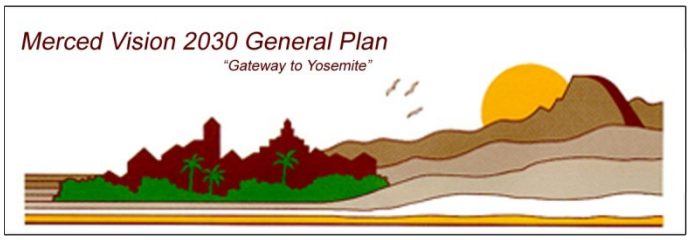


Appendix A
General Plan Amendments

(Approved Since January 3, 2012 Adoption of General Plan; unless otherwise noted, all of the below are changes to the Land Use Diagram, Figure 2.3.)

Reference No.	APN# and Parcel Size	Location	General Plan Amendment Approved	City Council Approval Date & Resolution #
GPA #11-04	170-010-001 to -039; 170-030-001 to -028; 170-022-001 to -003; 170-041-001 to -0113; & 170-044-001 (8.5 acres)	Northeast Corner of Bellevue Road & Barclay Drive	Low Medium Density Residential (LMD) to Neighborhood Commercial (CN)	January 17, 2012 (CC Res #2012-08)
GPA #11-05	231-040-004 (n/a)	Northeast Corner of Yosemite Avenue & G Street	Curb Cut Allowed (Exception to General Plan Policy)	January 17, 2012 (CC Res #2012-07)
GPA #12-02	59-240-027 & 59-240-036 (5.6 acres)	Southeast Corner of Childs Avenue & Canal Street	Low, Low Medium, & High Medium Density Residential (LD/LMD/HMD) to Neighborhood Commercial (CN)	November 19, 2012 (CC Res #2012-81)
GPA #12-01	58-020-058 (Portion of 8.2 acres)	Building #3 of Fahrens Park Plaza at Southeast Corner of Highway 59 & Buena Vista Drive	Business Park (BP) to Neighborhood Commercial (CN)	January 22, 2013 (CC Res #2013-03)
GPA #12-03	231-040-002 (7.5 acres)	Southwest Corner of Mercy Avenue & Mansionette Drive	Low Density Residential (LD) to Professional/Commercial Office (CO)	May 6, 2013 (CC Res #2013-19)

Reference No.	APN# and Parcel Size	Location	General Plan Amendment Approved	City Council Approval Date & Resolution #
GPA #13-01	Citywide	Citywide	Bicycle Transportation Plan Adopted; Revisions to Figure 4.9 and pages 4-24, 4-25, & 4-26 (see A-6, A-7, & A-8)	September 16, 2013 (CC Res. #2013-44)
GPA #13-03	034-122-013 034-122-014 (1.4 acres)	South side of E. 21st Street, 380 feet west of Yosemite Park Way	High Medium Density Residential (HMD) and Commercial Office (CO) to Thoroughfare Commercial (CT)	October 17, 2013 (CC Res. #2013-46)
GPA #13-02	34-011-007 & 34-011-024 (1.93 acres)	Northeast corner of G Street and E. 23rd Street	Neighborhood Commercial (CN) and Low Density Residential (LMD) to General Commercial (CG)	November 4, 2013 (CC Res. #2013-49)
GPA #13-05	230-220-055 (2.6 acres)	Northwest corner of M Street and Yosemite Avenue	Low Density Residential (LMD) to Professional/ Commercial Office (CO)	January 21, 2014 (CC Res. #2014-03)
GPA #14-01	30-163-003; 30-164-008; 030-163-004; 030-164-006 (0.79 acres)	815 W. 23rd Street 820 W. 23rd Street 825 W. 23rd Street 830 W. 23rd Street	Low Density Residential (LD) to Professional/ Commercial Office (CO)	December 1, 2014 (CC Res. #2014-47)
GPA #13-04	007-290-040 (N/A)	West Side of G Street, 165 Feet North of Park Avenue	Curb Cut Allowed (Exception to General Plan Policy)	December 15, 2014 (CC Res. #2014-48)
GPA #14-03	Citywide	Citywide	Merced Hazard Mitigation Plan Adopted; Revisions to Safety Element (pages 11-1, 11-2, & 11-30) [See A-9 to A-11.] (Implementing Action 1.1.g also changed to match page 11-30 in Ch. 14-Policy Index, page 14-68—Not included in Appendix)	March 16, 2015 (CC Res. #2015-09)

Reference No.	APN# and Parcel Size	Location	General Plan Amendment Approved	City Council Approval Date & Resolution #
GPA #14-02	APN List available on request (2.4 square miles)	Area bounded by G Street, Farmland Avenue, Lake Road, and Cardella Road	Adoption of Bellevue Community Plan; Revisions to Figures 2.3 (Urban Expansion Chapter) and 3.1 (Land Use Diagram); Executive Summary (page I-viii); Land Use (pages 3-40,3-56,3-71,3-72,3-73 & 3-90); and Circulation Elements (pages 4-3, 4-5,4-14,4-20,4-21,4-39,4-40,4-80,4-88,4-89, & 4-91). [See A-12 through A-30.] (Other pages where only change was from "Bellevue ~~Corridor~~ Plan" to "Bellevue <u>Community</u> Plan" are not included in Appendix.)	April 6, 2015 (CC Res. #2015-11)
GPA #14-04	206-070-006 (6 acres of a 10.4 acre parcel)	Southeast corner of Pacific Drive & Horizons Avenue	Low Density Residential (LD) to Village Residential (VR)	July 20, 2015 (CC Res. #2015-29)
GPA #14-06	008-310-038; 008-310-050 (5.42 acres)	Southeast corner of Yosemite Avenue & McKee Road	Low Density Residential (LD) to Neighborhood Commercial (CN)	August 3, 2015 (CC Res. #2015-34)
GPA #15-02	007-250-020 (0.92 acres)	Southeast corner of West Olive Avenue & M Street	Professional/Commercial Office (CO) to Neighborhood Commercial (CN)	August 3, 2015 (CC Res. #2015-31)
GPA #16-02	Citywide	Citywide	Revisions to Conservation (Ch. 7) and Safety (Ch. 11) Elements to Address Flooding, includes Pages 7-40, 11-10, 11-11, 11-12, Figure 11.4, New Figure 11.5a, and Pages 11-32 through 11-42. [See A-31 through A-46]	June 7, 2016 (CC Res. #2016-18)

Reference No.	APN# and Parcel Size	Location	General Plan Amendment Approved	City Council Approval Date & Resolution #
GPA #16-03	Citywide	Citywide	Adoption of a New Housing Element [Entire Chapter 9 Replaced (see A-47 for Table of Contents Only)—Refer to City Website for complete Element]	July 18, 2016 (CC Res. #2016-34)
GPA #17-01	231-040-021 (4.54 acres)	Northwest corner of Yosemite Ave & Mansionette Drive	High Medium Density Residential (HMD) to Neighborhood Commercial (CN); Revisions to Public Facilities & Services Element, including new page 5-6 and Figure 5.2 on page 5-5. [See A-48 and A-49.]	May 15, 2017 (CC Res. #2017-28)
GPA #16-06	008-010-070; 008-010-071 (17.25 acres)	Southwest corner of Yosemite Ave & Lake Road (extended)	Low Density Residential (LD) to High Medium Density Residential (HMD) for 16.25 acres and Neighborhood Commercial (CN) for 1 acre	June 5, 2017 (CC Res. #2017-33)
GPA #15-03	061-250-092 (77.5 acres)	Northeast and Southeast corner of Campus Parkway & Coffee St	Reconfiguration of the High Medium Density Residential (HMD) to 8 acres and Regional Community Commercial (RC) to 69.5 acres	August 7, 2017 (CC Res. #2017-44)
GPA #18-01	224-030-018 (5.88 acres)	Southwest corner of M Street & Arrowwood Drive	Open Space/Park/ Recreation) (OS/PK) to Low Density Residential (LD)	Sept. 17, 2018 (CC Res. #2108-59)
GPA #15-04	057-200-042 (7.83 acres)	Northwest corner of Highway 59 & Santa Fe Drive	Open Space/Park/ Recreation) (OS/PK) to Thoroughfare Commercial (CT)	Oct. 1, 2018 (CC Res. #2018-60)

Reference No.	APN# and Parcel Size	Location	General Plan Amendment Approved	City Council Approval Date & Resolution #
GPA #18-03	206-050-017 (10.73 acres)	Southwest Corner of San Augustine Drive & Pacific Drive	Business Park (BP) to High Medium Density Residential (HMD)	March 18, 2019 (CC Res. #2019-09)
GPA #19-01	N/A (380 linear feet of right-of-way)	Mission Avenue between Highway 99 and Coffee St	Amend Circulation Element to Remove Mission Avenue from Highway 99 to Coffee St	May 20, 2019 (CC Res. #2019-25)
GPA #19-02	008-310-053 (0.52 acres)	Southeast Corner of McKee Road and Yosemite Avenue	Low Density Residential (LD) to Neighborhood Commercial (CN)	Oct. 7, 2019 (CC Res. #2019-63)
GPA #19-03	231-040-004 & -005 (21.5 acres)	Northeast corner of Yosemite Avenue and G Street	Professional/Commercial Office (CO) to Neighborhood Commercial (CN)	Jan. 22, 2020 (CC Res. #2020-03)
GPA #20-02	58-030-037 (3.38 acres)	Northeast corner of West Olive Avenue and Highway 59	Professional/Commercial Office (CO) and Industrial (IND) to Business Park (BP)	May 3, 2021 (CC Res. #2021-32)
GPA #21-01	32-183-039 through -042 (0.88 acres)	565, 575, 601, & 609 Q Street (South of W. 6th Street)	Low Density Residential (LD) to High Medium Density Residential (HMD)	July 19, 2021 (CC Res. #2021-70)
GPA #20-01	58-470-001 thru -033,-035,-036; 58-480-001 thru -017; 58-480-034 thru -044 (6.39 acres)	South Side of Devonwood Drive between Loughborough and Austin Avenues	Low Medium Density Residential (LMD) to High Medium Density Residential (HMD)	Aug. 16, 2021 (CC Res. #2021-77)
GPA #21-03	170-010-001 to -039; 170-021-001 to -034; 170-022-001 to -003; 170-023-001 to -008; 170-024-001 to -012; 170-030-001 to -028; 170-041-001 to -003; 170-042-001 to -007; 170-043-001 to -007; 170-044-001 to -037 (8.5 acres)	Northeast Corner of Bellevue Road and Barclay Way	Neighborhood Commercial (CN) to Low Medium Density Residential (LMC)	April 18, 2022 (CC Res. #2022-19)

Reference No.	APN# and Parcel Size	Location	General Plan Amendment Approved	City Council Approval Date & Resolution #
GPA #22-02	061-390-027 (4.59 acres)	East Side of Parsons Avenue, South of Highway 140	Thoroughfare Commercial (CT) to High Medium Density Residential (HMD)	May 2, 2022 (CC Res. #2022-21)
GPA #21-02	058-030-028 (6.95 acres)	Southeast Corner of Loughborough Dr and Meadows Ave	Regional/Community Commercial (RC) to High Medium Density Residential (HMD)	June 21, 2022 (CC Res. #2022-32)
GPA #23-01	N/A (Adoption of VMT Guidelines)	City-wide	Amend the Transportation Element Policy T-1.8 to include Thresholds and Guidelines for VMT [See A-50 and A-51.]	April 3, 2023 (CC Res #2023-24
GPA #22-03	N/A (1500 linear feet of right-of-way)	Mission Avenue from Coffee St to Tower Road (extended)	Amend Circulation Element to change a section of Mission Avenue from a Divided Arterial to a Collector	May 1-2023 (CC Res. #2023-31)
GPA #23-02	058-030-005 (6 acres)	North side of Olive Ave, east of Highway 59	Commercial Office (CO) to Business Park (BP)	Aug. 21, 2023 (CC Res. #2023-69)
GPA #23-04	060-010-004 & 060-020-048 (654 acres)	Northeast Corner of Cardella and Lake Roads	Adoption of Virginia Smith Trust (VST) Specific Plan (Mixed Use) and Text Amendments to Urban Expansion Policy UE-1.4b, Land Use Policy L-3.8, Section 3.7.3, Figure 3.9, and Appendix 3.10.1 of the Land Use Chapter [See A-52 thru A-59.]	Jan. 16, 2024 (CC Res. #2024-14)
GPA #23-05	007-050-009 (3.5 acres)	South side of Olive Ave, Approx. 500 Ft West of Oleander Ave	Low Medium Density Residential (LMD) to Business Park (BP)	June 17, 2024 (CC Res. #2024-66)

(Revised—07/30/2024)

DUE TO MODIFICATIONS TO THE TEXT OR DIAGRAMS OF THE *MERCED VISION 2030 GENERAL PLAN* THROUGH THE GENERAL PLAN AMENDMENT PROCESS, THE FOLLOWING PAGES SHOULD BE SUBSTITUTED FOR THE ORIGINAL PAGES.

