 | 5 | 5 | 5 | 1 |
| | 2664 | 43 | 88 | 45 | 97 | 131 | 33 |
| | 2665 | 60 | 138 | 79 | 311 | 355 | 44 |
| | 2666 | 97 | 117 | 20 | 56 | 59 | 3 |
| | 2667 | 126 | 293 | 167 | 100 | 105 | 5 |
| | 2668 | 20 | 41 | 20 | 0 | 0 | 0 |
| | 2669 | 195 | 282 | 87 | 146 | 304 | 157 |
| | 2670 | 23 | 46 | 23 | 13 | 13 | 0 |
| | 2671 | 35 | 112 | 77 | 40 | 46 | 6 |
| | 2672 | 86 | 156 | 70 | 400 | 529 | 129 |
| | 2673 | 214 | 256 | 42 | 71 | 85 | 14 |
| | 2674 | 25 | 53 | 28 | 239 | 261 | 22 |
| | 2675 | 24 | 54 | 30 | 14 | 14 | 0 |
| | 2676 | 168 | 178 | 10 | 23 | 29 | 6 |
| | 2677 | 37 | 46 | 8 | 32 | 33 | 1 |
| | 2678 | 70 | 192 | 122 | 34 | 36 | 1 |
| | 2679 | 19 | 25 | 7 | 41 | 42 | 1 |
| 2. Stockton/Lodi | 2680 | 41 | 46 | 5 | 2 | 2 | 0 |
| | 2681 | 5 | 8 | 3 | 80 | 80 | 0 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2682 | 10 | 32 | 22 | 70 | 70 | 0 |
| | 2690 | 0 | 25 | 25 | 0 | 2 | 2 |
| | 2691 | 9 | 15 | 7 | 90 | 91 | 1 |
| | 2696 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2697 | 0 | 0 | 0 | 0 | 11 | 11 |
| | 2698 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2706 | 0 | 78 | 78 | 0 | 5 | 5 |
| **3. Tracy/Lathrop/Manteca** | **Total** | **2,520** | **11,312** | **+8,792** | **3,206** | **7,082** | **+3,876** |
| | 1741 | 0 | 155 | 155 | 0 | 4 | 4 |
| | 1742 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1743 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1756 | 0 | 203 | 203 | 0 | 29 | 29 |
| | 1758 | 0 | 23 | 23 | 0 | 0 | 0 |
| | 1759 | 0 | 45 | 45 | 0 | 0 | 0 |
| | 1760 | 0 | 45 | 45 | 0 | 0 | 0 |
| | 1910 | 0 | 62 | 62 | 0 | 1 | 1 |
| | 1957 | 231 | 411 | 180 | 1 | 12 | 11 |
| | 1958 | 0 | 81 | 81 | 0 | 3 | 3 |
| | 1959 | 35 | 103 | 68 | 5 | 5 | 0 |
| | 1960 | 0 | 428 | 428 | 0 | 0 | 0 |
| | 1963 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1964 | 33 | 202 | 169 | 10 | 10 | 0 |
| | 1965 | 17 | 152 | 135 | 1 | 25 | 24 |
| | 1966 | 0 | 30 | 30 | 0 | 0 | 0 |
| | 1967 | 0 | 35 | 35 | 0 | 0 | 0 |
| | 2412 | 0 | 180 | 180 | 0 | 6 | 6 |
| | 2413 | 0 | 169 | 169 | 0 | 372 | 372 |
| | 2417 | 0 | 468 | 468 | 0 | 12 | 12 |
| | 2469 | 0 | 45 | 45 | 0 | 347 | 347 |
| | 2470 | 85 | 163 | 79 | 195 | 206 | 11 |
| | 2471 | 0 | 228 | 228 | 0 | 13 | 13 |
| | 2472 | 1 | 182 | 180 | 105 | 127 | 22 |
| | 2473 | 0 | 42 | 42 | 0 | 290 | 290 |
| | 2474 | 0 | 129 | 129 | 0 | 5 | 5 |
| **3. Tracy/Lathrop/Manteca** | 2475 | 121 | 189 | 68 | 12 | 28 | 16 |
| | 2476 | 0 | 186 | 186 | 0 | 850 | 850 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2477 | 0 | 195 | 195 | 0 | 5 | 5 |
| | 2478 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2479 | 0 | 176 | 176 | 0 | 1 | 1 |
| | 2480 | 14 | 228 | 214 | 2 | 4 | 2 |
| | 2481 | 0 | 372 | 372 | 0 | 135 | 135 |
| | 2579 | 0 | 79 | 79 | 0 | 18 | 18 |
| | 2580 | 11 | 254 | 242 | 20 | 20 | 0 |
| | 2581 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2582 | 69 | 137 | 68 | 42 | 84 | 41 |
| | 2583 | 0 | 778 | 778 | 0 | 0 | 0 |
| | 2584 | 0 | 8 | 8 | 0 | 45 | 45 |
| | 2585 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2586 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2587 | 33 | 202 | 169 | 0 | 0 | 0 |
| | 2588 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2589 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 2590 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2591 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2592 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2593 | 13 | 47 | 34 | 6 | 7 | 2 |
| | 2594 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2595 | 156 | 156 | 0 | 17 | 22 | 5 |
| | 2596 | 48 | 70 | 23 | 14 | 18 | 5 |
| | 2597 | 17 | 186 | 169 | 31 | 40 | 10 |
| | 2601 | 34 | 169 | 135 | 21 | 36 | 14 |
| | 2602 | 46 | 238 | 192 | 36 | 54 | 18 |
| | 2603 | 19 | 120 | 101 | 214 | 436 | 222 |
| | 2604 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2605 | 6 | 40 | 34 | 1 | 4 | 3 |
| | 2606 | 7 | 41 | 34 | 155 | 169 | 14 |
| | 2607 | 16 | 219 | 203 | 0 | 6 | 6 |
| | 2608 | 0 | 90 | 90 | 0 | 11 | 11 |
| | 2609 | 7 | 7 | 0 | 132 | 132 | 0 |
| | 2610 | 14 | 70 | 56 | 36 | 52 | 16 |
| 3. Tracy/Lathrop/Manteca | 2611 | 6 | 6 | 0 | 59 | 59 | 0 |
| | 2612 | 35 | 58 | 23 | 5 | 7 | 2 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2613 | 15 | 72 | 56 | 109 | 142 | 33 |
| | 2614 | 20 | 76 | 56 | 10 | 10 | 0 |
| | 2615 | 31 | 88 | 56 | 22 | 32 | 10 |
| | 2616 | 41 | 86 | 45 | 109 | 123 | 14 |
| | 2617 | 40 | 97 | 56 | 115 | 134 | 19 |
| | 2618 | 13 | 35 | 23 | 55 | 55 | 0 |
| | 2619 | 96 | 96 | 0 | 35 | 51 | 16 |
| | 2621 | 17 | 85 | 68 | 36 | 74 | 38 |
| | 2623 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2708 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2717 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2718 | 80 | 114 | 34 | 56 | 96 | 40 |
| | 2719 | 0 | 372 | 372 | 0 | 135 | 135 |
| | 2720 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2721 | 20 | 31 | 11 | 1 | 4 | 3 |
| | 2722 | 10 | 10 | 0 | 0 | 81 | 81 |
| | 2723 | 21 | 450 | 428 | 44 | 79 | 35 |
| | 2724 | 70 | 341 | 271 | 27 | 37 | 10 |
| | 2725 | 10 | 33 | 23 | 7 | 7 | 0 |
| | 2727 | 6 | 40 | 34 | 579 | 581 | 2 |
| | 2728 | 57 | 79 | 23 | 14 | 14 | 0 |
| | 2729 | 7 | 176 | 169 | 55 | 66 | 11 |
| | 2730 | 13 | 36 | 23 | 28 | 105 | 76 |
| | 2731 | 353 | 364 | 11 | 31 | 36 | 5 |
| | 2732 | 10 | 22 | 11 | 9 | 9 | 0 |
| | 2733 | 78 | 101 | 23 | 52 | 105 | 53 |
| | 2734 | 16 | 39 | 23 | 122 | 122 | 0 |
| | 2735 | 39 | 62 | 23 | 42 | 44 | 2 |
| | 2736 | 170 | 215 | 45 | 317 | 436 | 120 |
| | 2737 | 62 | 62 | 0 | 143 | 155 | 11 |
| | 2738 | 116 | 161 | 45 | 55 | 487 | 432 |
| | 2739 | 7 | 7 | 0 | 1 | 73 | 72 |
| | 2740 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2741 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Tracy/Lathrop/Manteca | 2742 | 0 | 34 | 34 | 0 | 43 | 43 |
| | 2747 | 0 | 0 | 0 | 0 | 2 | 2 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2748 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2749 | 17 | 17 | 0 | 0 | 6 | 6 |
| | 2750 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2751 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2752 | 9 | 9 | 0 | 11 | 13 | 2 |
| | 2753 | 0 | 0 | 0 | 0 | 14 | 14 |
| 4. Linden/Escalon/Ripon | **Total** | **2,915** | **4,090** | **+1,175** | **5,105** | **5,246** | **+141** |
| | 1701 | 0 | 40 | 40 | 0 | 3 | 3 |
| | 1702 | 0 | 51 | 51 | 0 | 1 | 1 |
| | 1703 | 0 | 73 | 73 | 0 | 3 | 3 |
| | 1704 | 0 | 67 | 67 | 0 | 1 | 1 |
| | 1705 | 0 | 60 | 60 | 0 | 6 | 6 |
| | 2002 | 0 | 0 | 0 | 0 | 3 | 3 |
| | 2003 | 0 | 40 | 40 | 0 | 5 | 5 |
| | 2004 | 0 | 26 | 26 | 0 | 0 | 0 |
| | 2005 | 0 | 27 | 27 | 0 | 2 | 2 |
| | 2007 | 0 | 0 | 0 | 0 | 3 | 3 |
| | 2501 | 68 | 81 | 13 | 211 | 213 | 2 |
| | 2502 | 59 | 78 | 19 | 79 | 81 | 2 |
| | 2503 | 186 | 209 | 24 | 328 | 330 | 2 |
| | 2504 | 0 | 10 | 10 | 0 | 1 | 1 |
| | 2505 | 119 | 148 | 29 | 299 | 302 | 3 |
| | 2506 | 0 | 43 | 43 | 0 | 6 | 6 |
| | 2507 | 0 | 14 | 14 | 0 | 1 | 1 |
| | 2508 | 247 | 291 | 45 | 136 | 140 | 4 |
| | 2509 | 18 | 23 | 5 | 17 | 18 | 1 |
| | 2510 | 63 | 68 | 5 | 72 | 72 | 0 |
| | 2511 | 110 | 126 | 16 | 123 | 123 | 1 |
| | 2512 | 253 | 295 | 41 | 164 | 172 | 8 |
| | 2513 | 44 | 51 | 8 | 53 | 56 | 3 |
| | 2514 | 451 | 525 | 73 | 321 | 342 | 21 |
| | 2515 | 35 | 40 | 5 | 231 | 250 | 20 |
| | 2516 | 25 | 31 | 6 | 145 | 145 | 0 |
| | 2517 | 30 | 35 | 5 | 96 | 97 | 1 |
| 4. Linden/Escalon/Ripon | 2518 | 106 | 135 | 29 | 337 | 337 | 0 |
| | 2519 | 201 | 214 | 13 | 266 | 267 | 1 |

| Fee District | TAZ | Dwelling Units | | | Employment | | |
|---|---|---|---|---|---|---|---|
| | | Base Year | Future Year | Growth | Base Year | Future Year | Growth |
| | 2520 | 141 | 161 | 21 | 280 | 280 | 0 |
| | 2521 | 73 | 84 | 11 | 60 | 60 | 0 |
| | 2522 | 33 | 38 | 5 | 64 | 64 | 0 |
| | 2523 | 11 | 67 | 56 | 37 | 39 | 2 |
| | 2524 | 16 | 43 | 27 | 246 | 248 | 1 |
| | 2525 | 67 | 79 | 11 | 193 | 193 | 0 |
| | 2526 | 30 | 35 | 5 | 8 | 8 | 0 |
| | 2527 | 58 | 66 | 8 | 95 | 95 | 0 |
| | 2528 | 52 | 65 | 13 | 66 | 68 | 1 |
| | 2529 | 79 | 86 | 6 | 24 | 25 | 1 |
| | 2622 | 5 | 5 | 0 | 31 | 31 | 0 |
| | 2624 | 0 | 0 | 0 | 0 | 3 | 3 |
| | 2625 | 16 | 16 | 0 | 9 | 9 | 0 |
| | 2626 | 94 | 232 | 138 | 360 | 362 | 2 |
| | 2627 | 50 | 78 | 29 | 1 | 2 | 1 |
| | 2628 | 40 | 48 | 8 | 156 | 156 | 0 |
| | 2629 | 96 | 108 | 13 | 534 | 560 | 26 |
| | 2630 | 38 | 79 | 41 | 60 | 61 | 1 |
| **5. Mountain House** | **Total** | **4,559** | **12,662** | **+8,103** | **322** | **13,977** | **+13,655** |
| | 2709 | 836 | 836 | 0 | 103 | 2,077 | 1,974 |
| | 2710 | 917 | 917 | 0 | 27 | 440 | 413 |
| | 2711 | 0 | 444 | 444 | 0 | 849 | 849 |
| | 2712 | 434 | 1,234 | 800 | 0 | 0 | 0 |
| | 2713 | 12 | 826 | 814 | 23 | 1,276 | 1,253 |
| | 2714 | 763 | 763 | 0 | 44 | 451 | 407 |
| | 2715 | 1,555 | 1,555 | 0 | 65 | 956 | 891 |
| | 2716 | 0 | 569 | 569 | 0 | 0 | 0 |
| | 2726 | 0 | 831 | 831 | 13 | 13 | 0 |
| | 2743 | 3 | 638 | 635 | 19 | 3,613 | 3,595 |
| | 2744 | 0 | 788 | 788 | 4 | 58 | 54 |
| | 2745 | 9 | 928 | 919 | 5 | 5 | 0 |
| | 2746 | 0 | 664 | 664 | 10 | 286 | 276 |
| | 2754 | 28 | 721 | 693 | 3 | 342 | 339 |
| | 2755 | 3 | 948 | 944 | 6 | 3,612 | 3,605 |

# Appendix 4 Data Collection Memorandum

DKS 8950 CAL CENTER DRIVE, SUITE 340, SACRAMENTO, CA 95826 • 916.368.2000 • DKSASSOCIATES.COM

# MEMORANDUM

DATE: May 5, 2021

TO: Jeffrey Levers | San Joaquin County Public Works

FROM: Jim Damkowitch | DKS Associates Project Manager

SUBJECT: San Joaquin County TIMF Update | Draft Data Collection Plan Project #21034-000

## OVERVIEW OF DATA COLLECTION PLAN

The San Joaquin 2021 TIMF Update will require the collection and analysis of new traffic counts in the county. New data collection is needed to update the growth in travel demand in the county and allocate the proportion of growth to new development as it occurs, assessing a fee proportional to the expected impact of new trip generation and vehicle miles of travel associated with new development to capital improvement costs. Improvements range from expansion of capacity, new roadway, and alternative mode facilities (e.g. – transit capital, bikeways and sidewalks).

