City Of Merced Wastewater Collection System Master Plan

DRAFT ENVIRONMENTAL IMPACT REPORT

CHAPTER 3.15 TRANSPORTATION
September 2020

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3.15 TRANSPORTATION

3.15.1 Basis for Analysis

The California Environmental Quality Act (CEQA) Guidelines' Appendix G Environmental Checklist was used during the Notice of Preparation (NOP) scoping process (included in Appendix A) to identify the Program components that have the potential to cause a significant impact. The following potential impacts were determined to warrant further evaluation within this Environmental Impact Report (EIR):

- Conflict with a program, plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities
- Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection(s) or incompatible uses (e.g. farm equipment))
- Result in inadequate emergency access

The remainder of this section describes the regulatory and environmental setting to support the evaluation of the potential impacts and describes the potential impacts to transportation that may result from implementation of the Program, identifying mitigation for potentially significant impacts, where feasible and necessary.

3.15.2 Regulatory Framework

This section discusses the federal and state regulations and local policies and objectives that related to transportation and traffic and are relevant to the Program.

3.15.2.1 Federal

There are no federal plans, policies, regulations, or laws that are related to transportation and traffic and are relevant to the Program.

3.15.2.2 State

California Department of Transportation

The California Department of Transportation (Caltrans) manages interregional transportation, including the management and construction of the California highway system. In addition, Caltrans is responsible for the permitting and regulation of state roadways. State facilities likely to be used as regional access routes by construction traffic associated with the Program include State Routes (SRs) 99, 59, and 140. Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance.

Updated CEQA Guidelines and Transportation Impact Evaluations

In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the Guidelines section implementing Senate Bill (SB) 743. CEQA Guidelines Section 15064.3 states, “This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, vehicle miles traveled (VMT) refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.” Section 15064.3(b) sets forth criteria for determining the significance of transportation impacts stating the following:

1. Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

2. Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

3. Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

4. Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

From these updated CEQA Guidelines, the Office of Planning and Research (OPR) developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR’s technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures (OPR 2018). This Technical Advisory includes a screening threshold of small projects, which states that, “projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact” (OPR 2018).

3.15.2.3 Local

Merced Vision 2030 General Plan

The City of Merced (City) Merced Vision 2030 General Plan (2030 General Plan), adopted January 3, 2012 (City of Merced 2012) contains several policies that directly or indirectly pertain to transportation and traffic, including the following:

Goal Area T-1: Streets and Roads

- **Policy T-1.4.** Promote traffic safety for all modes of transportation.
- **Policy T-1.8.** Use a minimum peak hour Level of Service (LOS) "D" as design objectives for all new streets in new growth areas and for most existing City street except under special circumstances.

City of Merced Municipal Code

Section 17.58.010 (Road Construction Application and Plans) of the City of Merced Municipal Code has the following provisions related to construction within roadways:

A. Whenever a person is required to construct or reconstruct road improvements that have been or will be dedicated to the City, he or she shall first make application to the City engineer for a road construction permit, and submit to the City engineer for approval, construction plans and such specifications and other details as required to describe fully the proposed road construction. The plans shall have been prepared under the supervision of and shall be signed by a qualified engineer registered in the state.

B. Construction plans for the road improvements shall conform to the latest adopted edition of the City's "Standard Designs of Common Engineering Structures Manual", and unless otherwise specified in the ordinance, developed permit, map approval or other entitlement requiring the improvements, shall include the full road width, including curb and gutter.

Section 10.40 (Truck Routes) includes the following designated truck routes through the City:

A. West 13th Street from G Street to V Street;

B. West Highway 140 (Mc Swain Road) from its intersection with V Street to the westerly city limits;

C. West 16th Street from the westerly city limits to G Street;

D. East 16th Street from G Street to Yosemite Parkway;

E. Yosemite Parkway from its intersection with East 16th Street to the easterly city limits;

F. G Street from the northerly city limits to 13th Street;

G. Martin Luther King, Jr. Way from West 16th Street to Childs Avenue;

H. V Street from West 16th Street to West Avenue;

I. Childs Avenue from westerly city limit to Highway 99;

J. West Olive Avenue from Highway 59 to the easterly city limits;

K. Kibby Road from Yosemite Parkway to Childs Avenue;

L. Parsons Avenue from Yosemite Parkway to Childs Avenue;

M. West Avenue from V Street to Childs Avenue;

N. Highway 59 (Snelling Road) from 16th Street to northerly city limits; and

O. M Street from West 16th Street to Olive Avenue.

City of Merced 2013 Bicycle Transportation Plan

The purpose of the City of Merced 2013 Bicycle Transportation Plan is to provide City staff and the local community with a comprehensive, long-range view for the development of bicycle facilities and programs within the City (City of Merced 2013). Implementation of this plan will result in a comprehensive, continuous, and well-maintained bikeway network, which will maximize bicycling benefits. Due to the increase in bicycle use from the University of California, Merced (UC Merced) campus and increases in local groups that are engaged in healthy living initiatives, the City has been focusing on developing a more bicycle-friendly community.

City of Merced Neighborhood Traffic Calming Guidelines

The City of Merced Neighborhood Traffic Calming Guidelines were created to reduce traffic within the problematic streets of the City. The relevant policies within these Guidelines that pertain to the Project are listed below (City of Merced 2008):

- To the extent feasible, through traffic should be routed to Arterial Streets, Regional Routes and Highways, and away from neighborhood streets; and
- Access for emergency vehicles should be preserved at levels that meet City response standards.