4.3.8 Bicycle/Trail System

Bicycles

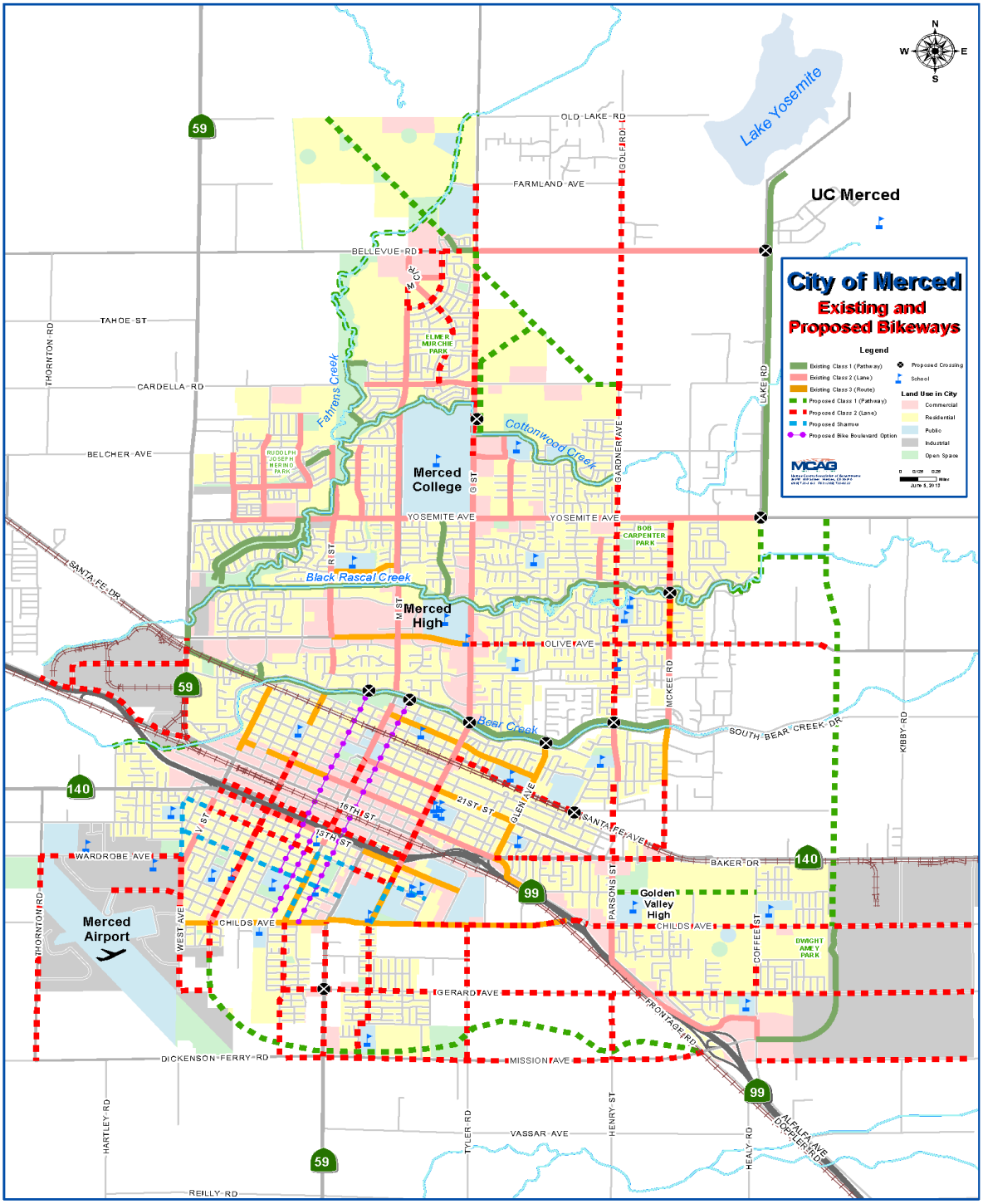
Bicycles are an important mode of transportation in the community. Merced has both a favorable climate and terrain to encourage the use of bicycles for both recreation and transportation functions. As bicycle use increases, adequate facilities must be provided to furnish direct routes of access between destinations while minimizing conflicts with automobiles.

Bikeways are categorized by the degree in which they separate bicycle movement from vehicular movement. There are two major types of bikeways: (1) off-street bikeways, and (2) on-street bikeways.

Based on the State Department of Transportation classification system, off-street bikeways should be Class I (Bike Paths or Bike Trails) whenever possible. Class I bike paths provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians, with cross flows by motorists minimized. In Merced, Class I bike paths generally take advantage of creekside locations and other non-street facilities, such as canals or railroad corridors. Although the off-street bikeways provide extensive recreational opportunities, another primary focus is on safe and efficient transportation linking major land uses and connecting with on-street bikeways at strategic locations.

On-street bikeways are intended to be Class II (Bike Lanes) whenever possible. Class II bike lanes provide a restricted right-of-way on the street for the exclusive or semi-exclusive use of bicycles. Through travel by motor vehicles or pedestrians is prohibited, but cross flows by pedestrians and motorists are permitted. The on-street bikeway system may use Class III (Bike Route) designations occasionally where Class II bike lanes are not feasible. Sharrows are another type of on-street bikeway. Information about all bikeways (definitions, characteristics, and standards) are detailed in the Bicycle Transportation Plan.

On-street bikeways should utilize existing or proposed major streets that provide the quickest, shortest, and safest route to take for bicyclists.



BICYCLE TRANSPORTATION PLAN

Figure 4.9

Bicycle Transportation Plan

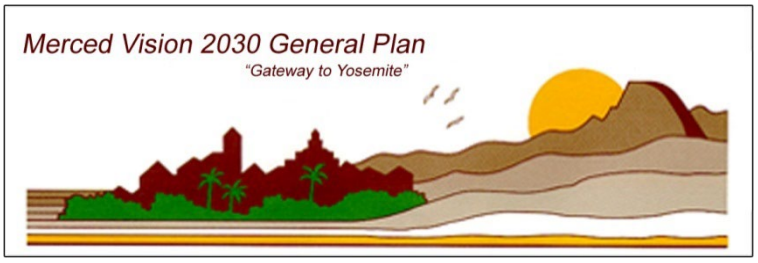
The City of Merced has a significant number of existing and proposed Class I off-road bicycle/ pedestrian trail systems. Much of this system is located along existing waterways (Bear, Black Rascal, Cottonwood, and Fahrens Creeks). Details of the existing and planned system are presented in the Merced Bicycle Transportation Plan, adopted in 2013 (***Figure 4.9***), an implementing action of the General Plan, which is updated every five years. The alignments shown are conceptual and subject to further refinement prior to actual construction.

As proposed, the current Class I system will ultimately be extended to form one complete loop sub-route along Bear/ Black Rascal Creeks, between McKee Road and Highway 59. The system will also be extended to complete a larger loop sub-route along Fahrens Creek, to Lake Yosemite and down Lake Road to Black Rascal Creek. Ultimately, this could allow the system to be extended to provide regional bicycle access to the UC campus. Class I bikeways will also extend along powerline easements and the old Yosemite Valley Railroad corridor that criss-cross the northern growth area.

The Merced Bicycle Transportation Plan also identifies regional bicycle connections to provide bicycle mobility though the region. Area bicycle planning has, to a major degree, focused on development of an off-street trail system along the region's existing creeks. Because these creeks are located in central and north Merced, the off-street system has developed there. The Merced Bicycle Transportation Plan identifies a number of bikeways to be constructed as new development occurs throughout the City.

Bicycle Advisory Commission

In 2009, the City established the Bicycle Advisory Commission, made up of 7 Merced citizens plus two non-voting, ex-officio members, who can reside in the County. The Bicycle Advisory Commission is an advisory body to the City Council advising the City on matters relating to improving conditions for bicyclists, promoting bicycling as a means of transportation with the associate benefits of improved air quality, and improving safety conditions for bicyclists.



Chapter 11
Safety

11.1 INTRODUCTION

The main purpose of the Safety Element is to provide policies and implementing actions aimed at reducing injuries, death, property damage, and the economic and social dislocation resulting from natural hazards. The Safety Element is based on an analysis of geologic and other hazards relevant to Merced and on ways of protecting the community from any unreasonable risk associated with such hazards.

11.1.1 Scope of the Safety Element

The Safety Element provides a systematic approach for responding to hazards relevant to the City of Merced through a set of goals, policies, and actions designed to deal with those hazards. This report recognizes that hazards are an unavoidable aspect of society and that, therefore, some degree of risk is inherent in everyday life.

The proposed Merced growth boundary (or SUDP/SOI) has no known history of, or known geographical conditions for, surface rupture, tsunamis, or hydro-compaction. All other hazards relevant to Merced, however, are addressed in more detail in other sections of this Element. This introduction includes an overview of the City's Emergency Response/Disaster Plan and Hazard Mitigation Plan. Section 11.2 presents an analysis of the relevant issues as well as hazard response. Section 11.2 includes the goals, policies, and implementing actions. Section 11.4 contains technical information and support data of the hazards analysis. The Safety Element is one of the seven required elements of the General Plan per State law.

11.1.2 City of Merced Emergency Response/Disaster Plan

In 2011, the City of Merced updated its Emergency Operations Plan. The plan is updated on a regular basis to meet the evolving emergency response needs and to address new hazards. The Plan addresses mitigation, planning, response, and recovery activities for various emergency situations. The Plan is compliant with the emergency management requirements of the Standardized Emergency Management System (SEMS), the Incident Command System (ICS), and the National Incident Management System (NIMS). The plan is designed to prepare the community for responding to an emergency situation in a highly organized and efficient manner.

11.1.3 Merced Hazard Mitigation Plan

The Merced Hazard Mitigation Plan presents a comprehensive risk assessment of natural hazards that have the potential to affect the City of Merced. The Local Hazard Mitigation Plan recommends possible mitigation measures for reducing the effects of the potential hazards. It is incorporated by this reference into the Safety Element, and

should be consulted when addressing known hazards to ensure the general health and safety of people within the City of Merced. The goals and policies within this Safety Elements support and are consistent with the recommended mitigation strategy within the Local Hazard Mitigation Plan.

11.2 RELEVANT ISSUES

Seismically induced ground shaking, ground failure, dam failure/seiche, flooding, urban and wildland fires, airport safety, crime and policing, and hazardous materials are considered the relevant hazards to the City of Merced.

11.2.1 Seismically Induced Ground Shaking

Seismic safety has traditionally been looked at as an individual/family responsibility; however, because we are spending increasing amounts of time in public areas and because of our increased reliance on public services, our personal safety in an earthquake may depend in large part on what our City, employer, or local merchant has done to prepare. Earthquake activity can include severe ground settling, dam failure, and landslides, but most people equate earthquakes with the movement of the earth along a fault or fracture zone. Merced is vulnerable to possible earthquake damage from earthquake epicenters in other portions of the State, earthquakes on "nearby" faults, and earthquakes on what are now undiscovered faults within the Central Valley.

Historically, Merced has received several jolts a year from earthquakes in surrounding parts of the State. Typically, it has been the larger earthquakes from these areas that cause damage. Because earthquakes run in "cycles of frequency and intensity" where a period of long inactivity is followed by several medium and large quakes it is theorized that Merced, along with the rest of California, may experience rising earthquake risks

The amount of damage to structures from an earthquake is determined by several factors: (1) Distance from the earthquake epicenter; (2) nature of the ground; (3) type of construction; and (4) the duration of the shaking.

The Distance from the Epicenter

Merced is vulnerable to shaking from a number of faults that run through the mountains to our east and west. These have shaken Merced in the past. Of most notoriety is the San Andreas Fault, 58 miles away. There are, however, four active faults closer to Merced than the San Andreas. These faults are shown in ***Figure 11.1***.

The Nature of the Ground

Earthquake shockwaves are "carried" by the relatively loose, wet soils that exist between Los Banos and Merced. For this reason, Merced is somewhat more likely to experience heavy shaking from surrounding parts of the state as will some of its neighbors. Areas of Merced with high water tables and loose soils are likely to experience damage because of the shockwave carrying ability of the ground. Next to damage from ground shaking, liquefaction is the most serious earthquake hazard.

11.3 SAFETY GOALS, POLICIES, AND ACTIONS

Goal Area S-1: Disaster Preparedness

GOAL

- **General Disaster Preparedness**

POLICY

S-1.1 Develop and maintain emergency preparedness procedures for the City.

Policy S-1.1
Develop and Maintain Emergency Preparedness Procedures for the City.

Implementing Actions:

1.1.a Keep up-to-date through annual review the City's existing Emergency Plan and coordinate with the countywide Emergency Plan.

1.1.b Prepare route capacity studies and determine evacuation procedures and routes for different types of disasters, including means for notifying residents of a need to evacuate because of a severe hazard as soon as possible.

1.1.c Require that all new annexation areas be incorporated into the City's emergency plan at the time of annexation.

1.1.d Establish a process whereby the City of Merced systematically encourages review of and familiarity with the most current community disaster plan by those in local government and other local residents who hold responsible positions. Maintain a list of other public agencies that can be called upon for assistance

1.1.e Continue to adopt and respect agreements with the County and adjacent communities for mutual aid assistance.

1.1.f Implement the policies and procedures recommended in the Incident Command System (ICS)/National Incident Management System (NIMS), including continued training for City staff in these practices.

