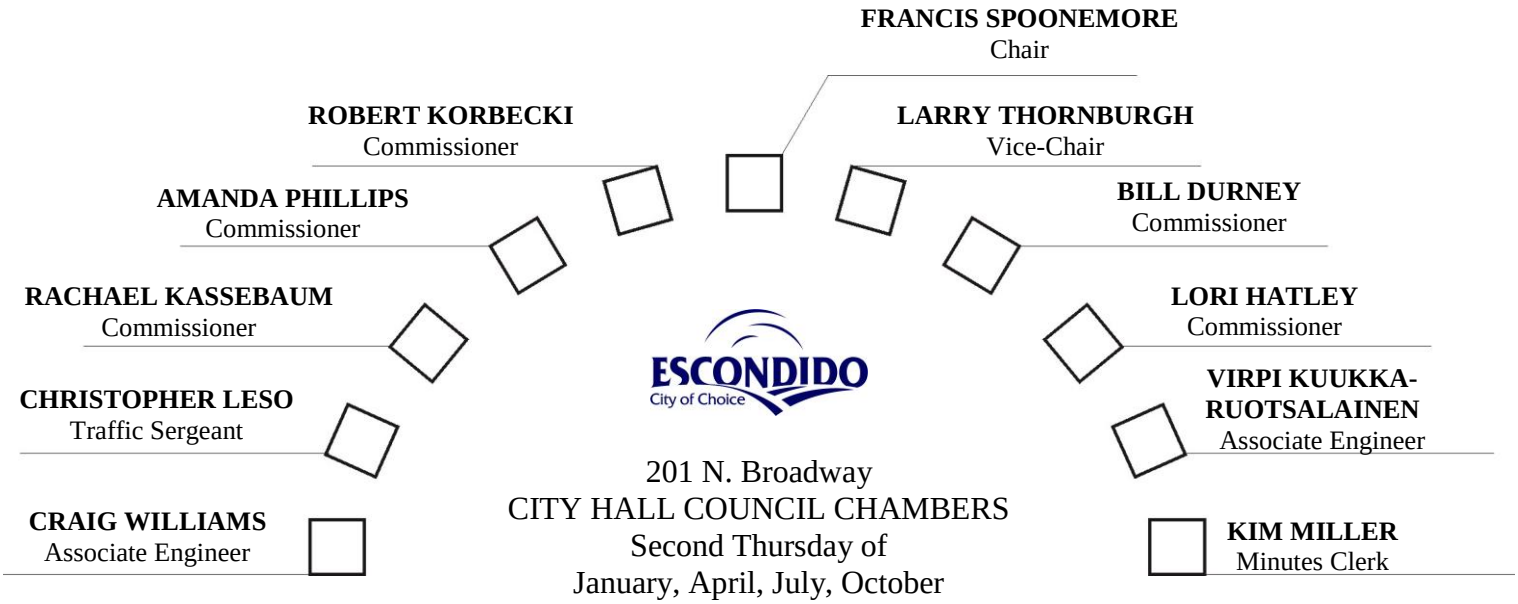
CITY OF ESCONDIDO

Transportation & Community Safety Commission



201 N. Broadway
CITY HALL COUNCIL CHAMBERS
Second Thursday of
January, April, July, October
3:00 p.m.
https://meet.escondido.org/TrafficCommissionApr2021

AGENDA
April 8, 2021

A. FLAG SALUTE

B. ROLL CALL AND DETERMINATION OF QUORUM

C. ORAL COMMUNICATIONS* (At this time, members of the public are encouraged to speak to the Commission concerning items not already on this agenda. A time limit of three [3] minutes per speaker and a total time allotment of fifteen [15] minutes will be observed.)

The Brown Act provides an opportunity for the members of the public to directly address the Commission on any item of interest to the public, before or during the Commission's consideration of the item. If you wish to speak regarding an agenda item, please fill out a speaker's slip and give it to the minute's clerk who will forward it to the Chairman.

If you wish to speak concerning an item not on the agenda, you may do so under "Oral Communications" which is listed on the agenda.

The City of Escondido recognizes its obligation to provide equal access to public meetings to those qualified individuals with disabilities. Please contact the Human Resources Department (839-4643) with any requests for reasonable accommodation, to include sign language interpreter, at least twenty-four (24) hours prior to the meeting.

D. APPROVAL OF MINUTES OF January 14, 2021 MEETING

E. CONSENT ITEMS – None.

F. NEW BUSINESS

1. Speed Surveys – Various locations Citywide

   Source: Staff

   Recommendation: Approve Staff Recommendation

   Previous action: Approved 26 Speed Surveys (January 2021)

2. VMT/Traffic Impact Analysis Guidelines Approval

   Source: Staff

   Recommendation: Recommend to Council to accept VMT/TIA Guidelines

   Previous action: Approved and Recommended to Council to accept Thresholds of Significance (January 2021)

3. Approve Continental Crosswalk Standard

   Source: Staff

   Recommendation: Note and file

   Previous action: Various Crosswalk-related policies 2015-2017

4. 2021/2022 Traffic Management Priority List (TMPL) Preliminary List of Projects

   Source: Staff

   Recommendation: Approval

   Previous action: None

G. OLD BUSINESS

1. An overview of various projects involving the City.

   Source: Staff

2. Written or verbal reports may be presented on the following topics:

   a) TMPL Project Updates

      a. FY20/21: Contractor selected for work. Project completion Spring/Summer 2021.

   b) LRSP – Local Road Safety Plan. Plan development was awarded to Michael Baker International; work on the plan has recently started.

   c) Traffic Signal Communications Grant Application. Application approved March 30, 2021; total project $2.32m; local share $1.16m.

   d) Traffic Signals - New

      a. In Design

      b. Design approved:

i. Quince St at Escondido Creek Trail

ii. Tulip St at Escondido Creek Trail

c. Under construction

i. El Norte Pkwy at E. Lincoln Avenue (Henry's Ranch) (just completed)

ii. Country Club Ln at Gary Ln (The Villages)

iii. Country Club Ln at Nutmeg St (The Villages).

e) Traffic Signal Modifications:

a. In Design:

i. Felicita Ave at Escondido Blvd - protected left-turns; part of Active Transportation Fund project; consultant design at 90%.

ii. Juniper St at Felicita-17th Ave. - protected left-turns; part of Active Transportation Fund project; consultant design at 90%.

iii. Hale Ave at Tulip St (in design)

b. Design approved:

i. El Norte Pkwy at Nordahl/Nutmeg St. (The Villages).

c. Under Construction

i. El Norte Pkwy at Country Club Lane (The Villages)

f) Roundabouts

a. Country Club Lane at Golden Circle (The Villages) (construction nearing completion).

b. Country Club Lane at La Brea (The Villages) (design approved /construction starting soon).

c. Felicita Rd at Park Drive (design approved/construction starting soon).

H. SCHOOL AREA SAFETY

1. Del Dios Academy – School Bond Improvements. Signing/Striping design and crosswalk improvements including Rectangular Rapid Flashing Beacon for 9th Avenue reviewed.

2. Juniper Elementary. School Bond Improvements for parking lot and drop off/pick up areas. City Active Transportation Grant project to improve sidewalk, relocate student crosswalk and install RRFB. Two signal modifications for protected left-turns in design.

3. ATP Grant Submittal for Citrus Ave sidewalk (not approved)

I. COUNCIL ACTION* (A briefing on recent Council actions on Commission related items.)

1. NONE

J. ORAL COMMUNICATIONS* (At this time, members of the public are encouraged to speak to the Commission)

K. TRANSPORTATION COMMISSIONERS* (Commissioners may bring up questions or items for future discussion)

L. ADJOURNMENT

*In order for the Transportation Commission to take action or conclude discussion, an item must appear on the agenda which is posted 72 hours in advance of the meeting. Therefore, all items brought up under the categories marked with an asterisk (*) can have no action. Such items can be referred to staff or scheduled for a future agenda.

AVAILABILITY OF SUPPLEMENTAL MATERIALS AFTER AGENDA POSTING: Any supplemental writings or documents provided to the Commission regarding any item on this agenda will be made available for public inspection in the Engineering Office located at 201 N. Broadway during normal business hours, or in the Council Chambers while the meeting is in session.

(April 14, 2021) TCSC Agenda

CITY OF ESCONDIDO

MINUTES OF THE REGULAR MEETING OF THE TRANSPORTATION AND COMMUNITY SAFETY COMMISSION

January 14th, 2021

The regular meeting of the Escondido Transportation and Community Safety Commission was called to order at 3:00 p.m., Thursday, by Chair Spoonemore, in the City Council Chambers, 201 North Broadway, Escondido, California.

Commissioners present: Chair Spoonemore in person; via video: Vice Chair Thornburgh, Commissioner Durney, Commissioner Hatley, Commissioner Korbecki, Commissioner Phillips, and Commissioner Kassebaum. .

Commissioners absent: none

Staff present: Julie Procopio, Director of Engineering Services; Owen Tunnell, Assistant City Engineer; Virpi Kuukka-Ruotsalainen, Associate Engineer; Craig Williams, Associate Engineer; Amanda Bajhart, Engineer I; Police Lieutenant, Scott Walters;, Kimberlianne Miller, Minutes Clerk.

DETERMINATION OF QUORUM
Moved by Commissioner Spoonemore, seconded by Commissioner Durney, to approve. Motion carried unanimously.

ORAL COMMUNICATIONS:
None

CONSENT ITEMS:
None

ACTION:

MINUTES:
Moved by Commissioner Spoonemore to approve the minutes of the October 8, 2020 T&CSC meeting. Motion carried unanimously.

NEW BUSINESS:

1. VMT Guidelines Progress

Associate Traffic Engineer, Craig Williams presented a progress report on the

development of the draft Traffic Impact Analysis - VMT Guidelines, with an overview of its development, decision points, and screening criteria. Staff was requesting that the Commission recommend to City Council VMT Methods, Thresholds and Screening Criteria.

Commissioner Hatley requested additional information regarding the locally serving projects, and which projects are considered locally serving. Mr. Williams replied that a comprehensive list would be included in the guideline's appendix.

Commissioner Spoonemore wanted to know how often the guidelines will be revised after they are adopted. Mr. Williams explained that the guidelines would be reviewed likely after the first year and revisions would be considered at that time.

Commissioner Durney asked whether we can assign a percentage of trips that would define a threshold for locally serving projects. A discussion ensued regarding locally serving businesses that have changing of uses over time. Mr. Williams replied that a percentage factor would be included in the guidelines.

Commissioner Thornburgh asked whether this new methodology will inadvertently defer traffic improvement projects needed in the future for the city. He also asked whether there are also more transit priority areas not shown on the exhibit provided in the presentation. Mr. Williams replied that the intent was to include all City transit lines that meet the criteria of the OPR on the transit map in the final report.

Action: Motion to approve as presented by staff to "Recommend to City Council to accept Staff Recommendations for VMT Methods, Thresholds and Screening Criteria" was approved unanimously. Moved by Commissioner Spoonemore, seconded by Commissioner Thornburgh, to approve staff's recommendation. Motion carried unanimously.

2. Speed Surveys – Various Locations Citywide

Engineer Amanda Bajhart referenced the staff report. Staff recommended approval of updated Engineering and Traffic Surveys (E&TS) for posted speeds on various street segments Citywide. Recommendations included speed reductions on two segments: Via Rancho Parkway from I-15 to Bear Valley Parkway and Washington Avenue from Hale Avenue to Mission Avenue.

Commissioner Hatley asked why all the speed surveys were not included in the final package. Ms. Bajhart explained that ones with proposed changes to speed limits are included in the package at the request of Commissioner Kassebaum, but that all surveys are available for review if desired.

Commissioner Thornburgh asked why a segment on Escondido Blvd had a posted speed limit of 40 mph. Discussion followed on justification.

Action: Speed Limits as presented by Staff. Moved by Commissioner Spoonemore, seconded by Commissioner Hatley, to approve staff's recommendation. Motion carried unanimously.

3. Escondido Creek Trail Crossings - Project

Associate Traffic Engineer Virpi Kuukka-Ruotsalainen referenced the staff report on the crossing improvements for the 2.5 miles of the Escondido Creek Trail between Juniper Street and Citrus Avenue. Improvements include pedestrian-actuated rapid flashing beacons, high visibility crosswalks, pedestrian refuges and pedestrian signals.

Commissioner Hatley asked how eliminating travel lanes would impact Harding Street. Ms. Kuukka-Ruotsalainen explained that the treatments for the crossings are based on the approved City of Escondido's Crosswalk Policy which also considers the Average Daily Traffic (ADT). Traffic volumes on Midway were also discussed and staff explained that traffic signal was previously approved. Ms. Procopio explained how a traffic signal would function at a crossing.

Commissioner Durney noted that current ADT on Harding is lower than ADT at Fig, Citrus, Rose and that the road diet on Harding could carry the vehicle volume.

Commissioner Thornburgh was concerned about driver behavior at new crossings and asked if new signage will be installed. Ms. Kuukka-Ruotsalainen explained that warning signage will be installed for all crossings.

Action: No action was required.

OLD BUSINESS:

1) An overview of various projects involving the City

i) Source: Associate Engineer Virpi Kuukka-Ruotsalainen

2) FY19/20 TMPL Completed Project Updates:

3) Citrus/Oak Hill Crosswalk Improvements with RRFB.

4) Pioneer Elementary School Crosswalk Improvements. Signage on E/B Lincoln @ Ash St. YIELD pavement legends, palm tree removal, new chevron striping.

5) Countdown Pedestrian Indicators in School Zones,

6) Accessible Pedestrian Signals @ Centre City Parkway & El Norte

2) SCHOOL AREA SAFETY:

a) Ms. Kuukka-Ruotsalainen provided information related to school area safety activities at Del Dios Academy – School Bond Improvements, and
b) Juniper Elementary – School Bond Improvements for parking lot and drop off/pickup areas.
c) She also provided an update on the ATP Grant Submittal for the Citrus Avenue sidewalk.

3) COUNCIL ACTION:

None

ORAL COMMUNICATIONS:

None

TRANSPORTATION COMMISSIONERS:

None

ADJOURNMENT:

Motion by Commissioner Durney, Seconded by Commissioner Kassebaum to adjourn the meeting which was carried unanimously.

Owen Tunnell, Asst. City Engineer

Kimberlianne Miller, Minutes Clerk

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TRANSPORTATION and COMMUNITY SAFETY COMMISSION

Commission Report of: April 8, 2021 **Item No.: F1**

Location: Various locations Citywide

Initiated By: City Staff

Request: Recommend approval to the City Council of updated Engineering & Traffic Surveys (E&TS) for posted speeds on various street segments Citywide.

Background & Survey Methodology:

To satisfy the requirements of Section 40802(b) of the California Vehicle Code (CVC), Engineering and Traffic Surveys are required by the State of California to establish speed limits and to enforce those limits using radar or other speed measuring devices. These surveys must be updated periodically (every 5, 7 or 10 years, depending upon specific criteria) to ensure the speed limits reflect current conditions as dictated by the 2018 California Vehicle Code (CVC). The surveys must be conducted in accordance with applicable provisions of Section 627 "Engineering and Traffic Survey" of the California Vehicle Code (CVC), following procedures outlined in the 2014 California Manual on Uniform Traffic Control Devices (CA-MUTCD) Revision 5 dated March 27, 2020,

A brief description of the procedure is presented below:

1. **Measurement of Actual Prevailing Speeds**

   The actual speed of 100 vehicles on each street segment was measured using a calibrated radar meter. Both directions of travel were surveyed. From this data, the prevailing or 85th percentile speed (speed at or below which 85 percent of the vehicles sampled were traveling), ten miles per hour pace speed (increment of ten miles per hour containing the greatest number of measurements) and percent of vehicles in the pace were determined.

2. **Accident Records**

   From the accident reports, the number of accidents for each segment was used to calculate the accident rate, which is defined as the number of accidents per million vehicle miles (acc/mvm) of travel on that segment. The accident rate for each segment was then compared to the most recent statewide average for similar type roads. This information is shown on the survey summary sheets.

3. **Traffic and Roadside Conditions**

   Each route was driven and notation made of its features, especially those not readily apparent to reasonable drivers, as well as those that might be combined with other factors to justify downward or upward speed zoning. These features are listed in the survey summary sheets for each segment.

4. **Residential Density**

   A comprehensive review of the residential density was not done, but information regarding the adjacent land use to the roadway segments was noted and included in the survey summary sheets.

5. **Pedestrian and Bicyclist Safety**

   The accident records were used to evaluate the pedestrian and bicyclist safety aspects of the roadway segments.

6. **School Zones**

   Proximity to schools was considered to evaluate the speeds through the roadway segments.

The standard used followed procedures outlined in the California Manual on Uniform Traffic Control Devices (CA-MUTCD) Section 2B.13, Revision 5 dated March 27, 2020,

> *"**Standard:***
> *When a speed limit is to be posted, it shall be established at the nearest 5 mph increment of the 85th-percentile speed of free-flowing traffic, except as shown in the two Options below.*
> ***Option:***
> *1. The posted speed may be reduced by 5 mph from the nearest 5 mph increment of the 85th-percentile speed, in compliance with CVC Sections 627 and 22358.5. See Standard below for documentation requirements.*
> ***2. For cases in which the nearest 5 mph increment of the 85th-percentile speed would require a rounding up, then the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed, if no further reduction is used. Refer to CVC Section 21400(b).***

Discussion & Purpose:

Per California Vehicle Code Section 22354, in order for a posted speed limit to be legally enforceable by the Police Department radar detection, it must be all of the following:

1) Between 25 mph and 65 mph,

2) Supported by an engineering speed survey, and

3) Ratified by City Council by resolution or ordinance.

The guidelines for preparing an engineering speed survey are found within the California Manual on Uniform Traffic Control Devices (CA-MUTCD) 2014 edition Revision 5 dated March 27, 2020, a document published by the Federal Highway Administration and modified by CALTRANS for use in California. The 85th percentile speed (the speed at which 85% of drivers drive at or below) is often referred to as the critical speed; it is the primary speed that determines what drivers believe to be safe and reasonable. When determining speed limits, the California MUTCD gives guidance that states, "*The speed limit should be established at the nearest 5 mph increment of the 85th-percentile speed of free-flowing traffic.*"

Additional guidance from the MUTCD California states, "*The establishment of a speed limit of more than 5 mph below the 85th percentile speed should be done with great care as studies have shown that establishing a speed limit at less than the 85th percentile generally results in an increase in collision rates; in addition, this may make violators of a disproportionate number of reasonable majority of drivers.*"

Although conditions on the roadway such as width, curvature, surface conditions and any other readily apparent features do not provide a basis for downward speed zoning, the CA-MUTCD states that local authorities may consider residential density, as well as pedestrian and bicycle safety.

Recommendation:

As part of the City of Escondido's speed survey program, staff has performed speed surveys at 7 segment locations, with data being collected for each segment. Staff recommends approval of the speed limit per Table 1 below.

Based on the above guidelines, all of the surveyed segments were evaluated. The overview of the Speed Surveys is presented in Table 1; the last column shows the recommended speed limits on all study segments.

- For speed surveys 1, 2, and 6, the recommended speed limit is set based on the 85th-percentile speed of the new speed survey. The posted speed limit will remain unchanged for survey 1, 2, and 6.
- For speed survey 3, 4, 5, and 7, the recommended speed limit reflects a reduction of 5mph from the 85th-percentile speed based on Option 2 in the MUTCD standard, as delineated above. In this case, the posted speed limit will remain unchanged for survey 3, 4, 5, and 7,

Table 1 - Overview of Speed Surveys

Segment No.	Street Name	Segment		Previous Speed Survey	Posted Speed Limit (MPH)	Classification	85th Percentile (MPH)	Rounded speed Limit (MPH)	Speed Limit to be posted, per Traffic Engineer
	Zone	From	To			Design Speed			
1	Citrus Ave 1	El Norte Pkwy	Washington Ave	05/29/13	35 MPH	PA	37 MPH	35 MPH	35 MPH
2	Escondido Blvd 2	Lincoln Ave	Washington Ave	11/07/13	35 MPH (25WCAP)	MC	35 MPH	35 MPH	35 MPH (25WCAP)
3	Escondido Blvd 8	Sunset	CCP Ramp	11/12/13	40 MPH	MC	45 MPH	45 MPH	40 MPH**
4	Escondido Blvd 9	CCP Ramp	Citracado Pkwy	11/12/13	35 MPH	MC	42 MPH	40 MPH	35 MPH***
5	Escondido Blvd 10	Citracado Pkwy	El Ku Ave	11/12/13	35 MPH	MC	42 MPH	40 MPH	35 MPH***
6	Kauana Loa Drive 1	Harmony Grove	City Limits/Oak View	12/02/13	35 MPH	MC	36 MPH	35 MPH	35 MPH
7	Valley Pkwy E6	Citrus Ave	Midway Dr	11/05/13	40 MPH	PA	47 MPH	45 MPH	40 MPH***

** Indicates round down the speed limit to the lower five miles per hour increment, per CVC 21400 (b)
***Indicates speed limit downgraded 5 mph due to conditions not readily apparent to the driver.
↓ Indicates speed going down.

Respectfully submitted,

Prepared by:

Amanda Bajhart, EIT
Engineer I/traffic Division

Virpi Kuukka-Ruotsalainen
Associate Engineer/Traffic Division

Reviewed by:

Owen Tunnell, PE (Civil)
Assistant City Engineer

Approved by:

Julie Procopio, PE (Civil)
Director of Engineering Services/City Engineer

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CITY OF ESCONDIDO

TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: April 8, 2021 **Item No.: F2**

Location: **Citywide**

Initiated By: **Staff**

Request: **Approve VMT / Transportation Impact Analysis Guidelines - Recommendation to City Council**

Background:

In 2013, Senate Bill 743 was enacted. This bill required changes to the California Environmental Quality Act ("CEQA") Guidelines regarding the criteria for determining the significance of transportation impacts of projects. In 2018, the Governor's Office of Planning and Research proposed, and the California Natural Resources Agency certified and adopted, new CEQA Guidelines, which identified the metric "vehicle miles traveled" (VMT) – meaning the amount and distance of automobile travel attributable to a project – as the most appropriate metric to evaluate a project's transportation impacts. Further, CEQA Guidelines required that lead agencies, for purposes of CEQA, evaluate the transportation impacts of a project using the VMT metric. The guidelines detailed that automobile delay, as measured by "level of service" (LOS) and other similar metrics, generally no longer constituted a significant environmental effect under CEQA.

According to the new CEQA guidelines, lead agencies, such as the City of Escondido, are required to determine the significance of all environmental effects for a project. The CEQA guidelines encourage public agencies to develop and publish generally applicable "thresholds of significance" to be used in determining the significance of a project's environmental effects. CEQA Section 15064.7(a) defined a threshold of significance as "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." The guidelines (Section 15064.7(b)) requires that thresholds of significance must be adopted by ordinance, resolution, rule, or regulations, developed through a public review process, and be supported by substantial evidence.

Thus, at the January 14, 2021 Commission meeting, staff presented a brief background on the City's progress toward updating our Transportation Impact Analysis guidelines to include VMT assessment. The Commission members were asked to review and approve a number of key metrics, thresholds of significance, and screening criteria and to recommend that the City Council approve those thresholds. A copy of that staff report is attached as reference. Following is a summary of those decision points:

Table 3: Summary of SB 743 Implementation for the City of Escondido

VMT Metrics	Significance Thresholds	Screening Criteria
• **Residential:** VMT/Capita • **Employment:** VMT/Employee • **Retail:** Change in Total Regional VMT • Using **SANDAG ABM2** Model	• **Residential and Employment:** 15% below the regional average • **Industrial:** at or below regional average • **Retail, Public, & Recreational Facilities**: Any increase in total area VMT.	• Projects located in efficient VMT areas • Locally serving retail • Locally serving community-purpose facility • Small Projects (generating 200 or fewer daily trips) • Redevelopment generating less VMT than the existing development • A Mixed-use project's individual land uses evaluated independently • Project near major transit stops or high-quality transit corridors

Staff delivered those recommendations back to the consultant, Fehr & Peers, who incorporated the criteria into the guidelines and continued to build the document that is attached for review. In addition to the new VMT component to our existing TIA Guidelines, the document provides a perspective of the potential transportation impacts of land development.

The document is organized into 4 sections:

The **Introduction** provides background on SB 743, which directed changes to evaluation of CEQA (California Environmental Quality Act) projects to look at how those projects might cause more vehicle travel, rather than vehicular congestion or delay. This section reviews changes in procedures as a result of the law. This section also provides context to the SB 743 changes and related policies within the City's General Plan. It also discusses and clarifies the differences and similarities between CEQA and non-CEQA transportation analyses. Finally, this section provides an overview of the process required for analysis, including a scoping agreement, determining study requirements, conducting transportation impact analysis, submitting the analysis for review and the City's role in review and coordination.

The **Transportation Impact Analysis Initiation** section details the types of transportation studies, study requirements, including project descriptions, site plans, trip generation, trip reductions and trip distribution.

The **CEQA Requirements for Transportation VMT** chapter provides an overview of the process, metrics and methodology for calculating VMT, and VMT analysis for land use projects. This VMT section includes screening criteria for VMT analysis and thresholds of significance. This chapter also includes VMT analysis for transportation projects, as well as a discussion of VMT reduction and mitigation measures (more detail on this will be provided in the next phase of work). Finally, there is a discussion on cumulative VMT impacts.

The final chapter focuses on **Local Mobility Analysis**, which is an enhanced version of the Transportation Impact Analysis guidelines that have been in use for many years. It should be clearly noted that these requirements have not changed with the advent of VMT analysis. VMT analysis is in addition to the requirements outlined in the City General Plan. This chapter adds emphasis on active transportation, such bicycle travel, walking and transit use. In addition, an Identifying Transportation Improvements section provides focus on vehicular access as well as active transportation access, such as sidewalks and ADA curb ramps.

The Appendices provides additional detail, such as the Scoping Agreement Form, transit stops and corridors, and screening criteria, maps and threshold evidence. To address comments of the Commission, Appendix C has been provided, that lists the land use designations that are generally considered locally serving. Section

3.3 provides the threshold criteria that locally serving retail projects are generally 50,000 square feet or smaller and are expected to draw at least 75% of customers from the Escondido and the surrounding area.

Recommendation: Recommend to City Council to Adopt the City of Escondido Transportation Impact Analysis Guidelines.

Necessary Commission Action: Approval.