Merced County Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

On August 16, 2018, the Merced County Association of Governments (MCAG) adopted the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the Merced region (MCAG 2018). The RTP is a long-range planning document that provides the framework for investments in roads, freeways, public transit, bikeways, and other ways that people move around the County. The RTP/SCS includes regional goals and priorities to ensure transportation system efficiency over the next 25 years.

Goals within this document that are applicable to the Program include the following:

1. **Highways, Streets, and Roads:** Provides a safe and efficient regional road system that accommodates the demand for movement of people and goods.

2. **Transit:** Provide an efficient, effective, coordinated regional transit system that increases mobility for urban and rural populations, including transportation for disadvantaged persons.

6. **Active Transportation (Bicycle & Pedestrian):** A regional transportation system for bicyclists and pedestrians. Create a safe, connected, and integrated regional transportation system for bicyclists and pedestrians.

7. **Energy:** Reduce usage of nonrenewable energy resources for transportation purposes.

8. **Air Quality:** Achieve air quality standards set by the United States Environmental Protection Agency (USEPA), and the State Air Resources Board.

14. **Reliability and Congestion:** Achieve a significant reduction in congestion on the National Highway System. Improve the efficiency and reliability of the surface transportation system.

15. **Safety for all Roadway Users:** Achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

16. **System Preservation:** Maintain the existing transportation system in a state of good repair.

3.15.3 Environmental Setting

The transportation system within the Program Study Area is a combination of roadways, bike paths, and a complex public transportation system. Each of element of this transportation system is described in further detail below:

3.15.3.1 Roadways

Currently, three major highways provide regional access to and through the Proposed Study Area include the following:

- SR 99: SR 99 is the primary regional highway in the Merced area. SR 99 provides access north to Sacramento and south to Fresno and Bakersfield. Through Merced, SR 99 is a four- to six-lane freeway, with an average traffic volume in the range of 35,000 to 40,000 vehicles per day. SR 99 is also a major freight corridor, with trucks making up 21 percent of the total traffic of this thoroughfare.

- SR 59: SR 59 is a highway that that extends from SR 152, south to Snelling, a community located north of the City. SR 59 is a two-lane rural highway through Merced, serving between 14,000 and 16,000 vehicles per day. SR 59 is located about 3.5 miles east of the Wastewater Treatment and Reclamation Facility (WWTRF). SR 59 is a significant interregional route of statewide importance and carries most of the truck-transported agricultural goods produced in or transported through the Merced area.

- SR 140: SR 140 is a two-lane, east-west conventional highway providing regional access to Yosemite National Park to the east and extending west past SR 99 and Interstate 5.

Additional important roadways within the City and Program Study Area include G Street and Santa Fe Drive, which have more limited roles in terms of regional access as they connect the City of Merced with the nearby communities of Snelling and Atwater. The City has a well-established local roadway consisting of a 1-mile grid system of major north-south roadways including SR 59, R Street, G Street, and Parsons/Gardner Avenue, as well as major east-west roadways including Olive Avenue, Yosemite Avenue, W Cardella Road, E Cardella Road, and Bellevue Road.