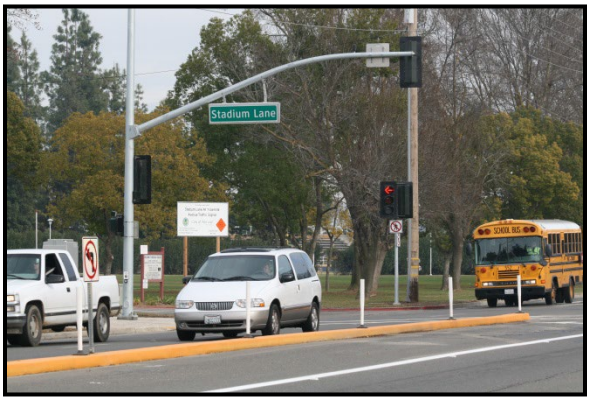
1.1.g Adopt and update the *Merced Hazard Mitigation Plan* as needed, and consult it when addressing known hazards to ensure the general health and safety of people within the City of Merced.

The City of Merced Local Hazard Mitigation Plan presents a comprehensive risk assessment of natural hazards that have the potential to affect the City of Merced. The Local Mitigation Plan was developed by the City in accordance with the Federal Disaster Mitigation Act of 2000, adopted in 2015 by the City of Merced, and approved by the Federal Emergency Management Agency. The Local Hazard Mitigation Plan suggests possible mitigation measures for reducing the effects of the potential hazards. The goals and policies within this Safety Element support and are consistent with the recommended mitigation strategy within the Local Hazard Mitigation Plan.

Chapter 4--Transportation and Circulation:

The Transportation and Circulation Chapter addresses the City's major road system, local street patterns, air facilities, bus and rail transit, and bicycle and pedestrianways. The goal is to identify the most effective ways to plan for circulation while enhancing the community and protecting the environment.

The goals and policies presented here are intended to coordinate circulation with land use by concentrating higher residential densities and major trip destinations in the vicinity of major roadways and public transit corridors.



The *Merced Vision 2030 General Plan* Circulation Plan features:

- a comprehensive system of arterial streets in a one mile grid system;
- a Campus Parkway alignment along the eastern side of the SUDP/SOI and a Merced-Atwater Expressway on the western side of the SUDP/SOI to integrate existing Highway 59,Bellevue Road, and Mission Avenue alignments into a beltway or "ring-road" concept to carry cross-town traffic around established portions of the community
- a major transit corridor (M Street) designated along the central core of the entire City, on Mandeville Lane connecting to UC Merced, and another along Bellevue Road connecting to western destinations; and,
- an expanded on-street and off-street bike path system along the City's creeks linking together open space areas, employment centers, and residential neighborhoods.

Ultimate buildout of the City's SUDP/SOI will require significant public improvements to the circulation system in order to maintain an acceptable level-of-service, including new highway interchanges and upgrades to existing interchanges, about 60 miles of new or improved major streets, some separated-grade railroad crossings, and numerous new bridges and traffic signals. How to finance this needed infrastructure is one of the critical issues facing the community as it grows.

Goals and policies in this chapter promote major streets, which are designed to maximize efficiency, and local streets designed to provide access for neighborhood destinations, minimize unnecessary travel demands on major streets, and minimize impacts on the environment. "Complete streets" where all modes of transportation (bicycles, transit, walking) are promoted through the provision of adequate facilities and the design of new developments that minimize barriers to their use. Passenger rail and air service are also an important aspect of the City's circulation system.

4) South Merced – Generally the area south of Childs Avenue, west of Highway 99, north of Mission Avenue, and east of Thornton Road. The South Merced Community Plan was adopted for this area in 2007. In addition to substantial residential development, the Community Plan identifies two areas for significant industrial development along Highway 99, and near the Airport, as well as a major commercial corridor along Highway 59 between Childs Avenue and Mission Avenue. Neighborhood Commercial sites are placed near population centers, and a 40-acre Regional Commercial site is positioned near Highway 99 and Mission Avenue.

5) Southeast Merced – The area generally bounded by Highway 140 to the north, the Fairfield Canal to the east, Highway 99 to the west, and Mission Avenue to the south. Southeast Merced houses the Santa Fe Industrial Park which extends from Highway 140 to Mission Avenue, east of the Campus Parkway. A neighborhood commercial center along Childs Avenue is proposed. Significant highway-oriented commercial and business park development has been designated for the areas adjacent to the new Mission Avenue/ Highway 99 Interchange.

6) Thornton Road "Industrial Reserves – Several areas within the SOI/SUDP in the vicinity of the Merced Regional Airport and Castle Airport are identified as future development sites for industrial uses. Thornton Road, north and south of Highway 99 will be developed as an arterial road and be the primary transportation route to this area. These areas are a natural extension of the current industrial uses within the Merced Regional Airport Industrial Park.

7) The Bellevue Community Plan Area – This area is generally located on the north and south sides of Bellevue Road between G Street and the UC Merced Campus east of Lake Road. This area has been identified as a "Community Plan" area (see Section 3.7.4) and contains significant amounts of job-generating uses that wish to be located in close proximity to the UC Merced Campus.

Outer Villages

Less compact areas surrounding the Inner Villages contain traditional single-family housing, some office uses, schools, and open space. These areas are known as the *Outer Village.* The Outer Villages are tied to the Inner Villages by a local network of connector streets. This convenient network eliminates the need for local trips on area arterials, thereby reducing demand on these roads. The local street system, on the other hand, is designed to be inconvenient for through traffic, providing safe paths for pedestrians and bicyclists.

These Outer Village areas are simply traditional single-family neighborhoods, except that an emphasis is placed on convenient access to the mixed-use areas. The majority of land in the "Villages" on the Land Use Diagram is Outer Village areas.

Distribution of Villages

Villages should be distributed in a pattern that allows the greatest number of residents access to a variety of shopping opportunities. Villages should also be located to permit residents to walk to retail and public facilities without having to cross an arterial street. Villages need locations that take advantage of main transit lines and existing retail market demand.

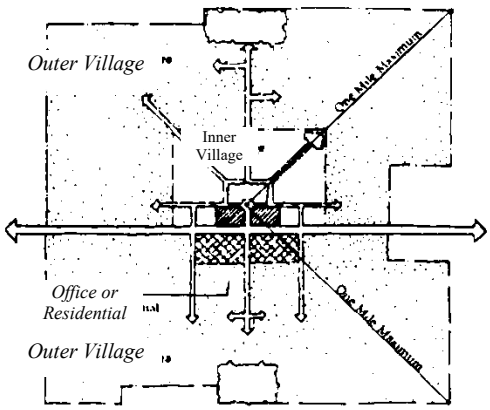


Figure 3.8
"Inner and Outer Village" Diagram

Villages should be located to maximize access to their Core Commercial areas from Outer Village Areas without relying on arterial streets. Villages with major retail centers should be spaced at least one mile apart and distributed to serve various growth sub-areas. Generally, there should be one Village for each full square mile bound by arterial streets, except in rural areas.

Bellevue Urban Design

The composition and pattern of land uses near UC Merced within the Bellevue Community Plan have unique designs and functions due to the economic opportunities and connectivity to the university. Components of the Bellevue Community Plan are discussed in greater detail in Section 3.7.4.

discussions with various federal agencies, the University proposed an alternative to reduce the Campus' impacts on wetlands by reducing the size of the developed portion of the Campus from 910 acres to 815 acres and shifting the Campus boundary south into an area that was to be occupied by the University Community and shifting the Community boundary east. This proposed change brought about the need to revise the UC Merced LRDP and the University Community Plan, for which UC Merced officials prepared applications and an associated EIR, adopted by the University of California Board of Regents in 2009.

After that adoption, the University Board of Regents had indicated that it intended to submit an application for a University Community Plan Update to Merced County, which has land use jurisdiction over the University Community. Although this application has not yet been submitted to the County, the City of Merced has chosen to acknowledge the revised 2009 external boundaries for the University and the University Community North within the *Merced Vision 2030 General Plan* since the environmental impacts of those boundaries have been fully analyzed in UC's EIR, which involved the participation of the University, the County of Merced, and the City of Merced.

The Proposed Revised University Community Plan area consists of two areas – Community North and Community South. Community North consists of 833 acres and is owned by the University Community Land Company LLC, a not-for-profit organization composed of the Virginia Smith Trust and the University of California. Community South is 1,118 acres and is owned by LWH Farms, LLC. Conceptual land use plans, prepared by the University and the Community South property owners, are included in Section 3.10, *Appendix.*

3.7.4 Bellevue Community Plan

The *Bellevue Corridor Plan* (BCP), incorporated into the General Plan by reference, is located to the northeast of the City of Merced, and covers an area of approximately 2.4 square-miles. (The Plan was adopted by the City Council on April 6, 2015.) The planning area is generally bounded by G Street on the west; Farmland Avenue on the north; Lake Road on the east and Cardella Road on the South (between Lake Road and Gardner Road), and generally ½ mile south of Bellevue Road (between Gardner Road and G Street).

The BCP is a long-term document with a tremendous amount of uncertainty. To counter this, the plan has a policy framework for future master planning that is comprehensive and is supported by the community. The policy and development framework will deliver an interconnected transit-oriented development pattern, clarity of urban character and flexibility of use to respond to changing markets. Included in the BCP is a dynamic "neighborhood master plan" process that ensure that each new increment of development is well-connected to existing and future adjacent development, while responding to market. The framework for new development is a clear and interconnected – yet flexible – network of complete streets and community open spaces. The "Neighborhood Master Plan" process acts as the fundamental tool to ensure that the overall physical community structure is developed as envisioned in the BCP.

Key features and issues addressed in the plan include:

Economics/Market

Investment Certainty: While the BCP provides a broad range of uses and densities that could occur, it also emphasizes the development of a great sense of place with investment certainty. The BCP is geared to make projects that are connected to their neighbors and to the transit spine with complete, walkable streets. The BCP envisions a systematic development pattern where the next development is framed by the preceding development site that implements the overall vision, rather than a smattering of projects.

A Strong Downtown: Downtowns are sensitive to market forces, particularly to urban growth in other areas. Initially, an identity distinct from Downtown Merced will need to be fostered by the City to develop a separate and non-competing center in the BCP plan area. Over time, as the market expands, greater flexibility in land uses may be achieved.

Job Attraction: Following the lead of the General Plan, the BCP includes a "Research and Development Park Character Area" that could accommodate up to 2.9 million square-feet of Research and Development floor space. The Plan is flexible, supporting the size of this land use to adjust depending upon market conditions. The Research and Development employment corridor is infused with innovation hub design elements to attract new firms and industry wishing to locate near the campus.

Housing: The BCP relies on the housing-related narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* to guide planning, provision and development of future housing units in anticipation of Merced's increased population. The BCP includes a wide variety of housing types ranging from rural residential estate homes to high-density multi-family dwellings.

Land Use

The Bellevue Urban Design: Certain features of the planning area have strongly influenced the land use structure of the BCP; and include:

1) proximity to UC Merced and associated compatibility needs;
2) anticipated job-based land uses attracted by a university climate;
3) the regional attributes of Bellevue Road as part of the Merced Loop Road; and,
4) the community-wide transit corridor linking UC Merced to Downtown and beyond.

The influence of these features is revealed in the amounts and location of land uses. For example:

1) the amount of low-density residential has dropped while the amount of land set aside for research and development parks have increased, resulting is a more balanced jobs-to-housing ratio;
2) as specified in the BCP, the placement of retail uses may locate at a corner of two arterial roads, expanding sites beyond just the corner of a collector and arterial road;
3) dense housing and retail may locate within one-quarter mile of the Mandeville Transit Corridor between G Street and Lake Road, and not be

confined to a single node surrounded by low-density housing; and,

4) a vertical and horizontal mix of land uses may occur throughout most of the plan area.

Thus, a land use design unique to the planning area and distinct yet compatible with the General Plan's Urban Village Concept is presented in the BCP.

Open Space: The BCP includes several active parks including three neighborhood parks, a community park and several urban plazas. Neighborhood parks are recommended to be combined with future school sites to serve the anticipated population, and urban plazas will add open space opportunities to high-density populations along Mandeville Lane. Open space corridors featuring pedestrian and bicycle pathways connect to parks and other destinations.

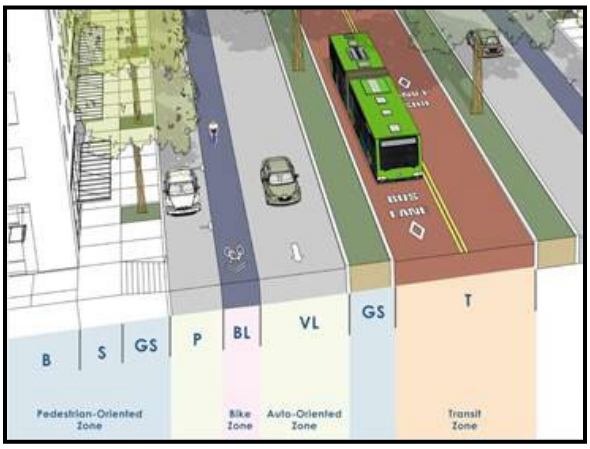
Environment

Conservation Lands: The Open Space Master Plan of the BCP establishes several open space corridors that include sensitive habitats. These may shrink or expand depending upon the findings and actions state and federal permitting agencies.

Transportation/Circulation

Mobility Choices: Along Bellevue Road, the goal is to emphasize smooth traffic flow and provide access to adjacent uses at appropriate intervals and through innovative means, while also creating a distinct gateway appearance through attractive building designs and associated landscaping.