New data collection may still be influenced by the reduction in travel caused by population quarantine requirements due to the COVID-19 pandemic. DKS will analyze the growth in traffic, comparing the growth from previous traffic counts, and adjusting the 2021 counted traffic to expected trends. If needed, this adjustment process will be fully documented in the final report.

The objective of the data collection for the 2021 TIMF update is to assess the patterns of growth and proportionally re-estimate the allocation of capital costs of new transportation facilities needed to maintain the county's level of service (C) target conditions.

Information will also be shared with the general public throughout the process.

### 1. IDENTIFY LOCATIONS FOR UPDATED COUNTS

DKS inventoried previous traffic count data and reports performed as part of the following studies:

- 2006-07 General Plan Update Existing Conditions Report
- 2008 Traffic Impact Mitigation Fee Update
- SJCOG Congestion Management Program 2013 Monitoring Report
- 2015 Traffic Impact Mitigation Fee Update

Based on these sources, a list of recommended traffic count roadway locations was developed. Given the need to make valid traffic count comparisons with count locations associated with the above sources, traffic count location redundancy was considered critical. The recommended traffic count locations are exclusive of the RCMP network, and all are located in unincorporated areas of the county.

The classifications will follow the standard FHWA definitions shown in **Table 1**. **Table 2** and **Figure 1** provide a table and map of the proposed traffic count locations respecively.

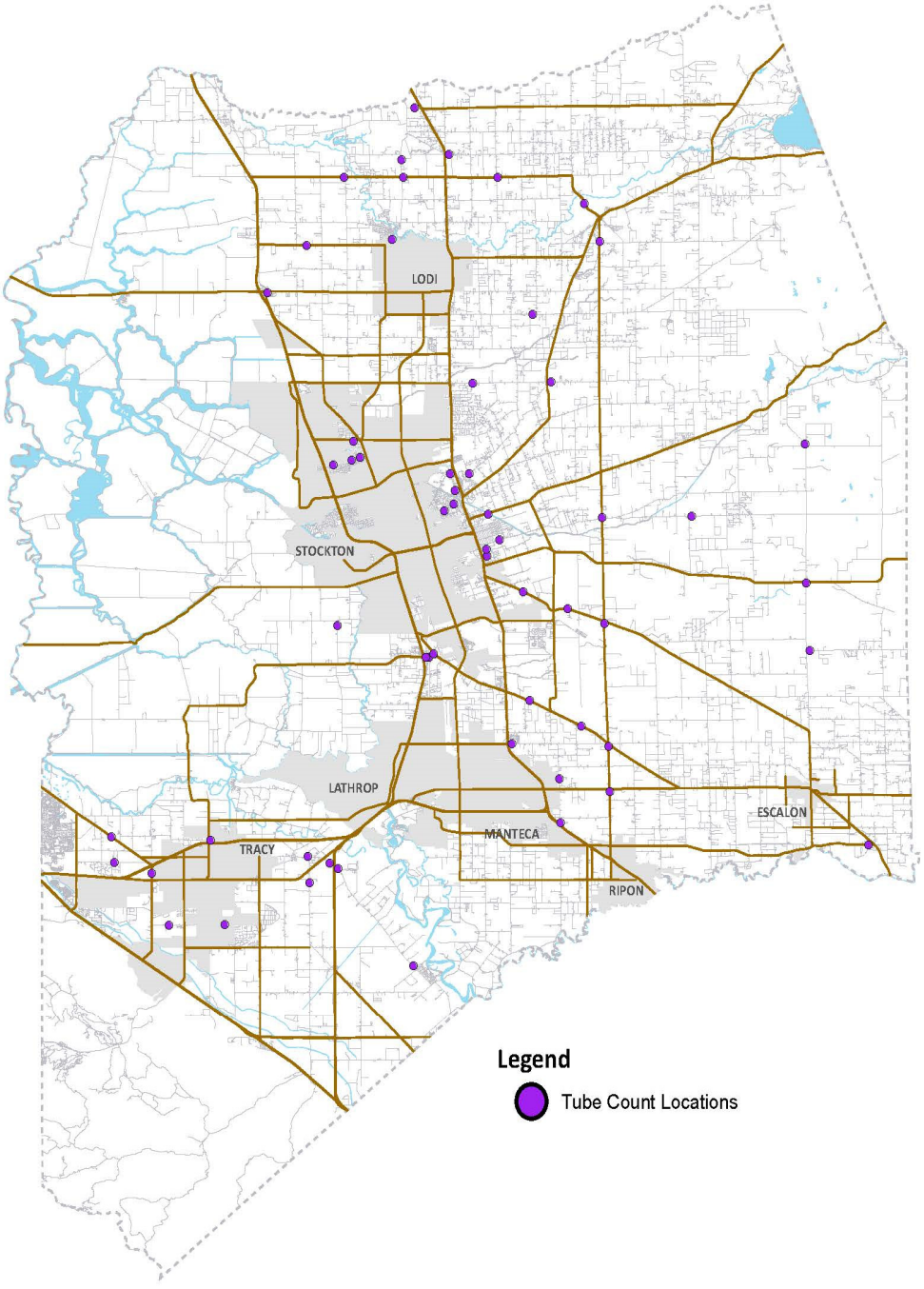
**TABLE 1. FHWA VEHICLE CLASSIFICATION DEFINITIONS**

| Class Group | Class Definition | Class Includes | Number of Axles |
|---|---|---|---|
| 1 | Motorcycles | Motorcycles | 2 |
| 2 | Passenger Cars | All cars<br>Cars with one-axle trailers<br>Cars with two-axle trailers | 2, 3, or 4 |
| 3 | Other Two-Axle Four-Tire Single-Unit Vehicles | Pick-ups and vans<br>Pick-ups and vans with one- and two- axle trailers | 2, 3, or 4 |
| 4 | Buses | Two- and three-axle buses | 2 or 3 |
| 5 | Two-Axle, Six-Tire, Single-Unit Trucks | Two-axle trucks | 2 |
| 6 | Three-Axle Single-Unit Trucks | Three-axle trucks<br>Three-axle tractors without trailers | 3 |
| 7 | Four or More Axle Single-Unit Trucks | Four-, five-, six- and seven-axle single-unit trucks | 4 or more |
| 8 | Four or Fewer Axle Single-Trailer Trucks | Two-axle trucks pulling one- and two-axle trailers<br>Two-axle tractors pulling one- and two-axle trailers<br>Three-axle tractors pulling one-axle trailers | 3 or 4 |
| 9 | Five-Axle Single-Trailer Trucks | Two-axle tractors pulling three-axle trailers<br>Three-axle tractors pulling two-axle trailers<br>Three-axle trucks pulling two-axle trailers | 5 |
| 10 | Six or More Axle Single-Trailer Trucks | Multiple configurations | 6 or more |
| 11 | Five or Fewer Axle Multi-Trailer Trucks | Multiple configurations | 4 or 5 |
| 12 | Six-Axle Multi-Trailer Trucks | Multiple configurations | 6 |
| 13 | Seven or More Axle Multi-Trailer Trucks | Multiple configurations | 7 or more |
| 14 | Unused | ---- | ---- |
| 15 | Unclassified Vehicle | Multiple configurations | 2 or more |

## TABLE 2. PROPOSED TRAFFIC COUNT LOCATIONS

| Recommended Traffic Count Locations | | |
|---|---|---|
| **Count Source** | **Road Name** | **Location** |
| 2015 TIMF Update | Ash | 0 ft from 7th St |
| 2015 TIMF Update | Austin Rd | 0 ft from Louise Ave |
| 2015 TIMF Update | Austin Rd | 0 ft from Graves |
| 2015 TIMF Update | Benjamin Holt Dr | 0ft from Harrisburg |
| 2015 TIMF Update | Benjamin Holt Dr | 0 ft from Plymouth Rd |
| 2015 TIMF Update | Benjamin Holt Dr | 0 ft from Leesburg Pl |
| 2015 TIMF Update | Cherokee | 0 ft from SR-99 |
| 2015 TIMF Update | Cherokee | 0 ft from SR-99 |
| 2015 TIMF Update | E. Larch Rd | 0 ft from N. Tracy Blvd |
| 2015 TIMF Update | East Hammer Ln | 0 ft from East Hammer Ln |
| 2015 TIMF Update | Elliot Rd | 0 ft from Peltier Rd |
| 2015 TIMF Update | French Camp Rd | 0 ft from SR-99 |
| 2015 TIMF Update | Jahant Rd | 0 ft from Kennefick Rd |
| 2015 TIMF Update | Kasson Rd | 0 ft from W. 11th St |
| 2015 TIMF Update | Kasson Rd | 0 ft from UPRR |
| 2015 TIMF Update | Kasson Rd | 0 ft from W. Linne Rd |
| 2015 TIMF Update | Lammers Rd | 0 ft from 11th St |
| 2015 TIMF Update | Lathrop Rd | 0 ft from S. Frontage Rd |
| 2015 TIMF Update | Lower Sacramento Rd | 0 ft from Eilers |
| 2015 TIMF Update | Main St | 0 ft from SR-99 |
| 2015 TIMF Update | Mountain House Pwky | 0 ft from I-580 |
| 2015 TIMF Update | Oro | 0 ft from Main St |
| 2015 TIMF Update | River Rd | 0 ft from Santa Fe Rd |
| 2015 TIMF Update | Turner Rd | 0 ft from I-5 |
| 2015 TIMF Update | Valpico | 0 ft from Corral Hollow |
| 2015 TIMF Update | Von Sosten Rd | 0 ft from Hansen Rd |
| 2015 TIMF Update | W. Byron Rd | 0 ft from Hansen Rd |
| 2015 TIMF Update | W. Liberty Rd | 0 ft from Lower Sacramento Rd |
| 2015 TIMF Update | W. Schulte Rd | 0 ft from MacArthur Rd |
| 2015 TIMF Update | Ash Rd | 0 ft from El Dorado |
| 2015 TIMF Update | East Hammer Ln | 0 ft from East Hammer Ln |
| 2015 TIMF Update | Harney Ln | 0 ft from SR-99 |
| 2015 TIMF Update | Lower Sacramento Rd | 0 ft from Peltier |
| 2015 TIMF Update | Matthews Rd | 0 ft from I-5 |
| 2015 TIMF Update | Olive Avenue | 0 ft from Section Avenue |
| 2015 TIMF Update | Roberts Rd | 0 ft from Howard Rd |
| 2015 TIMF Update | Star St | 0 ft from SR-12 |
| 2015 TIMF Update | Valpico Rd | 0 ft from Corral Hollow Rd |
| 2015 TIMF Update | Waterloo Rd | 0 ft from E St |
| 2015 TIMF Update | Waterloo Rd | 0 ft from Filbert Street |
| **Additional Count Locations to Consider** | | |
| **Count Source** | **Road Name** | **Location** |
| GPU Counts 2008 | Bird Rd bet. Lovely Rd & Linne Rd | South of Lovely Rd |
| GPU Counts 2008 | Cardinal Ave. bet. SR-26/Fremont St. & Hobart Ave | South of SR-26 |
| GPU Counts 2008 | Carter Rd. bet. Henry Rd. & Escalon-Bellota | East of Escalon-Bellota |
| GPU Counts 2008 | Copperopolis Rd bet. Dietrich Rd. & Drais Ave. | East of Drais Ave |
| GPU Counts 2008 | Eight Mile Rd. bet. Jack Tone Rd. & SR 88 | East of SR-88 |
| GPU Counts 2008 | Escalon-Bellota Rd. bet. Shelton Rd. & Flood Rd. | South of Flood Rd |
| GPU Counts 2008 | Escalon-Bellota Rd. bet. SR 4 & Gawne Rd. | South of SR-4 |
| GPU Counts 2008 | Grant Line Rd bet. El Rancho Rd & Bird Rd | East of Bird Rd |
| GPU Counts 2008 | Newton bet. Wilson Way & Cherokee Rd. | South of Wilson Way |

**FIGURE 1. MAP OF PROPOSED TRAFFIC COUNT LOCATIONS (MAY 2021)**



## 2. COLLECT DATA

DKS will collect traffic counts as follows:

- The traffic counting method will be tube/hose counts placed in the roadbed.
- 3 days (72 hours) of continuous recording summarized by 15-minute increments.
- Classification of 40 (plus up to 10 additional) total counts will be done using automated tube vehicle type identification, into the standard federal vehicle classifications (Table 1).
- DKS has procured traffic counting services from NDS, Inc.