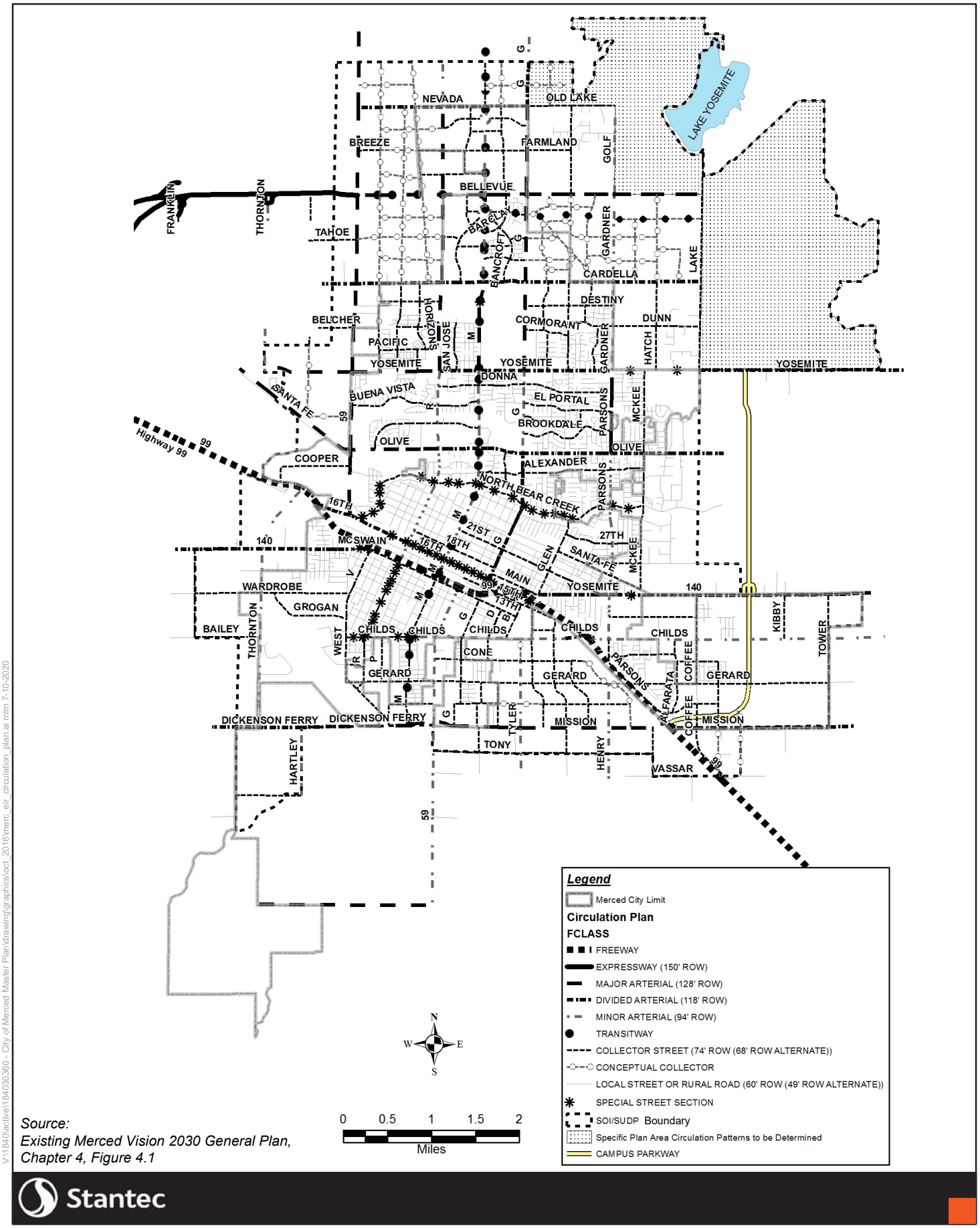
According to the 2030 General Plan, this existing system will be expanded to accommodate future growth, particularly in the northern areas of the City and the Program Study Area.

The LOS thresholds for roadway segments within the Program Study Area are included in Table 3.15-1, and Figure 3.15-1 shows the exiting circulation plan for the City.

Table 3.15-1: Level of Service Thresholds for Roadway Segments

Type of Roadway	Number of Lanes	ADT Level-of-Service Capacity Thresholds				
		A	B	C	D	E
Lane Freeway	4	25,900	42,600	57,800	68,400	76,00
	6	40,000	65,800	89,200	105,600	117,400
	8	54,000	89,000	120,600	142,800	158,800
	10	68,000	112,000	152,200	180,200	200,200
Lane Expressway	2	-	-	16,800	23,200	24,400
	4	-	3,000	27,800	36,000	37,800
	6	-	5,900	38,900	48,900	51,300
	8	-	9,600	60,600	73,500	77,100
Lane Highway	2	2,300	7,600	14,200	20,000	27,400
	4	20,500	33,200	48,000	62,200	70,600
Lane County Road	2	-	-	7,700	15,000	16,100
	4	-	-	18,000	32,200	34,000
Lane Arterial	2	-	-	11,600	16,000	16,800
	4	-	4,100	26,800	33,700	35,400
	6	-	6,600	41,800	50,700	53,200
Lane Collector	2	-	-	4,800	10,300	13,200
	4	-	-	11,300	22,200	26,400

Note:
ADT = average daily traffic
Source: (City of Merced 2012)



Source:
Existing Merced Vision 2030 General Plan, Chapter 4, Figure 4.1

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Figure 3.15-1
Existing Merced Vision 2030 General Plan Circulation Plan
City of Merced - Draft Environmental Impact Report

3.15.3.2 Bicycle and Pedestrian System

Bicycle and pedestrian activity within the City's Specific Urban Development Plan (SUDP)/Sphere of Influence (SOI) is considered by the 2030 General Plan as an important mode of travel due to favorable climate and ease of terrain (i.e., relatively flat) within the area. The City SUDP/SOI currently has a number of Class I off-road bicycle/pedestrian trail systems, with a majority of these trails located along existing waterways (i.e., Bear, Black Rascal, Cottonwood, and Fahrens Creeks). This existing system is planned for expansion with the Merced 2013 Bicycle Transportation Plan to form one complete loop along Bear and Black Rascal Creeks between McKee Road and SR 59. A large sub-route is also planned along Fahrens Creek, to Lake Yosemite and down Lake Road to Black Rascal Creek. Regional access to the UC Merced campus is also planned (City of Merced 2012). In the vicinity of the Northern and Southern Trunk Sewer Projects there is a Class I bike path on Lake Road, a Class II bike lane on Yosemite Avenue, Cardella Road, and G street, and a Class III bike route on Childs Avenue (City of Merced 2013).

Other Transit

Other public, commercial, and private transit systems include public transit (i.e. busses, shuttles, taxis), railway services (i.e., the Union Pacific Railroad [UPRR] and the Burlington Northern/Santa Fe [BNSF]), and air services (i.e., the Merced Regional Airport and Castle Airport). Public transit services are available throughout the City and Program Study Area to varying degrees. Railway and air services are not applicable to the analysis below and therefore are not discussed further.