Respectfully submitted,

Prepared by:

Craig Williams
Associate Engineer

Reviewed by:

Owen Tunnell, PE
Assistant City Engineer

Approved by:

Julie Procopio, PE
Director of Engineering Services/City Engineer

Attachments:

January 14, 2021 Commission VMT Staff Report
City of Escondido Transportation Impact Analysis Guidelines

CITY OF ESCONDIDO

TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: January 14th, 2021 **Item No.: F1**

Location: Citywide

Initiated By: Staff

Request: Progress Report on Transportation Impact Analysis - VMT Guidelines Development and Decision Points - Recommendation to City Council

Background:

The following excerpt from Caltrans' website provides an excellent view into the intent and purpose of SB 743 and the shift toward examining project impacts through Vehicle Miles Traveled analysis:

> "SB 743 was signed in 2013, with the intent to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions." When implemented, "traffic congestion shall not be considered a significant impact on the environment" within California Environmental Quality Act (CEQA) transportation analysis.
>
> SB 743 requires the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within CEQA. For land use projects, OPR identified Vehicle Miles Traveled (VMT) per capita, VMT per employee, and net VMT as new metrics for transportation analysis. For transportation projects, lead agencies for roadway capacity projects have discretion, consistent with CEQA and planning requirements, to choose which metric to use to evaluate transportation impacts."

VMT is a way to measure the amount of vehicular travel that a project will generate. VMT looks at the total amount of miles driven generated by a project, rather than a congestion and delay factor that a project generates at nearby intersections and roadway segments. VMT is also referenced throughout the City's Climate Action Plan as a tool to measure Greenhouse Gas Emissions, energy analysis and air quality analysis.

Since the passage of SB 743, several agencies and entities have been working on interpretation and implementation of the law with the lead statewide agency in this regard being the Office of Planning and Research (OPR). The local San Diego Section of the Institute of Transportation Engineers has also developed interpretation and implementation recommendations for use by local agencies. In addition, SANDAG has created a GIS-based VMT calculator for County agencies to adopt and use in their guidelines. And lastly, a number of other municipalities in the county have moved forward with their interpretation and implementation of SB743. We have included several of these examples in our discussions.

It is important to note, however, that VMT only replaces LOS for CEQA transportation impact analysis. LOS is still a component of the City's General Plan Quality of Life Standards for Transportation and will still be analyzed for that purpose and remain a part of our City Traffic Impact Analysis Guidelines.

Since June 2020, the City has been working with a consultant – Fehr & Peers – to prepare VMT guidelines to be added to and update our current Transportation Impact Analysis Guidelines.

Discussion and Purpose
Over the past several months, City staff have worked closely with our Consultant to develop updated Transportation Impact Analysis Guidelines with an emphasis on adding and adopting VMT Standards. This process has included researching what the key guiding documents suggest as mandates and best practices, what our neighbors are doing with VMT, and then focusing on the best options for the City of Escondido.

This staff report provides an overview of key SB 743 implementation decisions with Staff recommendations that need to be selected by the City of Escondido. Key decisions discussed within this report are:

1. VMT Metrics (methods of measuring VMT impacts)
2. Thresholds (limits that determine when a project may have an impact and therefore needs to provide VMT analysis)
3. Screening Criteria (which projects can be exempted from VMT analysis because of low impact)

The City of Escondido Transportation Impact Analysis Guidelines will serve as a guide for practitioners and reviewers throughout the transportation analysis process.

1. VMT Metric Options

The Office of Planning and Research's (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) provides agencies the discretion to choose the most appropriate VMT metrics for their jurisdiction.

Both the OPR Technical Advisory and the San Diego ITE: *Guidelines for Transportation Studies in the San Diego Region* (May 2019), have thoroughly reviewed and presented the metric options below. Further, various of these suggested metrics have been adopted by our neighboring municipalities, as well as the City of San Diego and the County of San Diego.

Staff recommends approval of the following metrics for the City of Escondido:

VMT/Capita metric used for Residential Projects: VMT/Capita is established by dividing the total daily VMT generated by residents living in the geographic area being used as the comparison (e.g., census tract), divided by the population of that geographic area. To analyze the VMT/Capita for a proposed project, the total daily VMT generated by project residents is divided by the project population.

VMT/Employee Metric used for Office and Employment Projects: VMT/Employee is established by dividing the total daily VMT generated by employees of the geographic area being used as the comparison (e.g., census tract), by the number of employees in that geographic area. To analyze the VMT/Employee for a proposed project, the total daily VMT produced by project's employees is divided by the total number of employees working in the project.

Estimates for VMT/Capita and VMT/Employee have been developed by SANDAG and presented in an easily accessed format[1], which will be discussed later in this report. This methodology will be updated from time to time. Since these are the methods developed and supported by SANDAG, they are recommended for use in Escondido.

Net Increase in Total Area VMT for Regional Retail Projects: For regional retail projects, the OPR Technical Advisory recommends a metric of any net increase in total area VMT. Total area VMT is measured for a set

[1] https://sandag.maps.arcgis.com/apps/webappviewer/index.html?id=5b4af92bc0dd4b7babbce21a7423402a

geography which can be defined by the City or set on a project-by-project basis. The geography could be set as the region, the City, the market area to be served by the retail project, or a different geography. Our consultant suggests keeping this flexible in the guidelines to be applied based on the general market area of the project.

Other Metric Options (provided as information but not recommended at this time)

An additional metric that has been used by some agencies -- VMT/service population -- was presented for consideration. The VMT/Service Population metric is established by dividing the total VMT generated by a particular geographic area, divided by the population plus employment of that geographic area. Since this metric combines VMT for residents and employees and reflects how accessible all land uses are (for example, geographies with higher density, more shopping, and more jobs will have lower VMT/Service Population) it can be used to evaluate residential and employment projects.

Despite this benefit, VMT/Service Population has drawbacks such as producing unusual results for single-use projects (or projects dominated by a single land use). It is also not supported by SANDAG, is not included in the San Diego Section ITE Regional Guidelines, and was not recommended in the OPR Technical Advisory (OPR has indicated that they are not supportive of the VMT/service population metric). Therefore, this option will not be included in the City's guidelines.

2. Threshold Options

Building on the metric options presented above, the next step is to determine how these metrics are applied. Establishing thresholds is required by the new statutes added by SB 743, as well as traditional guidance contained in CEQA Guidelines Section 15064.7 and new language proposed as part of the *Updated CEQA Guidelines* (2019).

Based on the OPR Technical Advisory and consistency with other San Diego region jurisdictions, staff recommends that significance thresholds for Escondido be established by project type (residential, employment, and retail). The following summarizes the OPR Technical Advisory recommendations:

- Residential Uses Threshold Options: 15% below either the Regional **or** Citywide Average VMT/Capita.
    - The following VMT/Capita averages are produced by the SANDAG ABM 2 model[2]:
        - VMT/Capita Regional Average: 19.0
            - Threshold Based on Regional Average: 16.2
        - VMT/Capita Escondido Average: 17.2
            - Threshold Based on Citywide Average: 14.6
    - Staff recommendation: Residential Uses Threshold: 15% below Regional Average VMT/Capita. In surveying local agencies in the region, it was determined that the Regional Average was selected by nearly all agencies, except for the County, which created its own evaluation method. Given Escondido's diverse geography and its mix of urban, suburban and rural areas, the Regional Average is most appropriate.

- Employment Uses Threshold Options: 15% below the Regional **or** Citywide Average VMT/Employee.
    - The SANDAG ABM 2 2016 VMT/Employee Regional Average is: 27.2

[2] https://sandag.maps.arcgis.com/apps/webappviewer/index.html?id=5b4af92bc0dd4b7babbce21a7423402a

  - For informational purposes, the SANDAG ABM 2 2016 VMT/Employee Citywide Average for Escondido is: 26.0
  - Staff recommendation: 15% below the Regional Average VMT/Employee. Again, the majority of local agencies in the region selected the Regional Average.

- Retail Uses Threshold: Use of the net increase in total "area" VMT, with area defined on a project by project basis. (Recommended by staff)

- Industrial Employment Threshold:
  - Staff recommends one deviation from the thresholds recommended in the OPR Technical Advisory -- related to industrial employment (since OPR does not include a category for Industrial Employment). Purely industrial employment uses are desired to be located in less VMT efficient, higher VMT areas in the City of Escondido. Placing these land intensive uses in areas with less efficient VMT allows land in efficient VMT areas to be more effectively utilized as high density residential and commercial uses. This will encourage lower VMT-generating industrial uses to develop in locations appropriate for industrial uses, leaving infill and more VMT efficient areas available for more dense uses. Chula Vista, Oceanside, Carlsbad, and the City of San Diego have all set the threshold for industrial employment at the average VMT (instead of 15% below).
  - Staff recommendation: Industrial Employment Threshold At or Below Regional Average

Table 1 provides recommended thresholds for projects in Escondido. These are generally consistent with the OPR Technical Advisory and other local agencies.

Table 1: Recommended Thresholds

Land Use	Thresholds
Residential	15% below the Regional Average VMT/Capita
Employment	15% below the Regional Average VMT/Employee
Regional Retail	Any increase in total Regional VMT
Industrial Employment	At or below Regional Average VMT
Regional Public & Recreational Facilities	Any increase in total Regional VMT

3. Screening Criteria

Screening procedures allow jurisdictions to quickly determine whether projects can be presumed to have a less-than-significant VMT impact, and therefore do not need to conduct CEQA-related VMT transportation analysis. The OPR Technical Advisory provides recommendations for screening criteria based on research. OPR suggests the following types of projects can be presumed to have a less-than-significant transportation VMT impact:

- Low VMT Generating Area
- Small Project (<110 Daily Trips)
- Locally Serving Retail (<50,000 sf)
- Near Major/High-Quality Transit

- Infill Affordable Housing

If one of the screening criteria is met, then the project can be presumed to have a less than significant transportation VMT impact. The following sections describe each screening criteria.

Maps are used to display the locations within a region that are VMT efficient. SANDAG has produced maps[3] for the SANDAG Region using the Series 14, Activity-Based Model 2 (ABM 2), base year travel demand model for both VMT/Capita and VMT/Employee. These maps display data for each census tract. Census tracts are geographic units that are used to organize demographic and other data collected by the U.S. Census Bureau. Census tracts are used frequently for general planning purposes and are larger geographic areas than transportation analysis zones (TAZs) and provide less variation in VMT information. Some jurisdictions in the region have opted to display data for each TAZ. TAZs are usually used in travel demand forecasting. When data is extracted from the SANDAG model, the data is presented at the TAZ level. TAZs are smaller geographic areas than census tracts and for this reason, provide a more fine-grained view of VMT efficiency within the City. The City of Escondido includes 34 census tracts and 250 TAZs.

The City has a choice of whether to display data at a census tract or TAZ level. To aid in the decision, maps were provided that displayed VMT/Capita and VMT/Employee by census tract and TAZ. The following VMT efficiency maps are provided in the attachments:

- Figure 1: 2016 VMT/Capita by Census Tract compared to the Regional Average
- Figure 5: 2016 VMT/Capita by TAZ compared to the Regional Average

Table 2: Pros and Cons of Displaying VMT Data by Census Tract vs. TAZ

Option1: Displaying VMT Data Census Tract Level Data	
PROS	**CONS**
• Maintains consistency with the geographic unit that SANDAG is using to display VMT data. • Provides a familiar geographical unit for project applicants. • Census tracts are large enough to "smooth" out the data. TAZs that have limited land use data must be eliminated (or combined with other TAZs) to provide reasonable results.	• Specificity of the data is reduced when amalgamated at a larger scale.
Option2: TAZ Level Data	
PROS	**CONS**
• Maintains consistency with the geographic unit that data is presented at when first extracted from the SANDAG model. • Provides location-specific information (greater specificity) than at the census tract.	• TAZs that have limited land use data must be eliminated (or combined with other TAZs) to provide reasonable results. • SANDAG is using the census tract level to display information, therefore, TAZ level maps would need to be created for the City when the SANDAG model is updated.

Staff recommendation: Utilize Census Tract, but allow TAZ as an unpublished option should a developer provide support that the Census Tract data is not representative of the project area.

[3] https://sandag.maps.arcgis.com/apps/webappviewer/index.html?id=5b4af92bc0dd4b7babbce21a7423402a

Low VMT Generating Area (VMT Efficient Area Screening Maps)

Residential and office projects, for example, that are located within a low VMT generating area may be presumed to have a less-than-significant impact absent substantial evidence to the contrary.

Small Projects

The OPR Technical Advisory recommends that a small project is defined as generating 110 daily trips or less. This value was determined by OPR using the ITE Trip Generation manual for office land uses. In CEQA, it is possible to qualify for a categorical exemption for building additions of up to 10,000 square feet. Therefore, OPR identified a small project as a 10,000 square foot office building and determined that on average, using the ITE Trip Generation rates, an office building of that size would generate 110 daily trips. For context, projects generating less than 110 daily vehicle trips corresponds to the following "typical" development potentials:

- 11 single family housing units
- 16 multi-family, condominiums, or townhouse housing units
- 10,000 sq. ft. of office
- 15,000 sq. ft. of light industrial[4]
- The County of San Diego and Carlsbad are both using 110 or less daily trips to define a small project.

Other jurisdictions in the San Diego region have used the same process for determining the definition of a small project as OPR, but utilized region or city-specific trip generation rates. For example:

- City of San Diego: Small project is 300 or less daily trips. This was developed based on a 10,000 square foot office building, but using the City of San Diego's city-specific trip generation rates.
- City of Chula Vista: Small project is 200 or less daily trips. This was developed based on a 10,000 square foot office building, but using the SANDAG (Not So Brief) Guide Trip Generation Rates.
- The San Diego ITE Regional Guidelines suggest using either 200 daily trips or less, OR 500/1,000 daily trips or less depending on inconsistent/consistent with the city's general plan.
- The City of Escondido's Traffic Impact Analysis Guidelines currently set the threshold for analysis at 200 ADT or greater.

For consistency with the OPR Technical Advisory, using a 10,000 square foot office building and SANDAG trip generation rationale, Staff recommends setting the small project definition at 200 daily trips.

Locally Serving Projects

OPR identified local serving retail projects as being presumed to have a less-than-significant impact absent substantial evidence to the contrary. Local serving retail projects (less than 50,000 square feet) generally improve the convenience of shopping close to home and have the effect of reducing vehicle travel.
The City can define a locally serving project as 50,000 square-feet or less or can identify a different size that corresponds to locally serving with evidence to support the decision.

[4] Threshold may be higher depending on the tenant and the use of the site. This number was estimated using rates from ITE's Trip Generation Manual (10th Edition).

For comparison:

- San Diego County defines a locally serving retail project as 50,000 square feet or less.
- Chula Vista defines a locally serving retail project as 125,000 square feet or less (consistent with SANDAG's community/neighborhood commercial trip generation rates). They also indicate that a market study may be required to demonstrate that the project is locally serving.
- City of San Diego defines a locally serving retail project as 100,000 square feet or less consistent with their definition of community/neighborhood commercial. They require a market study to demonstrate that the project is locally serving.

In addition to local serving retail, many agencies have also identified several public facilities and other types of land uses as locally serving. The following list summarizes land uses that other agencies have defined as locally serving:

- Local-serving K-12 schools (may or may not include private or charter schools)
- Local parks
- Local-serving retail uses less than 50,000 square feet, including:
    - Gas stations
    - Banks
    - Restaurants
    - Shopping Center
- Student housing projects on or adjacent to a college campus
- Community institutions (public libraries, fire stations, local government)

Staff Recommendation: Define a locally serving project as 50,000 square-feet or less with developer demonstration that the business is local-serving.

Transit Priority Area (TPA) Screening

Projects located within a Transit Priority Area (TPA) may be presumed to have a less than significant impact absent substantial evidence to the contrary. OPR simply describes this area as ½ mile from a transit stop on a high-priority transit line (service at least every 15 minutes). The transit screening presumption may ***not*** be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the City (if the City requires the project to supply parking);
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Staff Recommendation: Allow projects within a ½ mile walking distance (along a high-quality walk route) to a stop on a high-priority transit line to meet screening criteria for a less-than-significant VMT impact.

Active Transportation Accessibility Evaluation

Staff recommends that all projects, including those 'screened-out,' conduct an evaluation of accessibility to destinations such as schools and transit and look for opportunities to fill gaps and improve accessibility proportionate with the project size.

Following is a summary of the staff recommendations for the City's VMT implementation:

Table 3: Summary of SB 743 Implementation for the City of Escondido

VMT Metrics	Significance Thresholds	Screening Criteria
• **Residential:** VMT/Capita • **Employment:** VMT/Employee • **Retail:** Change in Total Regional VMT • Using **SANDAG ABM2** Model	• **Residential and Employment:** 15% below the regional average • **Industrial:** at or below regional average • **Retail, Public, & Recreational Facilities**: Any increase in total area VMT.	• Projects located in efficient VMT areas • Locally serving retail • Locally serving community-purpose facility • Small Projects (generating 200 or fewer daily trips) • Redevelopment generating less VMT than the existing development • A Mixed-use project's individual land uses evaluated independently • Project near major transit stops or high-quality transit corridors

Recommendation: Recommend to City Council to accept Staff recommendations for VMT Methods, Thresholds and Screening Criteria.

Necessary Commission Action: Approval.

Respectfully submitted,
Prepared by:

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Reviewed by:

Owen Tunnell, PE
Assistant City Engineer

Approved by:

Julie Procopio, PE
Director of Engineering Services/City Engineer

Attachments:
- Figure 1
- Figure 5

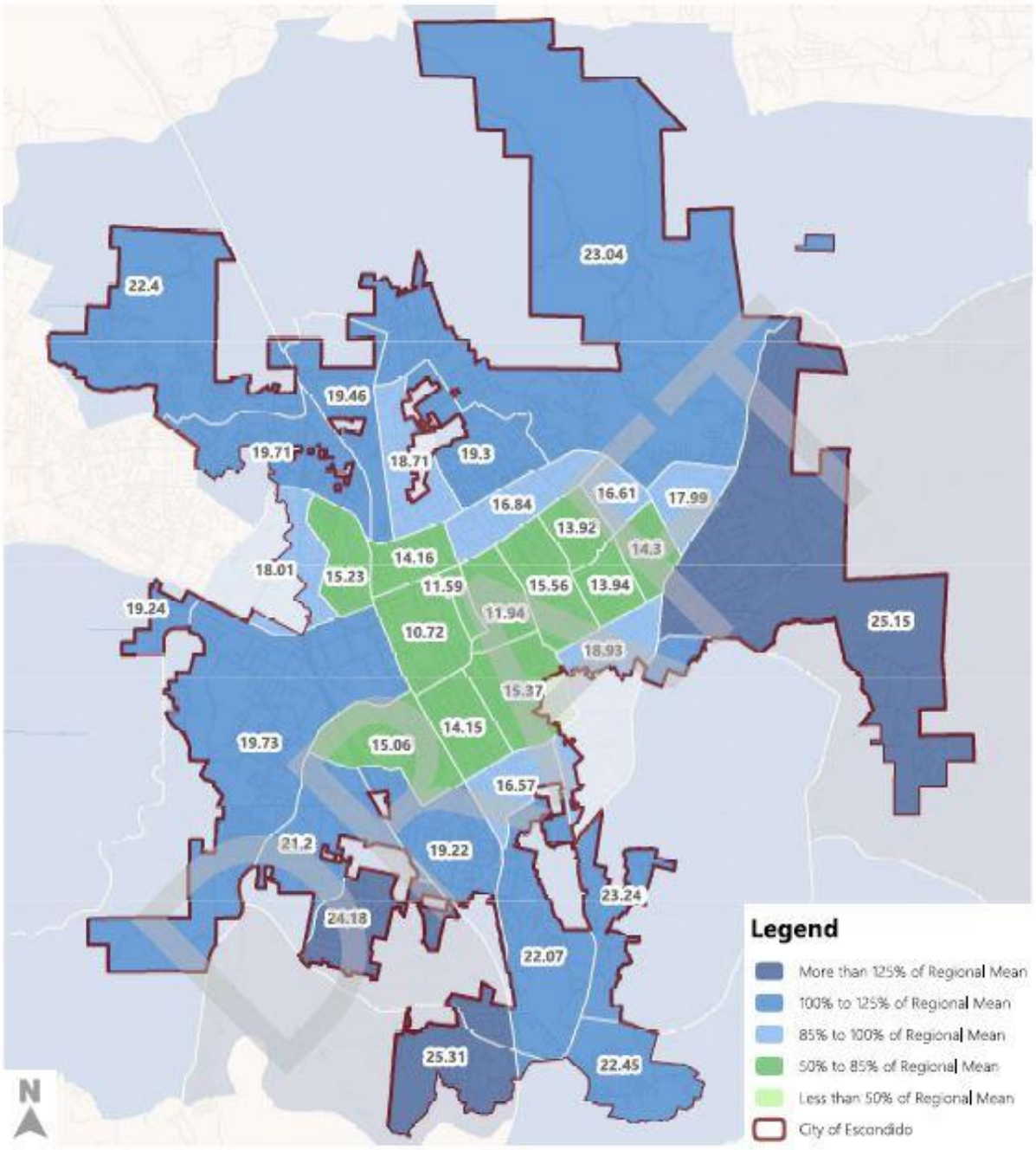

Figure 1

2016 Vehicle Miles Traveled (VMT) per Capita by Census Tract
Comparison to Regional Average (19.0 VMT/Capita)

Escondido TIA Guidelines and VMT Mitigation

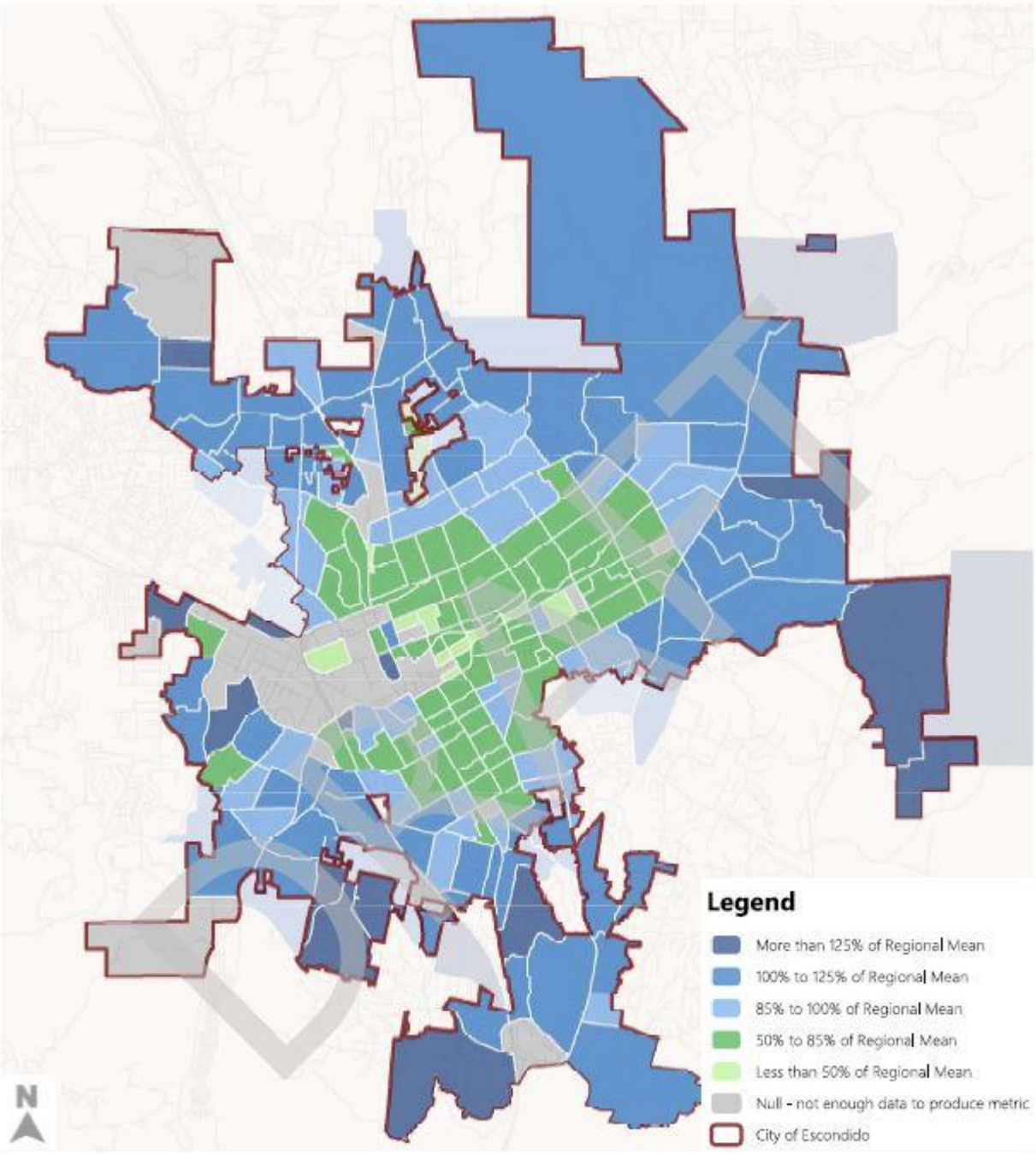

Figure 5

2016 Vehicle Miles Traveled (VMT) per Capita by TAZ
Comparison to Regional Average (19.0 VMT/Capita)

Transportation Impact Analysis Guidelines

March 30, 2021

Prepared by: FEHR & PEERS

Placeholder for Approval Document

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List of Abbreviated Terms

ADA	Americans with Disabilities Act
ADT	average daily traffic
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
City	City of Escondido
CSTDM	California Statewide Travel Demand Model
DPW	Department of Public Works
EIR	environmental impact report
FHWA	Federal Highway Administration
GHG	greenhouse gas
GPA	General Plan Amendment
HCM	Highway Capacity Manual
ICE	intersection control evaluation
ITE	Institute of Transportation Engineers
IX	internal-to-external
LMA	Local Mobility Analysis
LOS	level of service
MTS	Metropolitan Transit System
CA MUTCD	California Manual on Uniform Traffic Control Devices
MXD	mixed-use development
NCTD	North County Transit District
O-D	origin-destination
OPR	Governor's Office of Planning and Research
PCE	passenger car equivalent
PHF	peak hour factor
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill

SCS	Sustainable Communities Strategy
TAZ	transportation analysis zone
TDM	transportation demand management
TIAG	Transportation Impact Analysis Guidelines
TSM	transportation system management
XI	external-to-internal
XX	external-to-external

1. Introduction

1.1 Background

Under the California Environmental Quality Act ("CEQA"), all phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation. The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency ("Lead Agency") involved. Thresholds of significance, as defined in California Environmental Quality Act Guidelines ("CEQA Guidelines") section 15064.7(a), may assist lead agencies in determining whether a project may cause a significant impact. In the past, CEQA review of a project's transportation impacts focused primarily on metrics related to vehicle delay and Level of Service ("LOS"). These analysis requirements involved a quantitative analysis to determine whether a project may have a significant impact on the roadway network pursuant to CEQA.