Data will be collected is scheduled for Tues-Thurs on May 11-13 and May 18-20, 2021. If recounts are necessary (due to counter malfunction or other issues) the first week of June would be selected. Initial quotes for 40 segment traffic counts are in the range of $6,000 (without classification) to $9,000 (with classification). Quotes are provided as an Attachment to this memo.

In the event the new traffic counts are not considered representative due to the pandemic, some Direct Expense budget is being reserved for the potential purchase of a county level summary GPS data set from Streetlight. The Streetlight data will cost an additional $5,000. Conversely, there are 689 Caltrans PeMS stations in San Joaquin County with an overall county-wide 79% observed data rating. PeMS data would be free and can be used to compare countywide 2014 and 2019 traffic volumes to develop global adjustment factors 2021 counts. One caveat is that PeMS data is limited to state highways.

## 3. ANALYZE COUNTED TRAFFIC GROWTH

DKS will make an assessment as to whether the growth rate reflected in the 2021 traffic counts collected in the field are reflective of expected levels of growth occurring prior to quarantine requirements due to COVID-19.

The field traffic counts will be compared to trends derived from previous historical counts at similar locations and to a summary county-level data set purchased from Streetlight. Traffic levels dropped immediately in March 2020 because of the mandatory COVID-19 quarantine causing huge sectors of the population to not leave their homes. The Streetlight GPS data will give a clear picture of drops in traffic levels from May 2019 to May 2020, and further through April 2021. These trends and the overall annual growth rates from previous field counts (2007/2008, 2014) will be used to estimate one or several adjustment factors. An adjusted May 2021 count will then be estimated and reported. Further, it is advisable to re-check the adjustment factors within 6 months to 1 year after May 2021, to validate the adjustment factors and make any further corrections.

# Appendix 5 Baseline Traffic Count Factoring Process

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# SAN JOAQUIN COUNTY TIMF UPDATE – TRAFFIC COUNT FACTORING PROCESS

DATE: August 24, 2021

TO: Jeffrey Levers | San Joaquin County Public Works Department

FROM: Brandon Kenery and Jim Damkowitch | DKS Associates

SUBJECT: San Joaquin County TIMF Update Traffic Count Factoring Process Project #21034-000

## INTRODUCTION

The purpose for this memorandum is to present an approach for evaluating and resolving potential non-representative traffic count data collected during the latter phase of the COVID-19 Pandemic (May 2021). Shelter-in-place mandates, work-from-home policies, building capacity restrictions, and other COVID-related changes have influenced individual travel behavior. Given the desire to reflect pre-pandemic traffic conditions for the 2021 San Joaquin County Traffic Impact Mitigation Fee (TIMF) Update, a factoring process was applied to address the issue.

## 2021 SAN JOAQUIN COUNTY TIMF UPDATE

For the 2021 update of the San Joaquin County TIMF, traffic counts were performed at 58 locations throughout unincorporated San Joaquin County. All counts except one were performed in May 2021. A recount was needed for one location (River Road) which was performed in June 2021.

The traffic counts were performed over 72-continous hours (3-days) on Tuesday, Wednesday, and Thursday. All counts reflect both directions of travel and includes full vehicle classification.

The complete list of roadways and approximate count location is listed in **Table 1**. GPS coordinates were recorded to identify the precise hose locations.

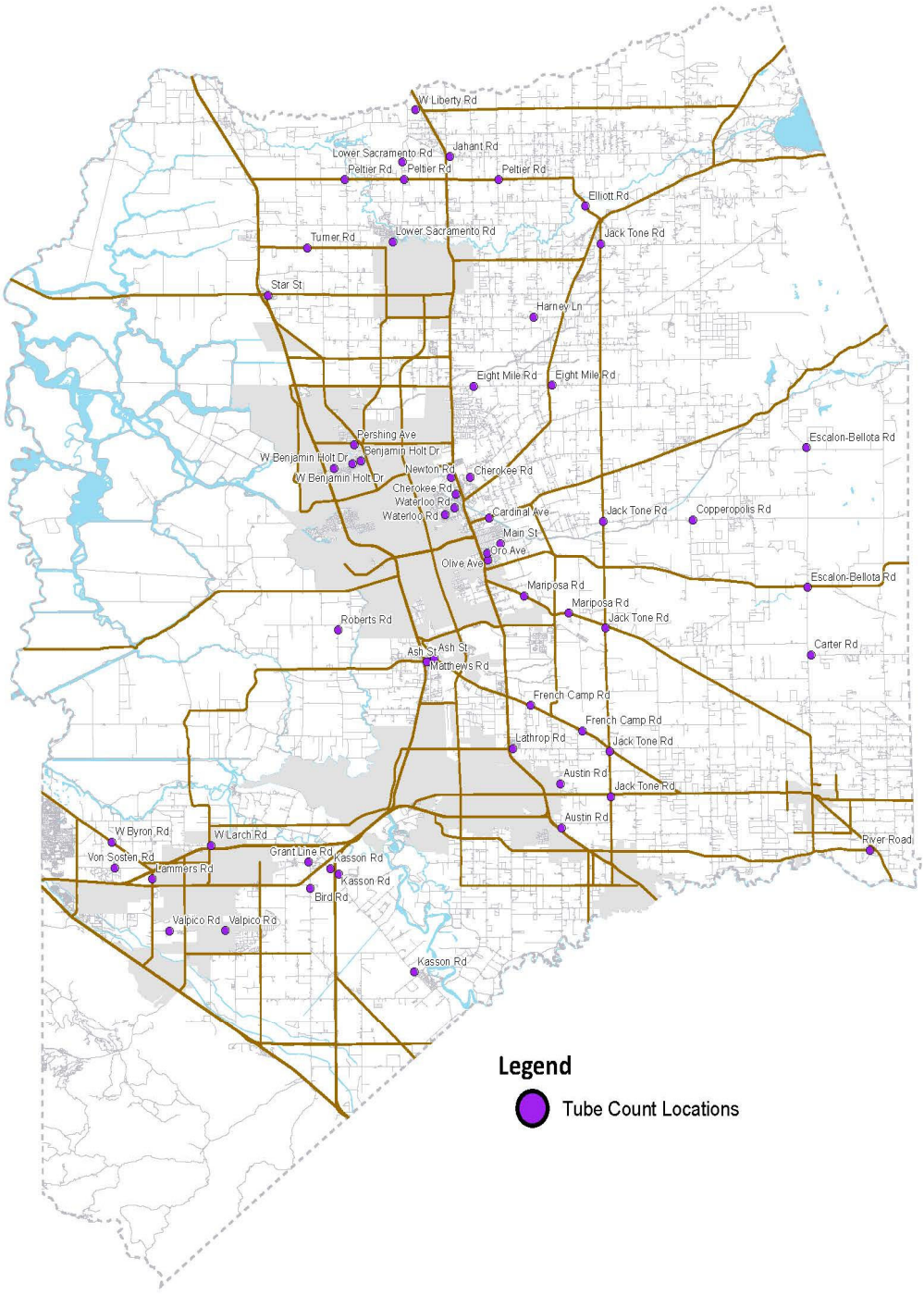
A map of count locations is provided in **Figure 1**.

**TABLE 1: LIST OF TRAFFIC COUNT LOCATIONS**

| | STREET NAME | LIMITS | MAY 2021 COUNT |
|---|---|---|---|
| 1 | Ash St | El Dorado St to Mc Kinley Ave | 5,948 |
| 2 | Ash St | 7th St to French Camp Rd | 4,670 |
| 3 | Austin Rd | E Louise Ave to SR-120 | 2,856 |
| 4 | Austin Rd | Graves Rd to Moffat Blvd | 5,756 |
| 5 | Benjamin Holt Dr | Harrisburg Pl to Pershing Ave | 16,273 |
| 6 | Benjamin Holt Dr | Plymouth Rd to Alexandria Pl | 19,818 |
| 7 | Benjamin Holt Dr | Leesburg Pl to Pacific Ave | 14,107 |
| 8 | Cherokee Rd | SR-99 to Canal | 8,687 |
| 9 | Cherokee Rd | SR-99 to Suburban Rd | 4,220 |
| 10 | E Larch Rd | Corral Hollow Rd to City Limit | 4,266 |
| 11 | Elliott Rd | Peltier Rd to SR-12/88 | 3,764 |
| 12 | French Camp Rd | SR-99 to S Austin Rd | 5,808 |
| 13 | French Camp Rd | S Austin Rd to Jack Tone Rd | 5,923 |
| 14 | Harney Ln | SR-99 to Jack Tone Rd | 4,470 |
| 15 | Jahant Road | East of SR-99 | 2,912 |
| 16 | Kasson Rd | W 11th St to I-5 | 4,581 |
| 17 | Kasson Rd | I-5 to UPRR | 4,301 |
| 18 | Kasson Rd | W Linne Rd to Durham Ferry Rd | 3,947 |
| 19 | Lammers Rd | 11th St to Tracy City Limit | 6,079 |
| 20 | Lathrop Rd | East of SR-99 and Frontage Rd | 6,754 |
| 21 | Lower Sacramento Rd | Eilers Ln to Academy St | 9,661 |
| 22 | Lower Sacramento Rd | Peltier Rd to Collier Rd | 5,695 |
| 23 | Main St | SR-99 to Gillis Rd | 8,207 |
| 24 | Mariposa Rd | SR-99 to S Austin Rd | 9,234 |
| 25 | Mariposa Rd | SR-99 to Jack Tone Rd | 7,228 |
| 26 | Matthews Rd | I-5 to El Dorado St | 7,264 |
| 27 | Olive Ave | Section Ave to E 4th St | 668 |
| 28 | Oro Ave | Main St to Section Ave | 2,739 |
| 29 | Pershing Ave | Thornton Rd to Meadow Ave | 11,741 |
| 30 | River Rd | Ripon City Limit to Santa Fe Rd | 4,985 |

| | | | |
|---|---|---|---|
| **31** | Roberts Rd | Howard Rd to SR-4 | 2,884 |
| **32** | Star St | SR-12 to W Banner St | 6,952 |
| **33** | Turner Rd | I-5 to Lodi City Limits | 4,571 |
| **34** | Valpico Rd | Corral Hollow Rd to City Limit | 14,083 |
| **35** | Valpico Rd | Lammers Rd to Corral Hollow Rd | 6,452 |
| **36** | Von Sosten Rd | Mt House Parkway to Byron Rd | 1,900 |
| **37** | W Byron Rd | Hansen Rd to Reeve Rd | 14,241 |
| **38** | W Liberty Rd | Lower Sacramento Rd to SR-99 | 3,991 |
| **39** | Waterloo Rd | E St to Filbert St | 12,823 |
| **40** | Waterloo Rd | Filbert St to SR-99 | 13,551 |
| **41** | Bird Rd | Lovely Rd to Linne Rd | 3,294 |
| **42** | Cardinal Ave | SR-26/Fremont St to Hobart Ave | 6,468 |
| **43** | Carter Rd | Henry Rd to Escalon Bellota Rd | 533 |
| **44** | Copperopolis Rd | Dietrich Rd to Drais Ave | 2,379 |
| **45** | Eight Mile Rd | Jack Tone Rd to SR 88 | 3,226 |
| **46** | Eight Mile Rd | SR 99 to SR 88 | 6,349 |
| **47** | Escalon-Bellota Rd | Shelton Rd to Flood Rd | 1,773 |
| **48** | Escalon-Bellota Rd | SR 4 to Gawne Rd | 4,208 |
| **49** | Grant Line Rd | El Rancho Rd to Bird Rd | 10,567 |
| **50** | Jack Tone Rd | SR 99 to SR 120 | 7,887 |
| **51** | Jack Tone Rd | South of French Camp Rd | 6,338 |
| **52** | Jack Tone Rd | SR 4 to French Camp Rd | 4,595 |
| **53** | Jack Tone Rd | SR 4 to SR 26 | 6,055 |
| **54** | Jack Tone Rd | North of Brandt Rd | 2,622 |
| **55** | Newton Rd | Wilson Way to Cherokee Rd | 15,742 |
| **56** | Peltier Rd | East of Lower Sacramento Rd | 3,978 |
| **57** | Peltier Rd | West of Davis Rd | 4,028 |
| **58** | Peltier Rd | R 99 to Elliot Rd | 3,505 |

**FIGURE 1: MAP OF 2021 SAN JOAQUIN COUNTY TRAFFIC COUNT LOCATIONS**



## PEMS DATA REVIEW

Caltrans Performance Measurement System (PeMS) Data from 2014 and 2019 was first analyzed to determine Annual Growth Factors. **Table 2** and **Table 3** provide the state facility the PeMS data for the County and the Caltrans District 10 as a whole respectively. The resulting 5-year growth and average annual growth rate (AAGR) results indicate that an AAGR of 1.07 was experienced in the five years prior to the COVID-19 pandemic. **Figure 2** provides a map of count locations.