The Merced Transit System (MTS)/City Shuttle provides services with "The Bus" which provides both local and inter-regional access. The Bus operates on 16 fixed routes as well as demand responsive services during the weekdays and on Saturday (Transit Joint Powers Authority 2019). These routes are located throughout the City, with the majority of the routes located toward the center portion of the City. Several routes are located within roadways that would be utilized for the placement of the Northern and Southern Trunk Sewer Projects. These routes include:

- The Merced - UC route which runs along Yosemite Avenue, Lake Road, and G Street.
- The Merced - M3 route which runs along G street
- The Merced – M3, M4, M5 routes all which run along Childs Avenue

The Bus also connects with the UC Merced student shuttle service, known as "Cat Tracks". Additional public and private transit services, such as Dial-A-Ride, public taxis, and Amtrak are also utilized within the City.

3.15.4 Environmental Impacts

This section analyzes the Program's potential to result in significant impacts to transportation and traffic. When a potential impact was determined to be potentially significant, feasible mitigation measures (MMs) were identified to reduce or avoid that impact.

3.15.4.1 Impact Analysis

Impact TRA-1	**Potential to conflict with a program, plan, ordinance, or policy, addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities.**

Impact TRA-1 Analysis
Program/Proposed Project Impacts

Construction and Operation

Construction and operation of the Program and Proposed Projects could potentially conflict with the programs, plans, ordinances, or policies described in Section 3.25.2, Regulatory Framework during activities that would interfere with the existing or planned circulation system. These activities result from vehicle trips associated with construction or operation or road closures associated with construction.

Construction of the Program would require vehicle trips associated with both construction worker commutes, material hauling, and equipment transport to and from the sites throughout construction. For the Program construction, these trips would be intermittent and localized to individual project areas; however, the increase in trips per day on local and regional roadways has a limited potential to affect circulation systems by requiring temporary single or double lane road closures, introducing slower movements, and larger turning radii of construction trucks. The number and type of material, equipment, and worker vehicles required for construction of the Program would be dispersed over the long-term planning horizon of reasonable build-out of the 2030 General Plan and would not introduce a significant number of trips to the extent they would conflict with the programs, plans, ordinances, or policies listed in Section 3.15.2, Regulatory Framework. Trips associated with construction of individual projects under the Program are anticipated to be similar or less than those estimated for the proposed Projects (See Chapter 2.0, Project Description, Section 2.4.3, Construction Equipment and Workers, and Appendix B.1). For the proposed Projects, trips would be to places along the Northern Trunk Sewer and Southern Trunk Sewer alignments and to the WWTRF in existing the existing roadways.

Worker trips from construction workers would affect roadways during commute times but would be inconsequential with an addition of on average 10 to 30 workers (with a few short duration concentrated peaks of an approximate maximum of 50 workers) at a particular project site with sites dispersed to different parts of the Program Study Area (if construction happened to be concurrent). Worker trips from operations would be nominal with the potential to add approximately two new workers at the WWTRF on a given day. Truck trips from equipment delivery would be sporadic and focused construction around start-up and completion of individual Projects. Delivery trips would be limited to delivery of the construction equipment assumed necessary and is assumed the proposed Projects would require the maximum number of trips with smaller subsequent projects requiring less equipment. Haul trips associated with construction would be limited and largely associated with construction of pump stations the WWTRF and to a lesser degree possibly pipelines and would occur during the excavation and or building phase utilizing local roadways. During peak excavation or concrete pouring periods, haul trips may generate upwards of 80 trips per day for a very limited periods of time. Haul trips associated with operations are assumed to be approximately two per day and would not substantially impair circulation operation. These additions of construction traffic could temporarily conflict with the programs, plans, ordinances, or policies set forth in the planning documents in Section 3.15.2, Regulatory Framework, by conflicting with service level ratios, increasing wait times for public vehicles, and limiting

pedestrian and bicycle access along these roadways, potentially creating a significant impact prior to mitigation. As such, MM TRA-1, Prepare and Implement a Traffic, Pedestrian, and Bicycle Control Plan, would be required to ensure that consistency with programs, plans, ordinances, and policies is maintained, and existing traffic conditions are maintained by outlining a plan to reduce construction conflicts through traffic controls, notice, AM and PM peak timing, and coordination by understanding existing traffic data. Therefore, with implementation of MM TRA-1, impacts from construction and operational vehicle trips would be less than significant.

Additionally, construction of the Program facilities could temporarily impact circulation systems; however, the effect of the Program would vary depending on the Program facility type (i.e., whether it's a pump station, pipeline, maintenance, or activities at the WWTRF). Potential impacts would range from intermittent ingress and egress from and to local roadways causing circulation facility impairments to temporary road closures for pipeline construction. The existing roadways are predominantly two-lane rural roads. The roads in north Merced near the UC have bicycle and transit use and facilities with the remainder of the Project areas and the Program Study Area outside the City limits having no developed or devoted bicycle or transit routes (See Section 3.15.3, Environmental Setting). The majority of future Program collector infrastructure is proposed for future roadways and is anticipated to be timed to be constructed prior to installation of the roadways themselves, thus limiting potential road closures and transportation impacts associated with physical construction. Temporary partial or full road closures are anticipated as a part of trunk sewer infrastructure construction along the in-roadway sections of the proposed Northern Trunk Sewer and Southern Trunk Sewer, as well as for future projects under the Program. Impacts from the Northern and Southern Trunk Sewer Projects would mainly occur within Thornton Road and W Dickenson's Ferry Road/Mission Avenue ROWs. These road closures could affect the existing circulation system within the City by obstructing vehicles, pedestrians, and bicycles and preventing adequate access to certain areas along the pipeline alignment. These potential conflicts, while anticipated to be temporary and limited in duration, pose the potential to conflict with the City's plans, ordinances and polices set forth in Section 3.15.2, Regulatory Framework, surrounding safety, access, and circulation. This would be a potentially significant impact. Therefore, in addition to MM TRA-1 planning out detours, traffic controls, and plans to reduce impacts to the circulation system, MM TRA-2 would also be implemented to ensure that the public and emergency service agencies are properly notified of these road closures and access is properly coordinated and maintained for residents, recreationalists, and emergency services, as needed and ensure consistency with the applicable plans, policies, ordinances, and programs. Construction-related transportation impacts for the Program would be less than significant with MM TRA-1 and MM TRA-2 incorporated.