Within the Mandeville Lane Transit Corridor, which links the planned transit stations in Bellevue Ranch and UC Merced, new development should be organized in the form of complete neighborhoods and districts and be oriented to pedestrians and transit. Higher-intensity development and activities should be concentrated near planned transit stops. This arrangement supports regional automobile trips on Bellevue Road, while creating a pedestrian-oriented corridor along Mandeville Lane, and enhances the value of the research and development area that is to be located between these roads.



Numerous bikeways connect to destination sites, as well as UC Merced to existing and planned communities.

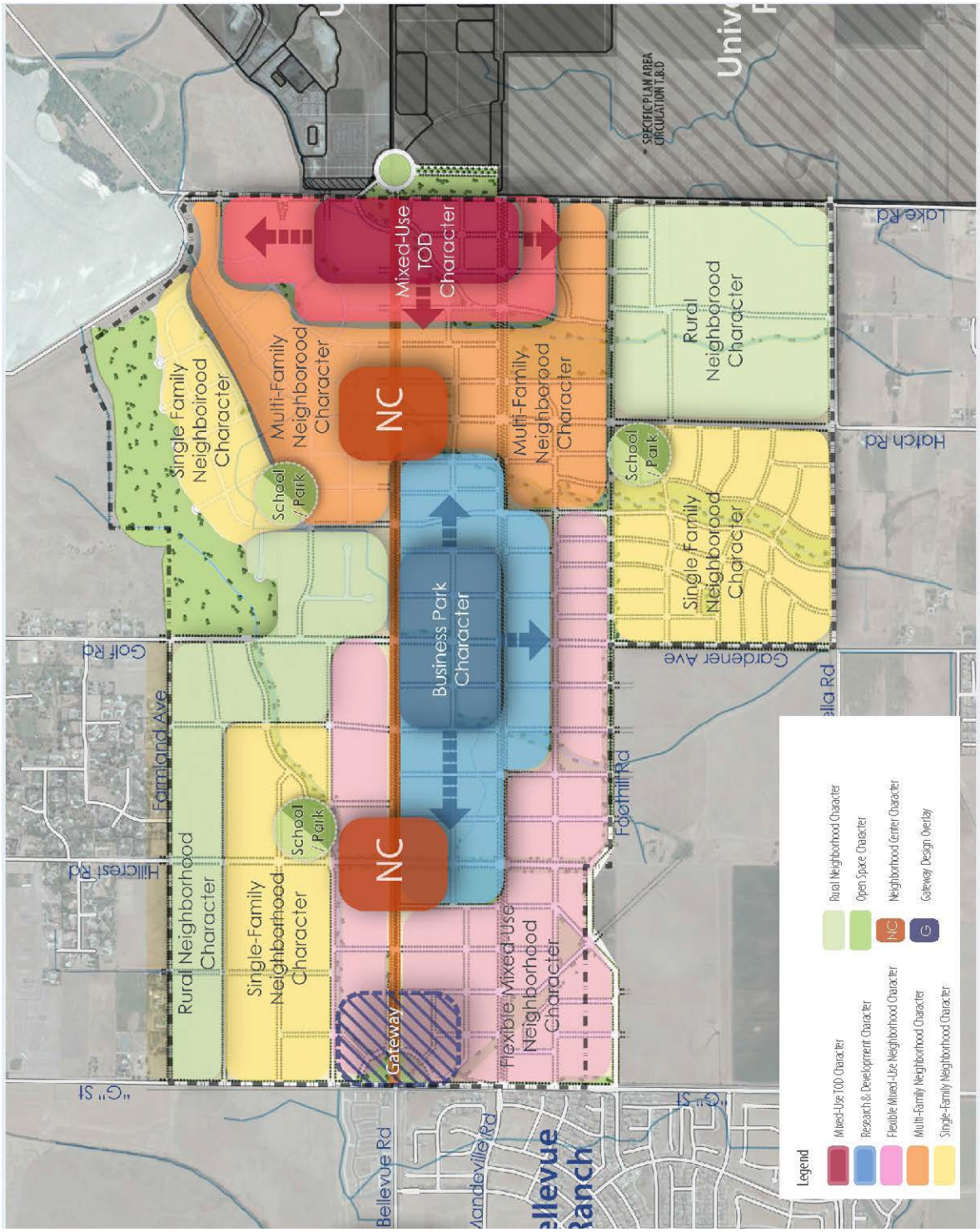
3.7.5 South Thornton (or "Five Bridges" Community Plan

The South Thornton (or "Five Bridges") Community Plan is approximately 350 acres, bounded by Highway 99 to the north, 1/4 mile west of Thornton Avenue to the west, Highway 140 to the south, and Massasso Road to the east.

Private interest to develop within the Community Plan area began in 2004. During 2004 through 2008, City Staff worked with these interests and the neighborhood to examine various land use, circulation and phasing concepts. The concept land use plan contains the commercial and residential components of a

Bellevue Community Plan (Adopted April 6, 2015)

Note: Plans are included here for illustrative purposes only. No land use entitlements are granted by including these plans here.



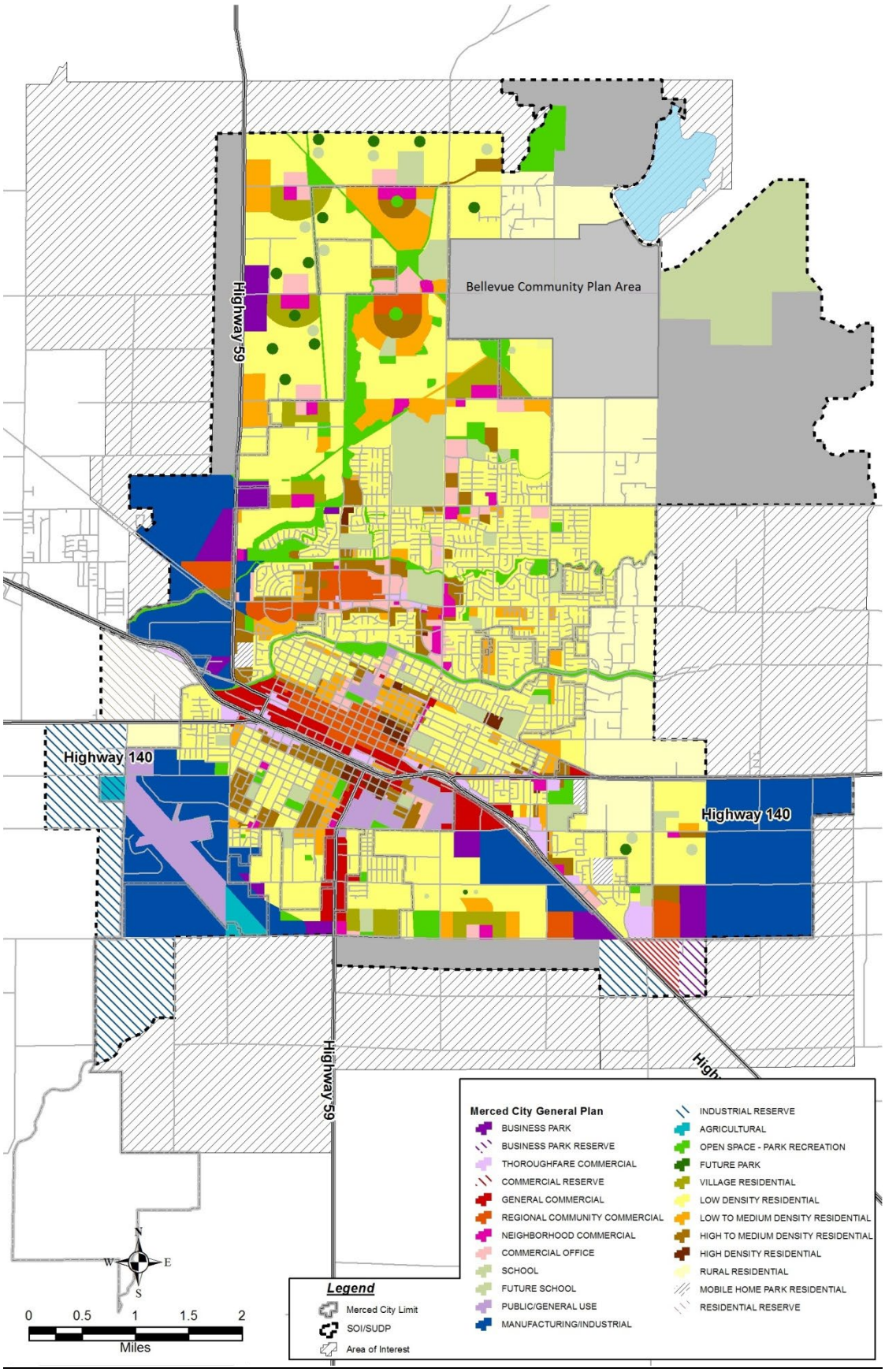


Figure 2.3 on page 2-13 and Figure 3.1 (or Page A-19 of Appendix A)

Campus Parkway) for prospective growth areas. An interchange was constructed in 2008 at Mission Avenue/Highway 99 that will connect with Campus Parkway. The completion of Campus Parkway depends on the timing of build-out of UC Merced, and will be phased in over the next 10 to 20 years as traffic conditions warrant;

- Bellevue Road and Mandeville Lane have been designated as Transit Corridors in the City's Circulation Plan. The area near the intersection of M Street and Bellevue Road, the location of proposed future major commercial and office park sites, would also be the central transfer point between these two transit corridors.
- Ultimately, Mandeville Lane offers the opportunity for direct public transit access eastward to the UC Merced campus east of Lake Road, whereas Bellevue Road offers it to the west and south toward Atwater/Castle and Highway 99 via the Atwater-Merced Expressway. The Atwater-Merced Expressway replaces the Highway 59 bypass that was proposed in the *Merced Vision 2015 General Plan.*

Table 4.1
Major Street Improvement Projects

Project #	*Project Type*	*Location/Improvement Summary*
1	Upgrade Arterial	Thornton from SR 140 to Mission and Yosemite to Bellevue
2	Upgrade Arterial	North SR 59 from 16th to north end of SUDP/SOI
3	Upgrade Arterial	South SR 59 from Childs to south end of SUDP/SOI
4	Extend/Upgrade Arterial/Collector	R St. from Gerard to Area of Influence Boundary
5	Upgrade Arterial/Extend Transitway	M St. from Yosemite to Old Lake
6	Upgrade Arterial	G St. from Yosemite to north end of SUDP/SOI
7	Upgrade Arterial	Parsons/Gardner from Coffee to Old Lake
8	Extend Expressway	Campus Parkway from Mission to Yosemite Avenue
9	Extend/Upgrade Arterial	Old Lake from SR 59 to Gardner/Golf
10	Upgrade Arterial/Expressway	Bellevue from Campus Parkway to Atwater/ Merced Expressway
11	Extend Arterial	Tyler Road from Childs to Mission
12	Extend Arterial	Cardella from Hwy 59 to Campus Parkway
13	Upgrade Arterial	Yosemite from Hwy 59 to Campus Parkway
14	Upgrade Arterial	SR 140 from Parsons Avenue to Tower Road
15	Upgrade to 6 Lanes, with the potential for auxiliary lanes between major interchanges.	SR 99 through Merced
16	*Modify Ramps & Complete 13th/14th 1-way Couplet	SR 99 @ Martin Luther King Jr. Way, G St., & Childs Avenue
17	Upgrade/Extend Arterial	Childs from SR 59 to Tower Rd
18	Upgrade Arterial	Dickenson Ferry/Mission from Thornton to Tower
19	Extend Expressway	Atwater/Merced Expressway from SR 99 to Bellevue Road
20	Interchange	Atwater/Merced Expressway @ SR 99
21	Interchange	Atwater/Merced Expressway @ Santa Fe Drive
22	Interchange	Atwater/Merced Expressway @ Bellevue Road

* This project (which is the responsibility of the State) is currently listed as a Tier I project in the MCAG Regional Transportation Plan (RTP).