PeMS data is primarily collected from access-controlled freeways, which have a different traffic composition than unincorporated county roadways. This includes interregional trips which are not relevant to the TIMF. Given the potential non-representativeness of this data, the PeMS data and growth factors were not used. The following section describes the data and Factoring Process that was applied instead.

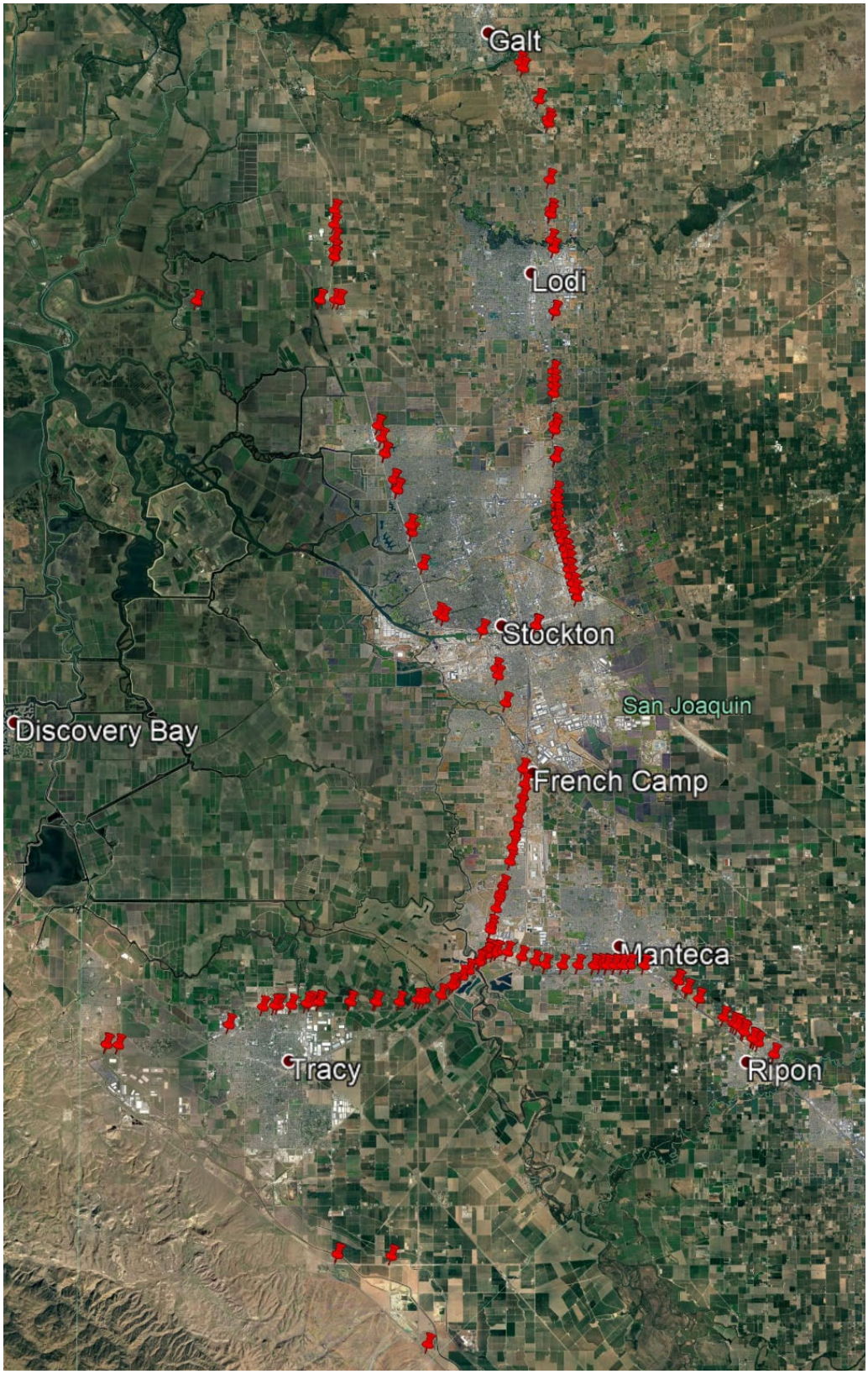
**TABLE 2: SAN JOAQUIN COUNTY AVERAGE WEEKDAY ADTS AND GROWTH FACTORS (PEMS)**

| STATE ROUTE | VDS COUNT | 2014 ADT | 2019 ADT | 5-YEAR GROWTH FACTOR | ANNUAL AVERAGE GROWTH FACTOR |
|---|---|---|---|---|---|
| **4** | 2 | 43,606 | 66,500 | 1.53 | 1.09 |
| **5** | 51 | 41,969 | 57,289 | 1.37 | 1.06 |
| **12** | 5 | 5,856 | 8,506 | 1.45 | 1.08 |
| **49** | 0 | N/A | N/A | N/A | N/A |
| **99** | 65 | 39,758 | 55,488 | 1.40 | 1.07 |
| **104** | 0 | N/A | N/A | N/A | N/A |
| **108** | 0 | N/A | N/A | N/A | N/A |
| **120** | 22 | 34,450 | 43,717 | 1.27 | 1.05 |
| **132** | 3 | 6,902 | 11,066 | 1.60 | 1.10 |
| **152** | 0 | N/A | N/A | N/A | N/A |
| **205** | 20 | 45,848 | 66,515 | 1.45 | 1.08 |
| **580** | 0 | N/A | N/A | N/A | N/A |
| **COUNTY AVG** | 168 | 38,909 | 53,746 | 1.38 | 1.07 |

**TABLE 3: CALTRANS DISTRICT 10 AVERAGE WEEKDAY ADTS AND GROWTH FACTORS (PEMS)**

| STATE ROUTE | VDS COUNT | 2014 ADT | 2019 ADT | 5-YEAR GROWTH FACTOR | ANNUAL AVERAGE GROWTH FACTOR |
|---|---|---|---|---|---|
| **4** | 2 | 43,606 | 66,500 | 1.53 | 1.09 |
| **5** | 57 | 39,192 | 53,334 | 1.36 | 1.06 |
| **12** | 10 | 5,851 | 9,099 | 1.56 | 1.09 |
| **49** | 2 | 3,165 | 3,825 | 1.21 | 1.04 |
| **99** | 153 | 33,807 | 45,827 | 1.36 | 1.06 |
| **104** | 0 | N/A | N/A | N/A | N/A |
| **108** | 5 | 4,470 | 7,035 | 1.57 | 1.09 |
| **120** | 22 | 34,450 | 43,717 | 1.27 | 1.05 |
| **132** | 3 | 6,902 | 11,066 | 1.60 | 1.10 |
| **152** | 8 | 9,115 | 12,214 | 1.34 | 1.06 |
| **205** | 20 | 45,848 | 66,515 | 1.45 | 1.08 |
| **580** | 0 | N/A | N/A | N/A | N/A |
| **DISTRICT AVG** | 282 | 33,153 | 45,182 | 1.36 | 1.06 |

**FIGURE 2: MAP OF PEMS DATA COUNT LOCATIONS**



## FACTORING PROCESS

Historical counts from past TIMF updates and other studies were used to identify matching locations where traffic counts had been previously performed. For matching locations, a composite annual average growth (AAG) percentage was computed. The AAG percentage was then applied to grow the past counts to reflect 2021 conditions. These adjusted counts were then compared with the May 2021 traffic counts. If the adjusted historical count was greater than the May 2021 count, it was considered more reflective of pre-pandemic traffic conditions and was used in lieu of the May 2021 count. If the adjusted count was approximately the same or less than the May 2021 count, it was not used in lieu of the May count.

The steps taken during the factoring process are as follows:

1. **Data Cleansing**
2. **Matching Count Locations**
3. **Calculating Growth Percentages**
4. **Projecting Growth**
5. **Comparing Projections with New Counts**

A more detailed description of each step is provided below.

### DATA CLEANSING

Historical traffic counts from the following planning efforts were examined:

- San Joaquin County General Plan Update (2007-08 Counts)
- San Joaquin County 2008 Traffic Impact Mitigation Fee (TIMF) Update
- San Joaquin County 2015 Traffic Impact Mitigation Fee (TIMF) Update
- San Joaquin Council of Governments Regional Congestion Management Program (RCMP) (2013 Counts)
- San Joaquin Council of Governments 2017 Regional Traffic Impact Fee (RTIF) Update

Coordinates are not available for count locations in all studies, so data is cleaned to facilitate matching counts in the next step. Some cleaning tasks included the following:

- Resolved naming conventions and inconsistencies (e.g., Jack Tone Rd vs. Jack Tone St)
- Resolved count locations/limit convention inconsistencies as shown in **Table 4**.

**TABLE 4: COUNT LOCATION FORMAT**

| FORMAT | STREET | | LIMIT 1 | | LIMIT 2 |
|---|---|---|---|---|---|
| OLD | Street 1 | E/W/N/S of | Street 2 | | |
| NEW | Street 1 | Between | Street 2 | And | Street 3 |

## MATCHING COUNTS

Counts were matched and categorized as follows:

1. **Exact Matches:** matching counts with the exact same street and limit names
    a. Greater confidence is placed in the validity of these matches
2. **Partial Matches:** matching counts taken along the same road whose segments overlap or intersect at some point
    a. Lower confidence in the validity of these matches given the uncertainty of an exact match

If more than two matches for a particular location were available, we selected only two of the counts.

It is assumed that traffic growth increases over time. Therefore, any matches which showed a decrease over time were discarded.

## CALCULATING GROWTH PERCENTAGES

To calculate traffic count growth, annual average growth (AAG) percentages were computed using the matched counts. Prior to computing AAG, all matched counts (**Exact** and **Partial**) were first aggregated into the starting years and ending years.

Annual average growth percentage was based on a simple exponential growth model as demonstrated in **Table 5**.

**TABLE 5. ANNUAL AVERAGE GROWTH PERCENTAGE CALCULATION**

| YEAR 1 | COUNT 1 | YEAR 2 | COUNT 2 | GROWTH CALCULATION | ANNUAL AVG GROWTH % |
|---|---|---|---|---|---|
| 2008 | 1000 | 2014 | 1500 | $\left(\frac{1500}{1000}\right)^{\frac{1}{2014-2008}} - 1$ | 7% |
| $Y_1$ | $C_1$ | $Y_2$ | $C_2$ | $\left(\frac{C_2}{C_1}\right)^{\frac{1}{Y_2-Y_1}} - 1$ | |

To account for the difference in starting and ending years, counts were aggregated into groups of similar time differences (i.e., aggregate matches that have counts seven years apart separately from those that were five years apart).

For example, a count from 2014 with a matching count from 2008 has a time difference of 6 years. Likewise, a count from 2016 with a matching count from 2010 also has a time difference of 6 years. Since both matches have a 6-year time difference, we use both to find the AAG for a year difference of 6. On the other hand, a count from 2014 with a matching count from 2012 only has a time difference of 2 years, so it would be looked at separately for AAG calculations.

The AAG calculation requires a sum of the "newer" counts and a sum of the "older" counts. In this example for a 6-year difference, the sum of the "newer" counts would be the sum of the 2014 and 2016 counts since they are the more recent years. The sum of the "older" counts would be the sum of the 2008 and 2010 counts, since they are not as recent. With these sums, an AAG percentage is calculated as in **Table 5**, except the average year difference is used in lieu of $(Y_2 - Y_1)$.

A similar process was applied for all matches and year differences to get AAG percentages. For groups of time differences (e.g., a year difference range of 2-5), the average time difference (average years) was used for the growth calculation. An example result is shown in **Table 6**.

**TABLE 6: EXAMPLE COUNT AGGREGATION BY YEAR DIFFERENCE(S)**

| YEAR DIFFERENCE(S) | AVERAGE YEAR DIFFERENCE | SUM OF OLDER COUNTS[a] | SUM OF NEWER COUNTS[b] | ANNUAL AVG GROWTH % |
|---|---|---|---|---|
| 3 | 3 | 3,000 | 4,500 | 14.5% |
| 2-5 | 3.2 | 8,000 | 13,000 | 16.4% |
| 10 | 10 | 15,000 | 25,000 | 5.2% |
| 8-12 | 10.1 | 30,000 | 45,000 | 4.1% |
| ALL YEARS | 7.9 | 60,000 | 100,000 | 6.7% |

a, b These example values are not from real counts.

After performing this process for both **Exact** and **Partial Matches**, the results of both analyses were compared to identify if any **Partial Match** counts yielded a similar AAG result as the **Exact Matches**. This would justify combining/supplementing the **Exact Match** sample of locations with **Partial Match** locations. Candidate **Partial Matches** were considered only if they reflected a similar time difference range as the **Exact Matches**.

Two growth percentages were produced. The final growth percentage found from combining a subset of the **Partial Matches** with a subset of the **Exact Matches** was referred to as the **Low Confidence**

**Growth Percentage**, and the final growth percentage using only the **Exact Match** data was referred to as the **High Confidence Growth Percentage**.

## PROJECTING GROWTH

Prior to "growing" the historical counts to compare with the May 2021 counts, each May 2021 count location must be matched with a historical count location. This was done by applying the same procedure as in the **Matching Counts** step, which is finding **Exact Matches** and **Partial Matches**. If for a given May 2021 count location there are no past counts available, then the May 2021 count was used. For the TIMF Update, this only occurred at one count location.

To reduce potential error from using an exponential growth model, historical count dates as close to 2021 as possible were preferred. Once the most recent past counts were determined, the **High Confidence** or **Low Confidence** count locations were categorize based on the match type and the year the count was taken. See **Table 7** for the category criteria.