CEQA Changes

On September 27, 2013, Governor Jerry Brown signed Senate Bill 743 ("SB 743") into law and started a process intended to fundamentally change transportation impact analysis as part of CEQA compliance. A key element of this law is the elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA. The change was to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and the reduction of greenhouse gas emissions.

As a result, the Governor's Office of Planning and Research ("OPR") updated CEQA Guidelines to establish new criteria for determining the significance of transportation impacts. Based on feedback from the public, public agencies, and various organizations, OPR recommended that Vehicle Miles Traveled ("VMT") be the primary metric for evaluating transportation impacts under CEQA. VMT refers to the amount and distance of automobile travel attributable to a project. Pursuant to CEQA Guidelines section 15064, transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. Other relevant considerations may include the effects of the project on transit and non-motorized travel.

SB 743 does not prevent a city or county from continuing to analyze local mobility in terms of delay or LOS as part of other plans (e.g., general plans); studies; congestion management plans; or transportation improvement plans, but these metrics may no longer constitute the basis for CEQA transportation impacts as of July 1, 2020.

City General Plan Goals and Policies

The City of Escondido's ("City's") General Plan (Adopted 2012) forms the foundation upon which all land use decisions in the City are based. The General Plan includes goals and policies that guide the City's growth, and many of these policies relate to and support the intent of SB 743. The City has also adopted

specific greenhouse gas ("GHG") reduction targets and has completed a climate action plan ("CAP") that identifies policies and programs designed to meet those targets. Among other things, approaches for reducing GHGs in the transportation sector address vehicle efficiency and low-carbon fuels, as well as measures designed to reduce annual VMT. VMT-reduction measures include alternatives to passenger vehicle travel, land use policies that incentivize compact development, and incentives and disincentives aimed at changing individual behavior through transportation demand management ("TDM") practices.

SB 743-Related General Plan Policies

The General Plan goals and policies that are most consistent with the intent of SB 743 are those regarding planned improvements, including districts that contain a mix of uses, an accessible and integrated multi-modal network, and improvements that enhance connectivity to major transit stations. For example, promoting integrated transportation and land use decisions that enhance smart growth development, requiring sidewalks along all classified streets designated on the Circulation Plan, requiring larger new developments to provide connections to existing and proposed bicycle routes, and encouraging employers to offer incentives to their employees to promote carpooling and other alternative modes are among the existing City of Escondido policies that align with SB 743.

The General Plan requires analysis of a project's impacts to roadway level of service and implementation of measures necessary to reduce impacts to level of service below specified thresholds. A Local Mobility Analysis is required for General Plan conformance and to evaluate the effects of a proposed development project on traffic operations.

1.2 Purpose

The City of Escondido's goal is to achieve a safe, efficient, accessible, and sustainable transportation system that meets the needs of all users. Transportation improvements and mitigation from proposed land development projects should be consistent with City-adopted plans and policies, as well as regional and state environmental and legislative requirements. The Transportation Impact Analysis Guidelines ("TIAG") provides criteria on how projects should be evaluated for consistency related to the City's transportation goals, policies, and plans, and through procedures established under CEQA. The TIAG establishes the contents and procedures for preparing a Transportation Impact Analysis in the City of Escondido.

The purpose of the TIAG (and a Transportation Impact Analysis) is to inform land use and development decisions by providing qualitative and quantitative criteria to assess the transportation system within the vicinity of a land development project. The TIAG aids in determining appropriate mitigation under CEQA, as well as site-specific improvements to the transportation system to accommodate project traffic.

Reasons to perform a Transportation Impact Analysis:

- Provide public agencies with a mechanism for managing transportation impacts of land development projects.

- Provide applicants with transportation-related site planning recommendations.
- Provide a method for analyzing the transportation effects of development projects.
- Establish a framework for transportation mitigation measures and project conditions for land development.
- Implement CEQA and General Plan policies.

1.3 Objectives

The following objectives are intended to provide consistency between local, regional, and state policies in forecasting, describing, and analyzing the effects of land development on transportation and circulation for all transportation modes and users:

- Provide clear direction to applicants and consultants to better meet expectations, increase the efficiency of the review process, and minimize delays.
- Provide scoping procedures and recommendations for early coordination during the planning/ discretionary phases of a land development project.
- Provide guidance in determining when, what type, and how to prepare a Transportation Impact Analysis.
- Help achieve consistency, uniformity, and accuracy in the preparation of a Transportation Impact Analysis.
- Promote quality assurance in transportation studies by agreeing to the assumptions, data requirements, study scenarios, and analysis methodologies.
- Provide consistency and equity in the identification of measures to mitigate the transportation impacts generated by land development.
- Assist City staff in developing objective recommendations and project conditions of approval as part of the land development discretionary review process.
- Help to ensure that City transportation studies are in conformance with all applicable City, region and state regulations, including legislative requirements as part of CEQA.

1.4 CEQA vs. Non-CEQA Transportation Analysis

The City TIAG is a comprehensive manual for both CEQA VMT analysis and discretionary/entitlement non-CEQA Local Mobility Analysis ("LMA"). The TIAG provides guidance for the two elements of transportation analyses needed to comprehensively assess the potential effects from new development to the City's roadway and mobility system.

CEQA Transportation Analysis (VMT Analysis)

CEQA requires VMT analysis for compliance with state policies to evaluate a project's potential impacts related to VMT significance criteria. The VMT analysis will:

- Enable proposed development projects to comply with current CEQA requirements as a result of the implementation of SB 743.
- Outline the City's VMT significance thresholds, screening criteria, and methodology for conducting the transportation VMT analysis.
- Help determine if mitigation is required to offset a project's significant VMT impacts.
- Identify VMT reduction measures and strategies to mitigate potential impacts below a level of significance.
- Reduce the need to widen or build roads through effective use of the existing transportation network and maximizing the use of alternative modes of travel throughout the City.

Non-CEQA Transportation Analysis (Local Mobility Analysis)

An LMA is required by the City of Escondido to assess transportation effects and ensure orderly development, public safety, adequate infrastructure, and consistency with the General Plan. The LMA analysis will:

- Specify the City's screening criteria, study area, and methodologies to assess the potential need for off-site operation improvements to the project study area transportation network.
- Ensure that the local transportation facilities will have sufficient capacity to accommodate the project's demand on various modes of travel, and that improvements identified by the City are constructed when needed consistent with the City's adopted standards and policies.
- Ensure consistency with transportation planning documents (such as bicycle and pedestrian planning efforts).
- Establish measures of effectiveness to maintain vehicular LOS consistent with the City's General Plan Mobility and Infrastructure Element, as may be amended from time to time.
- Facilitate site project access and roadway frontage infrastructure improvements to serve the project vicinity.
- Identify project-level design features, standards, and/or conditions appropriate to, and as applied to facilitate General Plan consistency review and make determinations on new land use development projects. General Plan consistency findings, when required by State law or by the City's Municipal or Zoning Code, shall be based upon the implementation of the recommended design features, standards, and/or conditions and be the basis to make one or more findings to disapprove, approve, or conditionally approve a land use development project application.

1.5 Process Overview

The TIAG is intended for the use by City staff, project applicants, consultants, other agencies/jurisdictions, the general public, and decision makers to evaluate transportation effects of proposed land development and infrastructure projects going through the environmental or discretionary planning/entitlement processes within the jurisdiction of the City of Escondido.

The following summarizes the typical process for completing a Transportation Impact Analysis in the City of Escondido:

Step 1 – Complete Part 1 of the Scoping Agreement: The applicant will complete and submit a scoping agreement to City staff to determine if a Transportation Impact Analysis is required. If the project is screened out, a technical memorandum is required to document the decision, screening process, and justification for why an analysis is not required. If not screened out, the applicant must complete Part 2 of the Scoping Agreement and the project proceeds to Step 2.

Step 2 – Determine Study Requirements: The consultant will meet or coordinate with City staff regarding the scoping agreement items including the proposed project description, location, site plan, site access, estimated trip generation and trip distribution, study area, methodology requirements, and any other specific issues to be addressed in the Transportation Impact Analysis.

Step 3 – Conduct Transportation Impact Analysis and Submit Draft: The consultant will prepare the Transportation Impact Analysis consistent with the requirements established in Step 2 (and as outlined in the TIAG) and will submit a draft to the City. The City will provide written comments on the draft study. During this process, the consultant may request a meeting with City staff to clarify study requirements or comments received on the draft study.

Step 4 – Submit Final Transportation Impact Analysis: The consultant will address all City comments and produce a Final Transportation Impact Analysis to be approved by staff. Multiple iterations of study review may be necessary to adequately address all staff comments. It is critical that staff and the consultant coordinate closely during review process to ensure productive and efficient communications in achieving the mutual goal to finalize the Transportation Impact Analysis. A record identifying how each comment was addressed should also accompany the Final Transportation Impact Analysis. Depending on whether the Transportation Impact Analysis included a VMT analysis, the final mitigation recommendations or improvements will be in the CEQA Findings or the discretionary Conditions of Approval.

It should be noted that the City may update the TIAG on an as-needed basis to reflect the best state of practice methodologies and changes in CEQA requirements. As such, the City will continually review the TIAG for applicability and coordinate with other jurisdictions and professionals to ensure the most recent guidance and best practices are being applied for land development review and transportation analysis. Additional information regarding the applicability of the procedures outlined in this document for various project types are provided in **Chapter 2**.

The TIAG is not binding on any decision maker and should not be substituted for the use of independent professional judgment and evaluation of evidence in the record. The City also reserves the right to request further, project-specific information in its evaluation that may not be identified or described in this document.

City Review and Outside Agency Coordination

Transportation Studies will be reviewed by appropriate City of Escondido staff.

If a project will affect another agency or jurisdiction, such as the California Department of Transportation ("Caltrans"), San Diego Association of Governments (SANDAG), San Diego Metropolitan Transit System (MTS), North County Transit District (NCTD), or neighboring cities, coordination with that agency or jurisdiction may be required and will be identified during the scoping process. City of Escondido staff can provide guidance and contact information for other agencies or jurisdictions.

2. Transportation Impact Analysis Initiation

The applicant should first complete the Transportation Impact Scoping Agreement (form in Appendix A) and coordinate with City staff to determine the Transportation Impact Analysis requirements.

2.1 Types of Transportation Studies

CEQA and LMA requirements should be determined separately, as CEQA VMT analysis and/or LMA may apply to any type of transportation study. The following types of transportation studies (or a combination) may be required:

- **No Transportation Analysis Required**: If CEQA does not apply to a project (e.g., is screened out or the project is ministerial) and the project meets LMA screening criteria, a Transportation Impact Analysis is not required. A technical memorandum accompanied by the completed Part 1 of the Scoping Agreement is required to document justification for why an analysis is not required.
- **Detailed CEQA VMT Analysis and LMA Required**: Transportation studies that include both a CEQA VMT analysis and LMA are required for projects that are not screened out based on the City's screening criteria.
- **LMA Only Required**: Transportation studies only require an LMA when the project meets CEQA VMT screening criteria in **Section 3.3**. The findings of the VMT screening analysis must be documented in the Transportation Impact Analysis. A technical memorandum accompanied by the completed Part 1 of the Scoping Agreement is required to document justification for why transportation CEQA analysis is not required.

2.2 Determining Study Requirements

Scoping Agreement

The consultant will prepare a Scoping Agreement (Appendix A) before coordinating with the City to ensure all information needed to determine the study requirements are compiled, including the key items outlined below.

Project Location

- Project location and vicinity map
- Zoning and General Plan land use designation of the project site (to demonstrate consistency)

Detailed Project Description

- Land uses and intensities.
- Gross and developable acreage or building square footage or number of proposed residential units.
- Number of parking spaces: vehicle (including accessible spaces), bicycle (racks and secure storage), motorcycle, and electric vehicle (EV).

Site Plan

- Driveway locations and access type (e.g., full access, partial access, right in/out only).
- Pedestrian access, bicycle access, and on-site pedestrian circulation.
- Location/distance of nearest existing transit stop (measure as walking distance to project entrance/or middle of parcel).
- Location of any planned sidewalks or bikeways identified in the Bicycle Master Plan and other City planning documents within ¼ mile of the project location.

Trip Generation

The consultant should identify the number of new daily and peak hour driveway vehicle-trips added by the project as described in this section.

Trip generation rates are commonly expressed in trips per unit of development – for example, trips per housing unit or trips per thousand square feet – and are derived by averaging trip generation data collected from existing land uses.

For the City of Escondido, the following trip generation sources should be used:

- The current version of SANDAG's *(Not So) Brief Guide of Vehicle Traffic Generation Rates for the San Diego Region*. The SANDAG guide provides average trip generation rates for a wide variety of land use categories.
- If the proposed use is not included in SANDAG's *(Not So) Brief Guide of Vehicle Traffic Generation Rates for the San Diego Region*, City staff, at their sole discretion, may consider an applicable rate published by the Institute of Transportation Engineers ("ITE") in the most recent edition of the *ITE Trip Generation Manual*.
- Where uses are not included in either the SANDAG or ITE documents, trip generation should be derived from locally observed data that includes trip generation samples from at least three similar facilities at the City's discretion. The facilities selected as samples, and the timing and methods of data collection, must be approved by City staff prior to data collection.
- For existing facilities that are being expanded, trip generation should be determined by surveying the existing use to generate a project-specific trip generation rate. The survey of the existing use should be conducted using driveway counts or SANDAG/ITE published rates at the City's discretion.

- The most detailed project information should be used to determine a project's trip generation estimate. For example, if the project's building square footage and the project acreage are both known, the building square footage is more detailed; therefore, it should be used to estimate the trip generation.

Trip Reductions

Reasonable reductions to trip rates may also be considered, including the following (as shown on the trip generation process shown on **Figure 1**):

Internal Capture

For mixed-use development projects, it is appropriate to estimate the interaction between the project uses. For example, for a project that has retail, residential, and office uses, with compatible supporting land uses within a ¼ mile walking distance, trip reductions may be used. Most trip generation data is for stand-alone, single land uses and does not account for the interaction between land uses for a mixed-use development project.

Trip internalization for mixed-use developments (if applicable) should be calculated using state of the practice methodologies. The *ITE Trip Generation Handbook* provides a procedure for calculating internal trips for mixed-use projects. SANDAG's mixed-use trip generation or ("MXD") methodology may also be considered. The consultant may also propose a method for determining adjustments to trip generation for mixed-use projects, with approval from City staff.

Trip generation adjustments to account for internal capture should be applied to the raw trip generation calculated for each land use.

Alternative Modes

Most trip generation data is based on suburban locations with primarily auto trips. Transit, bicycling, and walking is not generally captured in the trip generation data. For projects that will have alternative modes, transit use, bicycling, and walking may be specifically acknowledged to reduce the trip generation (after the internal capture step) with proper justification and subject to the approval of City staff.

Accounting for alternative modes includes considerations for project proposed (or required) TDM measures. Consultant should propose the alternative modes reduction factor for the project to be reviewed and approved by City staff.

SANDAG trip reduction factors may also be considered for developments within ¼ mile walking distance to a local transit station.

Pass-By & Diverted Trips

Properly estimating the number of pass-by trips is important because even though pass-by trips do not add extra trips to the surrounding roadway system, such trips impact the traffic at the driveways and all the turning movements expected at these driveways. The percentage of pass-by and diverted link trips

should be estimated based on data provided by ITE or actual surveys of similar land uses. The pass-by reduction should not exceed 10% of the adjacent street volume.

Typically, pass-by trips will not be added to the study intersections (except for accounting for them at project driveways). Typically, diverted link trips are added to all study intersections along with the net new project trips, unless there is specific justification to demonstrate where the trips are diverting from.

Credit for Existing Uses

For redevelopment projects, it may be appropriate to apply a "trip credit" to account for vehicle trips being generated by an existing use that will be redeveloped. Traffic counts should be performed to determine the appropriate trip credit. The "trip credit" should be applied after internal capture and alternative modes are accounted for. The existing use should be operating at the time of data collection or be in operation within the last six months prior to submitting discretionary permits as demonstrated to the satisfaction of the City Engineer.

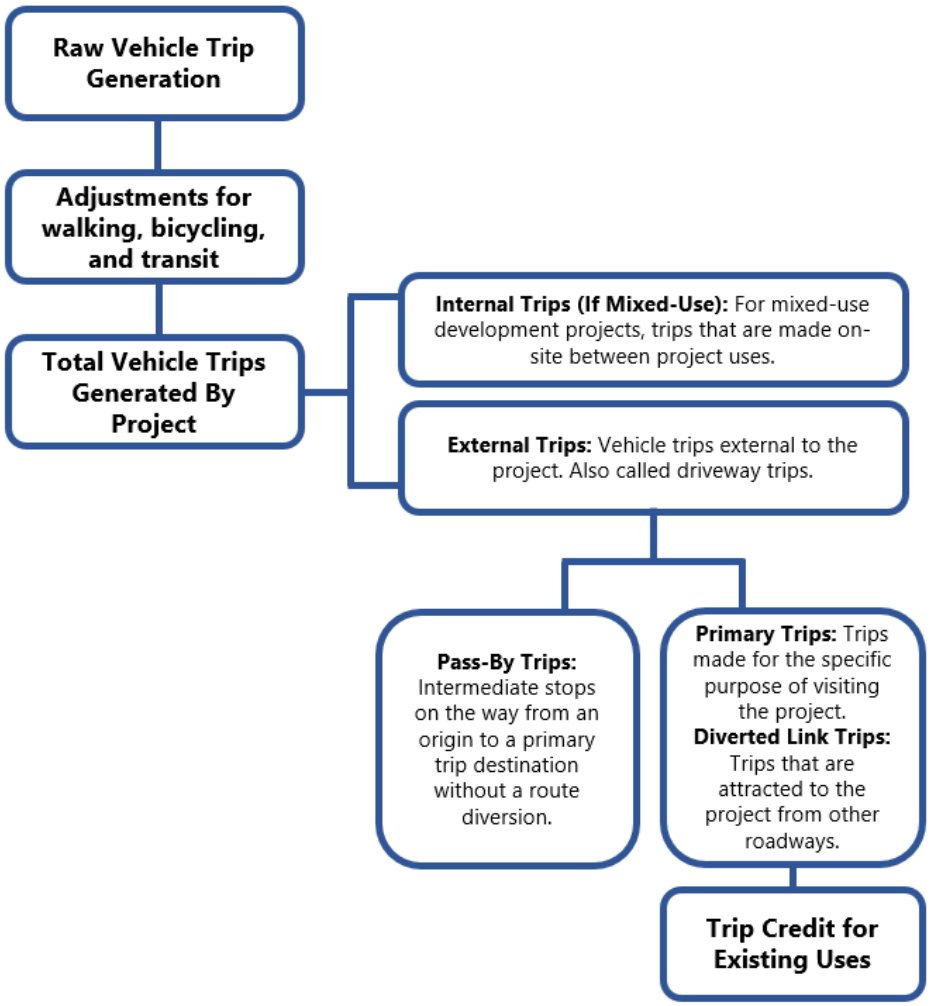
Truck Traffic

For projects that anticipate the generation of significant truck traffic (typically a project that that estimates that truck traffic will account for 25% or more of the total project trip generation), all truck trips should be converted to passenger car equivalents ("PCE") for the capacity analysis. Typically, the PCE factor that should be applied is 2.5 passenger cars for each truck trip.

Other Jurisdictions

Caltrans or adjacent jurisdictions may use different trip reduction rates. Early consultation with reviewing agencies is strongly recommended.

Figure 1: Trip Generation Calculation Process



Trip Distribution

The following describes the procedure for assigning project trips to the roadway network. Trip distribution can be determined from zip code data, census data, market research, travel demand models, existing travel patterns, or the locations of complementary land uses. Trip distribution assumptions should be consistent for developments of the same use in the same areas. Trip distribution for the City of Escondido can be estimated using two methods:

- Manual estimation using existing traffic volumes, location of complementary land uses, and engineering judgement. The trip distribution should be clearly communicated on a map that shows the percent of project traffic on each roadway in the vicinity of the project site. Manual estimation is generally appropriate for projects that generate fewer than 2,400 daily trips.

- Use the current version of the SANDAG Regional Travel Demand Model to perform a select zone analysis. The SANDAG Regional Travel Demand Model should generally be used to determine the trip distribution for projects that generate 2,400 or greater daily trips.

3. CEQA Requirements for Transportation VMT

3.1 Overview

SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. The change is being made by replacing LOS with VMT and providing streamlined review of land use and transportation projects that will help reduce future VMT growth. This shift in transportation impact focus is expected to better align transportation impact analysis and mitigation outcomes with the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation.

In January 2019, the Natural Resources Agency finalized updates to the CEQA Guidelines including the incorporation of SB 743 modifications. The OPR published its latest Technical Advisory on Evaluating Transportation Impacts in CEQA to the California Natural Resources Agency in December 2018. This Technical Advisory provides recommendations on how to evaluate transportation impacts under SB 743. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant CEQA transportation impacts. The OPR guidance recommends the use of VMT as the preferred CEQA transportation metric. To comply with the new legislation, the City of Escondido has identified VMT analysis methodology, establishment of VMT thresholds for CEQA transportation impacts, and identification of possible mitigation strategies. SB 743 includes the following two legislative intent statements:

1. Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns, continue to be properly addressed and mitigated through the California Environmental Quality Act.
2. More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions.

VMT is a metric that accounts for the number of vehicle trips generated and the length or distance of those trips. VMT does not directly measure traffic operations but instead is a measure of network use or efficiency, especially if expressed as a function of population or employment (e.g., VMT/capita). VMT tends to increase as land use density decreases and travel becomes more reliant on the use of the automobile due to the long distances between origins and destinations. VMT can also serve as a proxy for impacts related to energy use, air pollution emissions, GHG emissions, safety, and roadway maintenance. The relationship between VMT and energy or emissions is based on fuel consumption. The traditional use of VMT in environmental impact analysis is to estimate mobile air pollution emissions, GHGs, and energy consumption.

3.2 Metrics and Methodology for Calculating VMT

In general, transportation VMT analysis for CEQA should be conducted using the SANDAG Regional Travel Demand Model. The model outputs can be used to produce VMT/capita, VMT/employee, and Total VMT.

There may be special circumstances under which other tools and techniques should be used to perform VMT analysis. There are some unique land uses that are not appropriately modeled using the SANDAG model, such as uses that have the majority of their activity on the weekends (the SANDAG Model produces weekday results). The applicant's consultant should coordinate with City staff if a VMT estimate tool other than the SANDAG Model is proposed for use.

Summary of Metrics by Project Type

The following summarizes the appropriate metric for various types of projects. Detailed definitions of the metrics follow.

- **Residential**: VMT/capita
- **General Employment**: VMT/employee
- **Industrial Employment**: VMT/employee
- **Regional Retail, Regional Recreational, or Regional Public Facilities**: Change in total VMT (using the boundary method)
- **Mixed-Use**: Each project component evaluated per the appropriate metric based on land use type (e.g., residential, employment, and retail)
- **Transportation Project**: Change in total VMT (using the boundary method)
- Unique circumstances may require alternate metrics

VMT per Capita

VMT/capita is established by summing up total daily VMT generated by residents of a geographic area and dividing by the population of that geographic area. Total daily VMT includes all trip tours made by residents: home-based and non-home-based trip tours (i.e., all VMT for a resident for the entire day regardless of trip purpose or origin/destination).

To analyze the VMT/capita for a proposed project, total daily VMT generated by project residents is divided by the project resident population.

SANDAG has a procedure to produce VMT/capita; however, the SANDAG procedure to produce this metric only includes VMT generated within the SANDAG region by residents of the SANDAG region. If a project is expected to produce consistent travel outside of the SANDAG region, the VMT outside of the regional should be included in the analysis. To account for VMT generated by residents of the SANDAG region traveling outside of the region, the SANDAG model data should be appended with the VMT that occurs by SANDAG region residents outside of the region. The steps necessary to include VMT from all trips that enter or exit the SANDAG region are explained in the Trip Length Adjustment in Appendix G.

VMT per Employee

VMT/employee is established by summing the total daily VMT generated by resident employees[1] of a geographic area and dividing by the number of employees of that geographic area. Total daily VMT includes all trip tours made by employees, not just work-related trips (i.e., all VMT for a resident for the entire day regardless of trip purpose or origin/destination). Employees whose work location is specified as home are not included in the calculations. To analyze the VMT/employee for a proposed project, the total daily VMT produced by the project's employees is divided by the total number of employees.

The procedure developed by SANDAG to calculate VMT/employee by TAZ only accounts for VMT generated within the SANDAG region by employees who are also residents of the SANDAG region. Employees that live outside of the region and travel into the SANDAG region for work are not accounted for because of the nature of the calculation.

Total VMT

Total VMT can be calculated by either of two methods – the Boundary Method or the Origin-Destination Method.

Boundary Method

Total daily VMT (Boundary Method) within a given area can be measured by multiplying the daily volume on every roadway segment by the length of every roadway segment within the area. This is called Boundary Method VMT. Examples of Total VMT (Boundary Method) are VMT within the SANDAG region, VMT within a defined planning area, or VMT within the market area to be served by the project.

This metric is used to analyze regional retail, service, recreational, regional public facilities, and transportation infrastructure projects.

Origin-Destination Method

Total daily VMT (Origin-Destination Method) within a given area can be calculated directly from model outputs by multiplying the origin-destination (O-D) trip matrix by the final assignment skims (O-D Method VMT). The total VMT value should be appended to include VMT from all trips that enter or exit the SANDAG region.

This metric is used to evaluate a regional project if that project is expected to draw trips from outside the region (e.g., an amusement park).