The programs, plans, ordinances, or policies listed in Section 3.15.2, Regulatory Framework were reviewed for potential inconsistencies or incompatibilities with Program activities and all Program construction and operational activities were found to be compatible and result in a less than significant impact (with mitigation where noted). The Program impacts described in the previous paragraphs considered consistency with the following programs, plans, ordinances, or policies:

- **Caltrans Encroachment permit** – **Consistent**. A Caltrans encroachment permit would be obtained for all work within state ROWs.
- **Caltrans oversized loads and hazardous materials -- Consistent**. Transport of construction and operational materials would meet Caltrans requirements.
- **2030 General Plan Circulation Plan – Consistent**. The Program accommodates the planned growth of the general plan where wastewater collection system infrastructure was envisioned within roadways consistent with the 2030 General Plan's Circulation Plan as shown in Figure 3.15-1 to avoid disruptions with other City land uses.

- **2030 General Plan Transportation Policy T-1.8 – Consistent.** MM TRA-1 and MM TRA-2 would set for plans for controlling construction traffic and detours to maintain level of service during temporary interruptions to the extent feasible. Operation of the Program would not significantly contribute to a change of LOS.
- **Merced Municipal Code City Engineer Approval – Consistent.** The Program is proposed and coordinated through the City Public Works Department and City Engineer.
- **Merced Municipal Code Designated Truck Routes – Consistent.** The Program would follow the City's proscribed designated truck routes.
- **2013 Bicycle Transportation Plan, Neighborhood Traffic Calming Guidelines, and MCAG's RTP/SCS – Consistent.** TRA-1 and MM TRA-2 would set for plans for controlling construction traffic and detours to maintain bicycle and pedestrian access during temporary interruptions to the extent feasible. Operation of the Program would not significantly contribute to a change of in pedestrian or bicycle access or routes.

Therefore, with the implementation of MM TRA-1 and MM TRA-2, construction and operation of the Program and proposed Projects would reduce the potential conflict with circulation programs, plans, ordinances, or policies to a less than significant level.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM TRA-1 and MM TRA-2

Level of Significance After Mitigation: Less than Significant

Impact TRA-1 Findings

Impact TRA-1 Overall Level of Significance Prior to Mitigation: Potentially Significant

Impact TRA-1 Mitigation Required: MM TRA-1 and MM TRA-2

Impact TRA-1 Overall Level of Significance After Mitigation: Less than Significant

Impact TRA-2 Potential to conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

Impact TRA-2 Analysis

Program Impacts

Construction

As described under the Section 3.15.2, Regulatory Framework, Section 15064.3(a) of the updated CEQA Guidelines shifts transportation impact analysis from a LOS standard to a VMT standard, which refers to the amount and distance of automobile travel attributable to a project and suggests a qualitative analysis to evaluate factors such as the availability of transit, proximity to other destinations for larger construction projects that are not presumed less than significant and don not have models or methods available to estimate the vehicle miles traveled. As described under Impact TRA-1, construction of the Program, would require vehicle traffic associated with construction worker commutes, material hauling, and equipment transport to and from the sites throughout construction. As discussed in the Chapter 2.0, Project Description (Section 2.4.3, Construction Equipment and Workers), it is conservatively assumed that a maximum of 50 workers would be working on construction of Program facilities at any given time; however, realistically a maximum of 10 to 15 construction workers would be working at any given construction site

during Program implementation. It assumed that each worker would generate one round trip per day and that alternative modes or carpools would be used where feasible but may be difficult given the location and lack of transit near construction sites. Materials haul and equipment transport vendor trips would be sporadic throughout the construction activities associated with the Program, with more concentrated trips during excavation and facility construction activities, and very few trips during site preparation and restoration activities.