**TABLE 7: PROJECTION CATEGORY CRITERIA**

| | MOST RECENT YEAR[a] | OLDER YEARS |
|---|---|---|
| EXACT MATCH | High Confidence | Low Confidence |
| PARTIAL MATCH | Low Confidence | Low Confidence |

a The most recent year is the newest year out of all the matched old count data (e.g., if there are counts from 2016, 2014, and 2008, 2016 would be the "most recent year" and the rest are "older years").

Once matches were categorized, a simple exponential growth model was applied to extrapolate a given May 2021 count from the corresponding past count. See **Table 8**.

**TABLE 8: PROJECTION CALCULATION**

| OLD COUNT | OLD COUNT YEAR | GROWTH % | NEW COUNT YEAR | PROJECTION CALCULATION | COUNT PROJECTION |
|---|---|---|---|---|---|
| 1,000 | 2015 | 3.5% | 2021 | $(1000) \times (1.035)^{2021-2015}$ | 1,229 |
| C | $Y_1$ | P | $Y_2$ | $C \times (1+P)^{Y_2-Y_1}$ | |

The growth rate used is based on the categorization: **High Confidence** matches use the **High Confidence Growth Percentage**, and the **Low Confidence** matches use the **Low Confidence Growth Percentage**. See **Table 9** for an example.

**TABLE 9: EXAMPLE GROWTH PERCENTAGE CATEGORIZATION**

| COUNT | COUNT YEAR | YEAR CATEGORY | MATCH CATEGORY | GROWTH % |
|---|---|---|---|---|
| A | 2015 | Most Recent Year | Exact | High Confidence Growth % |
| B | 2008 | Older Year | Partial | Low Confidence Growth % |
| C | 2012 | Older Year | Exact | Low Confidence Growth % |

## COMPARING PROJECTIONS WITH NEW COUNTS

Projections were compared to the May 2021 count. If the factored count was greater than the May 2021 count by at least 5%, the factored count was used in lieu of the May 2021 count, and vice versa. See **Table 10** for examples.

**TABLE 10: EXAMPLE PROJECTION AND MAY 2021 COUNT COMPARISON**

| COUNT | MAY 2021 COUNT | PROJECTION | COMPARISON | % DIFFERENCE | VERDICT |
|---|---|---|---|---|---|
| A | 5,000 | 4,000 | 5,000 > 4,000 | — | Use May 2021 Count |
| B | 4,100 | 4,200 | 4,100 < 4,200 | 2.4% | Use May 2021 Count |
| C | 16,000 | 21,000 | 16,000 < 21,000 | 31% | Use Projection |

**Table 11** shows all May 2021 count locations and resulting count data to be used for determining existing deficiencies and as the basis for future projections using the SJCOG travel demand model (i.e., NCHRP 255 post-processing calculations).

**TABLE 11: SJ COUNTY TIMF UPDATE 2021 COUNT FACTORING SUMMARY**

| | STREET NAME | LIMITS | MAY '21 COUNT | YEAR OF OLD COUNT | OLD COUNT | AAGR | FACTORED COUNT | GREATER THAN 2021 | % CHANGE | >5% CHANGE | FINAL COUNT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Ash St | El Dorado St to Mc Kinley Ave | 5,948 | 2014 | 5,101 | 1.35% | 5,603 | No | - | - | 5,948 |
| 2 | Ash St | 7th St to French Camp Rd | 4,670 | 2014 | 4,191 | 1.35% | 4,603 | No | - | - | 4,670 |
| 3 | Austin Rd | E Louise Ave to SR-120 | 2,856 | 2014 | 2,985 | 1.35% | 3,279 | Yes | 14.8% | Yes | 3,279 |
| 4 | Austin Rd | Graves Rd to Moffat Blvd | 5,756 | 2014 | 3,524 | 1.35% | 3,871 | No | - | - | 5,756 |
| 5 | Benjamin Holt Dr | Harrisburg Pl to Pershing Ave | 16,273 | 2014 | 14,916 | 1.35% | 16,384 | Yes | 0.7% | No | 16,273 |
| 6 | Benjamin Holt Dr | Plymouth Rd to Alexandria Pl | 19,818 | 2014 | 19,092 | 1.35% | 20,971 | Yes | 5.8% | Yes | 20,971 |
| 7 | Benjamin Holt Dr | Leesburg Pl to Pacific Ave | 14,107 | 2014 | 12,798 | 1.35% | 14,058 | No | - | - | 14,107 |
| 8 | Cherokee Rd | SR-99 to Canal | 8,687 | 2014 | 6,065 | 1.35% | 6,662 | No | - | - | 8,687 |
| 9 | Cherokee Rd | SR-99 to Suburban Rd | 4,220 | 2014 | 3,860 | 1.35% | 4,240 | Yes | 0.5% | No | 4,220 |
| 10 | E Larch Rd | Corral Hollow Rd to City Limit | 4,266 | 2014 | 2,889 | 1.35% | 3,173 | No | - | - | 4,266 |
| 11 | Elliott Rd | Peltier Rd to SR-12/88 | 3,764 | 2014 | 3,214 | 1.35% | 3,530 | No | - | - | 3,764 |
| 12 | French Camp Rd | SR-99 to S Austin Rd | 5,808 | 2014 | 4,539 | 2.77% | 5,496 | No | - | - | 5,808 |
| 13 | French Camp Rd | S Austin Rd to Jack Tone Rd | 5,923 | 2014 | 4,539 | 2.77% | 5,496 | No | - | - | 5,923 |
| 14 | Harney Ln | SR-99 to Jack Tone Rd | 4,470 | 2014 | 4,621 | 1.35% | 5,076 | Yes | 13.6% | Yes | 5,076 |
| 15 | Jahant Road | East of SR-99 | 2,912 | 2014 | 2,103 | 1.35% | 2,310 | No | - | - | 2,912 |

| | STREET NAME | LIMITS | MAY '21 COUNT | YEAR OF OLD COUNT | OLD COUNT | AAGR | FACTORED COUNT | GREATER THAN 2021 | % CHANGE | >5% CHANGE | FINAL COUNT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | Kasson Rd | W 11th St to I-5 | 4,581 | 2014 | 2,811 | 1.35% | 3,088 | No | - | - | 4,581 |
| 17 | Kasson Rd | I-5 to UPRR | 4,301 | 2014 | 2,005 | 1.35% | 2,202 | No | - | - | 4,301 |
| 18 | Kasson Rd | W Linne Rd to Durham Ferry Rd | 3,947 | 2014 | 1,664 | 1.35% | 1,828 | No | - | - | 3,947 |
| 19 | Lammers Rd | 11th St to Tracy City Limit | 6,079 | 2014 | 7,447 | 1.35% | 8,180 | Yes | 34.6% | Yes | 8,180 |
| 20 | Lathrop Rd | East of SR-99 and Frontage Rd | 6,754 | 2014 | 5,021 | 1.35% | 5,515 | No | - | - | 6,754 |
| 21 | Lower Sacramento Rd | Eilers Ln to Academy St | 9,661 | 2014 | 8,938 | 1.35% | 9,818 | Yes | 1.6% | No | 9,661 |
| 22 | Lower Sacramento Rd | Peltier Rd to Collier Rd | 5,695 | 2014 | 4,632 | 1.35% | 5,088 | No | - | - | 5,695 |
| 23 | Main St | SR-99 to Gillis Rd | 8,207 | 2014 | 4,697 | 1.35% | 5,159 | No | - | - | 8,207 |
| 24 | Mariposa Rd | SR-99 to S Austin Rd | 9,234 | 2008 | 5,384 | 2.77% | 7,680 | No | - | - | 9,234 |
| 25 | Mariposa Rd | SR-99 to Jack Tone Rd | 7,228 | 2008 | 5,384 | 2.77% | 7,680 | Yes | 6.3% | Yes | 7,680 |
| 26 | Matthews Rd | I-5 to El Dorado St | 7,264 | 2014 | 6,326 | 1.35% | 6,949 | No | - | - | 7,264 |
| 27 | Olive Ave | Section Ave to E 4th St | 668 | 2014 | 636 | 1.35% | 699 | Yes | 4.6% | No | 668 |
| 28 | Oro Ave | Main St to Section Ave | 2,739 | 2019 | 4,148[a] | 1.35% | 4,261 | Yes | 55.6% | Yes | 4,261 |
| 29 | Pershing Ave | Thornton Rd to Meadow Ave | 11,741 | 2004 | 16,814 | 1.35%[b] | 21,119 | Yes | 79.9% | Yes | 21,119 |
| 30 | River Rd | Ripon City Limit to Santa Fe Rd | 4,985 | 2014 | 1,855 | 1.35% | 2,038 | No | - | - | 4,985 |

| | STREET NAME | LIMITS | MAY '21 COUNT | YEAR OF OLD COUNT | OLD COUNT | AAGR | FACTORED COUNT | GREATER THAN 2021 | % CHANGE | >5% CHANGE | FINAL COUNT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | Roberts Rd | Howard Rd to SR-4 | 2,884 | 2014 | 1,315 | 1.35% | 1,444 | No | - | - | 2,884 |
| 32 | Star St | SR-12 to W Banner St | 6,952 | 2004 | 7,591 | 1.35%[c] | 9,535 | Yes | 73.8% | Yes | 12,079 |
| 33 | Turner Rd | I-5 to Lodi City Limits | 4,571 | 2014 | 3,732 | 1.35% | 4,099 | No | - | - | 4,571 |
| 34 | Valpico Rd | Corral Hollow Rd to City Limit | 14,083 | 2014 | 9,890 | 1.35% | 10,863 | No | - | - | 14,083 |
| 35 | Valpico Rd | Lammers Rd to Corral Hollow Rd | 6,452 | 2014 | 5,888 | 1.35% | 6,467 | Yes | 0.2% | No | 6,452 |
| 36 | Von Sosten Rd | Mt House Parkway to Byron Rd | 1,900 | 2014 | 2,026 | 1.35% | 2,225 | Yes | 17.1% | Yes | 2,225 |
| 37 | W Byron Rd | Hansen Rd to Reeve Rd | 14,241 | 2016 | 18,011[d] | 1.35% | 19,260 | Yes | 35.2% | Yes | 19,260 |
| 38 | W Liberty Rd | Lower Sacramento Rd to SR-99 | 3,991 | 2014 | 3,472 | 1.35% | 3,814 | No | - | - | 3,991 |
| 39 | Waterloo Rd | E St to Filbert St | 12,823 | 2014 | 9,999 | 1.35% | 10,983 | No | - | - | 12,823 |
| 40 | Waterloo Rd | Filbert St to SR-99 | 13,551 | 2014 | 10,820 | 1.35% | 11,885 | No | - | - | 13,551 |
| 41 | Bird Rd | Lovely Rd to Linne Rd | 3,294 | 2008 | 2,207 | 2.77% | 3,148 | No | - | - | 3,294 |
| 42 | Cardinal Ave | SR-26/Fremont St to Hobart Ave | 6,468 | 2008 | 5,088 | 2.77% | 7,258 | Yes | 12.2% | Yes | 7,258 |
| 43 | Carter Rd | Henry Rd to Escalon Bellota Rd | 533 | 2008 | 328 | 2.77% | 468 | No | - | - | 533 |
| 44 | Copperopolis Rd | Dietrich Rd to Drais Ave | 2,379 | 2008 | 1,343 | 2.77% | 1,916 | No | - | - | 2,379 |
| 45 | Eight Mile Rd | Jack Tone Rd to SR-88 | 3,226 | 2008 | 1,768 | 2.77% | 2,522 | No | - | - | 3,226 |

| | STREET NAME | LIMITS | MAY '21 COUNT | YEAR OF OLD COUNT | OLD COUNT | AAGR | FACTORED COUNT | GREATER THAN 2021 | % CHANGE | >5% CHANGE | FINAL COUNT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | Eight Mile Rd | SR-99 to SR-88 | 6,349 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 6,349 |
| 47 | Escalon-Bellota Rd | Shelton Rd to Flood Rd | 1,773 | 2008 | 1,219 | 2.77% | 1,739 | No | - | - | 1,773 |
| 48 | Escalon-Bellota Rd | SR-4 to Gawne Rd | 4,208 | 2008 | 2,751 | 2.77% | 3,924 | No | - | - | 4,208 |
| 49 | Grant Line Rd | El Rancho Rd to Bird Rd | 10,567 | 2008 | 8,400 | 2.77% | 11,982 | Yes | 13.4% | Yes | 11,982 |
| 50 | Jack Tone Rd | SR-99 to SR-120 | 7,887 | 2008 | 4,500 | 2.77% | 6,419 | No | - | - | 7,887 |
| 51 | Jack Tone Rd | South of French Camp Rd | 6,338 | 2008 | 4,612 | 2.77% | 6,579 | Yes | 3.8% | No | 6,338 |
| 52 | Jack Tone Rd | SR-4 to French Camp Rd | 4,595 | 2008 | 3,270 | 2.77% | 4,665 | Yes | 1.5% | No | 4,595 |
| 53 | Jack Tone Rd | SR-4 to SR-26 | 6,055 | 2008 | 3,092 | 2.77% | 4,411 | No | - | - | 6,055 |
| 54 | Jack Tone Rd | North of Brandt Rd | 2,622 | 2008 | 1,830 | 2.77% | 2,610 | No | - | - | 2,622 |
| 55 | Newton Rd | Wilson Way to Cherokee Rd | 15,742 | 2008 | 12,800 | 2.77% | 18,259 | Yes | 16.0% | Yes | 18,259 |
| 56 | Peltier Rd | East of Lower Sacramento Rd | 3,978 | 2008 | 2,334 | 2.77% | 3,329 | No | - | - | 3,978 |
| 57 | Peltier Rd | West of Davis Rd | 4,028 | 2008 | 2,334 | 2.77% | 3,329 | No | - | - | 4,028 |
| 58 | Peltier Rd | SR-99 to Elliot Rd | 3,505 | 2008 | 2,786 | 2.77% | 3,974 | Yes | 13.4% | Yes | 3,974 |

a Using a more recent count from 10/29/19 on Oro south of Main St, which accounts for the SR 4/99 interchange reconfiguration

b Applying an AAGR of 2.77% yields unreasonable results given the roadway is not planned to be expanded beyond the 3-lane configuration. The 1.35% AAGR is applied instead to lower the projection.

c Applying an AAGR of 2.77% yields unreasonable results. A previous count from fall 2010 for Love's truck stop north of SR 12 yielded peak hour counts for 238 and 179 for the AM and PM, which cannot feasibly reach the projection of about 12,000 even if the AM peak is doubled and applied for all 24 hours in a day. The 1.35% AAGR is applied instead to lower the projection.

d Both the May 2020 count and the projection are low, so a count for an HSIP application just south of Hansen Road on 2/9/16 was used as a basis for the projection instead.