Other VMT Metrics

There may be circumstances where other types of VMT metrics may be appropriate, such as projects that draw people from outside of the SANDAG region. One of these is the VMT/service population metric. VMT/service population is established by dividing the total VMT with at least one trip end in a geographic

[1] Resident employees both live and work in the SANDAG region.

area by the population plus employment of that geographic area. The total VMT includes all internal VMT, internal-to-external, and external-to-internal VMT (i.e., all VMT regardless of geographic boundaries). Since this metric combines VMT for residents and employees and reflects how accessible all land uses are (e.g., geographies with higher density, more shopping, and more jobs will have lower VMT/service population) it can be useful to understand a variety of project types. To analyze the VMT/service population for a proposed project, the project's total VMT (using the origin-destination method) is divided by the project population plus employment. Use of an alternate metric, such as VMT/service population, should be used only when standard metrics are not applicable and after coordinating with City staff in advance.

Trip Length Adjustments

Trip length adjustments for trips leaving the SANDAG Model Area can be made by using the California Statewide Travel Demand Model (CSTDM). Information on adjusting trip lengths is provided in Appendix G.

3.3 VMT Analysis for Land Use Projects

Screening Criteria for CEQA VMT Analysis

The requirements to prepare a detailed transportation VMT analysis apply to all land development projects, except those that meet at least one of the screening criteria. A project that meets at least one of the screening criteria below would be presumed to have a less than significant VMT impact due to project characteristics and/or location.

Projects screened out shall still evaluate connectivity to existing sidewalks on adjacent key land uses (e.g., schools for residential projects, transit for employment uses) and propose improvements to address connectivity gaps in a manner proportionate to the project size and demand.

1. Small Residential and Employment Projects

Projects generating 200 or fewer net new daily vehicle trips may be presumed to have a less-than-significant impact absent substantial evidence to the contrary. Trips are based on the number of vehicle trips calculated using SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* or ITE trip generation rates with any alternative modes/location-based adjustments applied.

2. Projects Located in a Transit-Accessible Area

Projects located within a half-mile walking distance of an existing major transit stop or an existing stop along a high-quality transit corridor[2] may be presumed to have a less-than-significant impact absent substantial evidence to the contrary. Distance to transit should be determined along an ADA-accessible

[2] Major transit stop: a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. High quality transit corridor: a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute periods.

path of travel, not "as the crow flies" measurements. Note that SPRINTER Light Rail stations are considered major transit stops. A map of existing major transit stops and existing stops along high-quality transit corridors is provided in **Appendix B**.

The presumption of a less-than-significant impact near these transit stops may **not** be appropriate if the project:

- Has a Floor Area Ratio of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the City
- Is inconsistent with SANDAG's most recent Sustainable Communities Strategy or the land use growth assumption accommodated by the Land Use Element portion of the General Plan
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units
- Does not have basic walking and biking access to transit (e.g., sidewalks connecting to transit stops)

3. Projects in a VMT-Efficient Area

A VMT-efficient area is any area within the City with an average VMT/capita or VMT/employee below the thresholds as compared to the baseline regional average for the census tract it is located within, as provided on the SANDAG website.[3]

Residential projects located within a VMT-efficient area may be presumed to have a less-than-significant impact absent substantial evidence to the contrary. A VMT-efficient area for residential projects is any area with an average VMT/capita 15% below the baseline regional average for the census tract it is located within.

Employment projects located within a VMT-efficient area may be presumed to have a less-than-significant impact absent substantial evidence to the contrary. A VMT-efficient area for employment projects (excluding industrial employment projects) is any area with an average VMT/employee 15% below the baseline regional average for the census tract it is located within.

[3] The VMT/Capita and VMT/Employee screening maps are created using information from the current version of the SANDAG model at the time a project notice of preparation (NOP) is produced. The current web address is: https://sandag.maps.arcgis.com/apps/webappviewer/index.html?id=5b4af92bc0dd4b7babbce21a7423402a. As SANDAG updates the model to reflect development and planning throughout the region, the screening maps will be updated and may change resulting in development that may have at one time been screened to no longer be screened and vice versa. As the model is updated, earlier versions of the model will also cease to be supported by SANDAG, meaning that model runs can no longer be completed with the previous versions of the model. If a project begins the transportation study process using one version of the model that becomes unsupported during the process, the project can utilize model outputs from the older model version, as long as no additional modeling work will be done. Projects cannot complete their transportation analysis using multiple model versions.

Industrial Employment projects located within a VMT-efficient area may be presumed to have a less-than-significant impact absent substantial evidence to the contrary. A VMT-efficient area for industrial employment projects is any area with an average VMT/employee at or below the baseline regional average for the census tract it is located within.

Mixed-Use projects located within a VMT-efficient area for each of its land uses may be presumed to have a less-than-significant impact absent substantial evidence to the contrary. Refer to the appropriate section for each land use included as a part of the mixed-use project to determine the definition of a VMT-efficient area for each land use.

4. Locally-Serving Retail Projects

Local serving retail projects less than 50,000 square feet that are expected to draw at least 75% of customers from the local area (based on a market study and/or qualitative information provided by the applicant) may be presumed to have a less than significant impact absent substantial evidence to the contrary. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel.

5. Locally-Serving Public Facilities

Public facilities that serve the surrounding community or public facilities that are passive use may be presumed to have a less-than-significant impact absent substantial evidence to the contrary. The following are considered locally serving facilities:

- Transit centers
- Public schools
- Libraries
- Post offices
- Park-and-ride lots
- Police and fire facilities
- Parks and trailheads
- Government offices
- Passive public uses, including communication and utility buildings, water sanitation, and waste management
- Other public uses as shown in **Appendix C** or determined by City staff

6. Redevelopment Projects with Lower Total VMT

A redevelopment project may be presumed to have a less-than-significant impact absent substantial evidence to the contrary if the proposed project's total project VMT is less than the existing land use's total VMT and the CEQA action includes closing the existing land use.

For projects that meet one of the screening criteria for CEQA VMT analysis, a detailed VMT analysis is not necessary. The Transportation Impact Analysis must include a technical memorandum to document the screening process and findings, including attaching screening maps, market studies, evaluation of sidewalk gaps and proposed improvements, or other relevant supporting data. Additionally, the Transportation Impact Analysis must include a conclusion that the transportation impact is presumed to be less than significant in accordance with criterion b, Section XVII of *Appendix G* to the CEQA Guidelines.

VMT Thresholds of Significance

Projects that do not meet the above screening criteria must include a detailed evaluation of the VMT produced by the project. The significant thresholds and specific VMT metrics used to measure VMT are described by land use type below.

- **Residential**: 15% below regional average VMT/capita
- **Employment**: 15% below regional average VMT/employee
- **Industrial Employment**: At or below regional average VMT/employee
- **Mixed-Use**: Each project component evaluated per the appropriate metric based on land use type (e.g., residential, employment, and retail)
- **Regional Retail, Regional Recreational, or Regional Public Facilities**: A net increase in total regional VMT using the boundary method

Appendix C provides a list of unique project types and which land use category is appropriate for VMT analysis purposes.

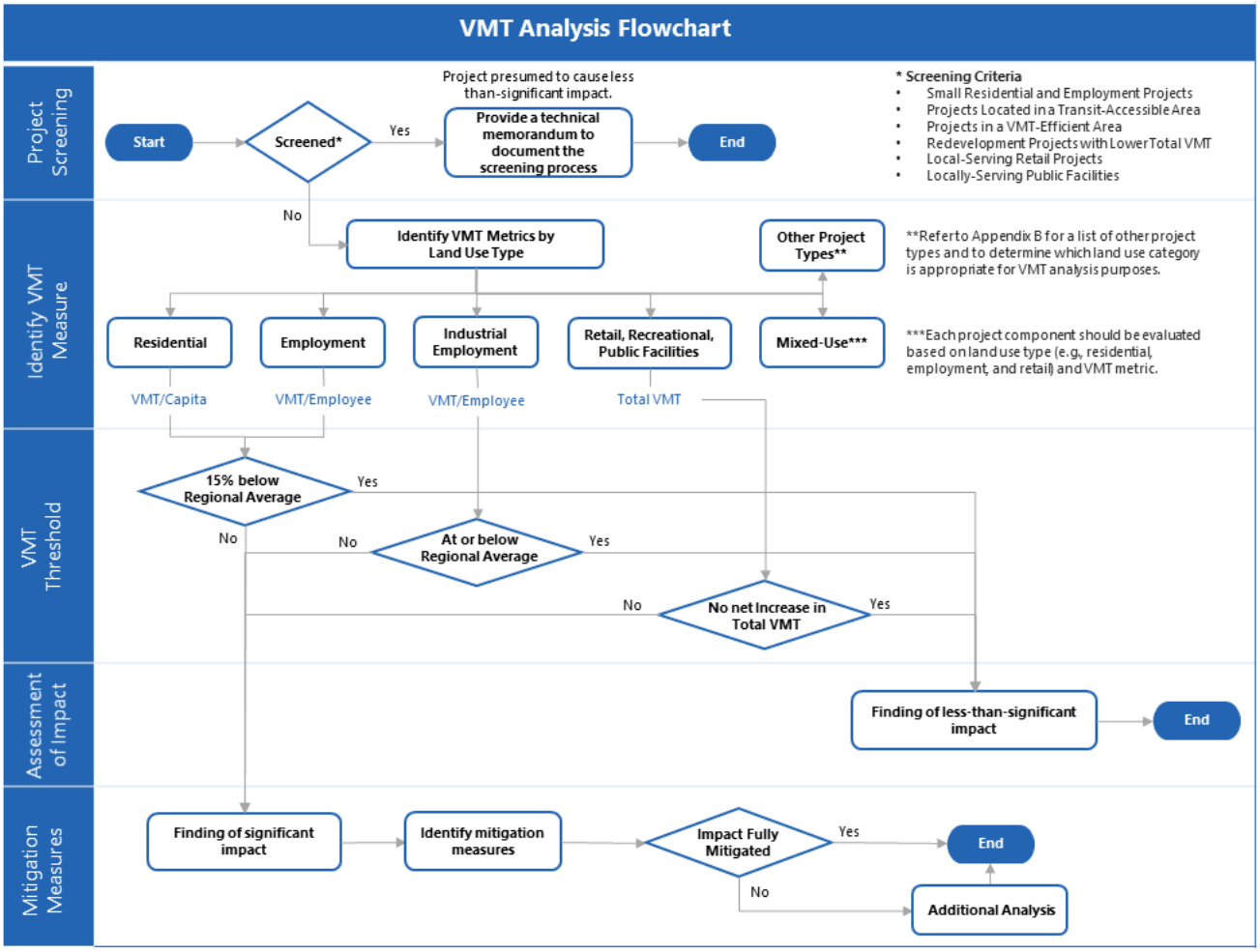
Specific Plans or General Plan Amendments: The land use plan should be compared to the region overall. Comparison to the region is appropriate because large land use plans can have an effect on regional VMT (akin to how a regional retail project affects regional VMT). The significance thresholds described above apply to specific plans or General Plan Amendments. In addition, plan buildout/cumulative analysis is needed.

Additional information regarding the significance thresholds presented here is provided in **Appendix D**.

VMT Analysis Procedures

For projects that are not screened and must provide a detailed evaluation of the VMT produced by the project, guidance is provided below on how to conduct transportation VMT analysis by project type. In addition, **Figure 2** displays the VMT analysis process.

Figure 2: VMT Analysis Process



Note that there may be unique circumstances that require use of tools/techniques other than the SANDAG Regional Travel Demand Model. Use of a tool other than the SANDAG Model should be discussed and documented with City staff in advance.

Residential Projects

For projects that generate fewer than 2,400 daily unadjusted driveway trips: Identify the location of the project on SANDAG's VMT/capita map. The project's VMT/capita will be considered the same as the VMT/capita of the census tract it is located in. Compare the project's VMT/capita to the threshold to determine if the impact is significant, or input the project into the SANDAG Regional Travel Demand Model to determine the project's VMT/capita.

For projects that generate 2,400 or greater daily unadjusted driveway trips: Input the project into the SANDAG Regional Travel Demand Model for SANDAG to provide the project's VMT/capita. To perform

the analysis, all project land uses should be inputted, and the VMT/capita should be determined using the same method/scripts that SANDAG utilizes to calculate the VMT/capita metric. Note that there may be some circumstances where use of the screening maps or other sketch modeling tools are appropriate for larger projects.

Employment Projects

For projects that generate fewer than 2,400 daily unadjusted driveway trips: Identify the location of the project on SANDAG's VMT/employee map. The project's VMT/Employee will be considered the same as the VMT/Employee of the census tract it is located in. Alternatively, the project's VMT can be determined by inputting the project into the SANDAG Regional Travel Demand Model in the manner previously described. Compare the project's VMT/Employee to the threshold to determine if the impact is significant.

For projects that generate 2,400 or greater daily unadjusted driveway trips: Input the project into the SANDAG Regional Travel Demand Model to determine the project's VMT/Employee. To perform the analysis, all project land uses should be inputted, and the VMT/Employee should be determined using the same method/scripts that SANDAG utilizes to develop the VMT/Employee metric. Note that there may be some circumstances where use of the screening maps or other sketch modeling tools are appropriate for larger projects.

Retail Projects

Calculate the change to area VMT using the SANDAG Travel Demand Model (or other appropriate sketch model as coordinated with City Staff). To calculate the change in area VMT, the regional retail component of the project should be inputted into the travel demand model (year that is used to determine the VMT thresholds). The "with project regional retail" area VMT produced by the model run is compared to the "no project" area VMT.

Mixed-Use Projects

Evaluate each individual project component per the appropriate metric based on land use type (e.g., residential, employment, and retail) as described above.

Other Projects

Input the project into the SANDAG Regional Travel Demand Model for SANDAG to provide the project's applicable VMT metric. To perform the analysis, all project land uses should be inputted, and the VMT metric that is appropriate based on the land use type should be determined using the methodology described in **Section 3.2**.

VMT Reductions

If the project includes transportation demand management (TDM) measures, the reduction in VMT due to each measure shall be calculated and can be applied to the project analysis. See **Section 3.5** for resources for determining the reduction in VMT due to TDM measures.

The VMT reductions associated with project TDM should be applied to the appropriate metrics based on the project land uses. If the project does not include any TDM, then no reduction is taken.

The resulting VMT values should be compared to the appropriate threshold (described previously under **VMT Thresholds of Significance**) to determine whether the project results in a significant CEQA transportation impact due to VMT.

3.4 VMT Analysis for Transportation Projects

Projects that result in an increase in additional motor vehicle capacity (such as constructing a new roadway or adding more vehicle travel lanes to an existing roadway) has the potential to increase vehicle travel, referred to as "induced vehicle travel."

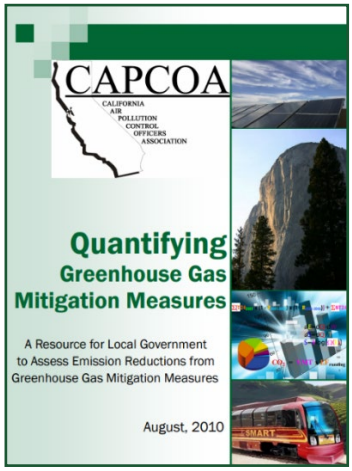
Appendix E contains a list of transportation projects that, absent substantial evidence to the contrary, do not require an induced travel/VMT analysis since they typically do not cause substantial or measurable increases in VMT.

For all other projects, a VMT analysis must be done. To calculate the change in area VMT (boundary method), the project should be inputted into the travel demand model. The "with project" area VMT produced by the model run is compared to the "no project" area VMT. A net increase in area VMT indicates that the project has a significant impact.

3.5 VMT Reduction and Mitigation Measures

To mitigate VMT impacts, the project applicant must reduce VMT, which can be done by either reducing the number of automobile trips generated by the project or by reducing the distance that people drive. The following strategies are available to achieve this:

1. Modify the project's built environment characteristics to reduce VMT generated by the project.
2. Implement TDM measures to reduce VMT generated by the project.



CAPCOA Quantification Report, which includes quantification of VMT reducing measures.

SANDAG Mobility Management Guidebook, which includes recommendations of VMT-reducing measures.

Strategies that reduce single-occupant automobile trips or reduce travel distances are called TDM strategies. There are several resources for determining the reduction in VMT due to TDM measures, such as the California Air Pollution Control Officers Association ("CAPCOA") *Quantifying Greenhouse Gas*

Mitigation Measures (2010) (Quantification Report) and the SANDAG *Mobility Management Guidebook*/ VMT Reduction Calculator Tool.

- CAPCOA Quantification Report
- SANDAG *Mobility Management Guidebook*/VMT Reduction Calculator Tool

Both resources above include equations that address the diminishing value or decreased effectiveness of TDM measures when those measures are used in combination. The equation below should be used by applicants to accurately quantify the effectiveness of a proposed TDM program.

$$\text{Total VMT Reduction} = (1 - P_a) * (1 - P_b) * (1 - P_c) * \ldots$$

where:

P_x = percent reduction of each VMT reduction strategy

Additionally, applicants should be aware of limits to overall program effectiveness (i.e., VMT reduction) that may be achieved from TDM strategies dependent on the project's land use context. Projects that are in urban areas have a higher limit of effectiveness (i.e., they can result in higher VMT reductions) than those in suburban areas. The formula defines the particular conditions that lead to different ways that the TDM measure may be applied or how a TDM measure might be applied in different circumstances. That is, to proposed effective and appropriate TDM measures is based on the project's size, location, and land uses for varying levels of implementation.

Special attention should be given to ensuring that measures are not double-counted through the transportation analysis process. For example, if a project identifies telecommuting as a reduction strategy, care should be taken to identify the level of telecommuting that has already been assumed as part of the travel demand model through coordination with SANDAG modeling staff or review of SANDAG model documentation available on SANDAG's website.

An example VMT reduction calculation is provided below showing quantified TDM measures for a sample mixed-use development project is provided in **Appendix H**. The City of Escondido is currently evaluating VMT Mitigation Strategies that could include, among other things, a VMT Exchange Program or VMT Mitigation Bank. Until such a program is adopted, applicants should reach out to City staff to identify candidate VMT mitigation projects within the City of Escondido that can be analyzed to mitigate VMT impacts. Pursuant to the City's Climate Action Plan, mitigation is required to be local.

3.6 Cumulative VMT Impacts

Since VMT is a composite metric that will continue to be generated over time, a key consideration for cumulative scenarios is whether the rate of VMT generation gets better or worse in the long term. If the rate is trending down over time consistent with expectations for air pollutant and GHGs, then the project level analysis may suffice. However, the trend direction must be supported with substantial evidence. A project would result in a significant project-generated VMT impact under cumulative conditions if the applicable cumulative project-generated VMT thresholds are exceeded.

Measuring the project's effect on VMT is necessary especially under cumulative conditions to fully explain the project's impact. A project effect on VMT under cumulative conditions would be considered significant if the cumulative link-level boundary VMT/capita or VMT/employee for the San Diego region increases under the "plus project" condition compared to the "no project" condition.

Please note that the cumulative "no project" condition shall reflect the adopted Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS); as such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant.

4. Local Mobility Analysis

4.1 Overview

The authority for requiring non-CEQA transportation analysis and potentially requiring project improvement conditions to address identified deficiencies lies in the City's project review authority and General Plan policies to promote orderly development, promote public safety, and ensure land development site planning and needed infrastructure are adequate.

The LMA evaluates the effects of a proposed development project on traffic operations and safety for the roadway network in the proximate area of the project. The LMA will:

- Specify the City's screening criteria, study area, and methodologies to assess the potential need for off-site operation improvements to the project study area transportation network.
- Ensure that the local transportation facilities will have sufficient capacity to accommodate the project's demand on various modes of travel, and that improvements identified by the City are constructed when needed, consistent with the City's adopted standards and policies.
- Ensure consistency with transportation planning documents (such as bicycle and pedestrian planning efforts).
- Establish measures of effectiveness to maintain vehicular LOS consistent with the City's General Plan Mobility and Infrastructure Element, as may be amended from time to time.
- Facilitate site project access and roadway frontage infrastructure improvements to serve the project vicinity.

Detailed information on the analysis methodologies, standards, and thresholds are discussed in the following sections. As discussed previously and in **Section 2.3**, all projects will be required to coordinate with City staff prior to project initiation to ensure an efficient review process.

4.2 Requirements

The required study scenarios and scope will vary depending on the total number of daily trips the project is anticipated to generate. Both the analysis scenarios and the facilities that need to be analyzed are to be confirmed with City staff (see **Sections 1.5 and 2.2**) prior to conducting an LMA through the scoping process.

The LMA should use the current state-of-the-practice analysis methodologies to analyze traffic conditions. General requirements for analysis in the LMA are outlined below:

Vehicle

The City's General Plan (2012) establishes a goal of LOS C for all City streets; however, due to overall citywide traffic conditions, LOS D was considered acceptable. If the existing LOS is D or worse, preservation of the existing LOS must be maintained, or acceptable mitigation must be identified.

Currently the approved level of service standards for different street segments based on their classifications and average daily vehicle trips (ADT) within the City of Escondido are provided in **Table 1**.

Table 1: City of Escondido Level of Service Standards:
Street Segments Average Daily Vehicle Trip Thresholds

Street Classification	Lanes	Cross Sections	Level of Service				
			A	B	C	D	E
Prime Arterial	(8 lanes)	116/136 (NP)	23,800	37,800	51,800	62,300	70,000
	(6 lanes)	106/126 (NP)	20,400	32,400	44,400	53,400	60,000
Major Road	(6 lanes)	90/110 (NP)	17,000	27,000	37,000	44,500	50,000
	(4 lanes)	82/102 (NP)	12,600	20,000	27,400	32,900	37,000
Collector	(4 lanes)	64/84 (NP)	11,600	18,500	25,300	30,400	34,200
	(4 lanes)	(WP)	6,800	10,800	14,800	17,800	20,000
Local Collector	(2 lanes)	42/66 (NP)	5,100	8,100	11,100	13,400	15,000
		(WP)	3,400	5,400	7,400	8900	10,000

Source: City of Escondido former Traffic Impact Analysis Guidelines.
Notes:
NP: No Parking, WP: With Parking
The following V/C Ratios were utilized for determining Existing and Future Level of Service.

Level of Service	(V/C Ratio)
A - Less than or Equal to	0.00 to 0.34
B - Less than or Equal to	0.35 to 0.54
C - Less than or Equal to	0.55 to 0.74
D - Less than or Equal to	0.75 to 0.89
E - Less than or Equal to	0.90 to 1.00

Trip generation should be determined following the guidelines outlined in **Section 2.2**. Based on the adopted 2013 General Plan with a goal of LOS C, an LMA must be prepared for any project that generates and adds more than 2% of the ADT to any street segments operating at LOS C or worse within the preliminary study area identified by the City staff. Based on this threshold, **Table 2** contains the trigger-points for a required LMA within the City of Escondido for each street classification.

Table 2: ADT Thresholds for Roadway Segments to Trigger Local Mobility Analysis for New Development

Street Classification	Lanes	Cross Sections (ft.)	LMA Trigger-Points (ADT generation)
Prime Arterial	(8 lanes)	116/136 (NP)	900
	(6 lanes)	106/126 (NP)	800
Major Road	(6 lanes)	90/110 (NP)	700
	(4 lanes)	82/102 (NP)	500
Collector	(4 lanes)	64/84 (NP)	500
	(4 lanes)	(WP)	250
Local Collector and other	(2 lanes)	42/66 (NP)	200
	(2 lanes)	(WP)	200

Source: City of Escondido former Traffic Impact Analysis Guidelines.
Notes:
2% of ADT for LOS C has been used as a guide to calculate the trigger point values
NP: No Parking, WP: With Parking

An LMA should be undertaken for any type of development that generates daily trips more than the above-mentioned trigger points. Certain types of projects that generate fewer than 500 ADTs may be considered by the City staff for an LMA waiver only where the affected segments and intersections operate at LOS C or better. On the contrary, City staff may require an LMA for any kind of development if the possible traffic effect of the project is believed to be considerable. At a minimum, the study area should include at least all site access points and major intersections (signalized and un-signalized) adjacent to the site in the study area. **Table 3** provides the peak hour trip thresholds for determining if an intersection should be included in the LMA. The thresholds represent the sum of all trips (inbound and outbound) added to any leg of the intersection.

Table 3: ADT Thresholds for Intersections to be included in the LMA

Intersection Classification	LMA Trigger Points (AM or PM peak hour trips added to any leg)
Prime Arterial	50
Major Road	40
Collector	30
Local Collector	20

Source: City of Escondido former Traffic Impact Analysis Guidelines.
Notes:
Study area can be expanded by City Engineer

At isolated intersections that are not heavily congested, deterministic methods that apply HCM equations for each intersection in isolation can be used. The current version of the Highway Capacity Manual reflects current state-of-the-practice methodology. There are several software packages that use deterministic methods such as Synchro, Vistro (previously Traffix), and Highway Capacity Software. The HCM methodology assigns a LOS grade to an intersection based on estimated delay.

For intersections that are closely spaced, have a unique geometry, or are part of a congested corridor, micro-simulation analysis should be performed. Micro-simulation can more accurately evaluate intersections with unique characteristics or in congested systems because the method accounts for how intersections within a system interact with one another. For example, if a vehicle queue extends from an intersection and blocks a different intersection, micro-simulation will account for that condition, whereas deterministic methods will not. Micro-simulation should also be considered when determining required turn lane storage if the analyst believes deterministic methods are not producing reasonable maximum or 95th percentile queue lengths. There are several micro-simulation software packages such as SimTraffic (which is a module of Synchro) and Vissim.

Signalized intersections, all-way-stop intersections, and roundabouts should have the entire intersection average vehicle delay reported. Minor side-street stop intersections should have the worst-case movement average vehicle delay reported.

It is recommended that the methodology and software proposed for use is coordinated with City staff. City staff may also request the consultant provide micro-simulation electronic files for review.

Active Transportation

Pedestrian: The pedestrian analysis should document existing and planned pedestrian facilities and any substandard or missing facilities (e.g., missing sidewalk, curb ramps, major obstructions) within a ¼-mile walking distance measured from each pedestrian access point (e.g., driveways, on-site sidewalk connections to the street). Planned facilities should be determined based on relevant planning documents (e.g., General Plan, other City planning documents).

Bicycle: The bicycle analysis should document existing and planned bicycle facilities and any substandard or missing facilities (e.g., bike lane gaps, obstructions) within a one-mile bicycling distance measured from the centroid point of the parcel's linear frontage or from the center of the intersection formed by each project driveway. Planned facilities should be determined based on relevant planning documents (e.g., General Plan, Bicycle Master Plan).