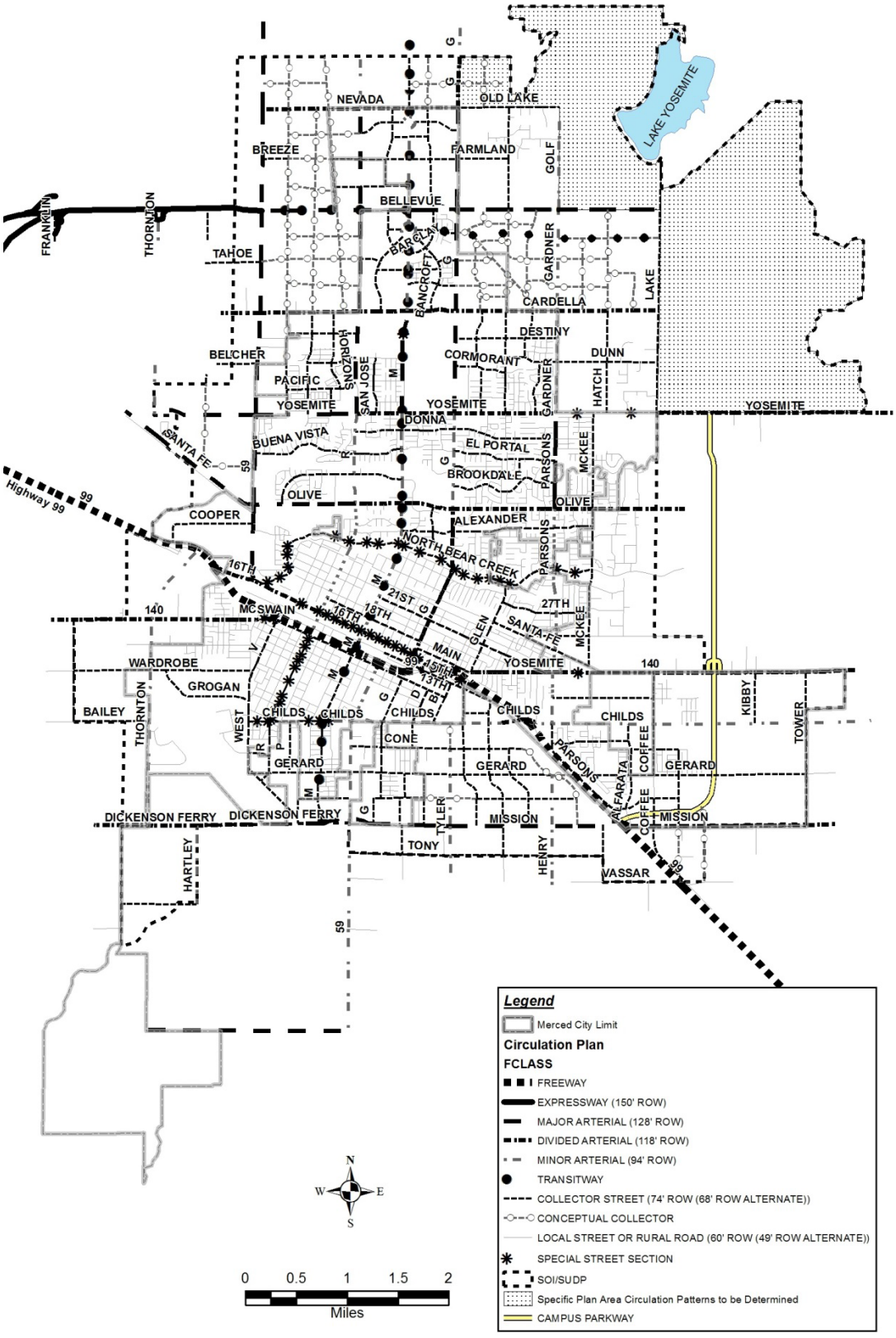
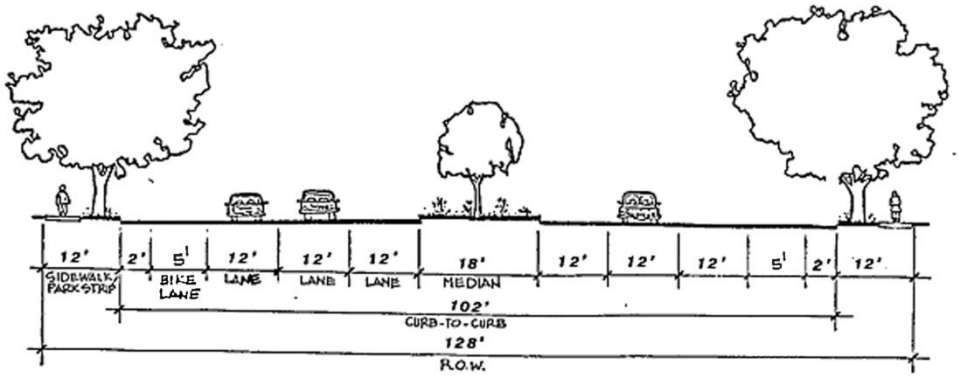


Figure 4.1 on Page 4-5 (or Page A-21 of Appendix A)

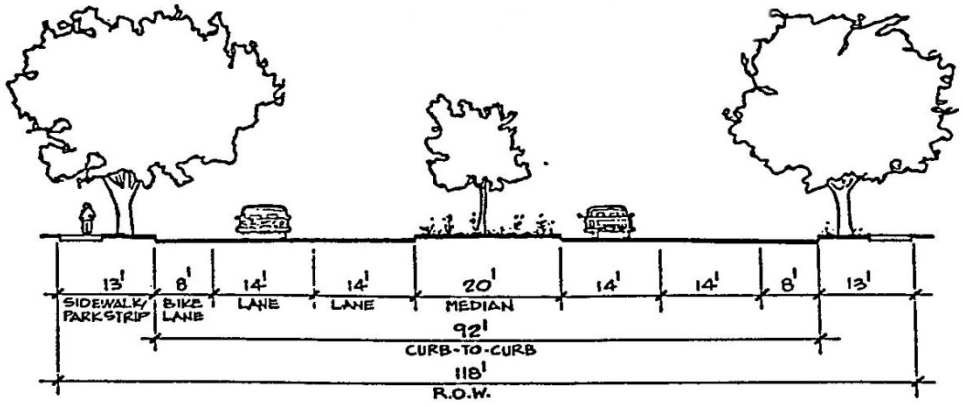
Figure 4.4
Major Arterial/Arterial
Cross-Section



Yosemite Avenue/Bellevue Road and Cardella Road (Arterials)

- Arterials, one mile apart in a parallel (east-west) pattern perpendicular to the major arterials.
- Anticipated to accommodate more, but shorter, vehicle trips, distributing vehicles to major arterials.
- Less stringent access restrictions, to accommodate heavier traffic loads for shorter periods of time – basically, designed to carry traffic to the nearest appropriate major arterial, expressway or collector, for further trip distribution.
- Bellevue Road has a larger right-of-way requirement (128 feet, 150 feet at major intersections) because it is designated as a transit-way (west of G Street) in addition to its designation as an arterial. Cardella Road and Old Lake Road are both designated Divided Arterials (118 feet, 140 feet at intersections) (***Figure 4.5***).
- The unique street cross-sections and design features of roads and rights-of-way within the *Bellevue Community Plan* and described in that plan take precedence over the comparable language of the *Merced Vision 2030 General Plan.*

Figure 4.5
Divided Arterial Cross-Section



Transitways

The City of Merced has maintained a strong north-south growth pattern for many years, consistent with its proposed expansion areas. This pattern has contributed to a relative clustering of major destinations in proximity to "M" Street ***(Figure 4.7)***.

This M Street "core" has been formally designated a "Transitway" or "Transit Corridor." This corridor is a logical location for centralized bus service to run along or closely parallel to "M" Street throughout the entire north-south length of the City.

In this location, public transit would be able to provide convenient access to nearly all major Merced destinations. A pattern of intersecting bus routes could tie the entire community into an efficient public transit system.

The pattern of major destinations in proximity to this central transit corridor has been continued through the City's proposed North Merced growth area. As Bellevue Ranch is built-out, additional major commercial sites will be constructed along the M Street corridor. A special section for the M Street Transitway has been developed from Cardella to Old Lake through the Bellevue Ranch Master Development Plan.

Bellevue Road and Mandeville Lane have been designated as Transitways in the City's Circulation Plan ***(Figure 4.1)***. The area near the intersection of M Street and Bellevue Road, the location of proposed future major commercial and office park sites, would also be the central transfer point between these three transit corridors.

Mandeville Lane offers the opportunity for direct public transit access eastward from M Street to UC Merced. The opportunity should also be studied regionally for extending a transitway westward along Bellevue Road to provide a tie-in to the regional employment sites at Castle Airport.

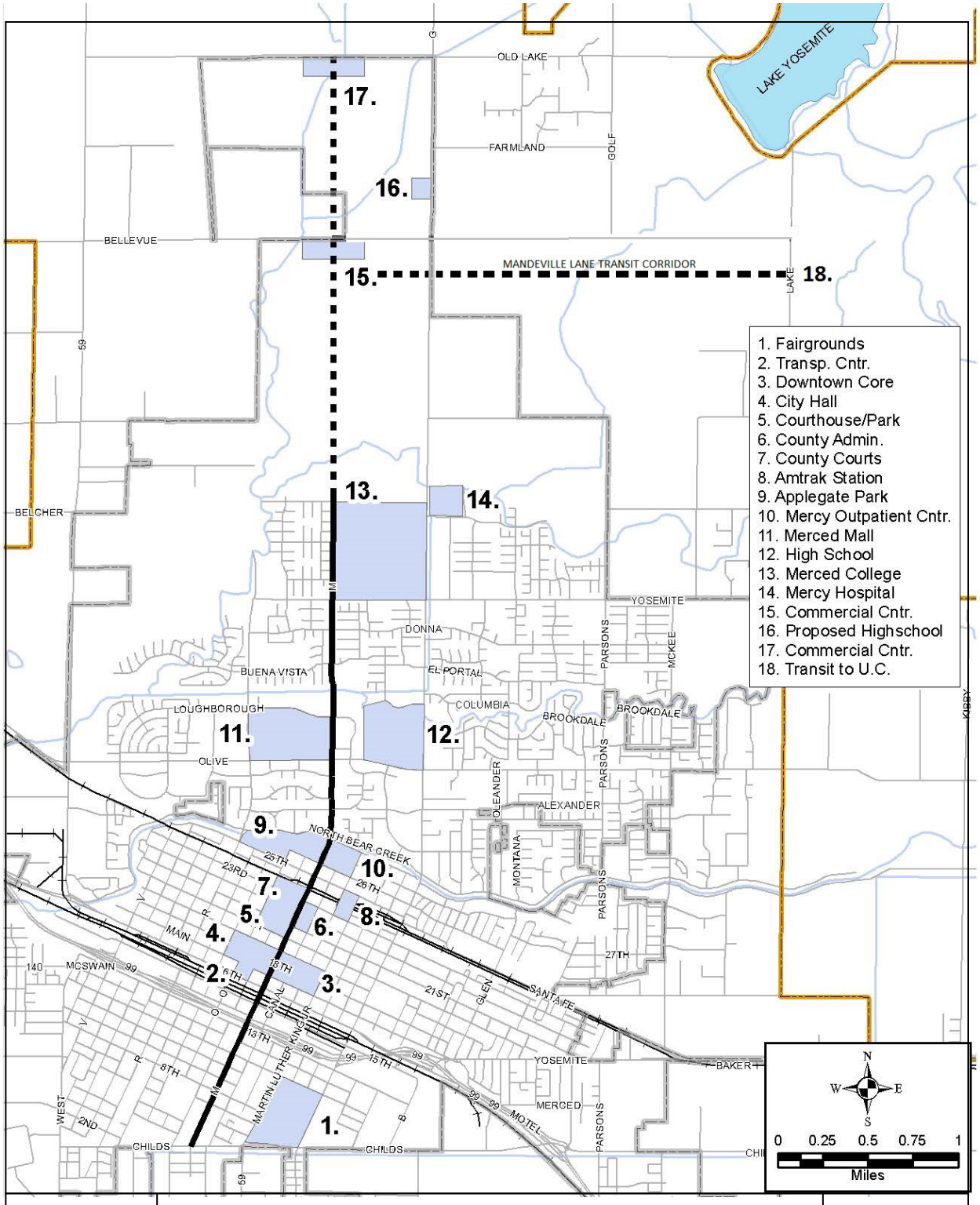
4.3.3 Private Transportation

The future of private transit operators (taxis, vanpools, etc.) is difficult to predict because of the volatile nature of the business in recent years. Future service levels of intercity transit will be influenced by changing market forces and state and federal government regulations.

Demand for service to and from the Merced area can be expected to increase. With increasing demands brought about by efforts to improve air quality and congestion, the private intercity operations in Merced County and the San Joaquin Valley could be expanded. It should be noted that if the private sector is unable to respond to this commuter demand, some of the demand could shift to the public sector.

4.3.6 Social Service

The City of Merced partners with several agencies, public and private, to provide social service transportation. Demand response service is available for senior citizens and disabled citizens residing within the community through the Consolidated Transit System of Merced County. Special fare discounts are typically provided for seniors and disabled persons.



M STREET TRANSITWAY CORRIDORS (MAJOR EXISTING AND FUTURE LAND USE DESTINATIONS)

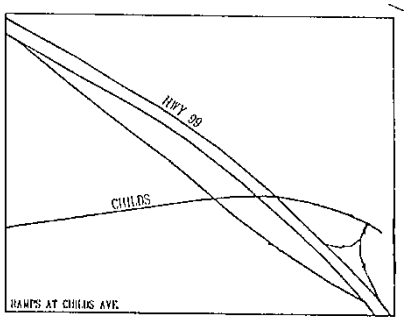
Figure 4.7

Highway 99/Childs Avenue

Both the City and County of Merced continue to grow in the southeastern portion of the urban area, south of Highway 140 and east of Highway 99. Access to this area is relatively constricted. Upgrading the existing Childs Avenue interchange with Highway 99 ***(Figure 4.15)*** would provide improved access to and from the area.

Figure 4.15

Childs Ave Interchange



A series of frontage roads which connect the G Street Interchange and the Childs Interchange with the new Mission Interchange (see below) was adopted as part of the South Merced Community Plan in 2008. In 2001, the southward expansion of Parsons Avenue as a frontage road and designated "Collector" (Childs Avenue to Coffee Street) was adopted as part of the Mission Interchange project.

As part of the South Merced Community Plan, a new frontage road between 15th St. and Brantley Rd. was evaluated and made part of that plan. Similarly, a frontage road between Brantley and Henry is also planned in the area west of Hwy 99.