# Appendix 6 DUE VMT Weight Memorandum

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# SAN JOAQUIN COUNTY TIMF UPDATE – EQUIVALENT DWELLING UNIT FACTOR CALCULATION

DATE: August 4, 2021

TO: Jeffrey Levers, T.E. | San Joaquin County Public Works Department

Marilissa Loera | San Joaquin County Public Works Department

FROM: Jim Damkowitch | DKS

SUBJECT: San Joaquin County TIMF Update Equivalent Dwelling Unit Factor Calculation Project #21034-000

## INTRODUCTION

The purpose for this memorandum is to present an approach for incorporating Vehicle Miles of Travel (VMT) as a fee allocation metric for the 2022 San Joaquin County Traffic Impact Mitigation Fee (TIMF) Update.

The County's TIMF Program allocates the cost of roadway improvements by land use type based on "Equivalent Dwelling Unit" (EDU) Factors (i.e., the demand placed on the transportation network relative to one single family dwelling unit). EDUs are currently calculated based on the number of new vehicle trips generated by that land use in the PM peak hour. The current methodology does not consider the average trip length for that land use type.

The following methodology uses average trip length with vehicle trip generation to calculate VMT for EDU Factors. This allows EDU Factors to reflect the demand placed on the County's roadway system for each land use type.

## EDU FACTOR CALCULATION

EDU Factors were calculated based on VMT for each land use type. VMT was calculated by multiplying Weekday Trip Rate by Trip Length in miles and Percent New Trips.

Weekday Trip Rates are from the 11$^{th}$ edition of the *ITE Trip Generation Manual*, except for Service Commercial, which is from the 9$^{th}$ edition. Trip Length was calculated for Residential and Non-Residential (Employment) land uses using San Joaquin County's VMT Threshold model for SB 743. A

weighted average was calculated by multiplying Vehicle Trips by Average Trip Length for each of the 12 planning areas in the County, summing those values, and dividing by the sum of all Vehicle Trips. See **Table 1**.

**TABLE 1: WEIGHTED TRIP LENGTH FROM SAN JOAQUIN COUNTY VMT THRESHOLD MODEL**

| PLANNING AREA | RESIDENTIAL | | | NON-RESIDENTIAL (EMPLOYMENT) | | |
|---|---|---|---|---|---|---|
| | VEHICLE TRIPS | AVG TRIP LENGTH | TRIPS X LENGTH | VEHICLE TRIPS | AVG TRIP LENGTH | TRIPS X LENGTH |
| DELTA | 884.64 | 15.63 | 13,827 | 319.99 | 16.15 | 5,168 |
| ESCALON | 3,376.87 | 15.59 | 52,645 | 352.75 | 12.95 | 4,568 |
| LATHROP | 877.08 | 11.76 | 10,314 | 81.12 | 11.04 | 896 |
| LINDEN | 4,420.18 | 15.76 | 69,662 | 1,537.67 | 15.6 | 23,988 |
| LOCKEFORD-CLEMENTS | 9,056.48 | 13.85 | 125,432 | 1,313.52 | 13.26 | 17,417 |
| LODI | 15,050.48 | 10.34 | 155,622 | 4,643.44 | 9.73 | 45,181 |
| MANTECA | 10,576.55 | 12.55 | 132,736 | 947.27 | 10.28 | 9,738 |
| MOUNTAIN HOUSE | 11,731.4 | 12.28 | 144,062 | 1,772.57 | 7.48 | 13,259 |
| RIPON | 2,185.1 | 14.67 | 32,055 | 200.27 | 12.72 | 2,547 |
| STOCKTON | 86,508.53 | 8.62 | 745,704 | 1,9913.63 | 8.39 | 167,075 |
| TRACY | 7,953.72 | 12.64 | 100,535 | 3,002.19 | 15.41 | 46,264 |
| THORNTON | 1,987.93 | 16.53 | 32,860 | 384.49 | 14.35 | 5,517 |
| **SUM** | **154,609** | | **1,615,455** | **34,469** | | **341,618** |
| **WEIGHTED AVG** | | | **10.45** | | | **9.91** |

*Source: GHD*

All Residential land uses were assumed to have the same weighted average Residential Trip Length from the San Joaquin County model. For all Non-Residential land uses, Trip Length was calculated proportional to the equivalent Sacramento County Trip Lengths. Sacramento County's Office Trip Length of 5.1 miles was assumed to be the baseline length and all other land use Trip Lengths were calculated proportional to that value using the weighted average Employment Trip Length from the San Joaquin County model. The same Average Trip Lengths by land use category are also applied in El Dorado County. See **Table 2**.

**TABLE 2: TRIP LENGTH**

| LAND USE | TRIP LENGTH | |
|---|---|---|
| | SACRAMENTO COUNTY | SAN JOAQUIN COUNTY |
| **RESIDENTIAL** | | |
| SINGLE FAMILY | 5.1 | 10.45 |
| MULTI-FAMILY | 5.1 | 10.45 |
| **NON-RESIDENTIAL** | | |
| RETAIL[a] | 2.3 | 4.47 |
| SERVICE COMMERCIAL[a] | 2.3 | 4.47 |
| OFFICE | 5.1 | 9.91 |
| MANUFACTURING[b] | 4.8 | 9.33 |
| WAREHOUSE[b] | 4.8 | 9.33 |

[a] Assumed to be equivalent to "Commercial"

[b] Assumed to be equivalent to "Industrial"

The final EDU Factors were calculated as the proportion of VMT to the baseline VMT for Single Family Detached Residential, greater than 1,200 square feet. See **Table 3** for the weekday daily trip-based EDU results while **Table 4** provides the PM peak hour-based EDU rates.

**TABLE 3: EDU FACTOR CALCULATION**

| LAND USE | ITE CODE | WEEKDAY TRIP RATE | UNIT | TRIP LENGTH (MILES) | % NEW TRIPS | VEHICLE MILES OF TRAVEL | EDU FACTOR |
|---|---|---|---|---|---|---|---|
| **RESIDENTIAL** | | | | | | | |
| SINGLE FAMILY | 210 | 9.43 | Dwelling Unit | 10.45 | 100% | 98.54 | 1.00 |
| MULTI-FAMILY | 220 | 6.74 | | 10.45 | 100% | 70.43 | 0.71 |
| **NON-RESIDENTIAL** | | | | | | | |
| RETAIL | 820 | 37.01 | 1,000 Square Feet | 4.47 | 50% | 82.72 | 0.84 |
| SERVICE COMMERCIAL | 826 | 44.32[a] | | 4.47 | 65% | 128.77 | 1.31 |
| OFFICE | 710 | 10.84 | | 9.91 | 65% | 69.83 | 0.71 |
| MANUFACTURING | 140 | 4.75 | | 9.33 | 85% | 37.67 | 0.38 |
| WAREHOUSE | 150 | 1.71 | | 9.33 | 85% | 13.56 | 0.14 |

[a] From the 9th edition of the *ITE Trip Generation Manual*

**TABLE 4: EDU FACTOR CALCULATION**

| LAND USE | ITE CODE | WEEKDAY TRIP RATE | UNIT | TRIP LENGTH (MILES) | % NEW TRIPS | VEHICLE MILES OF TRAVEL | EDU FACTOR |
|---|---|---|---|---|---|---|---|
| **RESIDENTIAL** | | | | | | | |
| SINGLE FAMILY | 210 | .99 | Dwelling Unit | 10.45 | 100% | 10.35 | 1.00 |
| MULTI-FAMILY | 220 | .57 | | 10.45 | 100% | 5.96 | 0.58 |
| **NON-RESIDENTIAL** | | | | | | | |
| RETAIL | 820 | 4.09 | 1,000 Square Feet | 4.47 | 50% | 9.14 | 0.88 |
| SERVICE COMMERCIAL | 826 | 2.71[a] | | 4.47 | 65% | 7.87 | 0.76 |
| OFFICE | 710 | 1.44 | | 9.91 | 65% | 9.28 | 0.90 |
| MANUFACTURING | 140 | .74 | | 9.33 | 85% | 5.87 | 0.57 |
| WAREHOUSE | 150 | .18 | | 9.33 | 85% | 1.43 | 0.14 |

[a] From the 9th edition of the ITE Trip Generation Manual

# Appendix 7 Active Transportation Fair Share Memorandum

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# MEMORANDUM

DATE: December 10, 2021

TO: Jeffrey Levers | San Joaquin County

FROM: Jim Damkowitch, David Tokarski | DKS Associates

SUBJECT: San Joaquin County TIMF Update: Non-Motorized Mode-Share Project #21034-000

## INTRODUCTION

As part of the Traffic Impact Mitigation Fee (TIMF) update, the County would like to more explicitly integrate active transportation improvements into the TIMF CIP. The County has recently completed its Bicycle Master Plan Update which includes prioritized active transportation improvements. A defensible nexus and fair share approach is needed.

The SJCOG travel demand model (called VMIP2) was applied to estimate the percentage growth in daily "person trips" generated by new development within the unincorporated of San Joaquin County. The historical approach for estimating the bikeway/trail fair share allocation percentage has been to compute the walk and bike journey-to-work mode split percentages from household travel surveys, (i.e., percent mode share of journey-to-work trips from the American Community Survey or Census data). This has typically yielded a fair share percentage of 5%. The forecast person trip growth approach was examined as it reflects all trips (not just commuter activity) and might provide a more defensible fair share percentage for active transportation infrastructure needs identified in the County's pending Bicycle Master Plan.

The purpose of this memo is to document the proportion and proportional changes in active transportation modes forecast within unincorporated San Joaquin County. Using SJCOG's VMIP2 travel demand model, output from both the 2015 baseline and revised 2042 forecast were extracted to isolate total "internal" person trips (i.e., pedestrian trips whose origin and destination are in unincorporated Traffic Analysis Zones (TAZs)). In addition, mode choice of all trips, including single person vehicles (SOV), two person vehicles (HOV2), three-plus person vehicles (HOV3+), walk trips, bicycle trips, and walk-to-transit trips were summarized. This data was used to summarize changes in non-motorized travel as a percentage of total travel.

It should be noted that these statistics are all based on entire TAZs and therefore this data may include some trips to/from areas within cities due to the fact many TAZs straddle both cities and unincorporated county.

## ANALYSIS

**Table 1** shows the percent mode-share for each of the three non-motorized travel modes in the travel demand model (walk, bike, and walk to transit). The table shows that walk trips increase as a percentage of total trips for all fee districts. Bike trips and walk to transit trips, while they tend to increase as well between 2015 and 2042, they do not increase as much as walk trips.

**Table 2** shows the whole number of trips by non-motorized modes for the unincorporated County as a whole, as well as the change between 2015 and 2042 models. This information indicates that non-motorized trips make up 8.5% of total person trips under 2015 baseline conditions growing to 9.9% by 2042. A summary of this information by fee benefit zone is provided in **Table 3**.

**Table 4** shows the previous TIMF method of taking the American Community Survey journey-to-work mode split percentages for unincorporated San Joaquin County. Based on this information, a 4.5% fair share percentage can be justified.