Transit: The transit analysis should focus on transit amenities and connectivity to transit, especially for projects where the entire project site within a half-mile walkshed from the centroid point of the parcel's linear frontage to a major transit stop or a high-quality transit corridor [4]. The analysis should identify the closest transit routes and stops to the project within ¼-mile walking distance and documentation of amenities at existing transit stops (e.g., shelters, maps, benches). Evaluation of transit amenities should be completed considering the requirements in the latest North County Transit District (NCTD) Bus Stop Development Handbook and improved where demand of the project warrants such improvement. A sample of the amenity requirements is provided in **Appendix F**. Project applicants should always

[4] Major transit stop: a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. High quality transit corridor: a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute periods.

coordinate with City and NCTD staff to determine appropriate transit amenities and applicable guidelines. The analysis should include discussion on the quality of the nearby transit facilities, including frequency of service, connections to hubs, etc.

Site Access and Circulation

The LMA should address the following site-specific topics, where applicable:

- Appropriate access management standards for median openings and spacing between major driveway connections
- Potential sight distance problems
- Potential pedestrian or bicycle conflicts
- Relationship of internal circulation facilities to public streets
- Sufficiency of driveway length at major entrances
- On-site circulation as it impacts the public roadway system or access to public transportation and bicycle/pedestrian network
- Potential for shared access among developments, including alternate access roads.

Data Collection and Study Periods

- Traffic counts should be collected for each of the study locations and should be no more than two years old unless older counts are demonstrated to be still valid for Existing Conditions. Counts older than four years old must be updated. Coordination with City staff is required to determine appropriate use of any historic data.
- The LMA should provide tables and map figures of the traffic count data. Technical Appendices should include original traffic count data sheets.
- Traffic counts should typically be conducted during a.m. and p.m. peak periods on weekdays (Tuesdays, Wednesdays, or Thursdays), unless approved by City staff. For typical commute hours, the peak hours will fall between 7 and 9 a.m. and between 4 and 6 p.m.
- Other peak hours, off-peak, or special event peak periods, may also be required depending on the project location and type of use. Projects involving or located near schools may need to evaluate traffic during the associated school hours of operation (e.g., morning drop-off and afternoon dismissal times). If the study necessitates a weekend analysis, Saturday from 11 a.m. to 1 p.m. will be the analyzed peak period. The need for analysis during non-typical commute times should be established with City staff during the scoping process.
- Traffic data should not be collected on weeks that include a holiday and non-school session time periods, unless approved by City staff.

Other Data Collection Considerations

Other considerations in data collection documentation and analysis should incorporate all applicable components that relate to the transportation network, which may include:

- Speed limits and average/85th percentile vehicle speed
- Parking characteristics (on-street parking presence and type, bus stops)
- Signing (static, dynamic, or variable) and pavement markings
- School zone
- Signal phasing and timing plans
- Intersection control type
- Right turn and left turn treatments
- Railroad crossing location
- Ramp metering
- Pedestrian counts
- Bicycle counts
- Transit stops (type, frequency/schedule, dwell time, trip length, bus blockage)
- Roadway classification (functional class, rural/urban designation, access class, area type)
- Cross section elements (number, width and purpose of lanes, shoulder type and width, median type and width, pavement type and rating condition, cross slope, sidewalk, bicycle lane)
- Geometry (horizontal and vertical alignment, storage lengths, intersection/interchange configurations, auxiliary lanes)
- Pedestrian and bicycle accommodation
- Transit (location, position, proportions with shelters and benches)
- Roadside (clear zone width, lateral clearance, driveway counts)

Study Scenarios

The following scenarios should be evaluated for the LMA:

- Existing Conditions
- Existing Plus Project Conditions
- Near Term Conditions (includes near term planned and approved projects)
- Near Term Plus Project Conditions
- Long Term (future year) Conditions (if the project is not consistent with the GP)
- Long Term (future year) Plus Project Conditions (if the project is not consistent with the GP)
- Special Scenarios (e.g., a phased project analysis)

Trip generation and distribution should be determined following the guidelines outlined in **Section 2.2**.

4.3 Identifying Transportation Improvements

In general, a project should consider feasible improvements to accommodate the addition of the proposed project's vehicular, pedestrian, and bicycle traffic, and both the transit access and increased demand for transit services and facilities.

The following sections provide guidance for identifying when a transportation improvement is necessary by facility type:

Vehicle

The following thresholds shall be used to identify if a project is responsible to make transportation operational improvements. If at any time the project causes the values in **Table 4** below to be exceeded on a roadway segment or at an intersection that is operating at a LOS D or worse, the project shall identify improvements to achieve the desired LOS/delay. Below are the proposed thresholds for determining when improvements are needed to a roadway segment or an intersection. The Downtown Specific Plan identifies select roadway segment locations where LOS E is considered acceptable if adjacent intersection operations are LOS D or better. Coordination with City staff for projects within the Downtown Specific Plan is required.

Table 4: Level of Service Thresholds

Level of Service with Project	Allowable Change due to Project		
	Roadway Segments		Intersections
	V/C	Speed Reduction (mph)	Delay (sec/veh)
D, E, or F	0.02	1	2

Notes:
The Downtown Specific Plan identifies select roadway segments where LOS E is acceptable if adjacent intersection operations are LOS D or better.
Transportation improvements should be considered for any segment or intersection operating on LOS F.
V/C: Volume-to-capacity ratio. The roadway capacity is the LOS E threshold as defined in Table 1.

Where existing segments or intersections operate at LOS F, projects should consider measures to reduce any impact or make improvements to a failing facility.

Active Transportation

Pedestrian: The project should construct sidewalks to close sidewalk gaps adjacent to the project site.

The project should remove sidewalk obstructions that limit the pedestrian accessible route to less than four feet in width adjacent to the project site.

The project should construct curb ramps and meet ADA accessibility standards for any intersections adjacent to the project site.

Consideration should be made for traffic calming and pedestrian-related signal timing changes (e.g., leading pedestrian interval signal timing, pedestrian signal head upgrades, installation of accessible signal features) to accommodate an increase in pedestrian demand on roadways and intersections adjacent to the project site.

Bicycle: The project should construct (or preserve space for) any planned bicycle facility pursuant to the City's Bicycle Master Plan, other planning documents, and City design standards.

The project may consider upgrading adjacent bicycle facilities by adding upgraded treatments (e.g., adding buffers or protected bike lanes, where appropriate) to accommodate an increase in bicycle demand.

The project should construct any planned bicycle facilities adjacent to the project frontage to be consistent with the City's Mobility and Infrastructure Element, the Bicycle Master Plan, and other applicable City documents, and through coordination with the City. (This might not be appropriate for short segments.)

Appendix A: Scoping Agreement Form

Scoping Agreement for Transportation Studies

PART 1

General Project Information and Description

Project Information

Project Name:
Project Location:

Project Description

Land Uses and Intensities:
Gross and Developable Acreage:
Building Square Footage or Number of Dwelling Units:
Vehicle Parking Spaces:
Bicycle Parking Spaces:
Motorcycle Spaces:
Electric Vehicle Spaces:

Project Applicant:

Name:
Address:
Telephone and Email:

Consultant

Firm:
Project Manager:
Address:
Telephone and Email:

Project Trip Generation

Source:	**Pass-by Trips:**
Total Daily Trips*:	**Diverted Trips:**
Internal Capture Rate:	**Trip Credit:**
Alternative Modes:	**Net New Daily Trips:**

*If truck traffic accounts for 25% or more of project trips, then a Passenger Car Equivalent (PCE) factor of 2.5 should be applied to all truck trips.

General Plan Consistency

Is this project consistent with the General Plan? ☐ **Yes** ☐ **No**

Site Plan

Attach 11x17 copies of the project location/vicinity map and site plan containing the following:
• Driveway locations and access type
• Pedestrian access, bicycle access, and on-site pedestrian circulation
• Location and distance to nearest existing transit stop (measure as walking distance to project entrance or middle of parcel)
• Location of planned or proposed pedestrian or bicycle improvements within ¼ mile of the project identified in the General Plan Mobility and Infrastructure Element or the Bicycle Master Plan

CEQA Transportation Analysis Screening

Project Type Screening Criteria for CEQA Vehicle Miles Travelled (VMT) Analysis

1) Select the Land Uses that apply to your project 2) Answer the questions for each Land Use that applies to your project *(if "Yes" in any land use category below then that land use (or a portion of the land use) is screened from CEQA VMT Analysis; If a project is screened out, a technical memorandum is still required to document the screening process)*	Screened Out Yes	Not Screened Out No
☐ **1. Small Residential and Employment Projects:**		
a. Does the project result in 200 daily trips or less?	☐	☐
☐ **2. Project is Located in a Transit-Accessible Area:**		
a. Is the project located within a half-mile walking distance of an existing major transit stop or an existing stop along a high-quality transit corridor?	☐	☐
b. Additional project features:		
i. Does the project have a Floor Area Ratio ≥ 0.75?	☐	☐
ii. Does project include the least amount of parking required for residents, customers, or employees (i.e. not more than required)?	☐	☐
iii. Is the project consistent with SANDAG's most recent Sustainable Communities Strategy or the City of Escondido General Plan?	☐	☐
iv. Does the project replace affordable residential units with a greater number of moderate- or high-income residential units?	☐	☐
v. Does the project have basic walking and biking access to transit (e.g., sidewalks connecting to transit stops)?	☐	☐
☐ **3. Project is in a VMT-Efficient Area:**		
a. Is the project in a VMT/Capita or VMT/Employee Efficient Area per SANDAG screening maps?	☐	☐
☐ **4. Locally-Serving Retail Project:**		
a. Is the project less than 50,000 square feet and expected to draw at least 75% of customers from the local area?	☐	☐
☐ **5. Locally Serving Public Facility:**		
a. Is the project a locally serving public facility?	☐	☐
☐ **6. Redevelopment Project:**		
a. Does the project result in a net decrease in total Project VMT than the existing use?	☐	☐

Non-CEQA Local Mobility Analysis

Local Mobility Analysis (LMA) Requirement

1) Select the Street Classifications for each street in the study area 2) Answer the questions for each Street Classification that applies to your project	Yes	No
☐ **1. Prime Arterial:**		
a. Does the project add 900 ADT or more to any segment classified as 8-lane Prime Arterial?	☐	☐
b. Does the project add 800 ADT or more to any segment classified as 6-lane Prime Arterial?	☐	☐
☐ **2. Major Road:**		
a. Does the project add 700 ADT or more to any segment classified as 6-lane Major Road?	☐	☐
b. Does the project add 500 ADT or more to any segment classified as 4-lane Major Road?	☐	☐
☐ **3. Collector:**		
a. Does the project add 500 ADT or more to any segment classified as 4-lane Collector without parking?	☐	☐
b. Does the project add 250 ADT or more to any segment classified as 4-lane Collector with parking?	☐	☐
☐ **4. Local Collector and other:**		
a. Does the project add 200 ADT or more to any segment classified as 2-lane Local Collector or any other classifications?	☐	☐

Certain types of projects which generate less than 500 ADT may be considered by the City staff for an LMA waiver only where the affected segments and intersections operate at LOS C or better.
Please briefly explain why your project might be eligible for an LMA waiver.

PART 2

Trip Distribution and Trip Assignment

☐ **Select Zone (Model Series_____)**	Projects that generate greater than 2,400 daily trips
☐ **Manual Estimation**	Projects that generate less than 2,400 daily trips

Provide an exhibit detailing the project's trip distribution and trip assignment.
Provide a table with the project's daily trip assignment for each street segment in the study area.

Study Intersections and Roadway Segments (NOTE: Subject to change based of staff review)

1.	**6.**
2.	**7.**
3.	**8.**
4.	**9.**
5.	**10.**

Attach a separate page if the number of study locations exceeds 10.

Other Jurisdictions

Is this project located within one mile of another Local Jurisdiction? ☐ **Yes** ☐ **No**

If yes, name of Jurisdiction:

Specific Issues to be addressed within the Study

(in addition to requirements described in the Guidelines – to be filled out by City Staff)

1.
2.
3.
4.
5.

Recommended by:

Consultant's Representative _____ Date _____

Scoping Agreement Submitted on _____ Date _____

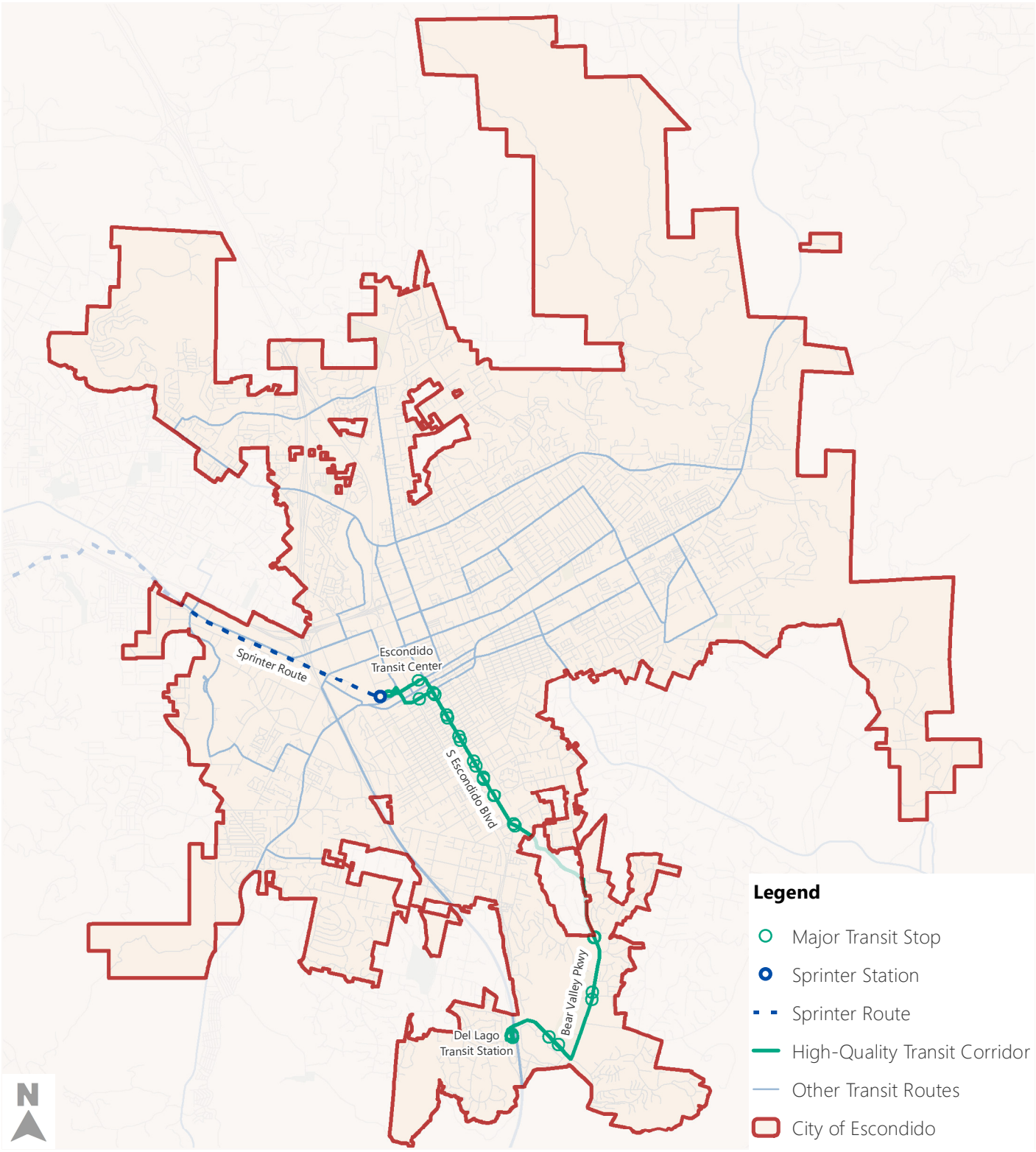
Scoping Agreement Re-submitted on _____ Date _____

Approved Scoping Agreement:

City of Escondido
Transportation Specialist _____ Date _____

Appendix B: Existing Major Transit Stops and Existing High-Quality Transit Corridors

ESCONDIDO
City of Choice



Existing Major Transit Stops and Existing High-Quality Transit Corridors

Appendix C: Land Use Designations

The following table provides a list of unique project types and the land use type they should be considered under for SB 743 screening and analysis.

Land Use Categories

Land Use Category for SB 743 Analysis for all Project Types	
1. Residential Projects	
• Estate, Urban, or Rural • Single Family Detached • Condominium • Apartment • Transitional Housing	• Military Housing (off-base, multi-family) • Mobile Home • Retirement Community • Congregate/Recuperative Care Facility
2. Employment Projects	
• Agriculture • Hospital: General • Hospital: Convalescent/Nursing • Industrial/Business Park (commercial included) • Science Research & Development • Hotel (with convention facilities/restaurant) • Motel • Resort Hotel • Business Hotel	• Military • Standard Commercial Office • Large (High-Rise) Commercial Office • Office Park • Single Tenant Office • Corporate Headquarters (without commercial) • Government Offices (Use is primarily office with employees; no substantial in-person service) • Medical/Dental
3. Industrial Employment Projects	
• Industrial Park (no commercial) • Industrial Plant (multiple shifts) • Manufacturing/Assembly	• Warehousing • Storage
4. Regional Retail Projects (includes Recreational Uses): Not Locally-Serving	
• Super Regional Shopping Center • Regional Shopping Center • Community Shopping Center	• Parks: Amusement • Golf Course (includes driving ranges)

Land Use Categories

Land Use Category for SB 743 Analysis for all Project Types	
5. Retail Projects (includes Recreational Uses): May qualify for locally-serving based on size/market study	
• Car Wash • Gasoline • Sales (Dealer & Repair) • Auto Repair Center • Auto Parts Sales • Quick Lube • Tire Store • Neighborhood Shopping Center • Commercial Shops • Mixed Use: Commercial (with supermarket)/ Residential: *consider each land use type separately for screening*	• Bowling Center • Multi-purpose (miniature golf, video arcade, batting cage, etc.) • Racquetball/Health Club • Tennis Courts • Sports Facilities (indoor/outdoor) • Theaters (multiplex with matinee) • Restaurant • Financial (Bank or Savings & Loan)
6. Regional Public Facilities: Generally Not Locally-Serving	
• Airport: Commercial • Airport: General Aviation • Airport: Heliports • Cemetery • Regional Church (or Synagogue) • University (4 years) • Junior College (2 years) • High School: Private • Middle/Junior High School: Private	• Elementary School: Private • Parks: Regional (developed) • Parks: State • Bus Depot • Truck Terminal • Beach, Ocean, or Bay • Beach, Lake (fresh water) • Landfill & Recycling Center
7. Locally-Serving Public Facilities	
• High School: Public • Middle/Junior High School: Public • Elementary School: Public • Day Care (Public or Private) • Library • Park: City • Park: Neighborhood/County	• Post Office • Department of Motor Vehicles • Government Offices (Providing primarily in-person customer service) • Transit Station (light rail with parking) • Park & Ride Lots

* Land use designations match the categories in SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*.

Appendix D: Screening Criteria and Threshold Evidence

ESCONDIDO
City of Choice

Screening Criteria and Threshold Evidence

This appendix provides context and justification/rationale for the screening criteria and thresholds for performing transportation VMT CEQA impact analysis.

Screening Criteria

Development projects are presumed to have less-than-significant impacts to the transportation system, and therefore would not be required to conduct a VMT analysis, if any of the following criteria are established.

1. Small Residential and Employment Projects

Small projects, which are wholly residential and/or employment projects with independent utility that would generate fewer than 200 net average daily vehicle trips (ADT), would also not result in significant VMT impacts on the transportation system.

Evidence – The OPR Technical Advisory states that "projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant impact." This is supported by the fact that CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public services and facilities are available to allow for maximum planned development, and the project is not located in an environmentally sensitive area [CEQA Guidelines § 15301(e)(2)]. Typical project types for which trip generation increases relatively linearly with building footprint (e.g., general office building, single tenant office building, office park, or business park) generate or attract an additional 110 to 124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

The OPR Technical Advisory uses the Institute of Transportation Engineers (ITE) trip generation rates. In Escondido, the trip generation for a small project was determined utilizing the SANDAG *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* trip generation rates for Standard Commercial Office following the same OPR Technical Advisory rationale. These rates are listed below.

Trip Generation Rate

Land Use	Quantity	Trip Generation
Standard Commercial Office	1,000 square feet (sf)	20 Trips
Trip Generation for 10,000 sf of Standard Commercial Office		
Standard Commercial Office	10,000 sf	200 Trips

Source: SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region.*

Using SANDAG's trip generation rates for a 10,000-square-foot standard commercial office, the daily trip generation is calculated as 200. This number was used to define a small residential or employment project. Use of SANDAG's trip generation rates is appropriate for determining the small project threshold, since this is the source for trip generation for projects reviewed by the City of Escondido.

2. Projects Located in a Transit-Accessible Area

Projects located within a half mile of an existing major transit stop or an existing stop along a high-quality transit corridor[5] may be presumed to have a less-than-significant impact provided the following:

- Has a Floor Area Ratio of at least 0.75
- Includes no more than the minimum parking for use by residents, customers, or employees of the project as required by the City
- Is consistent with SANDAG's most recent Sustainable Communities Strategy or the City of Escondido General Plan
- Does not replace affordable residential units with a smaller number of moderate- or high-income residential units
- Has basic walking and biking access to transit (e.g., sidewalks connecting to transit stops)

Evidence – Projects located within a half mile of an existing major transit stop or a half mile from stops along high-quality transit corridors can help reduce VMT by increasing capacity for transit-supportive residential and/or employment densities in low VMT areas. The increased density that is associated with projects in a transit-accessible area can increase transit ridership and therefore justify enhanced transit service, which would in turn increase the number of destinations that are accessible by transit and further increase transit ridership and decrease VMT.

Additionally, CEQA Guidelines section 15064.3(b) states, "Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact."

3. Projects in a VMT-Efficient Area

If a residential development is located in an area where VMT/capita is 15% or more below the regional average, or a commercial employment development is located in an area where VMT/employee is 15% or more below the regional average, or an industrial employment development is located in an area where the VMT per employee is at or below the regional average, the project is presumed to result in a less-than-significant CEQA impact.

[5] "Major transit stop" means a site containing an existing rail or bus rapid transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. (See Public Resources Code § 21064.3.) "High-quality transit corridor" means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. (See Public Resources Code § 21155(b).)

The City of Escondido will determine VMT-efficient areas using maps provided on the SANDAG website.[6] As new model versions are released (e.g., ABM 2+), SANDAG will produce VMT screening maps consistent with the final OPR Technical Advisory and Updated CEQA Guidelines (December 2018) for use by its member agencies.

Evidence – This presumption is consistent with the Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) (OPR Technical Advisory), which provides that, "residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Maps created with data from a travel survey or travel demand model can illustrate areas that are currently below threshold. Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis."

Evidence – Purely industrial uses are desired to be located in less VMT-efficient, higher-VMT areas in the City of Escondido. Placing these land intensive uses in areas with less efficient VMT allows land in efficient VMT areas to be more effectively utilized as high density residential and commercial uses. This threshold will encourage industrial uses to develop in locations appropriate for industrial and agricultural uses, leaving infill and more VMT-efficient areas available for more dense uses.

Specifically, the OPR Technical Advisory states, "Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types."

4. Locally-Serving Retail Projects

Locally serving retail projects less than 50,000 square feet that are expected to draw at least 75% of customers from the local area may be presumed to have a less than significant impact absent substantial evidence to the contrary. Locally serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel.

[6] The VMT/Capita and VMT/Employee screening maps are created using information from the current version of the SANDAG model at the time a project notice of preparation (NOP) is produced. As SANDAG updates the model to reflect development and planning throughout the region, the screening maps will be updated and may change resulting in development that may have at one time been screened to no longer be screened and vice versa. As the model is updated, earlier versions of the model will also cease to be supported by SANDAG, meaning that model runs can no longer be completed with the previous versions of the model. If a project begins the transportation study process using one version of the model that becomes unsupported during the process, the project can utilize model outputs from the older model version, as long as no additional modeling work will be done. Projects cannot complete their transportation analysis using multiple model versions.

Evidence – The OPR Technical Advisory states, "Because new retail development typically redistributes shopping trips rather than creating new trips,[7] estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts." Local serving retail generally shortens trips as longer trips from regional retail are redistributed to new local retail.

5. Locally-Serving Public Facilities

Community-purpose facilities serve the community and either produce very low VMT or divert existing trips from established local facilities. A replacement/remodel of an existing local serving public facility with no net increase in VMT would not require a VMT analysis for CEQA.

Evidence – Similar to locally serving retail, locally serving community-purpose facilities would redistribute trips and would not create new trips.[8] Thus, similar to locally serving retail, trips are generally shortened as longer trips from a regional facility are redistributed to the locally serving public facility.

6. Redevelopment Projects with Lower Total VMT

A redevelopment project that demonstrates that the total project VMT is less than the existing land use's total VMT is not required to complete a VMT analysis.

Evidence – Consistent with the OPR Technical Advisory, "[w]here a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply."

If a residential or office project leads to a net increase in VMT, then the project's VMT/capita (residential) or VMT/employee (office) should be compared to thresholds recommended above. Per capita and per employee VMT are efficiency metrics, and, as such, apply only to the proposed project without regard to the VMT generated by the previously existing land use.

"If the project leads to a net increase in provision of locally-serving retail, transportation impacts from the retail portion of the development should be presumed to be less than significant. If the project consists of regionally-serving retail, and increases overall VMT compared to with existing uses, then the project would lead to a significant transportation impact." – OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018).

Thresholds

7 Lovejoy, et al., Measuring the Impacts of Local Land-Use Policies on Vehicle Miles of Travel: The Case of the First Big-Box Store in Davis, California, Journal of Transport and Land Use, 2013.

8 Lovejoy, et al., Measuring the Impacts of Local Land-Use Policies on Vehicle Miles of Travel: The Case of the First Big-Box Store in Davis, California, Journal of Transport and Land Use, 2013.

If a project is required to complete a VMT analysis, the project's impacts to the transportation system would be significant if the VMT would exceed any of the thresholds below.

Residential

Threshold – 15% below regional average VMT/capita

Evidence – The OPR Technical Advisory provides that, "residential development that would generate vehicle travel that is 15 or more percent below the existing residential VMT per capita, measured against the region or city, may indicate a less-than-significant transportation impact."