New Interchanges

In addition to upgrades to existing interchanges described above, the relatively recently constructed Mission/ Highway 99 Interchange will connect the Mission Avenue circulation corridor and the expanded Santa Fe Industrial Park, and will ultimately connect with Campus Parkway.

4.4.7 Transitways

Continued successful preservation of identified public transit corridors along M Street, Mandeville Lane, and Bellevue Road will retain as much as possible future flexibility for prospective public transit options. Preservation should include acquisition and retention of larger right-of-ways (ROW's), where already designated, as well as careful evaluation of portions of these corridors that presently do not have extended ROW's, to determine if these areas need expansion.

M Street

Preservation should also involve careful processing of land uses in proximity to transit corridors, to avoid serious access conflicts between private vehicles and public transit. Finally, preservation needs to include a regional public transit perspective for agencies involved with land use planning in the region. This perspective should result in continuation of current growth patterns that have kept most major transit destinations within reasonable proximity to the two designated transit corridors (or close to other major roadways that radiate directly from these transit corridors and can conveniently serve as secondary transit routes).

Transit corridors that are effectively preserved could become the location of a light rail system. Related future transit options, such as a light-rail or even

alternatives not currently visualized, if they become economically viable, might utilize established corridors.

Bellevue Road and Mandeville Lane

Bellevue Road is shown as an east-west arterial on the City's Circulation Plan. It is also shown as one of three transit corridors on that plan. Mandeville Lane is an east-west collector between planned transit hubs on M Street and at UC Merced.

Bellevue Road is a key east-west circulation corridor because it is the most prominent near-term east-west route serving the University of California (UC) campus. As the Bellevue Community Plan develops, Mandeville Lane will provide better transit access to the UC campus. Its tie-in to the future M Street Transit Corridor also provides the prospect of a highly convenient public transit route from the City to the UC campus. A possible transit corridor to the west on Bellevue Road could become a tie-in to the City of Atwater and the designated regional job center at Castle Airport.

Bellevue Road has the potential to be a much more significant regional route in the foreseeable future than other east-west arterials shown on the City's Circulation Plan. This makes it imperative that necessary rights-of-way (ROW's) be obtained throughout its corridor, in order to ensure its future viability. Bellevue Road will also connect to the Merced-Atwater Expressway project west of Highway 59, which will ultimately connect Bellevue to Highway 99.

4.5 TRANSPORTATION SYSTEM MANAGEMENT

With ever increasing traffic volumes and limited resources to expand the capacity of some of the existing streets, Transportation System Management (TSM) will play an important role in the future. The goal of transportation system management is to improve the movement of people and goods.

This can be done by expanding the carrying capacity of streets and transit systems, primarily through the implementation of short-run, low cost strategies. The strategies are to be used to prolong or avoid costly expansions of the facility or service.

Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used in the future. Ridesharing programs, preferential treatment for High Occupancy Vehicles (HOV's), Park-and-Ride lots, one-way streets, the provision of bicycle facilities, and the promotion of variable work hours and telecommuting are also strategies which will be promoted by the City of Merced.

Coupled with air quality and congestion management, these strategies may result in near-term improvement of the operating characteristics of existing facilities and services.

North Bear Creek Drive

North Bear Creek Drive is designated as a "special street" in order to maintain its status as a "Scenic Corridor." This designation should apply from a point approximately 400 feet east of 16th Street, in the vicinity of Highway 59 (the point at which West North Bear Creek Drive turns northward away from Bear Creek), to McKee Road. North Bear Creek Drive is a roadway immediately adjacent to the Bear Creek open space corridor for the entire length of this designated area and, as such, is party to visual and acoustic opportunities rarely available to urban area dwellers except in special open space areas. This special atmosphere has, historically, been augmented by the proximity of large trees, forming a heavy canopy, and lush natural and maintained growth along North Bear Creek Drive.

This semi-natural state has been possible because a number of typical urban roadside improvements (curb, gutter, sidewalks, streetlights, etc.) were not required along this corridor because nearly all of the development was constructed when this area was outside the City. An irrigation canal is present along with side berms on both sides, which are often heavily planted and in close proximity to the roadway. This would be not likely if traditional roadside infrastructure were constructed. Therefore, this section of North Bear Creek Drive should continue to be exempt from installing such improvements unless they become necessary for safety reasons in the future.

Other Special Streets

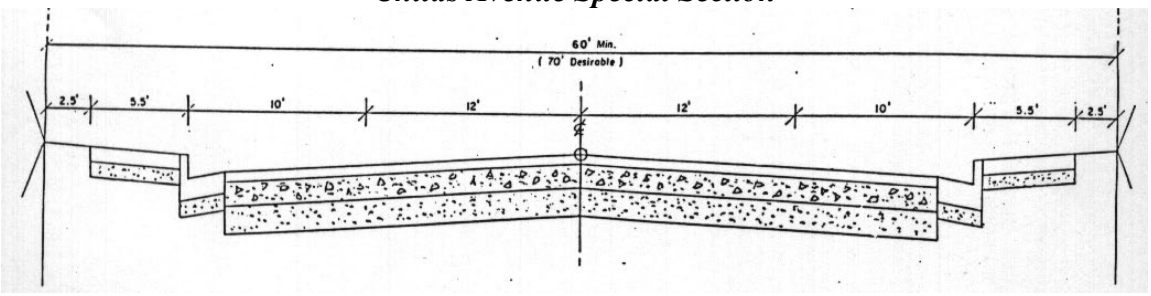
The following streets also require special sections because of non-standard rights-of-way or curb-to-curb widths and other special circumstances:

- Childs Avenue between West Avenue and Martin Luther King Jr. Way ***(Figure 4.27b)***
- Highway 140 from V Street to 207 feet west of "X" Street ***(Figure 4.27c)***
- Yosemite Park Way from 21st Street to Bradley Overpass ***(Figure 4.27d)***
- "R" Street between Highway 99 and Childs Avenue (***Figure 4.27e)***
- Yosemite Avenue, East of Parsons/Gardner ***(Figure 4.27f)***

Bellevue Community Plan Streets

The unique street cross-sections and design features of roads and rights-of-way within the *Bellevue Community Plan* as described in that plan take precedence over comparable language of the *Merced Vision 2030 General Plan*.

Figure 4.27b
Childs Avenue Special Section



Roadway/Segment	*Existing Conditions (2010)*			*General Plan Buildout (2030)*		
	Number of Lanes	*Traffic Volume[1]*	*LOS[2]*	*Planned Number of Lanes[3]*	*Traffic Volume[1]*	*LOS[2]*
Martin Luther King Jr. Way/ South Highway 59						
Roduner to Mission	2	8,900	C+	4	30,160	D
Mission to Gerard	2	9,800	C+	4	28,970	D
Gerard to Childs	2	15,430	D	4	38,100	**F**
Childs to SR 99	4	16,300	C+	4	29,260	D
SR 99 to 16th	4	17,200	C+	4	24,740	C+
"G" Street						
Mission to Childs	2	6,500	D	2	12,110	**E**
Childs to SR 99	2	21,300	**F**	2	33,890	**F**
SR 99 to Bear Creek	4	22,060	C+	4	32,520	D
Bear Creek to Olive	4	25,950	C+	4	33,990	**E**
Olive to Yosemite	4	22,182	C+	4	32,330	D
Yosemite to Cardella	2	6,650	C+	4	26,680	C+
Cardella to Bellevue	2	6,350	C+	4	30,380	D
Bellevue to Old Lake	2	3,020	C+	6	36,750	C+
Old Lake to North SOI	2	3,020	C+	4	26,020	C
Parsons Avenue/ Gardner Road/Golf Road						
Campus Parkway/Coffee to Gerard	2	620	C+	2	14,390	**F**
Gerard to Childs	2	6,240	D	2	16,760	**F**
Childs to SR 140	2	9,600	D	4	32,420	D
SR 140 to Bear Creek	2	11,300	**E**	4	35,320	**E**
Bear Creek to Olive	2	4,330	C+	4	29,380	D
Olive to Yosemite	2	5,600	D	6	34,590	C+
Yosemite to Cardella	2	1,580	C+	4	33,410	D
Cardella to Bellevue [4]	n/a	n/a	n/a	4	30,580	D
Bellevue to Old Lake [4]	n/a	n/a	n/a	4	17,350	C+
Old Lake to Golf Club	n/a	n/a	n/a	2	9,670	D
McKee Road (Collector)						
Hwy 140/Santa Fe to Bear Creek	2	5,700	D	2	13,840	**F**
Bear Creek to Olive	2	8,250	D	2	16,130	**F**
Olive to Yosemite	2	5,250	D	2	13,200	**E**
Campus Parkway						
SR 99/Mission to Childs	n/a	n/a	n/a	6	46,200	D
Childs to SR 140	n/a	n/a	n/a	4	35,110	D
SR 140 to Olive	n/a	n/a	n/a	4	32,060	D
Olive to Yosemite	n/a	n/a	n/a	4	33,950	D
Yosemite to Cardella	n/a	n/a	n/a	4	35,720	D
Cardella to Bellevue	n/a	n/a	n/a	4	34,350	D

Roadway/Segment	*Existing Conditions (2010)*			*General Plan Buildout (2030)*		
	Number of Lanes	*Traffic Volume[1]*	*LOS[2]*	*Planned Number of Lanes[3]*	*Traffic Volume[1]*	*LOS[2]*
Tyler Road						
Childs to Mission	n/a	n/a	n/a	2	9,830	D
EAST/WEST ARTERIALS						
Old Lake Road						
SR 59 to "R" St.	n/a	n/a	n/a	4	20,840	C+
"R" St. to "M" St.	n/a	n/a	n/a	4	17,890	C
"M" St. to "G" St.	n/a	n/a	n/a	4	17,040	C
"G" St. to Parsons/ Gardner	2	1,700	C+	2	8,630	D
Parsons/Gardner to Lake	2	340	C+	2	3,830	C+
Bellevue Road						
Atwater/Merced Expy to Thornton	2	3,800	C+	8	55,380	C+
Thornton to SR 59	2	3,800	C+	8	74,340	D
SR 59 to "R" St.	2	5,630	D	6	58,400	**F**
"R" St. to "M" St.	2	5,460	D	6	55,310	**F**
"M" St. to "G" St.	2	5,460	D	6	57,470	**F**
"G" St. to Parsons/Gardner [4]	2	6,620	D	6	52,950	**E**
Parsons/Gardner to Campus Pkwy[4]	2	3,700	C+	6	50,120	D
Cardella Road						
SR 59 to "R" St.	n/a	n/a	n/a	4	31,840	D
"R" St. to "M" St.	2	5,000	C+	6	35,340	C+
"M" St. to "G" St.	2	6,800	C+	4	33,520	D
"G" St. to Parsons/Gardner	n/a	n/a	n/a	4	33,430	D
Parsons/Gardner to Campus Pkwy	n/a	n/a	n/a	4	32,590	D
Yosemite Avenue						
SR 59 to "R" St.	4	12,160	C+	4	26,130	C+
"R" St. to "M" St.	4	15,940	C+	4	38,430	**F**
"M" St. to "G" St.	4	19,720	C+	4	38,770	**F**
"G" St. to Parsons/ Gardner	2	15,100	D	4	38,990	**F**
Parsons/Gardner to Campus Pkwy	2	7,550	D	4	29,600	D
Olive Avenue						
West of Hwy 59 (Santa Fe Ave)	4	22,800	C+	6	33,880	C
SR 59 to "R" St.	6	32,250	C+	6	45,830	D
"R" St. to "M" St.	6	30,560	C+	6	41,060	C+
"M" St. to "G" St.	6	28,210	C+	6	45,030	D
"G" St. to Parsons/Gardner	4	18,500	C+	4	34,970	**E**
Parsons/Gardner to Lake	2	7,460	C+	2	16,770	**E**

Roadway/Segment	*Existing Conditions (2010)*			*General Plan Buildout (2030)*		
	Number of Lanes	*Traffic Volume(1)*	*LOS(2)*	*Planned Number of Lanes(3)*	*Traffic Volume(1)*	*LOS(2)*
Childs Avenue						
West Ave to SR 59	2	6,260	D	2	10,090	D
SR 59 to Tyler	2	4,700	C+	4	27,520	D
Tyler to SR 99	2	6,610	C+	4	46,600	**F**
SR 99 to Parsons/Gardner	2	11,770	**E**	4	41,870	**F**
Parsons/Gardner to Coffee	2	6,600	D	4	24,590	C+
Coffee to Campus Pkwy	2	4,420	D	4	32,120	D
Campus Pkwy to Tower	2	3,300	D	4	19,390	C+
Gerard Avenue						
M to SR 59	2	1,400	C+	2	12,580	**E**
SR 59 to Tyler	2	1,300	C+	2	8,810	D
Tyler to Henry	2	850	C+	2	4,600	C+
Parsons/Gardner to Coffee	2	2,720	C+	2	18,650	**F**
Coffee to Campus Pkwy	2	2,480	C+	2	35,230	**F**
Campus Pkwy to Tower	2	1,000	C+	2	7,640	D
Dickenson Ferry Rd/ Mission Avenue						
Gove to Thornton	2	1,900	C+	2	13,200	D
Thornton to West Ave	2	1,900	C+	4	29,980	D
West Ave to SR 59	2	1,900	C+	6	35,950	C+
SR 59 to Tyler	2	1,800	C+	6	34,870	C+
Tyler to Henry	2	1,250	C+	6	33,800	C+
Henry to SR 99	4	2,020	C+	6	63,350	**F**
SR 99 to Coffee (Future Campus Parkway)	2	890	C+	6	46,200	**D**
Coffee to Tower	2	600	C+	4	1,890	C+

NOTES: (1) Traffic Volume is measured in ADT's (Average Daily Trips).