**TABLE 1: NON-MOTORIZED TRIPS AS PERCENT OF TOTAL TRIPS**

| FEE DISTRICT | PERCENT WALK | | | PERCENT BIKE | | | PERCENT WALK TO TRANSIT | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2042 | CHANGE | 2015 | 2042 | CHANGE | 2015 | 2042 | CHANGE |
| Thornton-Delta | 0.9% | 2.6% | +1.8% | 0.7% | 0.0% | -0.7% | 0.0% | 0.0% | 0.0% |
| Stockton-Lodi-Lockeford-Clements | 7.5% | 7.9% | +0.4% | 1.4% | 0.0% | -1.4% | 1.1% | 1.2% | +0.1% |
| Tracy-Lathrop-Manteca | 4.4% | 5.5% | +1.1% | 0.8% | 0.0% | -0.8% | 0.0% | 0.2% | +0.2% |
| Linden-Escalon-Ripon | 2.9% | 3.4% | +0.5% | 0.9% | 0.0% | -0.9% | 0.1% | 0.1% | 0.0% |
| Mountain House | 3.8% | 14.1% | +10.3% | 1.8% | 0.0% | -1.8% | 0.0% | 0.0% | 0.0% |
| **Total** | 6.4% | 7.7% | +1.3% | 1.3% | 0.0% | -1.3% | 0.8% | 0.8% | 0.0% |

**TABLE 2: CHANGE IN NON-MOTORIZED TRIPS**

| TRIP MODE<br>UNINCORPORATED COUNTY | 2015 | | 2042 | | GROWTH | |
|---|---|---|---|---|---|---|
| | PERSON TRIPS | % OF TOTAL TRIPS | PERSON TRIPS | % OF TOTAL TRIPS | PERSON TRIPS | CHANGE IN % OF TOTAL TRIPS |
| Total Person Trips | 363,707 | 100% | 576,627 | 100% | +212,920 | |
| Walk Trips | 23,190 | 6.4% | 44,444 | 7.7% | +21,254 | 1.3% |
| Bike Trips | 4,767 | 1.3% | 7,885 | 1.4% | +3,118 | 0.1% |
| Walk to Transit Trips | 2,873 | 7.9% | 4,776 | 0.8% | +1,903 | 0.0% |
| **Total Non-Motorized** | **30,830** | **8.5%** | **57,105** | **9.9%** | **+26,275** | **1.4%** |

**TABLE 3: CHANGE IN NON-MOTORIZED TRIPS BY FEE BENEFIT ZONE**

| FEEDIST | Person Trips (post mode choice) | | | 2015 Non-Motorized Trips | | | | 2042 Non-Motorized Trips | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2042 New | Growth % | TW | BK | WK | % of Total Trips | TW | BK | WK | % of Total Trips |
| **1. Thornton** | **4,538** | **10,470** | **131%** | - | 30 | 39 | 1.52% | - | 74 | 274 | 3.32% |
| **2. Stockton/Lodi** | **256,656** | **370,596** | **44%** | 2,841 | 3,670 | 19,261 | 10.04% | 4,547 | 5,267 | 29,312 | 10.56% |
| **3. Tracy/Lathrop/Manteca** | **47,501** | **93,451** | **96%** | 6 | 392 | 2,087 | 5.23% | 196 | 1,058 | 5,175 | 6.88% |
| **4. Linden/Escalon/Ripon** | **33,649** | **44,008** | **31%** | 26 | 299 | 990 | 3.91% | 33 | 385 | 1,501 | 4.36% |
| **5. Mountain House** | **21,364** | **58,102** | **174%** | - | 376 | 813 | 5.56% | - | 1,102 | 8,182 | 15.98% |
| **Total** | **363,707** | **576,627** | **59%** | **2,873** | **4,767** | **23,190** | **8.5%** | **4,776** | **7,885** | **44,444** | **9.9%** |
| % of Total | | | | 0.8% | 1.3% | 6.4% | 8.5% | 0.8% | 1.4% | 7.7% | 9.9% |

**TABLE 4: CHANGE IN NON-MOTORIZED TRIPS BY FEE BENEFIT ZONE**

| Alternative Mode | % Mode Share |
|---|---|
| Public Transit | 2.30% |
| Bicycle | 0.10% |
| Walked | 1.30% |
| Taxi/Motorbike/Other | 0.80% |
| **Total** | **4.50%** |

## RESULTS

Based on this analysis, the following active transportation fair share percentages can be considered by the County as part of the TIMF update:

Option 1: Percent of non-motorized person trips relative to total person trips under future year conditions: 9.9% (rounding to 10%).

Option 2: Percent increase in the percentage growth of the non-motorized person trips between 2015 and 2042 ((9.9% - 8.5%)/8.5%): 16.5% (rounding to 16%)

Option 3: Non-motorized share of journey-to-work person trips for unincorporated San Joaquin County from the most recent available American Community Survey is 4.5% (rounding to 5%).

Based on these comparisons, County staff selected Option 1 as the most defensible method for estimating non-motorized transportation fair share for the TIMF update. Option 2 is not easily explainable while Option 3 (historical approach) inherently underestimates fair share given that it is solely based on commuter mode share versus all trip making.

# Appendix 8 2042 Traffic Forecast – NCHRP 255 Process

| Source | Street Name | Orientation | Location/Limits | Lanes | 2021 AADT | 2015 Modeled Volume | 2042 Modeled Volume | 2021 Heavy-Duty Truck % | Peak Month Adjustment | 2021 HDT Adj Volum | 2042 HDT Adj Volume | 2042 Ratio Volume | 2042 Difference Volume | 2042 Avg. Volume (ratio+diff/2) | 2021-2040 Avg. Annual Growth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2021 SJ TIMF Update | Ash St | | El Dorado St to Mc Kinley Ave | 2 | 5,948 | 1,912 | 6,330 | 4% | 1.000 | 1,994 | 6,602 | 19,690 | 10,556 | 15,123 | 4.54 |
| 2021 SJ TIMF Update | Ash St | | 7th St to French Camp Rd | 2 | 4,670 | 734 | 2,205 | 3% | 1.000 | 752 | 2,262 | 14,040 | 6,180 | 10,110 | 3.75 |
| 2021 SJ TIMF Update | Austin Rd | | E Louise Ave to SR-120 | 2 | 2,856 | 2,125 | 2,798 | 1% | 1.000 | 2,140 | 2,818 | 3,760 | 3,534 | 3,647 | 1.17 |
| 2021 SJ TIMF Update | Austin Rd | | Graves Rd to Moffat Blvd | 2 | 5,756 | 2,696 | 7,834 | 3% | 1.000 | 2,784 | 8,091 | 16,726 | 11,063 | 13,895 | 4.29 |
| 2021 SJ TIMF Update | Benjamin Holt Dr | | Harrisburg Pl to Pershing Ave | 3 | 16,273 | 13,842 | 14,602 | 0% | 1.000 | 13,877 | 14,639 | 17,166 | 17,035 | 17,100 | 0.24 |
| 2021 SJ TIMF Update | Benjamin Holt Dr | | Plymouth Rd to Alexandria Pl | 3 | 19,818 | 15,550 | 16,328 | 0% | 1.000 | 15,577 | 16,356 | 20,810 | 20,597 | 20,703 | 0.21 |
| 2021 SJ TIMF Update | Benjamin Holt Dr | | Leesburg Pl to Pacific Ave | 4 | 14,107 | 18,421 | 18,488 | 0% | 1.000 | 18,458 | 18,526 | 14,158 | 14,174 | 14,166 | 0.02 |
| 2021 SJ TIMF Update | Cherokee Rd | | SR-99 to Canal | 2 | 8,687 | 3,614 | 7,160 | 2% | 1.000 | 3,691 | 7,312 | 17,211 | 12,308 | 14,760 | 2.56 |
| 2021 SJ TIMF Update | Cherokee Rd | | SR-99 to Suburban Rd | 2 | 4,220 | 2,274 | 2,897 | 2% | 1.000 | 2,320 | 2,956 | 5,376 | 4,856 | 5,116 | 0.92 |
| 2021 SJ TIMF Update | E Larch Rd | | Corral Hollow Rd to City Limit | 2 | 4,266 | 1,365 | 3,201 | 1% | 1.000 | 1,380 | 3,236 | 10,005 | 6,122 | 8,064 | 3.08 |
| 2021 SJ TIMF Update | Elliott Rd | | Peltier Rd to SR-12/88 | 2 | 3,764 | 3,992 | 8,609 | 2% | 1.000 | 4,060 | 8,757 | 8,118 | 8,461 | 8,289 | 3.83 |
| 2021 SJ TIMF Update | French Camp Rd | | SR-99 to S Austin Rd | 2 | 5,808 | 6,556 | 10,279 | 7% | 1.000 | 6,990 | 10,959 | 9,106 | 9,777 | 9,441 | 2.34 |
| 2021 SJ TIMF Update | French Camp Rd | | S Austin Rd to Jack Tone Rd | 2 | 5,923 | 6,960 | 11,249 | 7% | 1.000 | 7,472 | 12,076 | 9,573 | 10,528 | 10,050 | 2.55 |
| 2021 SJ TIMF Update | Harney Ln | | SR-99 to Jack Tone Rd | 2 | 4,470 | 1,886 | 2,674 | 1% | 1.000 | 1,911 | 2,710 | 6,340 | 5,269 | 5,805 | 1.25 |
| 2021 SJ TIMF Update | Jahant Road | | East of SR-99 | 2 | 2,912 | 4,892 | 6,855 | 3% | 1.000 | 5,035 | 7,055 | 4,080 | 4,932 | 4,506 | 2.10 |
| 2021 SJ TIMF Update | Kasson Rd | | W 11th St to I-5 | 2 | 4,581 | 5,388 | 15,783 | 10% | 1.000 | 5,930 | 17,370 | 13,419 | 16,021 | 14,720 | 5.72 |
| 2021 SJ TIMF Update | Kasson Rd | | I-5 to UPRR | 2 | 4,301 | 6,210 | 7,465 | 3% | 1.000 | 6,384 | 7,673 | 5,170 | 5,591 | 5,380 | 1.07 |
| 2021 SJ TIMF Update | Kasson Rd | | W Linne Rd to Durham Ferry Rd | 2 | 3,947 | 5,431 | 8,448 | 3% | 1.000 | 5,581 | 8,680 | 6,139 | 7,047 | 6,593 | 2.47 |
| 2021 SJ TIMF Update | Lammers Rd | | 11th St to Tracy City Limit | 4 | 6,079 | 8,955 | 4,402 | 1% | 1.000 | 9,013 | 4,431 | 2,989 | 1,497 | 2,243 | -4.64 |
| 2021 SJ TIMF Update | Lathrop Rd | | East of SR-99 and Frontage Rd | 2 | 6,754 | 458 | 1,884 | 2% | 1.000 | 468 | 1,921 | 27,757 | 8,208 | 17,982 | 4.77 |
| 2021 SJ TIMF Update | Lower Sacramento Rd | | Eilers Ln to Academy St | 3 | 9,661 | 6,469 | 10,748 | 0% | 1.000 | 6,484 | 10,773 | 16,050 | 13,949 | 15,000 | 2.12 |
| 2021 SJ TIMF Update | Lower Sacramento Rd | | Peltier Rd to Collier Rd | 2 | 5,695 | 4,304 | 8,115 | 1% | 1.000 | 4,347 | 8,194 | 10,736 | 9,543 | 10,139 | 2.78 |
| 2021 SJ TIMF Update | Main St | | SR-99 to Gillis Rd | 2 | 8,207 | 5,328 | 11,501 | 1% | 1.000 | 5,382 | 11,618 | 17,718 | 14,443 | 16,081 | 3.25 |
| 2021 SJ TIMF Update | Mariposa Rd | | SR-99 to S Austin Rd | 2 | 9,234 | 8,309 | 14,521 | 7% | 1.000 | 8,930 | 15,607 | 16,139 | 15,911 | 16,025 | 2.66 |
| 2021 SJ TIMF Update | Mariposa Rd | | SR-99 to Jack Tone Rd | 2 | 7,228 | 8,615 | 13,536 | 8% | 1.000 | 9,296 | 14,606 | 11,357 | 12,538 | 11,948 | 2.42 |
| 2021 SJ TIMF Update | Matthews Rd | | I-5 to El Dorado St | 2 | 7,264 | 4,064 | 8,896 | 8% | 1.000 | 4,388 | 9,605 | 15,899 | 12,481 | 14,190 | 3.24 |
| 2021 SJ TIMF Update | Olive Ave | | Section Ave to E 4th St | 2 | 668 | 2,351 | 3,132 | 2% | 1.000 | 2,392 | 3,186 | 890 | 1,462 | 1,176 | 2.73 |
| 2021 SJ TIMF Update | Oro Ave | | Main St to Section Ave | 2 | 2,739 | 4,629 | 6,266 | 2% | 1.000 | 4,719 | 6,388 | 3,708 | 4,408 | 4,058 | 1.89 |
| 2021 SJ TIMF Update | Pershing Ave | | Thornton Rd to Meadow Ave | 2 | 11,741 | 3,640 | 6,644 | 0% | 1.000 | 3,650 | 6,662 | 21,433 | 14,754 | 18,093 | 2.08 |
| 2022 SJ TIMF Update | River Rd | | Ripon City Limit to Santa Fe Rd | 2 | 4,985 | 1,785 | 1,666 | 5% | 2.000 | 3,751 | 3,501 | 4,653 | 4,735 | 4,694 | -0.29 |
| 2021 SJ TIMF Update | Roberts Rd | | Howard Rd to SR-4 | 2 | 2,884 | 471 | 2,689 | 2% | 1.000 | 480 | 2,736 | 16,453 | 5,141 | 10,797 | 6.49 |
| 2021 SJ TIMF Update | Star St | | SR-12 to W Banner St | 5 | 6,952 | 1,093 | 7,610 | 2% | 1.000 | 1,113 | 7,751 | 48,411 | 13,590 | 31,000 | 7.38 |
| 2021 SJ TIMF Update | Turner Rd | | I-5 to Lodi City Limits | 2 | 4,571 | 983 | 2,040 | 3% | 1.000 | 1,008 | 2,094 | 9,492 | 5,657 | 7,574 | 2.43 |
| 2021 SJ TIMF Update | Valpico Rd | | Corral Hollow Rd to City Limit | 2 | 14,083 | 6,287 | 8,010 | 1% | 1.000 | 6,339 | 8,076 | 17,942 | 15,820 | 16,881 | 0.87 |
| 2021 SJ TIMF Update | Valpico Rd | | Lammers Rd to Corral Hollow Rd | 2 | 6,452 | 6,927 | 10,610 | 1% | 1.000 | 6,980 | 10,691 | 9,882 | 10,163 | 10,022 | 2.12 |
| 2021 SJ TIMF Update | Von Sosten Rd | | Mt House Parkway to Byron Rd | 2 | 1,900 | 8,042 | 15,720 | 1% | 1.000 | 8,120 | 15,873 | 3,714 | 9,653 | 6,683 | 6.17 |
| 2021 SJ TIMF Update | W Byron Rd | | Hansen Rd to Reeve Rd | 2 | 14,241 | 12,900 | 17,673 | 5% | 1.000 | 13,482 | 18,471 | 19,510 | 19,229 | 19,370 | 1.48 |
| 2021 SJ TIMF Update | W Liberty Rd | | Lower Sacramento Rd to SR-99 | 2 | 3,991 | 4,170 | 6,403 | 1% | 1.000 | 4,226 | 6,490 | 6,129 | 6,255 | 6,192 | 2.11 |
| 2021 SJ TIMF Update | Waterloo Rd | | E St to Filbert St | 4 | 12,823 | 7,100 | 9,158 | 1% | 1.000 | 7,174 | 9,253 | 16,539 | 14,902 | 15,720 | 0.97 |
| 2021 SJ TIMF Update | Waterloo Rd | | Filbert St to SR-99 | 4 | 13,551 | 7,354 | 9,956 | 1% | 1.000 | 7,416 | 10,040 | 18,344 | 16,174 | 17,259 | 1.16 |
| 2021 SJ TIMF Update | Bird Rd | | Lovely Rd to Linne Rd | 2 | 3,294 | 4,157 | 6,490 | 6% | 1.000 | 4,400 | 6,868 | 5,142 | 5,763 | 5,452 | 2.43 |
| 2021 SJ TIMF Update | Cardinal Ave | | SR-26/Fremont St to Hobart Ave | 2 | 6,468 | 3,804 | 6,307 | 2% | 1.000 | 3,869 | 6,415 | 10,725 | 9,014 | 9,870 | 2.03 |
| 2021 SJ TIMF Update | Carter Rd | | Henry Rd to Escalon Bellota Rd | 2 | 533 | 229 | 336 | 7% | 1.000 | 244 | 358 | 783 | 647 | 715 | 1.41 |
| 2021 SJ TIMF Update | Copperopolis Rd | | Dietrich Rd to Drais Ave | 2 | 2,379 | 1,979 | 5,026 | 4% | 1.000 | 2,061 | 5,234 | 6,042 | 5,552 | 5,797 | 4.33 |
| 2021 SJ TIMF Update | Eight Mile Rd | | Jack Tone Rd to SR-88 | 2 | 3,226 | 3,393 | 4,122 | 5% | 1.000 | 3,565 | 4,332 | 3,920 | 3,993 | 3,956 | 0.98 |
| 2021 SJ TIMF Update | Eight Mile Rd | | SR-99 to SR-88 | 2 | 6,349 | 6,725 | 10,278 | 2% | 1.000 | 6,889 | 10,528 | 9,704 | 9,989 | 9,846 | 2.11 |
| 2021 SJ TIMF Update | Escalon-Bellota Rd | | Shelton Rd to Flood Rd | 2 | 1,773 | 710 | 1,762 | 4% | 1.000 | 737 | 1,828 | 4,400 | 2,865 | 3,632 | 3.47 |
| 2021 SJ TIMF Update | Escalon-Bellota Rd | | SR-4 to Gawne Rd | 2 | 4,208 | 5,279 | 9,275 | 2% | 1.000 | 5,403 | 9,493 | 7,393 | 8,298 | 7,845 | 3.01 |
| 2021 SJ TIMF Update | Grant Line Rd | | El Rancho Rd to Bird Rd | 2 | 10,567 | 7,581 | 12,326 | 7% | 1.000 | 8,111 | 13,188 | 17,182 | 15,645 | 16,413 | 2.12 |
| 2021 SJ TIMF Update | Jack Tone Rd | | SR-99 to SR-120 | 2 | 7,887 | 6,906 | 11,049 | 12% | 1.000 | 7,724 | 12,358 | 12,620 | 12,521 | 12,570 | 2.24 |
| 2021 SJ TIMF Update | Jack Tone Rd | | South of French Camp Rd | 2 | 6,338 | 7,009 | 11,602 | 7% | 1.000 | 7,476 | 12,376 | 10,491 | 11,237 | 10,864 | 2.60 |
| 2021 SJ TIMF Update | Jack Tone Rd | | SR-4 to French Camp Rd | 2 | 4,595 | 4,364 | 8,783 | 7% | 1.000 | 4,656 | 9,370 | 9,247 | 9,309 | 9,278 | 3.40 |
| 2021 SJ TIMF Update | Jack Tone Rd | | SR-4 to SR-26 | 2 | 6,055 | 3,720 | 7,730 | 6% | 1.000 | 3,929 | 8,164 | 12,580 | 10,290 | 11,435 | 3.07 |
| 2021 SJ TIMF Update | Jack Tone Rd | | North of Brandt Rd | 2 | 2,622 | 3,796 | 6,747 | 2% | 1.000 | 3,890 | 6,914 | 4,661 | 5,646 | 5,153 | 3.27 |
| 2021 SJ TIMF Update | Newton Rd | | Wilson Way to Cherokee Rd | 2 | 15,742 | 7,531 | 8,696 | 1% | 1.000 | 7,637 | 8,819 | 18,178 | 16,924 | 17,551 | 0.52 |
| 2021 SJ TIMF Update | Peltier Rd | | East of Lower Sacramento Rd | 2 | 3,978 | 2,575 | 3,350 | 6% | 1.000 | 2,720 | 3,538 | 5,175 | 4,796 | 4,985 | 1.08 |
| 2021 SJ TIMF Update | Peltier Rd | | West of Davis Rd | 2 | 4,028 | 3,088 | 6,818 | 7% | 1.000 | 3,296 | 7,277 | 8,893 | 8,009 | 8,451 | 3.59 |
| 2021 SJ TIMF Update | Peltier Rd | | SR-99 to Elliot Rd | 2 | 3,505 | 2,451 | 4,413 | 4% | 1.000 | 2,550 | 4,590 | 6,310 | 5,545 | 5,928 | 2.53 |