Employment

Threshold – 15% below regional average VMT/employee

Evidence – The OPR Technical Advisory provides that, "office projects that would generate vehicle travel exceeding 15 percent below existing VMT per employee for the region may indicate a significant transportation impact."

Industrial Employment

Threshold – At or below regional average VMT/employee

Evidence – The OPR Technical Advisory states, "Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types." Purely industrial uses are desired to be located in locations that are less dense and not within urban areas, which typically have higher VMT/employee. Industrial land uses are land intensive; therefore, placing industrial land uses in less urban areas characterized by having higher VMT/employee allows land in efficient VMT areas to be more effectively utilized as high density residential and commercial uses. This threshold is consistent with achieving an overall reduction in Regional VMT as it recognizes that industrial uses, which are relatively lower total VMT generating uses, are most appropriate in areas that have a lower potential to reduce VMT because it results in more available land within areas with a high potential to achieve VMT reductions available for more dense development.

Regional Retail, Regional Recreational, or Regional Public Facilities

Threshold – A net increase in total regional VMT using the boundary method

Evidence – The OPR Technical Advisory states, "Because new retail development typically redistributes shopping trips rather than creating new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts… Regional-serving retail development… which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less than significant."

Retail within the City of Escondido will be analyzed consistent with the OPR technical advisory. The City of Escondido has retail uses that attract trips from beyond a neighborhood, which are defined in the SANDAG *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* as "Community Shopping Center," "Regional Shopping Center," and "Super Regional Shopping Center."

The recommendations for regional retail uses can also be applied to regional recreational and regional public facilities since these types of facilities operate in a similar way from a transportation/customer attraction perspective.

Appendix E: Transportation Project Screening

ESCONDIDO
City of Choice

Transportation Project Screening Criteria

The following complete list is provided in the OPR Technical Advisory (December 2018, Pages 20-21) and refined for the City of Escondido for transportation projects that, "would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis."

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity
- Roadside safety devices or hardware installation, such as median barriers and guardrails
- Roadway shoulder enhancements to provide "breakdown space," dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left-turn lanes, or emergency breakdown lanes that are not utilized as through lanes
- Addition of roadway capacity on local or collector streets, provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Closing gaps in the transportation network in conformance with the Circulation Element of the General Plan where the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit.
- Conversion of existing general purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes
- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Installation of traffic metering systems, detection systems, cameras, changeable message signs, and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
- Timing of signals to optimize vehicle, bicycle, or pedestrian flow
- Installation of roundabouts, or traffic circles
- Traffic signal modifications and new traffic signals where warrants are met by existing levels of traffic and the project improves accessibility for active transportation.

- Installation or reconfiguration of traffic calming devices
- Adoption of or increase in tolls
- Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase
- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
- Addition of traffic wayfinding signage
- Rehabilitation and maintenance projects that do not add motor vehicle capacity
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- Installation of publicly available alternative fuel/charging infrastructure
- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor

Appendix F: Summary of Desired Transit Stop Features

Excerpt from North County Transit District's *Bus Stop Development Handbook* (March 2018)

3.0 Bus Stop Guidelines

Obstacles to improving transit infrastructure – lack of sidewalk and bike network, available space for stop infrastructure (including ADA), accessible neighborhood sidewalks connecting to stops, accessible street crossings. Work with city departments to make improvements and encourage continued upgrades to complete the networks, especially during other construction projects.

3.1 Curb-Side Improvements

Passenger comfort, safety, and convenience are all impacted by bus stop features that are located off the street or roadway, commonly referred to as curbside improvements. This section outlines how developers and jurisdictions can appropriately locate bus stops and choose the correct stop type, as well as information on general preferred and recommended curbside improvements.

3.1.1 Bus Stop Types

The design of a bus stop can often impact the amount of ridership at that particular location. A stop must be accessible, safe, and convenient for passengers. NCTD has developed three distinct bus stop types – the basic stop, the bench stop, and the shelter stop – as well as stops associated with transit stations/centers.

BASIC STOPS are characterized by the presence of a bus stop sign only, and do not contain passenger amenities like benches or shelters. These stops are generally utilized in rural areas or those areas with lower density and lower ridership. Basic stops are required to meet ADA design requirements.

BENCH STOPS are basic transit stops with the addition of a bench for waiting passengers and trash receptacles. In some cases, additional amenities such as lighting or bicycle racks may be warranted. Bench stops are best suited for areas with low to medium density and ridership.

	Required Amenities	Recommended Amenities	Optional Amenities
Bench Stops	• Bus stop sign • ADA accessible pad • Bench • Connection to adjacent sidewalks/pathways • Trash receptacle	• Lighting • Bicycle racks/lockers • Transit route information	• Screening from sun / elements (landscaping) • Transit system information

SHELTER STOPS are located in areas with higher ridership and medium to high density developments. In addition to a sign, ADA compliant concrete pad, and bench, these stops include a shelter and trash receptacle, at a minimum. Additional amenities like lighting and bicycle racks are highly encouraged. The design of a shelter stop is dependent upon the existing features of the site, including sidewalk design, right-of-way, and proximity to existing structures.

	Required Amenities	Recommended Amenities	Optional Amenities
Shelter Stops	• Bus stop sign • ADA accessible pad • Bench • Shelter • Connection to adjacent sidewalks/pathways • Trash receptacle	• Lighting • Bicycle racks/lockers • Transit route information • Screening from sun / elements (landscaping) • Transit system information	• Digital messaging signs

STATION STOPS are associated with branded services like BREEZE Rapid. These stops have enhanced passenger amenities, including more robust transit system information signage and branded shelters.

	Required Amenities	Recommended Amenities
Station Stops (BREEZE Rapid)	• All requirements of shelter stops, plus: • Single shelter or double shelter with integrated station marker • Station marker with integrated seats • Solar-powered LED lighting	• Transit route and schedule information • Transit system information • Wayfinding signage • Digital messaging signs

The dimensions for each stop type above have been provided as guidelines for the development of new bus stops. District staff understands that some stops may not be able to be retrofitted to meet these standards, or alternative designs may be more feasible based on existing conditions. When a developer has been required to upgrade an existing stop, District staff should be contacted to help create an appropriate design.

3.1.2 Bus Stop Type Selection Criteria

The type of stop provided is primarily driven by route frequency and land use density – routes with higher frequency are typically located in areas with more intensive development, and generally result in more daily boardings. The table below shows the recommended attributes for each of the four stop types. District staff will assist developers in determining the appropriate stop type on a case-by-case basis.

Table 1: Bus Stop Type Location Recommendations

Criteria	Basic Stop	Bench Stop	Shelter Stop
Minimum Daily Boardings			
Rural Stop	<5 daily boardings	5 – 10 daily boardings	10+ daily boardings
Suburban Stop	<10 daily boardings	10 – 20 daily boardings	>20 daily boardings
Urban Stop	<20 daily boardings	20 – 30 daily boardings	>30 daily boardings
Density Considerations	Low density residential; Rural	Low to Medium Density Residential; Commercial; Industrial	Medium to High Density Residential; Mixed-Use; Commercial Core
Land Use and Development: Located ¼-mile (max.) from employment center, retail/commercial center, mixed use development or other major activity center			✓
Population Considerations: Youths, seniors, disabled persons, low-income households		Within ¼-mile of population concentrations	Within 1/8-mile of population concentrations
Connections with other NCTD mode or transit provider		✓	✓
Located within Planned Enhanced Development Corridor			✓

In addition, NCTD's system also includes Station Stops, which are generally characterized by service from multiple routes and/or providers, enhanced facilities, and higher ridership. Stops that are served by BREEZE Rapid are also categorized as Station Stops. New stations should be focused in urban and more developed suburban areas with a mix of uses, commercial core development, and medium to higher density housing, particularly with affordable and multi-family housing, in addition to the provision of enhanced transit service or connections to multiple transit options. In suburban settings, a minimum of 100 daily boardings may warrant a general station, while in urban settings, a minimum of 500 daily boardings should be generated.

3.1.3 Design and Access

Providing defined, safe, and direct access to a bus stop is critical to maintaining and increasing transit usage. Access to a bus stop from an intersection or land use should be as direct as possible, and provide essential security and safety along the route. General guidelines for access are as follows:

Appendix G: Trip Length Adjustments

Trip Length Adjustments

Trip length adjustments for trips leaving the SANDAG Model Area can be made by using the California Statewide Travel Demand Model (CSTDM).

Adjusting the length of trips leaving a model boundary requires appending extra distance at the model gateway zone (or external centroid) connectors. This process results in new gateway distances that are weighted based on the amount and location of external travel origins and destinations.

The first step of this process is to determine trip volume leaving or entering the model boundary. These are referred to as internal-to-external (IX) and external-to-internal (XI) trips. This data can be generated either from O-D trip matrices or by conducting a select zone analysis to track trips to the model gateways. The volume at the gateways for this purpose should not include external-to-external (XX) through trips.

Determining the full length of trips leaving or entering a model boundary requires an OD dataset that includes flows between the model area and the area external to the model. The California Statewide Travel Demand Model (CSTDM) should be used to develop the OD dataset.

The next step requires determining the gateway(s) based on the SANDAG model which trips from the OD data source would travel through. The trip length adjustment process ultimately requires calculating the weighted average distance beyond each model gateway. The process of calculating trip lengths external to the SANDAG model region for trips entering or exiting the SANDAG model area using the CSTDM is described below:

- Create correspondence between Study Area TAZs within SANDAG model to the Statewide Model TAZs.
- Add "Gate" attribute to CSTDM roadway network links and set "Gate" equal to gateway id only for those links identified as the locations corresponding to the SANDAG model gateways.
- Add "Gate_Dist" attribute to CSTDM roadway network links and set "Gate_Dist" equal to the link distance for those links outside the SANDAG model boundary. All the CSTDM roadway links inside the SANDAG model boundary will have a "Gate_Dist" attribute of 0.
- Run a highway skim on the CSTDM roadway network to skim the shortest travel time between each OD pair, tracking the gateway and distance outside the SANDAG model boundary.
- For each gateway, summarize the average distance beyond the SANDAG model boundary weighted by volume at each gateway.
- Tag the gateway distance from the above step using CSTDM to the gateways in the SANDAG model and multiply to the gateway volume from the SANDAG model to determine the gateway external VMT to the SANDAG model. Make sure not to double-count any overlap distance that is already accounted for in the VMT calculation from the SANDAG model.

Table G1 shows the base year (2012) weighted average distance beyond the SANDAG model boundary for trips passing through each model gateway, as calculated using the methodology above.

Table G1: Trip Distances Outside San Diego County for Entering and Exiting Trips

Gateway		Distance Outside San Diego County (miles)	
Route	**County**	**IX Trips**	**XI Trips**
I-8	Imperial	70.16	69.20
SR-78	Imperial	54.07	58.90
SR-79	Riverside	71.71	62.54
Pechanga Pkwy	Riverside	35.89	30.91
I-15	Riverside	24.86	24.81
I-5	Orange County	60.54	62.81

Source: Fehr & Peers, California Statewide Travel Demand Model.

Appendix H: VMT Mitigation Sample Calculation

VMT Mitigation Sample Calculation

As shown, each VMT reduction strategy is calculated individually then combined in the equation to determine the overall VMT reduction. The sum of all strategies results in a total of 11.6%; however, the overall VMT reduction is calculated using the multiplicative formula to account for the fact that some strategies are redundant or duplicative in nature.

Land Use Strategies

- **Land Use/Diversity:** 5.0% **P_a = 5.0%**

Travel & Commute Services for Residents

- **Neighborhood/Site Enhancements:** 3.0% **P_b = 3.0%**
  - Pedestrian/Bicyclist Trails Network: 2.0%
  - Electric Bike-Share Program: 0.6%
  - Car-share Program: 0.4%
  - Category % VMT Reduction = 1 – (1 – 2.0%) * (1 – 0.6%) * (1 – 0.4%)= 3.0%

- **Transit System Improvements Strategies:** 1.2% **P_c = 1.2%**
  - Network Expansion (through Local Shuttle Service): 0.9%
  - Service Frequency/Speed Increase (through Local Shuttle Service): 0.3%
  - Category % VMT Reduction = 1 – (1 – 0.9%) * (1 – 0.3%) = 1.2%

- **Commute Trip Reduction (CTR) for residents (home based work):** 2.0% **P_d = 2.0%**
  - Ridesharing Support Features for Residents: 0.6%
  - Transit Fare Subsidy for Residents: 0.9%
  - TDM Program Marketing for Residents: 0.5%
  - Category % VMT Reduction = 1 – (1 – 0.6%) * (1 – 0.9%) * (1-0.5%) = 2.0%

Commute Services for Employees

- **Commute Trip Reduction (CTR) for employees:** 0.4% **P_e = 0.4%**
  - Transit Fare Subsidy for Employees: 0.3%
  - TDM Program Marketing for Employees: 0.1%
  - Category % VMT Reduction = 1 – (1 – 0.3%) * (1-0.1%) = 0.4%

$$\text{Total VMT Reduction} = (1 - P_a) * (1 - P_b) * (1 - P_c) * (1 - P_d) * (1 - P_e)$$

P_x = percent reduction of each VMT reduction strategy

Total VMT Reduction = (1 – 5.0%) ∗ (1 – 3.0%) ∗ (1 – 1.2%) ∗ (1 – 2.0%) ∗ (1 – 0.4%) = **11**

ESCONDIDO
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CITY OF ESCONDIDO
TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: April 8, 2021 **Item No.: F3**

Location: **Citywide**

Initiated By: **Staff**

Request: **Approval of City of Escondido Continental Crosswalk Standard**

Background:

Chronology:
Efforts toward improving conditions for pedestrian safety have been evolving over the past 20 years - from a national, state and local perspective.

In California, significant changes have taken place since the passage of the Complete Streets Act of 2008. Caltrans has increasingly added emphasis on multimodal accommodations.

The City has also focused on improving pedestrian safety through its Traffic Management Projects List, installation of sidewalks and pedestrian signals and with updates to its Traffic Policy Pedestrian Crosswalks.

In recent years, the Commission has reviewed and approved the following crosswalk-related items:

- On July 9, 2015 Transportation and Community Safety Commission was presented with the City of San Diego's 2015 *Marked Crosswalk Criteria at Uncontrolled Locations'* Council Policy, together with a comparison of it with the City of Escondido Policy, Commission's approval was to proceed with amending the COE's Crosswalk Policy.
- On October 8, 2015, Transportation and Community Safety Commission approved the "Basic Warrants" and "Points Warrants" Chapters of the new City of Escondido Crosswalk Policy.
- On January 14, 2016, Transportation and Community Safety Commission approved the new City of Escondido Crosswalk Policy that included Chapter 3 "Crosswalk Treatments".
- On April 14, 2016, the Commission approved the use of a High-Visibility Ladder-style Crosswalk treatment for Mid-block and Uncontrolled Crossings. The policy revision regarding 'Crosswalk Treatments' on January 14, 2016 had only referred to 'high-visibility' crosswalks, without specifying a particular style.
- At the July 13, 2017, Commission meeting, commissioners approved minor changes to the City of Escondido Crosswalk Policy approved on January 14, 2016. The changes were related to visibility, illumination and warning devices.

Discussion & Purpose:

From a regional perspective, crosswalk standards in recent years have progressed to more visible designs, and a consistency amongst guiding agencies as well as peer agencies. In February 2015, the City of San Diego issued *'Adoption of High Visibility (Continental) Crosswalk'* (attached for reference). Since that time, this crosswalk treatment has been adopted by Caltrans, the County of San Diego, and the majority

of communities in the region, primarily because the bold longitudinal bars are highly visible from a driver's perspective,

There is also strong interest and advantages in providing a consistent design from one community to the next. As examples, in two recent projects in the City of Escondido, both Caltrans and San Marcos were specifying Continental crosswalks at intersections within their jurisdiction, and the City was specifying the Ladder crosswalk at the other side of the same intersection, or at the adjacent intersection. It is desirable to present uniformity with traffic control devices, and this uniform approach is what is prompting this recommendation that the City's standard for high-visibility crosswalks be changed to Continental style.

Besides the bold, highly-visible design of the Continental crosswalk, there are other advantages, including maintenance and ease of installation during construction. When properly installed, the painted bars are lined up with the lane stripes, and the center of each vehicle lane. This design provides a gap where cars' tires would track through the intersection, thus eliminating the wear factor that causes frequent re-painting of crosswalks. Further, this change has prompted development of a City crosswalk standard that includes additional detail for installation, including installations on skewed crosswalks. See Attachment: *High Visibility Crosswalks*

Thus, the City of Escondido Crosswalk Policy is proposed to be amended to replace 'Ladder-style' crosswalk with 'Continental-style' crosswalk as the City Standard for High Visibility Crosswalks for use in mid-block and uncontrolled locations as referenced in the April 14, 2016 Commission meeting.

Recommendation: Approval of the Continental Crosswalk Standard as the City of Escondido High Visibility Crosswalk Standard.

Necessary Council Action: None

Respectfully submitted,

Prepared by:

Craig Williams
Associate Engineer/Traffic Division

Reviewed by:

Owen Tunnell, PE
Assistant City Engineer

Approved by:

Julie B. Procopio, PE
Director of Engineering Services/City Engineer

Attachment: City of San Diego *'Adoption of High Visibility (Continental) Crosswalk'* 2015

THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: February 11, 2015

TO: Distribution

FROM: James Nagelvoort, City Engineer
Kris McFadden, Director, Transportation & Storm Water Department

SUBJECT: Adoption of High Visibility (Continental) Crosswalks

---

This memo is to announce a City standard for high visibility (Continental) crosswalks that will replace our current practice of transverse type crosswalks (two parallel lines) within the public right-of-way (ROW). The installation of continental crosswalks as shown in the attached Standard Drawing SDM-116 for Continental Crosswalk Markings Layout and Notes will become effective on May 1, 2015.

All new projects within the public ROW will be required to upgrade marked crosswalks to the continental crosswalk striping. Projects currently under design and construction must be reviewed for conformance with the new striping standard. All future contract documents must reflect the attached standard drawing.

Please notify your Project Managers, designers, consultants, and maintenance crews of the new standards. If you have any question or need additional information, contact Julio Fuentes, Senior Traffic Engineer, at (619) 533-3092 or jfuentes@sandiego.gov.

James Nagelvoort, P.E., City Engineer
Director, Public Works Department

Kris McFadden, Director
Transportation & Storm Water Department

Attachment: City Standard Drawing SDM-116

Distribution List:
Scott Chadwick, Chief Operating Officer
Stacey LoMedico, Assistant Chief Operating Officer
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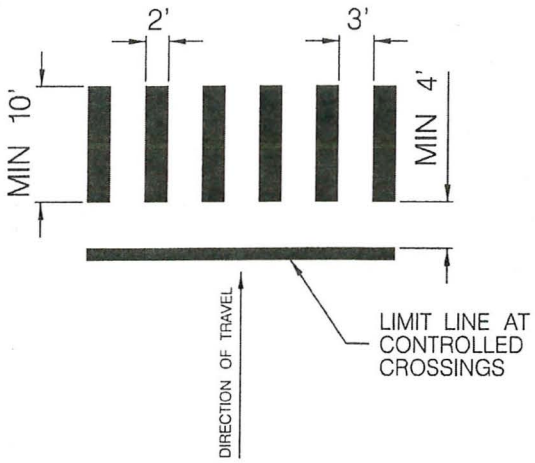
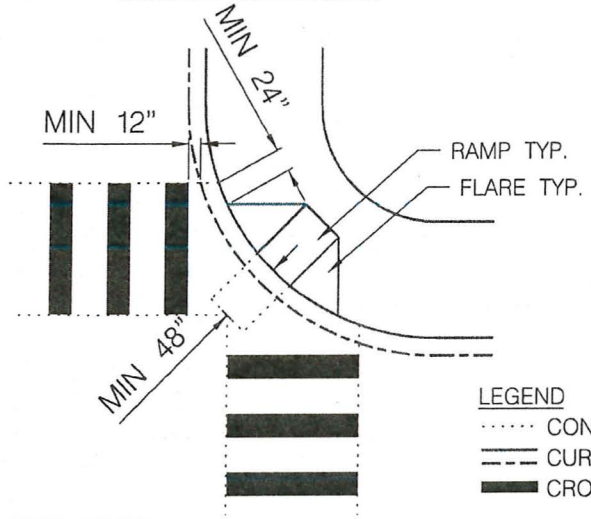
Greg Hopkins, Deputy Director, City Land Surveyor, Development Services Department
Linda Marabian, City Traffic Engineer, Transportation & Storm Water Department
Kristy Reeser, Interim Deputy Director, Transportation & Storm Water Department
Deputy City Engineers

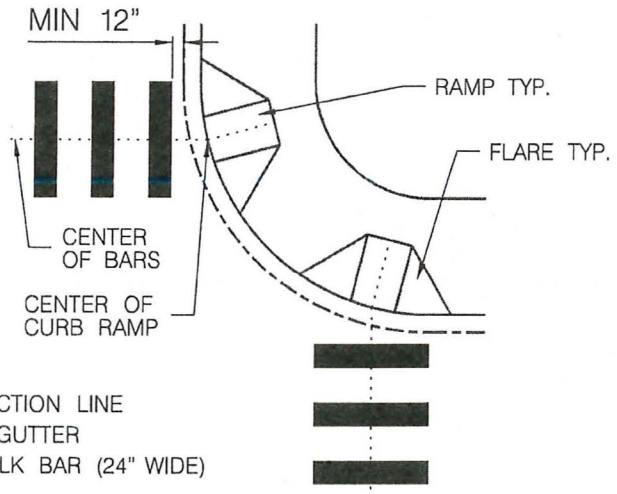
TYPICAL CONTINENTAL CROSSWALK MARKINGS



SINGLE RAMP CORNER



DUAL RAMP CORNER



LEGEND

- CONSTRUCTION LINE
- CURB & GUTTER
- CROSSWALK BAR (24" WIDE)

GENERAL NOTES:

1. ALL MARKED CROSSWALKS SHALL HAVE CONTINENTAL MARKINGS UNLESS APPROVED OTHERWISE.
2. MARKED CROSSWALK LOCATIONS CONSISTING OF BRICK PAVERS OR OTHER DECORATIVE PAVING SHALL BE PROVIDED WITH A LIMIT LINE ONLY.
3. SIGNALIZED INTERSECTIONS SHALL BE PROVIDED WITH A MARKED CROSSWALK ACROSS EACH LEG WHERE PEDESTRIANS ARE PERMITTED TO CROSS.
4. CONTINENTAL CROSSWALK MARKINGS SHALL BE ALIGNED PARALLEL TO THE DIRECTION OF VEHICULAR TRAVEL.
5. LIMIT LINES SHALL BE INSTALLED A MINIMUM OF 4 FEET IN ADVANCE OF MARKED CROSSWALKS FOR THE APPROACH LANES AT ALL CONTROLLED CROSSINGS.
6. MARKED CROSSWALKS SHOULD BE A MINIMUM OF 10 FEET IN WIDTH. PLACEMENT OF CONTINENTAL CROSSWALKS SHALL COMPLY WITH ACCESSIBILITY REGULATIONS PER THE MOST RECENT VERSION OF AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS.
7. THE CROSSWALK BETWEEN A DUAL RAMP CORNER AND A SINGLE RAMP CORNER SHALL BE AT LEAST 10 FEET WIDE AND SATISFY THE MINIMUM OF 2 FEET BEYOND THE FLARE REQUIREMENT FOR THE SINGLE RAMP.
8. CONTINENTAL CROSSWALK BARS SHALL BE UNIFORM WITHIN THE SAME CROSSING. NO PARTIAL BARS SHALL BE INSTALLED.
9. A CROSSWALK BAR SHALL BE CENTERED IN THE CENTER OF THE CROSSING.
10. CROSSWALK MARKINGS SHALL BE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA–MUTCD) RETROREFLECTIVITY COMPLIANT AND SKID RESISTANT.