The Technical Advisory provided by OPR (described in Section 3.15.2, Regulatory Framework) provides that projects with less than 110 trips per day are presumed less than significant (OPR 2018). The Program would result in limited daily construction trips, typically well below this presumption, with some potential intermittent daily peaks during phases of construction such as pouring concrete, excavation of soil, or fill hauling associated mainly with construction of pump stations and WWTRF facilities which could exceed this presumed number of trips for limited durations (estimated to be a day to a couple weeks). Construction activities associated with Program projects are anticipated to be smaller efforts and require less workers, less material hauling, and less equipment deliveries than the estimates for the larger construction effort associated with installing the large backbone trunk sewer and WWTRF infrastructure of the proposed Projects. The proposed Projects are estimated to have an approximate average of 20-30 daily trips with concentrated peak periods estimated at 80 to 130 trips per day[1]. Conservative average round trip distances were considered for these trips ranging from approximately 14 miles for vendor material deliveries, 34 miles for worker trips, and 40 miles for haul trips. While, it is anticipated that generally pipeline, pump station, WWTRF, and associated facilities' construction would generate less than 110 trips per day, it is possible that daily trips could reach up to 130 trips per day for limited duration on larger projects such as the proposed Trunk Sewer Infrastructure Projects. However, even on these max trip days, construction activities would be of limited duration and would likely be the result of multiple crews working at the same time, which, while it would increase daily trips it would shorten the overall construction period reducing the overall VMT by shortening the number of days and miles travelled. Additionally, the viability of substituting transport of construction workers, materials, and equipment by alternative modes of transit is extremely limited and generally unfeasible in a rural area like the Program Study Area. Most projects under the Program would have require fewer trips than the presumed 110 and those occasionally requiring more than 110 would only do so for a very limited duration and would not significantly increase VMT. Therefore, it's not anticipated that construction of the Program would result in a significant increase in VMT and construction impacts associated with the Program would be less than significant.

Operation

Similar to the presumption that projects generating less than 110 trips per year described for construction impacts, operational impacts for proposed Projects are expected to not change significantly from existing conditions. The Program is expected to introduce an approximate maximum of 10 trips per day (1-2 worker trips, occasional maintenance and inspection trips, and an over conservative average of 2 trips per day for hauling biosolids to a disposal site if needed). Consistent with the OPR Technical Advisory, operation of projects and facilities planned in the Program would be well below the threshold of 110 trips per day, therefore, operational transportation impacts associated with the Program would be less than significant (OPR 2018).

[1] These estimates are reflective of daily scenarios and are consistent but differ slightly from estimates prepared specifically for air quality modeling inputs as shown in Appendix B.1.

Summary

As described in the discussion above and in the regulatory setting, Section 2.0, Project Description, and Appendix B.1, the projects implemented under the Program would generally meet the screening threshold of "small project" set forth by OPR's Technical Advisory since they would generate or attract fewer than 110 trips per day. Therefore, the increase in daily trips itself would be less than significant because the Program would not generate greater than 110 trips per day, and as such would be consistent with the CEQA Guidelines transportation impact evaluation and programs, plans, ordinances, and policies under threshold Impact TRA-1.

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Proposed Project: New Trunk Sewer Infrastructure Impacts

Construction

As discussed under the overall Program above, construction and operation of the Program would not result in a significant impact to VMT within the area. Both the Northern and Southern Trunk Sewer Projects would result in similar truck trips due to the type and scale of pipeline installations. The new pump station associated with the Northern Trunk Sewer could require more concentrated material haul trips due to the excavation, foundation, and building construction associated with the enclosed structure; however, as described for the Program, these increases in haul trips are only estimated to be 20 trips over the presumed insignificance level and would not substantially result in the increasing VMT as a result of construction. Overall, the proposed Projects are estimated to have an approximate average of 20-30 daily trips with concentrated peak periods estimated at 80 to 130 trips per day[2]

Trips generated during construction would be dispersed throughout the Program Study Area, with trips for the Northern Trunk Sewer Project concentrated in the western limits and along proposed and future Cardella Road and trips for the Southern Trunk Sewer Project concentrated in the southern limits along W Dickenson Ferry Road and E Mission Avenue. Trips associated with the new pump station associated with the Northern Trunk Sewer would be focused to and from the pump station site near Thornton Road and W Cardella Road. The majority of trips would occur in rural areas during non-peak times (hours outside of 7 to 8 AM and 5 to 6 PM) and would have a duration of approximately 2 years or less. Construction associated with the new trunk sewer infrastructure would be temporary and would not exceed 110 truck trips a day and would be consistent with the OPR Technical Advisory and therefore would have a less than significant impact related to construction truck trips.

Operation

Similar to the discussion for the Program, operation of the new trunk sewer infrastructure would only require periodic maintenance along the pipelines, pump station, and associated appurtenances that would not result in a substantial

[2] These estimates are reflective of daily scenarios and are consistent but differ slightly from estimates prepared specifically for air quality modeling inputs as shown in Appendix B.1.

increase in truck trips beyond existing conditions. Therefore, impacts associated with construction and operation of the new trunk sewer infrastructure would be less than significant.

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Proposed Project: WWTRF Expansion Impacts

Construction

As discussed under the overall Program and similar to the new trunk sewer infrastructure discussion, construction and operation of the Program would not result in a significant impact to VMT. Construction of the WWTRF expansions would likely require 10 to 15 construction workers at any given time and would require an average of 5 to 10 material haul trips per day. Further, each WWTRF expansion would occur as needed until reasonable build-out is achieved, meaning that construction work and related vehicle trips would be spread out over the 10-year planning horizon, with periods of heavier construction trips and periods with no vehicle trips. Overall, periods of construction for the expansions, material, worker, and haul trips would not exceed 110 trips per day and therefore would have a less than significant impact related to VMT.