# Appendix 9 Per Unit Cost Update Memorandum

DKS 8950 CAL CENTER DRIVE, SUITE 340, SACRAMENTO, CA 95826 • 916.368.2000 • DKSASSOCIATES.COM

# MEMORANDUM

DATE: April 11, 2022

TO: Jeffrey Levers | San Joaquin County Public Works Department
Marilissa Loera | San Joaquin County Public Works Department

FROM: Jim Damkowitch, Haruka Ichikawa, Bobby Sidhu | DKS Associates

SUBJECT: San Joaquin County TIMF Update: Transportation Infrastructure Per Unit Cost Update — Project #21034-000

## INTRODUCTION

This memorandum documents the update of the 2015 TIMF per unit cost estimates to reflect 2022 price conditions for construction. This process was based on the Engineers News-Record Construction Cost Index to establish percentage changes in material costs.

## PER UNIT ESTIMATES

The construction costs are based on an existing outside lane width of 13 feet with a 4-foot paved shoulder.

### Roadway Cost Per Linear Foot

The following assumptions were made for the roadway:

1. The 4-foot shoulder and 1-foot of the existing outside lane will be removed.
2. A 13-foot lane will be added utilizing the following design:
    a. 4” Asphaltic Concrete
    b. 12” Aggregate Base
3. A 4-foot wide shoulder will be added utilizing the following design:
    a. 2” Asphaltic Concrete
    b. 6” Aggregate Base

All TIMF unit costs were adjusted to reflect current dollar based on the percent change in the published Engineers News-Record Construction Cost Index between 2014 and 2021.

| Description | Unit | Unit Price |
|---|---|---|
| Excavation/Pavement Removal | CY | $55 |
| Type A Asphaltic Concrete | Ton | $211 |
| Class 2 Aggregate Base | Ton | $106 |
| Earthwork | Station | $818 |

Using the above typical section for roadway widening, the following unit costs per linear foot will be used:

| Description | Unit | Quantity |
|---|---|---|
| Type A Asphaltic Concrete | CY/LF | 0.198 |
| Class 2 Aggregate Base | CY/LF | 0.592 |
| Total (Excavation/Pavement Removal) | | 0.790 |
| Earthwork | Station | 0.01 |

Convert asphalt per cubic yards to tons (0.198 x 1.89 = 0.374 tons).

| Description | Quantity | Unit Price | Cost/LF |
|---|---|---|---|
| Excavation/Pavement Removal | 0.790 | $55 | $44 |
| Type A Asphaltic Concrete | 0.374 | $211 | $79 |
| Class 2 Aggregate Base | 0.592 | $106 | $63 |
| Earthwork | 0.01 | $818 | $8 |
| Total Cost per Linear Foot of Roadway Widening | | | $194 |

The following assumptions were made for traffic signals:

1. $500,000 per signalized intersection (costs range between $350 - $600)
2. One traffic signal every 5,280 feet

Therefore, an estimated cost per linear foot for traffic signals will be: $95

Total cost per linear foot of street with one additional lane will be:

| | |
|---|---|
| Roadway Widening (1 lanes) | $194 |
| Traffic Signals | $95 |
| Sub-Total | $289 |
| 25% Engineering, Administration & Planning | $72 |
| 10% Miscellaneous[1] | $29 |
| 20% Contingency | $58 |
| 5% Inflation | $14 |

[1] Miscellaneous costs cover mandatory items that routinely come up on widening projects including: driveway, mailbox, road sign, and ditch relocation; imported borrow; survey monument adjustment/relocation; cross-drain extensions, etc.

| | |
|---|---|
| *Cost per Linear Foot of Street* | *$462* |
| 5% Right of Way Cost | $23 |
| **Total Cost per Linear Foot of Street** | **$485** |

Total cost per linear foot of street with one additional lane in each direction will be:

| | |
|---|---|
| Roadway Widening (2 lanes) | $388 |
| Traffic Signals | $95 |
| *Sub-Total* | *$483* |
| 25% Engineering, Administration & Planning | $121 |
| 10% Miscellaneous | $48 |
| 20% Contingency | $97 |
| 5% Inflation | $24 |
| *Cost per Linear Foot of Street* | *$773* |
| 20% Right of Way Cost | $155 |
| **Total Cost per Linear Foot of Street** | **$928** |

### Bridge Reconstruction/Widening Cost Per Linear Foot

The following assumptions were made for bridge reconstruction/widening:

1. 24’ roadway widening.
2. $372 per SF for reinforced concrete slabs.

Therefore, an estimated cost per linear foot for each bridge reconstruction/widening will be: $8,928.00

Total cost per linear foot of bridge reconstruction/widening will be:

| | |
|---|---|
| *Bridge Reconstruction/Widening* | *$8,928* |
| 25% Engineering, Administration & Planning | $2,232 |
| 10% Miscellaneous | $893 |
| 20% Contingency | $1,786 |
| 5% Inflation | $447 |
| *Cost per Linear Foot of Street* | *$14,286* |
| 20% Right of Way Cost | $2,858 |
| **Total Cost per Linear Foot of Street** | **$17,144** |

**Table 1** shows the comparison of the per-unit cost estimates by cost item for 2014 and 2021. **Table 2** provides background information comparing past ENR CCI information.

**TABLE 1: PER UNIT COST ESTIMATES (2014 VS, 2021)**

| | Roadway Widening Total Cost per Linear Foot of Street | | |
|---|---|---|---|
| Year | Widen 1 Lane | Widen 2 Lanes | Bridge Widen |
| 2014 | $ 401 | $ 622 | $ 14,100 |
| 2021 | $ 499 | $ 767 | $ 17,144 |
| | | | |
| **Rate of Escalation from 2014 to 2021** | | | **~24%** |

**Table 2. Construction Cost Index History**

| Engineering News Record Construction Cost Index History for Month/Avg Year | | | |
|---|---|---|---|
| | **2008** | **2014** | **2021** |
| AVG | 8,310 | 9,806 | 12,133 |
| May | 8,141 | 9,796 | 11,989 |
| AVG | | 0.18 | 0.237 |
| May | | 0.20 | 0.22 |

# Appendix 10 Fee Per Daily Trip

Estimation of the daily trip fee is based on daily ITE trip generation rates and is consistent with all requisite TIMF analysis steps described herein.

**TIMF FEE PER DAILY TRIP**

| | TIM Fee Benefit Zone | | | | |
|---|---|---|---|---|---|
| | **Thornton-Delta** | **Stockton-Lodi-Lockeford-Clements** | **Tracy-Lathrop-Manteca** | **Linden-Escalon-Ripon** | **Mountain House** |
| Cost per DUE | | | | | |
| Local Projects Share | $ 795 | $ 1,198 | $ 1,198 | $ 795 | $ - |
| Regional Projects Share | $ 1,239 | $ 159 | $ 159 | $ 1,239 | $ 50 |
| Alternative Modes | $ 239 | $ 160 | $ 160 | $ 239 | $ 6 |
| Administrative Fee | $ 120 | $ 80 | $ 80 | $ 120 | $ 3 |
| | | | | | |
| Total Cost per DUE | $ 2,393 | $ 1,597 | $ 1,597 | $ 2,393 | $ 59 |
| | 9.44 | 9.44 | 9.44 | 9.44 | 9.44 |
| | **$253.50** | **$169.00** | **$169.00** | **$253.50** | **$6.25** |

Note: For this nexus update the Tracy-Lathrop-Manteca and Stockton-Lodi-Lockerford-Clements zones are combined, and the Thornton-Delta and Linden-Escalon-Ripon zones are combined.