REVISION	BY	APPROVED	DATE
ORIGINAL	JF	J. NAGELVOORT	02/15

CITY OF SAN DIEGO – STANDARD DRAWING

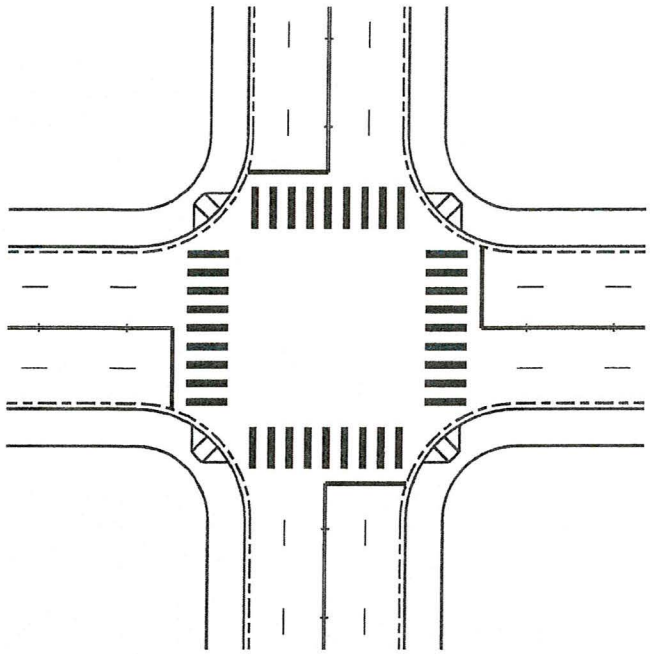
CONTINENTAL CROSSWALK MARKINGS LAYOUT AND NOTES

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

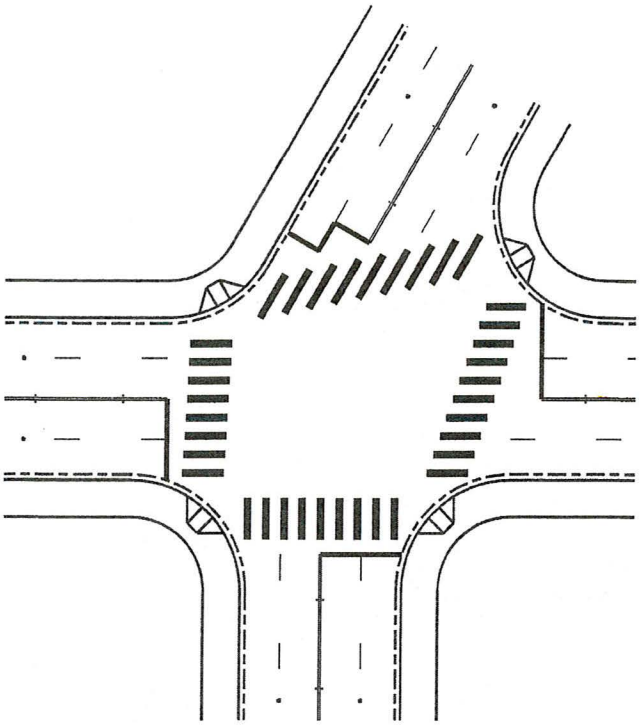
COORDINATOR R.C.E. 56523 2/5/2015 DATE

DRAWING NUMBER **SDM-116**

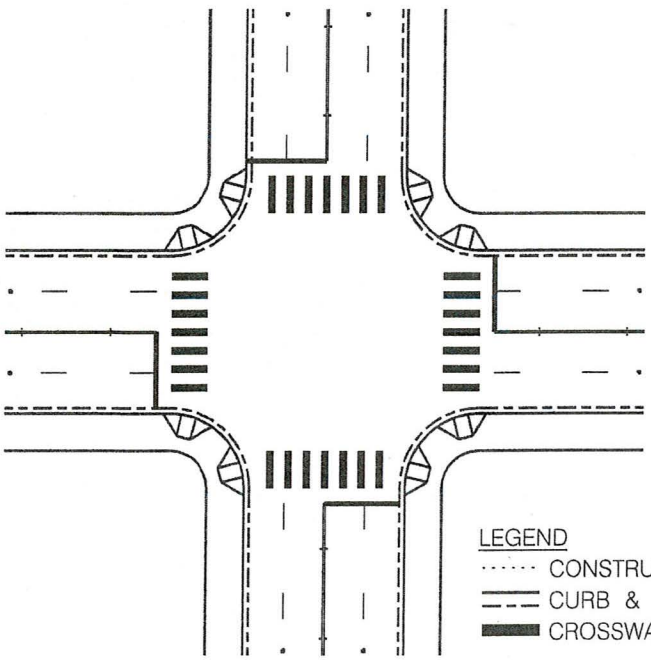
CASE 1 – SINGLE RAMP ORTHOGONAL



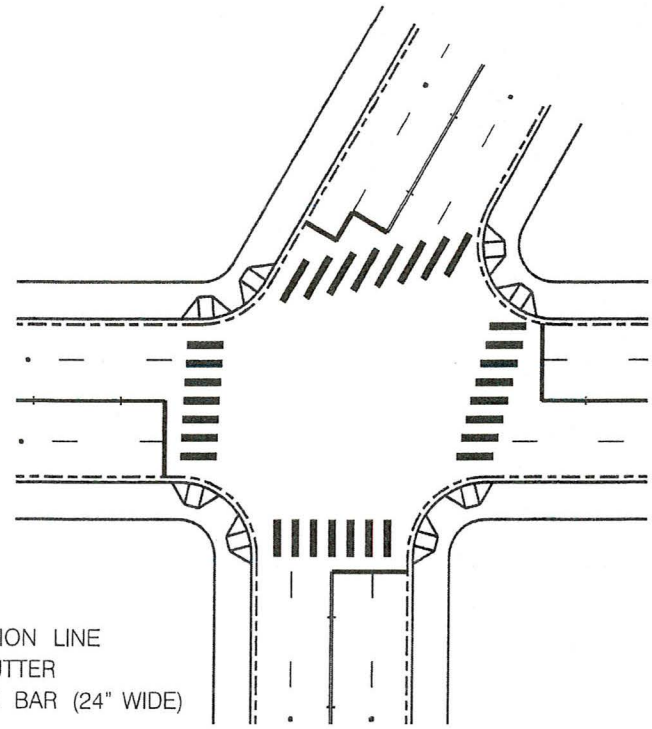
CASE 2 – SINGLE RAMP SKEWED



CASE 3 – DUAL RAMP ORTHOGONAL



CASE 4 – DUAL RAMP SKEWED



LEGEND

- ····· CONSTRUCTION LINE
- ═══ CURB & GUTTER
- ▬▬ CROSSWALK BAR (24" WIDE)

SHEET 2 OF 3

REVISION	BY	APPROVED	DATE
ORIGINAL	JF	J. NAGELVOORT	02/15

CITY OF SAN DIEGO – STANDARD DRAWING

CONTINENTAL CROSSWALK MARKINGS LAYOUT AND NOTES

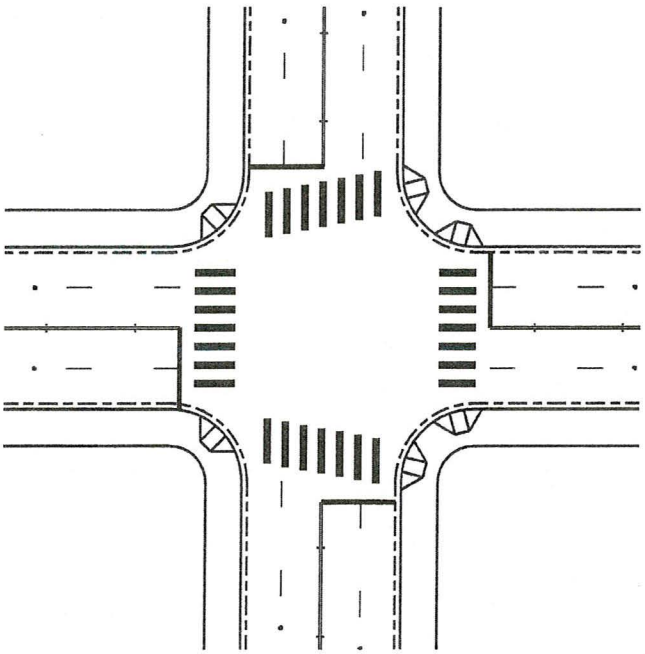
RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

C. Bringas 2/5/2015

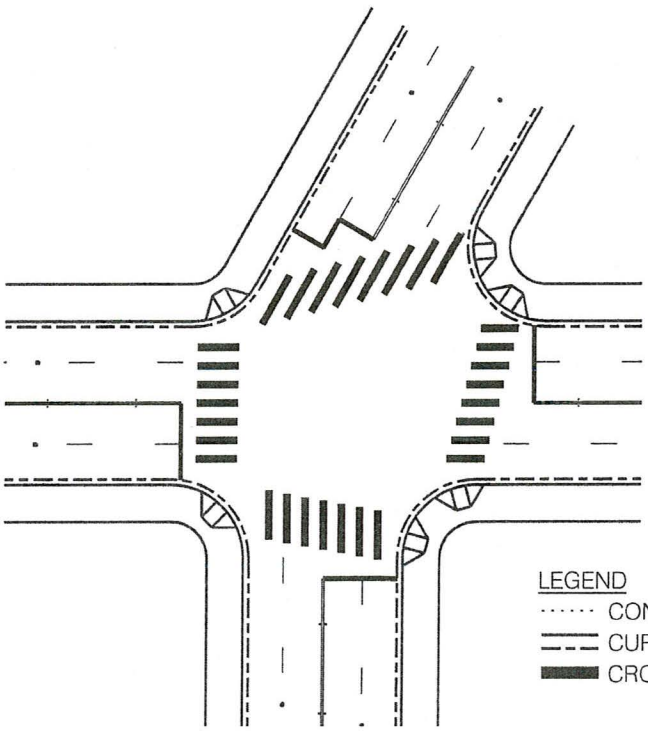
COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDM-116**

CASE 5 – DUAL AND SINGLE RAMP ORTHOGONAL



CASE 6 – DUAL AND SINGLE RAMP SKEWED



LEGEND

····· CONSTRUCTION LINE

═══ CURB & GUTTER

▬▬ CROSSWALK BAR (24" WIDE)

REVISION	BY	APPROVED	DATE
ORIGINAL	JF	J. NAGELVOORT	02/15

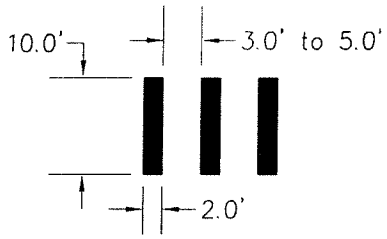
CITY OF SAN DIEGO – STANDARD DRAWING

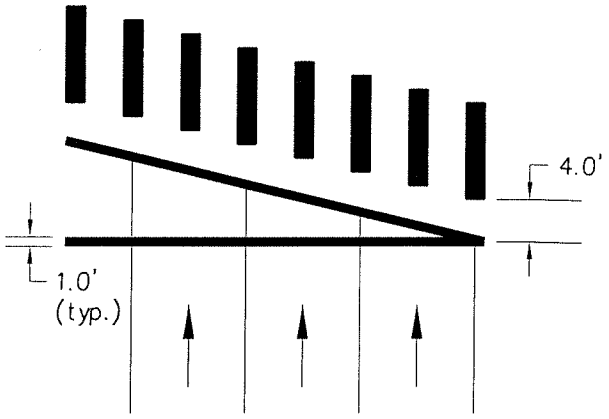
CONTINENTAL CROSSWALK MARKINGS LAYOUT AND NOTES

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

COORDINATOR R.C.E. 56523 2/5/2015 DATE

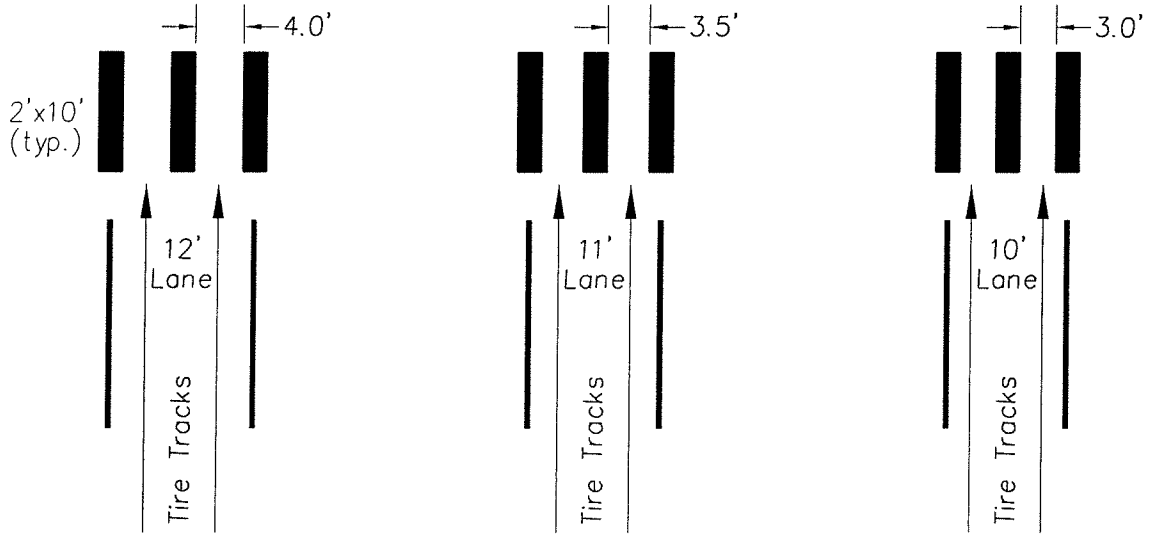
DRAWING NUMBER **SDM-116**





Notes:

1. High Visibility Markings shall be aligned parallel to the direction of vehicular travel. Spaces between markings must be placed in the wheel tracks of each lane.
2. Crosswalk centerline shall intersect the center of each crosswalk markings and midpoint of the Curb Ramps.
3. Marking layout will vary depending on the angle of the travel way to the cross-street and the offset between the Curb Ramps.
4. Limit line may be parallel to the crosswalk or perpendicular to the travel way (staggered or straight).
5. All crosswalk markings must be white, except those near schools must be yellow. All Crosswalk markings and Limit lines to be thermoplastic.



APPROVED: DATE: _____	CITY OF ESCONDIDO	SCALE:
DIR. of ENG. SVS./CITY ENGINEER	DEPARTMENT OF PUBLIC WORKS	NOT TO SCALE
REVISED / APPROVED	HIGH VISIBILITY CROSSWALKS	FIGURE NO. 24

ESCONDIDO
City of Choice

CITY OF ESCONDIDO

TRANSPORTATION and COMMUNITY SAFETY COMMISSION

Commission Report of: April 8, 2021 **Item No.: F4**

Location: Citywide

Initiated By: Staff

Request: Review and approve City of Escondido 2021/22 Traffic Management Project List (TMPL) Preliminary Prioritization

Background:

Transportation and Community Safety Commission (TCSC) approved a policy to evaluate and prioritize proposed projects using a Traffic Management Project List (TMPL) on January 9, 2014. As stated in the policy, a list of projects needs to be evaluated by staff and presented to TCSC for consideration each year. The TCSC will provide direction to staff as to which projects should be selected for further evaluation and design. Staff will then report back in July with detailed design and cost information for TCSC consideration.

The following scoring criteria has been approved by TCSC to be used to evaluate and prioritize projects on the TMPL:

- Road Condition (max. 6 points)
  - Geometric Design (max. 3 points)

    Not Standard= 3, Substandard= 2, Partially Substandard= 1
  - Roadside Improvement (max. 3 points)

    Unimproved= 3, Partially Unimproved= 2, Mostly Improved with Gaps in Improvement= 1
- Road Usage (max. 6 points)
  - Bike and Pedestrian Volume (max. 3 points)

    High= 3, Medium= 2, Low= 1
  - Average Daily Traffic (ADT) (max. 3 points)

    ADT>7400veh/day= 3, 7400≥ADT>5400veh/day= 2, 5400≥ADT>3400veh/day= 1
- Anticipated Effectiveness (max. 6 points)
  - Feasibility of the Solution (max. 3 points)

    High=3, Medium=2, Low=1
  - Effectiveness of the Solution (max. 3 points)

    High=3, Medium=2, Low=1

- Problem Severity×2 (max. 12 points)
    - Frequency of Accidents (max. 6 points)

      Accident Rate≥1.5= 6, 1.5>Accident Rate≥0.5= 4, 0.5>Accident Rate= 2
    - Speeding Problem (max. 6 points)

      (85% - Design Speed) ≥10mph= 6, 10mph>(85% - Design Speed) ≥5mph=4, (85% - Design Speed)< 5mph= 2

Projects could receive a maximum of 30 points based on their different characteristics, projects nature and location. The projects with the higher total accumulated points have a higher priority on TMPL.

Discussion & Purpose:

2021/22 Traffic Management Project List (TMPL) includes six (6) different projects citywide. The list of projects with a brief description of the traffic concerns together with the potential solution are provided in this report. Projects selected by TCSC will be further evaluated and engineering design will be provided for TCSC review and approval at the July 2021 meeting.

2021/22 TMPL

1. **Crosswalk Improvements at Hidden Valley Middle School Frontage (Estimated cost: $5,000-$15,000)**

City staff has continued to work with the Escondido Union School District (EUSD) to prioritize improvement of the existing uncontrolled mid-block crosswalks located within school zones. The crosswalk at the intersection of Reed Rd and Moody Drive at the frontage of Hidden Valley Middle School has been recommended to be included on this year's TMPL due to the high volume of students utilizing this crosswalk and the amount of traffic on Reed Rd. Figure 1 depicts the location of the existing mid-block crosswalk on Reed Rd at Moody Drive.

Hidden Valley Middle School, with student population of approximately 1,022, is located at 2700 Reed Road. Due to unprecedented circumstances of Covid-19 school closures, fluctuating school bell schedules and District's request that students be driven by parents, Staff was unable to obtain pedestrian counts for the number of students utilizing this crosswalk.

Reed Rd between Citrus Avenue and Falconer Road is classified as a Local Collector Road per City's Circulation Element. Under existing conditions, Reed Rd is a two-lane roadway with no center two-way-left-turn lane. On-street parking is allowed with some exceptions. The roadway is partially improved with concrete sidewalk. The average daily traffic on this segment of Reed Rd is 1,453 (2020 Pre Covid) and the speed limit is 40 (25WCAP) MPH. The 85th percentile speed on Reed Rd was measured to be 42 MPH (under normal traffic conditions, Pre-Covid).

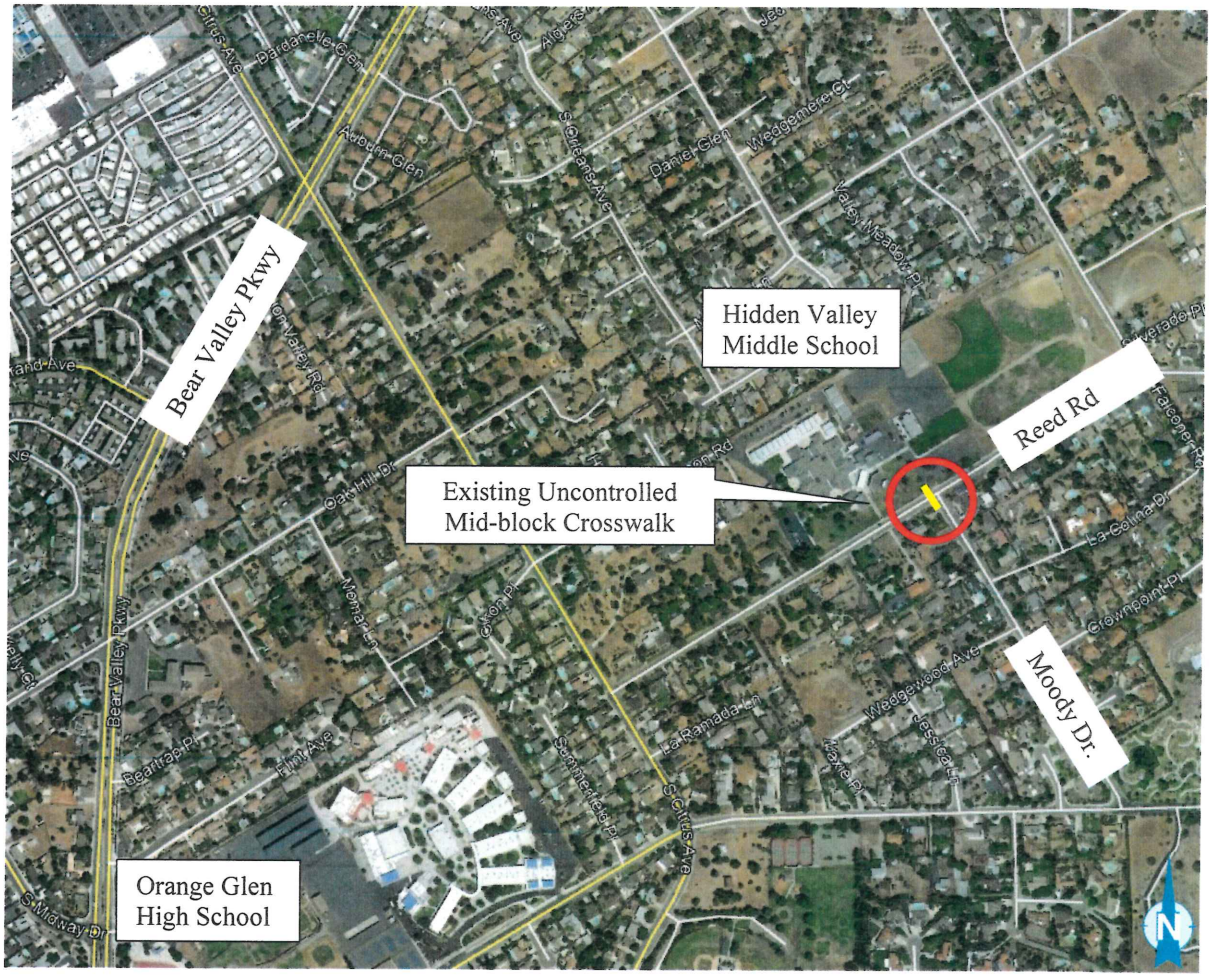


Figure 1: Mid-block Crosswalk at Reed Road located at Hidden Valley Middle School's frontage.

Figures 2-4 show the existing crosswalk and field conditions in March 2021.

Figure 2: Existing Mid-block Crosswalk on Reed Rd.

Figure 3: Reed Road, Westbound view of existing crosswalk.

Figure 4: Reed Road, Eastbound approach and view of existing crosswalk.

Potential Improvements

Per City's Crosswalk Policy, the crosswalk treatments would be **Std.** based on the existing traffic data and roadway classification, see **Attachment 1**. Improvements would include new yield lines, double-sided crossing signage, High-visibility crosswalk markings and refreshed signage on Reed Rd. Pedestrian ramp improvements will be considered.

The preliminary cost estimate for these improvements is $5,000-$15,000 depending on the need for ramp/sidewalk improvements.

2. Crosswalk Improvements at Oak Hill Elementary School Frontage (Estimated cost $15,000-$25,000)

The crosswalk at the intersection of Oak Hill Drive and Nancy Street at the frontage of Oak Hill Elementary School has been recommended to be included on this year's TMPL by the School District. Figure 5 depicts the location of the existing mid-block crosswalk on Oak Hill Drive at Nancy Street.

Oak Hill Elementary School, with student population of approximately 690, is located at 1820 Oak Hill Drive. Since schools are operating at lower capacities due to COVID, Staff has not conducted pedestrian counts at this location.

Oak Hill Drive between South Rose Street and Midway Drive is classified as a Local Collector Road per City's Circulation Element. Under existing conditions, Oak Hill Drive is a two-lane roadway with no center two-way-left-turn lane. On-street parking is allowed. The roadway segment is 80% fully improved with concrete sidewalk. Flashing beacons are installed on mast arms for both approaches and are set to operate during school's arrival and dismissal times. The average daily traffic on this segment of Oak Hill Drive is 3,250 (2020) vehicles per day and the speed limit is set at 35 (25WCAP) MPH. The 85th percentile speed on Oak Hill Drive was measured to be 41 MPH (39 MPH under normal traffic conditions, Pre-Covid).

The intersection of Rose Street and Oak Hill Drive was nominated and selected for 2020 TMPL funding for crosswalk and signage improvements. These improvements will be completed in upcoming months.

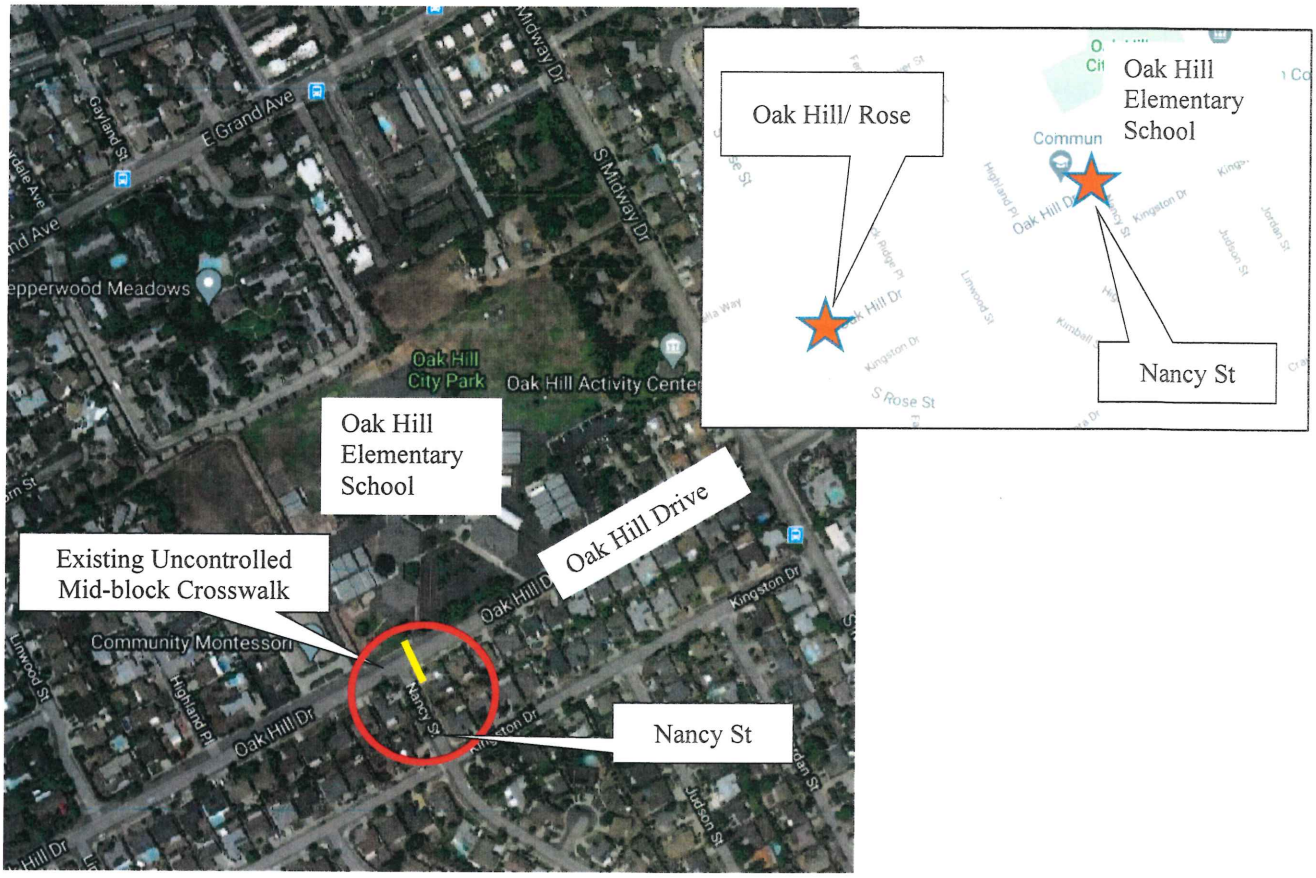


Figure 5: Oak Hill Elementary School's Crosswalk at Oak Hill Drive and Nancy Street.