Operation

Operationally, the WWTRF improvements could result in a total of 621 trips per year (or an average of approximately 2 trips per day). Consistent with the OPR Technical Advisory operation of projects planned in the Program would be well below the threshold of 110 trips per day, therefore, operational transportation impacts associated with the Program would be less than significant (OPR 2018).

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Impact TRA-2 Findings

Impact TRA-2 Overall Level of Significance Prior to Mitigation: Less than Significant

Impact TRA-2 Mitigation Required: None Required

Impact TRA-2 Overall Level of Significance After Mitigation: Less than Significant

Impact TRA-3	**Potential to substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersection(s) or incompatible uses (e.g. farm equipment)).**

Impact TRA-3 Analysis
Combined Program/Proposed Project Impacts

Construction and Operation

The Program features would not involve significant roadway alterations beyond placement of pipe and replacement of affected pavement, and thus would not increase hazards due to a design feature such as a sharp curve or dangerous intersection. While the pipelines would be placed within the ROW of existing or planned roadways, no change to the exiting design or functionality of the road would occur as a result of the Program. Any disturbed roadways would be repaved back to existing conditions or better and would not result in a long-term change or hazards. Additionally, pump station sites would be located off of the roadways on a privately owned or City ROW parcels and would not result in any hazards to the local roadways in the area. Improvements at the WWTRF would all occur within the existing WWTRF property, which would not result in any increases in hazards or incompatible uses.

Construction of the Program features would involve the hauling of heavy equipment and machinery along public roadways, which could create a hazard to the public by impeding traffic or limiting motorists' line of sight on roadways. Risk would be highest when vehicles and equipment interact with the general public, such as when entering a public ROW while exiting a construction area. This risk could be potentially significant if trucks and construction vehicles were to pull out in front of roadway traffic at a dramatically slower speed or if it were to require traffic to slow suddenly and create potential road hazards Therefore, implementation of MM TRA-1 would minimize any potential hazards by requiring that a traffic control plan be prepared and implemented by the City and/or their contractor for all work affecting local roadways. Additionally, compliance with Caltrans standard specifications applicable to licensing, size, weight, load, and roadway encroachment hauling of any oversized loads, including heavy equipment, would be required during mobilization, construction activities, or demobilization. Therefore, with implementation of MM TRA-1 as well as with compliance of standard regulatory requirements to reduce hazards caused by incompatible roadways uses during construction, impacts would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM TRA-1

Level of Significance After Mitigation: Less than Significant

Proposed Project: WWTRF Expansion Impacts

Construction and Operation

Similar to the Program discussion above, expansion of the WWTRF would not involve the construction of permanent features that would result in an incompatible use or hazard. The expansion of the WWTRF would occur within the existing property of the WWTRF on previously disturbed land. The WWTRF property is not open for public access and therefore, any upgrades would not result in a hazard to the public.

Similar to those described for the Combined Program and Project impacts, construction activities associated with the expansion of the WWTRF could result in an incompatible use as construction equipment and materials would be entering and exiting the area into the public ROW. This would be a potentially significant impact. As such, similar to the Program discussion above, MM TRA-1 would be required and would ensure that a traffic control plan is prepared

and implemented throughout construction of the WWTRF upgrades. Therefore, impacts associated with the construction of the WWTRF upgrades would be considered less than significant with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM TRA-1

Level of Significance After Mitigation: Less than Significant

Impact TRA-3 Findings

Impact TRA-3 Overall Level of Significance Prior to Mitigation: Potentially Significant

Impact TRA-3 Mitigation Required: MM TRA-1

Impact TRA-3 Overall Level of Significance After Mitigation: Less than Significant

Impact TRA-4 Potential to result in inadequate emergency access.

Impact TRA-4 Analysis
Combined Program/Project Impacts

Construction

Emergency access could be hindered by a significant increase in traffic congestion or temporary road closures. Fire protection, emergency medical services, and police services within the Program area are provided by the Merced Fire Department and the Merced Police Department (see Section 3.13). Depending upon the timing, location, and duration of construction activities, construction of the Program could delay emergency vehicle response times and result in a potentially significant impact. As such, MM TRA-1 and MM TRA-2 would require the preparation and implementation of a traffic control plan that would allow for adequate ingress and egress of traffic, including for emergency personnel, as well as provide proper noticing to emergency response agencies of any detours required during construction activities. Adherence to these mitigation measures would reduce any potential impacts from construction of the Program related to emergency services to a less than significant level.

Operation

Once operational, the majority of the Program components would be located underground and would not result in any ongoing impacts to emergency access. The routine maintenance activities would be sporadic throughout any given year, and as described under Impact TRA-2, would likely only involve one or two trucks on roadways or within City-owned areas (i.e., pump station sites or at the WWTRF site), and would not result in substantial changes to emergency access. Therefore, there would be no operational impacts from the Program related to inadequate emergency access.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM TRA-1 and MM TRA-2

Level of Significance After Mitigation: Less than Significant

Impact TRA-4 Findings

Impact TRA-4 Overall Level of Significance Prior to Mitigation: Potentially Significant

Impact TRA-4 Mitigation Required: MM TRA-1 and MM TRA-2

Impact TRA-4 Overall Level of Significance After Mitigation: Less than Significant

3.15.5 Transportation Mitigation

Mitigation Measure TRA-1: Prepare and Implement a Traffic, Pedestrian, and Bicycle Control Plan