(2) "C+" indicates Level-of-Service (LOS) "C+" or better, including LOS A and B.

(3) The number of lanes shown is the number of lanes planned in the circulation element; additional travel lanes, or provision of additional turn lanes at intersections may be needed to provide acceptable roadway operations with the planned level of development.

(4) The Traffic Assessment performed as part of the Bellevue Community Plan (BCP) adopted in 2015 concluded that traffic amounts in the BCP area are 20% lower than the General Plan conclusions and, therefore, recommends that further traffic studies occur to determine whether fewer travel lanes could be supported.

Existing creeks (Bear Creek, Fahrens Creek, Cottonwood Creek, and Black Rascal Creek) and associated floodways and floodplains may accommodate multiple uses including the provision of riparian habitat, stormwater management and groundwater recharge.

7.7 IMPLEMENTATION

Numerous Open Space, Conservation, and Recreation implementation measures have been detailed in the Goals, Policies and Actions section of this Chapter (Section 7.5). These implementing actions make up the "Action Program" required by Government Code Section 65564. Implementation is also achieved through the Open Space designations on the Land Use Diagram.

The acquisition of additional park land and open space will continue as development occurs through use of the City's Park Dedication Ordinance, the required dedication of creekside open space, the payment of Park In-Lieu fees, and the Public Facilities Financing Plan.

By means of establishing development standards for lands designated as "Open Space," the objectives of this chapter can be obtained. Through policies and standards for identifying new open space areas through the development review process, provisions have been made for the preservation of open space resource lands which may be needed at some future point in time.

7.8 CONCLUSION

The open space, conservation and recreation resources of Merced have played an important part in the quality of life for which the City is known. The City has chartered a solid course for the preservation and enhancement of those resources.

It is expected that, as a result of past and present efforts, decision makers contemplating the City's future beyond the year 2030 will continue to have a broad array of open space resources with which to enrich the lives of the City's residents.

Hazard Response -- Dam Failure

The damage control and disaster relief efforts, in the case of inundation from Bear Creek Reservoir, would most likely be required from local governments, private organizations, and from State and Federal governments. This "mutual aid" could consist of mass evacuation of the inundation areas, search and rescue operations, emergency medical care, food distribution, and temporary shelter for injured or displaced persons. State and Federal assistance could be useful to remove debris and clear roadways, assist in re-establishing public services and utilities, and provide continuing care and welfare for the affected population, including temporary housing of displaced persons.

Evacuation Routes and Water Supply

The County Evacuation Plan for both dams shows the Merced County Fairgrounds as the evacuee assembly points and addresses what evacuation routes, priorities, and procedures should be followed. The City's ability to supply the potable water requirements during this time will depend on which dam failed and the height of the inundation wave in relationship to the height of the 100-year and 200-year flood. The current City policy on well facility construction as it relates to inundation is that the well facility entrance be one-foot higher than the 100-year flood elevation, that one facility be placed in each square mile, and that a three-day energy reserve be present at the pump.

There are currently only a few wells in the Lake Yosemite inundation area because the area is mostly undeveloped at this time. Furthermore, those existing wells that would be subject to inundation are in an area of relatively shallow inundation elevations. Bear Lake inundation, however, would be much more serious provided that actions were not taken to protect the wells within the six-plus hours prior to inundation.

11.2.4 Flooding

Flooding continues to be the most widespread weather-related safety hazard in the United States, and accounts for greater average annual property losses than any other single hazard. Flooding can be especially troublesome in the Central Valley because it is a natural event.

Approximately 25 square miles of land in the Merced area are subject to 100-year or more frequent floods. This is illustrated by ***Figure 11.5.*** The Flood Insurance Rate Maps (F.I.R.M.) identify flood-prone areas which were required to be recognized by the Federal Flood Disaster Protection Act. These maps are the source of more detailed flood information for the planning area, and are periodically updated to reflect new information.

The State of California has adopted legislation that requires jurisdictions to prepare maps, goals, policies, implementation measures and regulations based on a 200-year flood event. This standard is distinct from federal flood protection efforts. Portions of the City are subject to the 200-year standard. One such area (as shown in ***Figure 11.4***) is the State Levee Flood Projection Zone of Black Rascal Creek located downstream of a state levee. The effect of the state's flood-related legislation on the City of Merced is described in the November 2015 Summary Report on Urban Level of Flood Protection adopted by reference as part of the General Plan. This report includes a map that depicts the state's regulatory requirements

for flood protection, and is also presented in ***Figure 11.5a***.

Changes in land use from agriculture to urban have profound effects on runoff and erosion of the land surface. The City has teamed up with Merced County, Merced Irrigation District and The City of Atwater to form a Stormwater Group with a Stormwater Management Plan to address erosion, sedimentation and other non-point pollutants of concern in order to protect water ways.

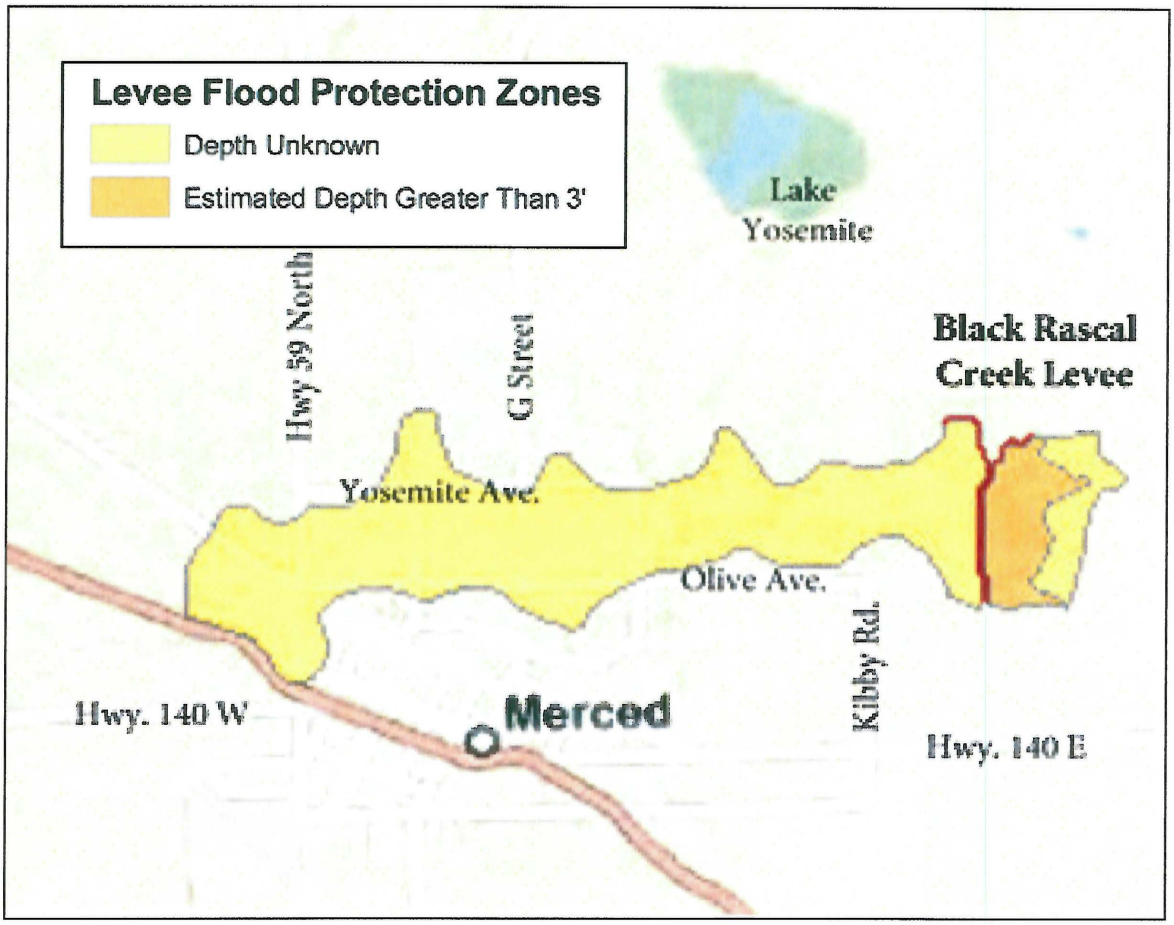
Urbanization is commonly accompanied by paved and other impervious surfaces, and the construction of storm sewers. Impervious surfaces and storm drains increase the frequency of floods and the size of flood peaks. The volume of runoff from new urban areas is far greater than under pre-existing conditions unless detention basins are constructed, as required in Merced. Most floods in Merced are produced by extended periods of rainfall during the winter months. Dam failure is another source of flooding which was addressed separately in Section 11.2.3 of this chapter.

Merced County Streams Group Project

The Merced County Streams Group Project was approved by Congress in 1970. The project was re-evaluated by the U.S. Corps of Engineers in 1980 and some construction has been completed, but the entire project currently lacks funding commitments. The project, as laid out in 1980, entailed construction of two new detention dams (Castle on Canal Creek and Haystack Mountain on Black Rascal Creek), the enlargement and modification of the Bear Creek detention dam, and construction and modification of 32 miles of levees and channels on the Bear Creek Stream Group (Fahrens, Black Rascal, Cottonwood, and Bear Creeks, Black Rascal Slough, and El Capitan Canal).

Castle Dam and a diversion structure from MID's main canal has been completed to date. Approximately 24 square miles in the planning area would be removed from the 100-year or more floodplain by this project. ***Figure 11.5*** illustrates the change in area covered by the 100-year floodplain that could be attributed to the construction of the project.

Due to environmental considerations, it is unlikely that Haystack Mountain dam will be constructed. The proposed Haystack Mountain reservoir area has significant vernal pool areas. In 2004, the Army Corps of Engineers began considering as an alternative an East side bypass, extending from the Black Rascal Diversion at Bear Creek south past Hwy 99 to the Miles and Owens Creek drainages. This would divert both Black Rascal and Bear Creek flood flows away from the City of Merced. However, there is insufficient capacity in Miles and Owens Creeks to carry flows down to the San Joaquin River, so that this solution is problematical, without an expensive further extension of a flood bypass.

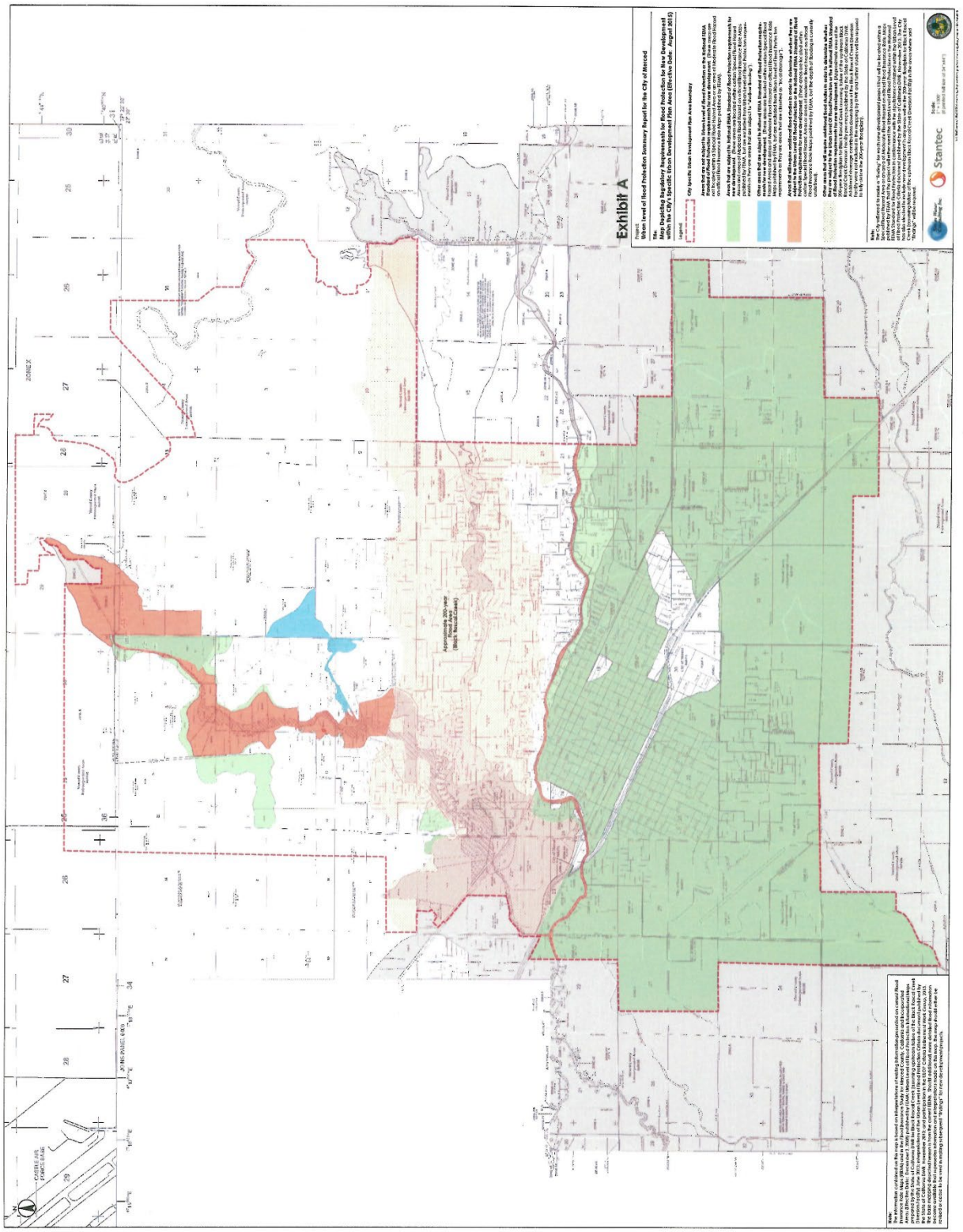


Levee Flood Protection Zones estimate the maximum area that may be inundated if a project levee fails when water surface elevation is at the top of a project levee. Zones depicted on this map were created utilizing methods and assumptions described in the accompanying technical manual, and do not necessarily depict areas likely to be protected from flow events for which project levees were designed.