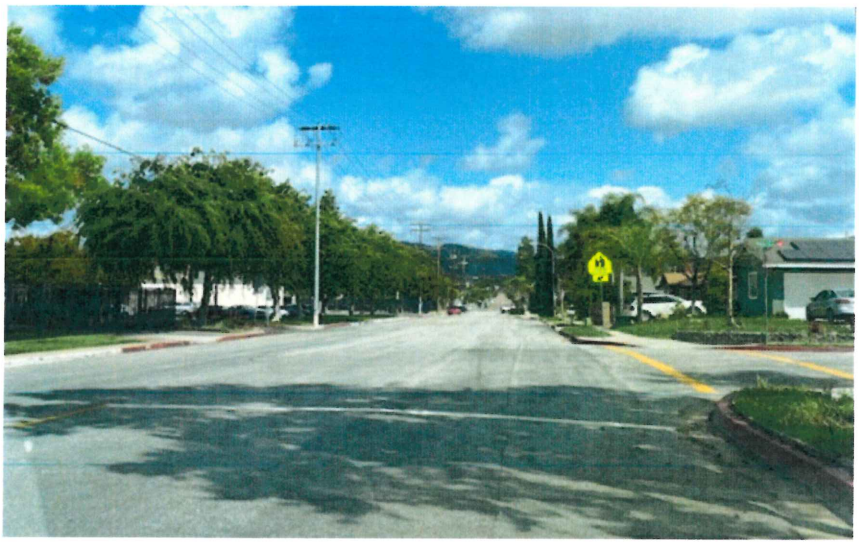


Figure 6: Existing crosswalk conditions in March 2021.

Figure 7: Flashing beacons are installed for both approaches to inform drivers of school speed limit during arrival and dismissal times.

Potential Improvements

Per City's Crosswalk Policy, the crosswalk treatments would be **Std.+RRFB** (or other approved flashing beacon) based on the existing traffic data and roadway classification, see Attachment 1. Improvements would include new yield lines, double-sided crossing signage, High-visibility crosswalk marking and refreshed signage on Oak Hill Drive. Pedestrian ramp improvements would be evaluated during design.

The preliminary cost estimate for these improvements is $15,000-$25,000 depending on the need for ramp/sidewalk improvements.

3. Mission Middle School Mid-Block Crosswalk Improvements (Estimated cost: $35,000-$80,000)

On April 12, 2018, crosswalk improvements at Mission Middle School was recommended to be included on the 2018 TMPL due to the high volume of students utilizing this crosswalk and the amount of traffic on Mission Avenue. Further analysis showed that a traffic signal would be warranted for the crossing as CA MUTCD signal warrant #5, School Crossing criterion was met based on the number of students and the available gaps in traffic. In July 12, 2018 TCSC determined that since the cost of these improvements exceeded the annual TMPL budget of $50,000, City would coordinate with EUSD on the then current campus modernization project and also determine potential funding sources, including EUSD funding that might be available as a part of the bond improvements. In addition, $20,000 of 2018 TMPL funding was set aside towards future crosswalk improvements. The campus modernization project is complete and crosswalk conditions can be re-evaluated.

Mission Middle School, with student population of approximately 970, is located at 939 E Mission Avenue, see Figure 8. According to the school district, a large number of students walk to school and utilize the existing crosswalk. Based on the estimate provided by COMPACT, 150 to 200 students utilize the crosswalk during the school peak hour (under normal school conditions).

Under existing conditions, Mission Avenue is a two-lane Local Collector roadway with a center two-way-left-turn lane. On-street parking is prohibited. The average daily traffic on this segment of Mission Avenue is 8,830 and the speed limit is 35 MPH per speed survey updated in 2020.

Currently crosswalk is equipped with signage and high visibility markings as shown in Figure 9.

Figure 8: Mission Middle School is located on East Mission Avenue.

Figure 9: Current conditions at Mission Middle School's Mid-Block Crosswalk.

Potential Improvements

While previous analysis contemplated the ultimate configuration of the roadway as a Collector Road, Staff recommends considering if improvements can be made based on the current roadway configuration. Per City's Crosswalk Policy, based on the existing traffic data and roadway conditions, the crosswalk treatments would be Std + RRFB and 1 measure from "B". Improvements could then include Pedestrian refuge islands, speed radar feedback signs and striping improvements such as yield markings and signage improvements.

The preliminary cost estimate for these improvements is $35,000-$80,000.

4. North Broadway Elementary School (Estimated cost $5,000-$10,000)

North Broadway Elementary School, with student population of approximately 570 students, is located at 2301 N. Broadway Avenue, Escondido. North Broadway between Country Club Lane and Jesmond Dene Road is classified as a Collector Road per City's Circulation Element. Under existing conditions, North Broadway is a four-lane roadway with a center two-way-left-turn lane. On-street parking is prohibited. The average daily traffic on this segment of N Broadway is 11,600 (data collected in 2012) and the speed limit is 45 (25 WCAP) MPH. The 85th percentile speed on this segment is 48 MPH. This segment is fully improved with sidewalk and street lighting. Traffic signal controls the intersection of North Broadway at Country Club Lane and student drop-off zones are located on Country Club Ln near North Broadway.

District and COMPACT nominated this location for TMPL evaluation after receiving concerns from the parents brought forth by the school PTA Board. The main concern is the perceived speeding on North Broadway and failure to follow the posted 25 WCAP speed limit. Northbound traffic currently queues at the TWLTL and waits for gaps in traffic, then proceeds to make the left turn and join the pick-up queue. For this reason, parents are requesting a new traffic signal for the school entrance. The City of Escondido's Traffic Signal Priority List was recently approved by the TCSC and is pending City Council Approval in April 2021. North Broadway at North Broadway Elementary School was not evaluated for a new signal as it did not raise above the citywide thresholds for the priority locations selected for further analysis or nomination for the list.

The main concern for EUSD school personnel is the intersection of N Broadway at Country Club Lane. School Staff has reported perceived speeding and vehicles failing to yield or stop for crossing pedestrians. They also have requested that accident data for the intersection be evaluated.

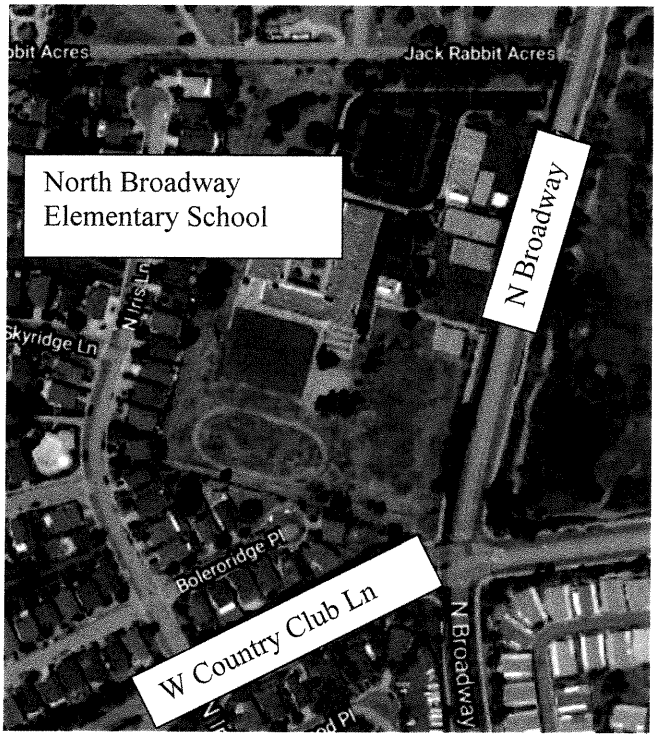


Figure 10: North Broadway Elementary School entrance is located North of West Country Club Lane.

Figure 11: Vehicles queue on TWLTL waiting to make the left-turn onto school.

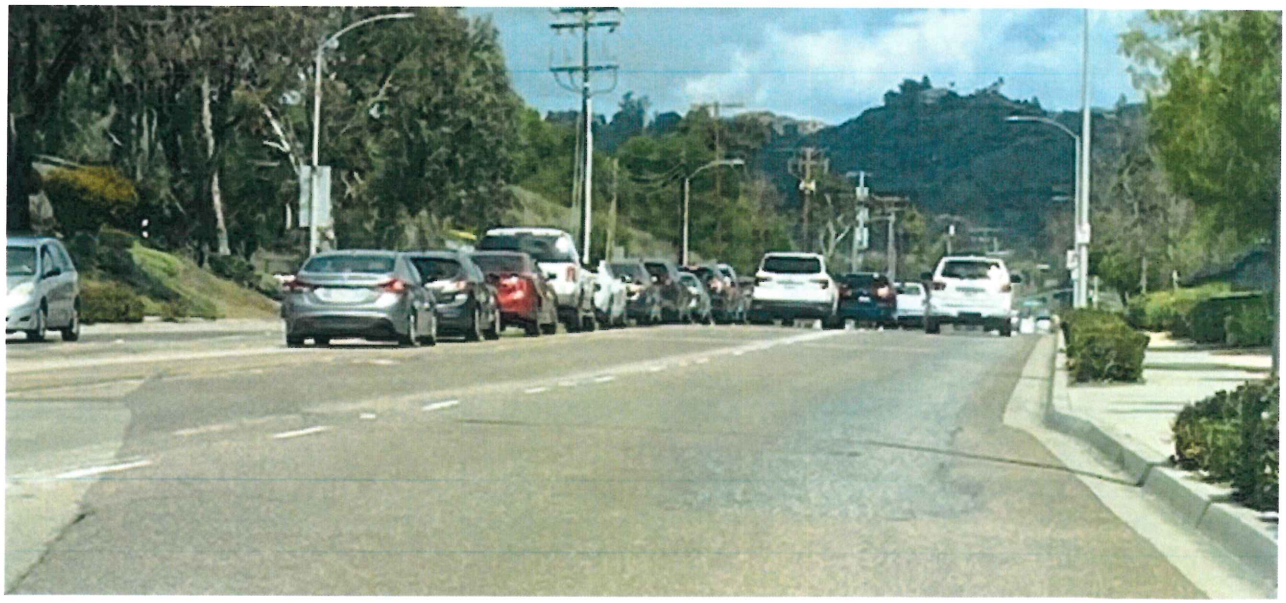


Figure 12: Under normal traffic conditions queue reaches Country Club Lane intersection or beyond.

Improvements currently in design

New striping and signage is in design to be constructed by City's Pavement Rehabilitation project 2021-22. Per City's Bicycle Master Plan buffered Class 2 Bike Lanes are designed for Country Club Lane between North Broadway and Centre City Parkway. This new design will improve bicyclist's safety and provide traffic calming by narrowing the width of the vehicle travel lanes. Pedestrian countdown indications will be installed at the signalized intersection of North Broadway at Country Club Lane and North Broadway at Reidy Creek School for all legs of the intersections using 2020/21 TMPL funding.

Potential Improvements:

As this is not a pedestrian crosswalk location, proposed improvements are not based on the City's Crosswalk Policy. Future improvements may include signage, striping.

The preliminary cost estimate for these improvements is $5,000-$10,000. The cost to install a traffic signal as requested is on the order of $350,000 and proposed location is required to meet the Federal and State Traffic Signal Warrants.

Figure 13: Southbound approach near school entrance.

5. Felicita Road Mid-block Crosswalk Improvements (estimated cost: $40,000-$200,000).

In 2018 the City received a resident complaint about the existing mid-block crosswalk on Felicita Road south of Brotherton Road. A resident expressed concern that it is difficult to cross Felicita Road due to vehicle speeds and vehicle volume. This concern was discussed with TCSC in April, 2018 as a potential TMPL location. However, the TMPL ranking did not place this location among those to be improved with the TMPL funding. Instead a high visibility crosswalk was installed and signage and striping was improved as a part of the City's street maintenance program. In 2021 the city received a similar complaint from a resident about difficulty crossing the roadway.

The existing crosswalk is within the school zone of Miller Elementary School. Miller Elementary School, with student population of 435, is located at 1975 Miller Avenue. Figure 14 depicts the location of the crosswalk and the location of Miller Elementary School.

Figure 14: Existing Mid-block Crosswalk on Felicita Road South of Brotherton Road. High visibility crosswalk was added and signage improved in 2019.

Felicita Road between I-15 and Montview Drive is classified as a 2-lane Collector. The existing condition of the roadway is a 2-lane road with center two-way-left-turn lane for the segment between Brotherton Road and I-15. A portion of the roadway segment is unimproved with no sidewalk or curb

and gutter. The average daily traffic on this segment of Felicita Road is 15,000 and the speed limit is 40 (25WCAP) MPH.

Potential Improvements:

Per City's Crosswalk Policy, with roadway speed limit of 40 MPH, treatment "D" (traffic signal or HAWK) would be required at this crosswalk, see Exhibit 1. In addition, new sidewalk and curb ramp on the east end of the crosswalk would be needed to fill the existing sidewalk gap.

The recent City's Pavement Rehabilitation project has installed new pavement on Felicita Road between I-15 and Centre City Parkway with new buffered bike lane striping in both directions. This crosswalk has also been upgraded to a high-visibility ladder type crosswalk with advanced yield lines and the associated crosswalk warning signage as required by CA MUTCD.

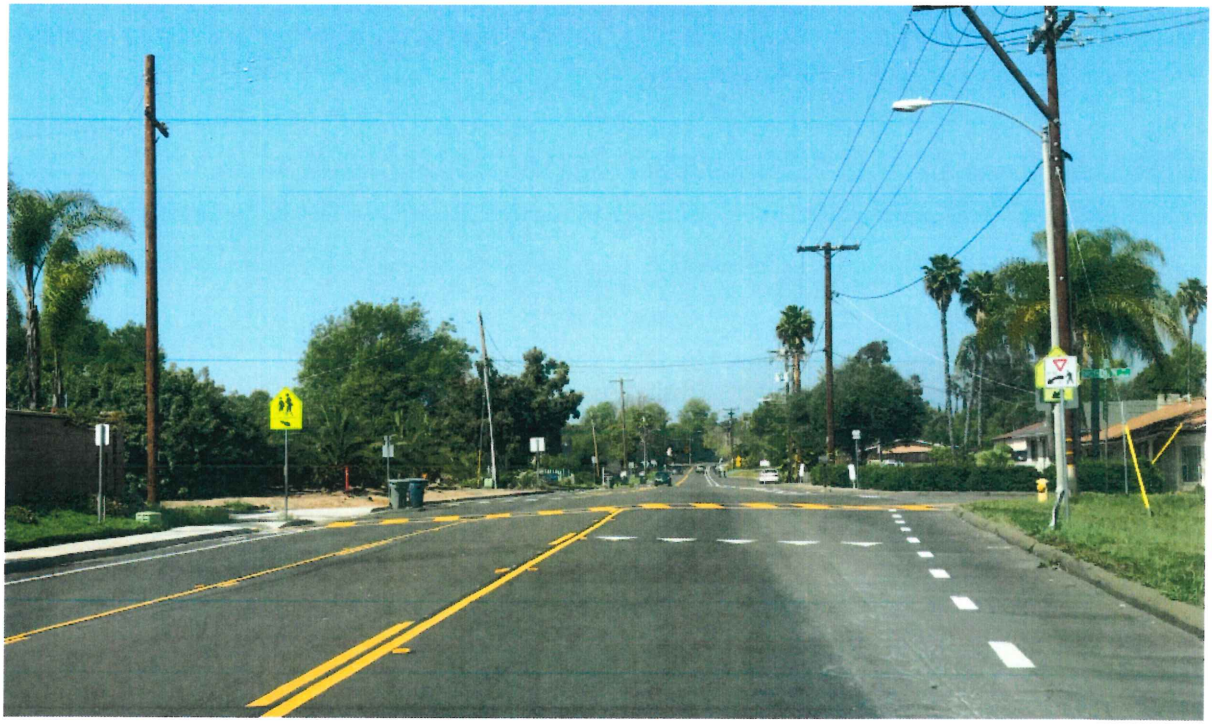


Figure 15: Striping was installed and signage refreshed on Felicita Road.

6. Crosswalk Improvements at Tulip St and 15th Ave (Felicita Elementary School) (Estimated cost: $5,000-$8,000)

The intersection of Tulip Street and 15th Avenue is located at the southwest corner of the Felicita Elementary School campus. This uncontrolled crosswalk on 15th Avenue at Tulip Street was first recommended by EUSD and COMPACT to be included on the 2020/21 TMPL evaluations. At that time, the project scored 14 points which placed these improvements 4th on the 2020/21 TMPL priority list. The annual budget of $50,000 allowed the implementation of the top three (3) projects (Report of TCSC 07/09/2020). For these reasons, project is included in 2021/22 TMPL.

Felicita Elementary School, located at 737 W. 13th Avenue, has a student population of approximately 550. Crosswalks are provided at the intersections of Tulip Street/13th Avenue and Redwood Street/13th Avenue. These are all-way-stopped intersections and therefore the crosswalks are stop-controlled. The intersection of Tulip Street/15th Avenue is a side-street-stop-controlled location with stop control only on Tulip Street. The uncontrolled crosswalk on 15th Avenue at this intersection was recommended for improvements by the school Principal, parents, EUSD, and COMPACT.

In January 2020, City staff attended a meeting with the school Principal, COMPACT staff, and parents to discuss the traffic safety concerns at crosswalks and around the school. Students heading to Boys and Girls Club for afterschool programs are required to cross at the uncontrolled crosswalk on 15th Avenue. The concerns brought to City staff related to this crosswalk location included cars not yielding to pedestrians and speeding on 15th Avenue. Figure 16 depicts the crosswalks adjacent to the school campus and Figures 17 and 18 show the existing crosswalk on 15th Avenue.

Pedestrian counts provided by COMPACT and collected during normal school conditions Pre-Covid reflect that 15 and 20 students cross the uncontrolled crosswalk on 15th Avenue at Tulip Street during the AM drop-off and that 20 and 30 students cross the uncontrolled crosswalk on 15th Avenue at Tulip Street during the PM pick-up time.

15th Avenue is a two-lane local street without a two-way-left-turn lane. On-street parking is allowed. There is a concrete sidewalk along the south side of the roadway but only along a portion of the roadway on the north side. The average daily traffic on 15th Avenue between S Tulip St and S Redwood St is 400 vehicles per day and the speed limit is 25 MPH.

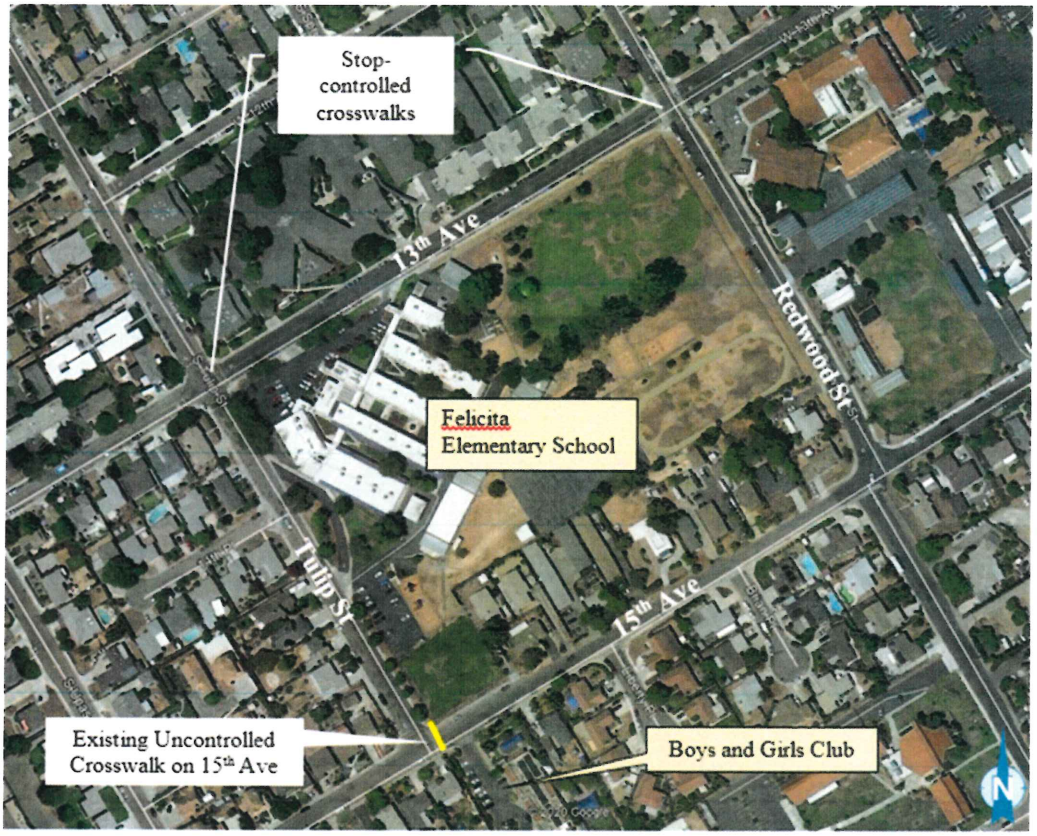


Figure 16: Crosswalks around Felicita Elementary School.

Figure 17: Current conditions at the uncontrolled crosswalk at 15th Avenue, Eastbound view.

Figure 18: Current conditions at the uncontrolled crosswalk at 15th Avenue, Westbound view.

Potential Improvements:

The proposed improvements for the 15th Avenue crosswalk could include high visibility crosswalks, new yield lines, double-sided crossing signage, advanced crosswalk markings and signage, in accordance with the City's Crosswalk Policy. Tulip Street is currently Stop-controlled and improvements could include striping and signage.

The preliminary cost estimate for these improvements is $5,000-$8,000.

TMPL Prioritization and timeline

Using the point-based scoring criteria in this report, all six (6) projects were evaluated and scored. Traffic Management Project List (TMPL) prioritization table, **Table 1**, shows the scores of each of the six projects. Top four (4) priority projects are recommended to be selected for further assessment and detailed design considering an estimated $50,000 Transportation and Community Safety budget. City staff will present the final design of the selected projects at the next TCSC meeting to receive final comments and approval prior to implementation.

Table 1: 2021/22 TMPL Prioritization Table

Project Name	Measures of Prioritization								Score (max. 30)	Estimated Cost
	Road Condition (max. 6)		Road Usage (max. 6)		Anticipated Effectiveness (max. 6)		Problem Severity x 2 (max. 12)			
	Geometric Design	Roadside Improvement	Bike and Pedestrian Volume	Average Daily Traffic (ADT)	Feasibility of the Solution	Effectiveness of the Solution	Frequency of Accidents	Speeding Problem		
Mission Middle School Mid-Block Crosswalk Improvements	2	1	3	3	1	3	2	4	19	$35,000-$80,000
Oak Hill Elementary School Crosswalk Improvements at Oak Hill Drive and Nancy Street	1	1	1	1	2	2	6	4	18	$15,000-$25,000
North Broadway Elementary School Improvements	0	0	1	3	2	2	4	6	18	$5,000-$10,000
Hidden Valley Middle School Crosswalk Improvements at Reed Rd and Moody Dr	1	1	2	1	3	3	2	4	17	$5,000-$15,000
Felicita Rd Mid-Block Crosswalk Improvements (2018 TMPL)	2	2	1	3	1	2	2	2	15	$40,000-$200,000
Felicita Elementary School Crosswalk Improvements at Tulip St and 15th Ave	1	2	2	0	3	2	0	4	14	$5,000-$8,000

Recommendation: Staff recommends that the top four (4) ranked project(s) be selected for further design and evaluation.

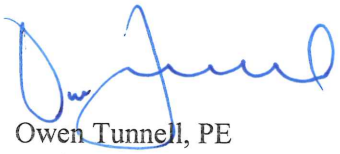
Necessary Council Action: None.

Respectfully submitted,

Prepared by:

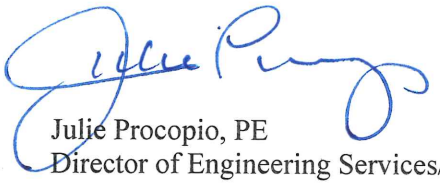
Virpi Kuukka-Ruotsalainen
Associate Engineer

Reviewed by:



Owen Tunnell, PE
Assistant City Engineer

Approved by:



Julie Procopio, PE
Director of Engineering Services/City Engineer

Attachment 1: City's Crosswalk Policy – Treatments (1 of 2)

3. Treatments

If a proposed crossing location meets the criteria set by both the Basic and Point warrants, the next step is to evaluate the most appropriate crossing treatment(s) to be installed with the marked crosswalk.

Using paragraphs 09 and 09a of section 3B.18 of the new 2014 CA-MUTCD as a guideline, and also considering City of San Diego proposed treatments for different cross sections, ADTs and speed limits, the following treatment thresholds are proposed to be added to the new City of Escondido Crosswalk Policy.

ADT / Cross Section	<1500	1500 - 5000	5000-12000	> 12000
Two-lane roads (without TWLTL)	Std.	Std. + RRFB**	Std. + RRFB ** + one from (A)	D
Two-lane roads (with TWLTL)	Std. one measure from (B)	For SL< 35 Std. + RRFB** / For SL≥ 35 Std. + RRFB** + one measure from (B)	Std. +RRFB** + one measure from (B)	D
Four Lanes or more	N/A	Std. + RRFB ** + one measure from (C)	For SL < 35 Std. + RRFB** + one measure from (C) / For SL ≥35 Measure D	Signal or HAWK

* SL: Speed Limit of the roadway

** RRFB (Rectangular Rapid Flashing Beacons), or other approved flashing beacon.

Std.: Advanced yield lines with associated Yield Here to Pedestrians (R1-5, R1-5a) signs should be placed 20 to 50 feet in advance of the crosswalk, adequate visibility should be provided by parking prohibitions, pedestrian crossing (W11-2) warning signs with diagonal downward pointing arrow (W16-7p) plaques should be installed at the crosswalk, and a high-visibility crosswalk marking pattern should be used. All Signing and Striping shall comply with CA-MUTCD standards.

MEASURES:

(A)

1. Raised Crosswalk or other traffic calming treatment in accordance with C.O.E. TMPL Guidelines
2. Speed Radar Feedback Signs for both approaches

(B)

1. Raised Crosswalk
2. Speed Radar Feedback Signs for both approaches
3. Pedestrian refuge islands

(C)

1. Road Diet
2 Raised Crosswalk
3. Speed Radar Feedback Signs for both approaches
4 Pedestrian refuge islands
5. Road Diet

Attachment 1: City's Crosswalk Policy – Treatments (2 of 2)

(D) 1. A Traffic Signal is required if the CA MUTCD warrants are met and it is recommended by a traffic engineering study. Otherwise at least one of the following is required.
2. HAWK Hybrid Beacon if the CA MUTCD warrants are met.
3. Horizontal deflection traffic Calming treatment (**) with RRFBs if the City of Escondido's Traffic Calming Guidelines are met to include:

a. Pedestrian refuge islands & Bulbouts
b. Road Diet
c. Roundabouts

(**) Horizontal deflection treatments include, but are not limited to: roundabouts, pedestrian refuge islands, and pedestrian bulb-outs.