The selected construction contractor and/or the City of Merced shall prepare and implement a Traffic, Pedestrian, and Bicycle Control Plan to the satisfaction of City Traffic Engineer. The Traffic, Pedestrian, and Bicycle Control Plan shall require the review of traffic counts or conduct additional traffic counts on intersections near the proposed Project facilities to establish existing traffic conditions. Based on these traffic counts, the Traffic, Pedestrian, and Bicycle Control Plan shall recommend measures and steps to avoid significant delays or disturbance to existing traffic conditions. The Traffic, Pedestrian, and Bicycle Control Plan shall ensure that acceptable operating conditions on local roadways, freeway facilities, bicycle, and pedestrian facilities are maintained with adequate detours or delays no more than 20 minutes. The Traffic, Pedestrian, and Bicycle Control Plan shall also take into consideration other projects that may being occurring in the same or similar locations as the projects to avoid cumulative traffic impacts. Projects shall require implementation of different measures depending on the Project's site-specific construction details and location within the City. At a minimum, the Traffic, Pedestrian, and Bicycle Control Plan shall include but not be limited to the following:

- Description of trucks including number and size of trucks per day, expected arrival and departure times, truck circulation patterns.
- Description of staging areas including location, maximum number of trucks simultaneously permitted in staging areas, use of traffic control personnel, specific signage.
- Description of street closures and bicycle and pedestrian facility closures including duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control.
- Description of driveway access plan including provisions for safe vehicular, pedestrian, and bicycle travel; minimum distance from any open trench; special signage; and maintained residential vehicle accesses.
- Identification of hours of construction and hours for deliveries, potentially avoiding the AM and PM peak commute hours to minimize disturbance on traffic flow.
- Compliance with the City of Merced Municipal Code Section 10.40 (Truck Routes), which includes designated truck routes that should be used for any construction-related truck trips.
- Coordination with facility owners or administrators of sensitive land uses such as police and fire stations (including all fire protection agencies), transit stations, hospitals, and schools. Facility owners or operators shall

be notified in advance of timing, location, and duration of construction activities and the locations of detours and lane closures in conformance with MM TRA-2.

- Coordination with local transit service providers, including temporary relocation of bus routes or bus stops in work zones, as necessary.
- Roadway rights-of-way shall be repaired or restored to their original conditions or better upon completion of construction and compliance with the City of Merced Municipal Code Section 17.58.010 (Road Construction Application and Plans) for any road construction within roadways.
- The Traffic, Pedestrian, and Bicycle Control Plan shall contain detailed measures to ensure acceptable levels of traffic flow.

Close coordination with the City through the Traffic, Pedestrian, and Bicycle Control Plan process shall ensure that potential conflicts with traffic, transportation, pedestrians, and bicycles shall be reduced to less than significant levels.

Mitigation Measure TRA-1 Implementation

Responsible Party: The City and chosen contractor

Timing: Development of the Traffic, Pedestrian, and Bicycle Control Plan shall occur prior to the start of construction and be implemented throughout all construction activities.

Monitoring and Reporting Program: The City shall review the Traffic, Pedestrian, and Bicycle Control Plan prior to the start of construction mobilization each year to determine relevance to upcoming construction activities. The City shall monitor and coordinate with the chosen contractor during weekly construction meetings to ensure that the Traffic, Pedestrian, and Bicycle Control Plan is implemented successfully as documented in inspection logs. The Traffic, Pedestrian, and Bicycle Control Plan shall remain on file at the City.

Standards for Success: Traffic impacts and delays resulting from construction activities or conflicting with applicable plans and policies, an increase in hazards due to geometric design, and inadequate emergency access are reduced to a less than significant level.

Mitigation Measure TRA-2: Inform Public and Emergency Service Agencies of Lane Closures and Detours

The City shall inform the public, neighboring schools, and emergency service agencies such as the Merced Police Department and the Merced Fire Department of scheduled lane closures and detours through public outreach such as public meetings and postings in the local newspapers. Proper signage shall be used to direct traffic as identified through the traffic control plan. Unanticipated lane closures and detours shall be minimized to the maximum extent feasible, and both the public and the emergency service agencies shall be informed of closures and detour routes as soon as possible.

Mitigation Measure TRA-2 Implementation

Responsible Party: The City and chosen contractor

Timing: Throughout construction activities

Monitoring and Reporting Program: The City shall monitor implementation of this mitigation measure during construction.

Standards for Success: Safe, efficient travel in within the City is maintained with minimal traffic delays. Conflict with local policies and plans for transportation and traffic, and emergency and public access impacts are reduced at a less than significant level during construction activities.

3.15.6 Abbreviations

BNSF	Burlington Northern/Santa Fe
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Merced
EIR	Environmental Impact Report
LOS	Level of Service
MCAG	Merced County Association of Governments
Mgal/d	Million Gallons a Day
MMs	Mitigation Measures
NOP	Notice of Preparation
OPR	Office of Planning and Research
ROW	Right of Way
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SR	State Route
SUDP/SOI	Specific Urban Development Plan/Sphere of Influence
UPRR	Union Pacific Railroad
USEPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled
WWTRF	Wastewater Treatment and Reclamation Facility
2030 General Plan	Merced Vision 2030 General Plan

3.15.7 References

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