Lands within the Levee Flood Protection Zones may be subject to flooding due to various factors, including the failure or overtopping of project or non-project levees, flows that exceed the design capacity of project or non-project levees, and flows from water sources not specifically protected against by project levees. Lands not mapped within a Levee Flood Protection Zone are not invulnerable to flood risk, and some may also experience flooding from those or other processes.

	CITY OF MERCED STATE LEVEE FLOOD PROTECTION ZONE	Figure 11.4

Figure 11.5a—Regulatory Requirements for Flood Protection



Policy S-2.2
Encourage the Improvement of All Public Facilities and Infrastructure, Such as Natural Gas, Fuel, Sewer, Water, Electricity, and Railroad Lines and Equipment with Up-To-Date Seismic Safety Features.

Implementing Actions:

2.2.a Work with Caltrans to review and, where possible, increase the earthquake stability of grade-separated transportation structures such as highway bridges and overpasses within the City's planning area.

2.2.b Provide adequate storage facilities to insure an adequate supply of water in the event of seismic activity. An evaluation of the seismic safety of the water system, including the elevated water towers, should be completed as part of the update of the Water Master Plan.

The City of Merced will address the seismic safety of public facilities and infrastructure through the above Implementing Actions. For non-City facilities, the City will work with the appropriate agency to address any issues.

Policy S-2.3
Restrict Urban Development in All Areas with Potential Ground Failure Characteristics.

Implementing Actions:

2.3.a Investigate the feasibility of performing an inventory of areas with generally unstable ground within the SUDP/SOI area and work with the County to restrict or prohibit their development. In the Merced planning area, most of the unstable ground are in old streams beds, near embankments, and adjacent to streams with sufficient velocities to erode the bank.

2.3.b Retain a high level of groundwater supply in order to reduce the possibility of land subsidence, including the initiation of an educational program to discourage excessive, inefficient uses of water.

The City of Merced will work with other affected agencies to address areas with potential ground failure characteristics through the above Implementing Actions. Ground failure and subsidence is not a widespread issue in the Merced area, but still needs to be monitored.

Goal Area S-3: Flooding

GOAL

- **Protect People and Property from Flood Risk**

POLICIES

S-3.1 Avoid or minimize the risks of flooding to new development.

S-3.2 Implement appropriate land use planning practices to improve flood risk management and reduce the consequence of flooding.

S-3.3 Maintain essential City services in the event of flooding or dam failure.

S-3.4 Locate and design essential facilities to minimize flood risk

S-3.5 Coordinate with other local, regional, State, and federal agencies to improve flood risk management.

Policy S-3.1
Avoid or Minimize the Risks of Flooding to New Development.

Implementing Actions:

3.1.a Limit future development in areas with high flooding risk to the extent feasible to open space, green belts, and other natural areas, recreational use or agricultural use. Maintain public safety and sustainable development in areas prone to risk of flooding.

3.1.b Require that roadway systems for areas protected by levees and dams be designed to provide multiple escape routes for residents and access for emergency services in the event of a levee or dam failure.

3.1.c Encourage multi-purpose flood management projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the community's watercourses, creeks, and streams.

The City will continue to review its own infrastructure facilities to make sure that they are protected from flooding so they will continue to function and provide service to City residents in the event of a flood. The City will also work with other jurisdictions to address flood issues and to limit development to the extent feasible in flood hazard areas.

Policy S-3.2
Implement Appropriate Land Use Planning Practices to Improve Flood Risk Management and Reduce the Consequence of Flooding.

Implementing Action:

3.2.a Require evaluation of potential flood hazards prior to approval of development projects to determine whether the proposed development is reasonably safe from flooding and consistent with the State of California Department of Water Resources' (DWR) *Urban Level of Flood Protection Criteria* for an urban level of flood protection standard (200-year) in urban and urbanizing areas. The City will not approve new development or a subdivision or enter into a development agreement for any property within a flood hazard zone, unless the adequacy of flood protection specific to the area has been demonstrated.

3.2.b Require that new development and substantial improvements or upgrades in identified FEMA flood hazard zones (i.e., 100- and 500-year floodplains) be constructed in accordance with applicable city, State, and federal regulations, including compliance with the minimum standards of the Federal Emergency Management Agency and the National Flood Improvement Program to avoid or minimize the risk of flood damage.

3.2.c Require new development in dam or levee inundation areas to consider risk from failure of these facilities and to include mitigations to bring this risk to a reasonable level.

3.2.d Review annually and update, as necessary, appropriate General Plan elements to reflect current floodplain mapping data available from local, regional, State, and federal agencies to ensure the best available flood risk mapping information is contained in the General Plan.

3.2.e Amend the Merced Municipal Code (Flood Damage Prevention Ordinance) pursuant to state law to provide consistency with amendments made to the General Plan pursuant to flood risk management.

Policy S-3.3
Maintain Essential City Services in the Event of Flooding or Dam Failure.

Implementing Actions:

3.3.a Continue to build all pump stations (both sewer and water) entryways at one (1) foot above the 200-year flood elevation, and continue to implement additional standards to address flooding due to dam failure.

3.3.b Continue the "flood-proofing" of high-value or important City infrastructure, such as lift stations and signal control functions, as required by the City's Flood Damage Prevention Ordinance.

3.3.c Maintain and update emergency response plans, including evacuation routes, that address potential flooding in flood hazard zones, in areas protected by levees and dam inundation areas. Maintain, update, and make available to the public, as appropriate, community flood evacuation and rescue maps.

In times of flooding, when evacuation routes will be essential, the availability of a popular road may be submerged, while the availability of another lesser known road may become the viable evacuation route. Preparation and dissemination of emergency response plans and evacuation routes will benefit individuals and the community.

Policy S-3.4
Locate and Design Essential Facilities to Minimize Flood Risk

Implementing Actions:

3.4.a Essential facilities (i.e., hospitals and health care facilities, emergency shelters, fire stations and police stations, emergency command centers, and emergency communications facilities), when feasible, shall be located outside of 100- and 200-year floodplains, or implement design and construction methods to minimize damage from flood hazards identified, so that structural and operational integrity is maintained during flooding.

Protection of the City's essential services will be key to provision of services during times of emergency. As described below, the City will evaluate and deploy a variety of means to accomplish this implementing action (see below).

3.4.b The City shall develop a program with criteria to determine when construction of essential public facilities and other critical facilities will be permitted in flood hazard zones or areas with other geologic hazards.

This program will be developed in conjunction with the Engineering Division's effort to craft a policy reflective set of codes (see below).

3.4.c Review the municipal code and amend as necessary to require the location of new critical facilities (e.g., hospitals, emergency command centers, communication facilities, fire stations, and police stations) outside of 100- and 200-year floodplains. Where such location is not feasible, include exceptions through appropriate mitigation methods to minimize the potential flood damage to the facility.

Following adoption of the City's General Plan Amendment, the City's Engineering Division will develop and process an applicable code amendment.

Policy S-3.5
Coordinate with other Local, Regional, State, and Federal Agencies to Improve Flood Risk Management.

Implementing Actions:

3.5.a The City shall develop and maintain relationships with local jurisdictions, water districts, state agencies, and federal agencies for the purposes of: 1) providing information for the public; 2) utilizing current data (e.g., National Flood Insurance Program maps); and, 3) determining appropriate regulatory requirements for development in high hazard areas.

Establishment and development of partnerships, collaborative efforts and communication are important elements of a successful program and safe community.

3.5.b Cooperate with local, regional, State, and federal agencies in securing funding to obtain the maximum level of flood protection that is practical, with a minimum goal of achieving at least 200-year flood protection for urban and urbanizing areas.

Working with its local partners and being aware of state and federal funding opportunities, the City will seek grant funds to improve its flood-related infrastructure.

3.5.c Work with responsible parties to ensure flood management facilities and structures (e.g., pump stations, levees, canals, channels, and dams) in the community are properly maintained and/or improved.

The Merced Irrigation District maintains and improves these features within the planning area.

3.5.d Annually maintain and implement the community's Federal Emergency Management Agency (FEMA)-approved local hazard mitigation plan in order to apply for and/or receive project grants under FEMA's hazard mitigation assistance programs (e.g., Hazard Mitigation Grant Program, Pre-Disaster Mitigation, Flood Mitigation Assistance, or Severe Repetitive Loss).

The 2015 Local Hazard Mitigation Plan has a life of 5-years and includes nine projects that are eligible for grant funds. Annual updates and maintenance of the plan are part of the duties of the City's Disaster Council.

Goal Area S-4: Fire Protection

GOAL

- **Fire and Hazardous Material Safety for the Residents of the City and For Those Working in Fire Suppression**

POLICIES

S-4.1 Promote the concept of fire protection master planning with fire safety goals, missions, and supporting objectives for the community.

S-4.2 Maintain a reasonable level of accessibility and infrastructure support for fire suppression, disaster, and other emergency services.

Policy S-4.1
Promote the Concept of Fire Protection Master Planning with Fire Safety Goals, Missions, and Supporting Objectives for the Community.

Implementing Actions:

4.1.a Provide additional fire station locations as expansion of the City occurs in order to maintain a response time objective of 4 to 6 minutes citywide 90 percent of the time, within the financial constraints of the City.

4.1.b Work with the Fire Department and the Environmental Health Division to identify fire districts that will require specialized manpower and equipment, such as businesses that use hazardous materials, and request that land uses or structures with similar needs be confined to these districts.

The planning of future fire stations is also addressed in Public Facilities Policy P-2.1 in the Public Facilities Chapter (Chapter 5), but the Implementing Actions above will also be taken into consideration when planning new fire facilities.

Policy S-4.2
Maintain a Reasonable Level of Accessibility and Infrastructure Support for Fire Suppression, Disaster, and Other Emergency Services.

Implementing Actions:

4.2.a Continue to use 8-inch or larger pipe in high-value districts. In residential districts, additional "looping" or completion of water main grids shall continue to be provided where possible so that lengths of 6-inch pipe on the long side of the block will not exceed 600 feet.

4.2.b Maintain current standards defined in the Fire Code and City Standards for the spacing of fire hydrants. In general, these standards call for 500-foot spacing in residential areas and 300-foot spacing in commercial and industrial areas.

4.2.c Continue to provide fire prevention and disaster preparedness information through the schools, public interest groups, and other facilities and people.

4.2.d Continue close collaboration between Inspection Services, Fire Prevention, and Fire Suppression support personnel to ensure public safety and improve construction safety through the building permit and life safety inspections process.

4.2.e Continue to enforce the present nuisance abatement program regarding a height limit on weeds during the dry season (mid-April through mid-November) in both vacant and developed lots, abandoned vehicles, and vacant buildings.

The City Fire Department has several on-going fire prevention programs that have reduced fire incidents in the City, which are addressed in the Implementing Actions above and include requiring adequate water flow for fire hydrants and sprinkler systems, maintaining standards for fire hydrant locations, performing annual fire inspections of businesses, the annual Weed Abatement program, and other various educational programs. These programs should be continued and expanded as needed.

Goal Area S-5: Airport Safety

GOAL

- **A Safe Airport Environment Both Above and On the Ground**

POLICIES

S-5.1 Continue to protect approach areas and control zones for both existing and future runway systems through land use regulations and property acquisition where necessary.

S-5.2 Prevent the encroachment of potential hazards to flight within the Airport's airspace.

Policy S-5.1
Continue to Protect Approach Areas and Control Zones for Both Existing and Future Runway Systems Through Land Use Regulations and Property Acquisition Where Necessary.

Implementing Actions:

5.1.a Retain existing agricultural land uses and discourage residential land use designations within the Merced Regional Airport Land Use Compatibility Zones A and B1 as defined in the Merced County Airport Land Use Compatibility Plan. Restrict densities within other Zones per Table 2A of the Merced County Airport Land Use Compatibility Plan.

5.1.b Limit the peak occupancy levels of industrial/commercial uses per Table 2A of the Merced County Airport Land Use Compatibility Plan. Occupancy levels and density vary within each of the Land Use Compatibility Zones.

5.1.c Continue to utilize various alternatives for acquiring approach protection easements and overflight easements for properties within the vicinity of the Merced Regional Airport as defined in the Airport Master Plan.

5.1.d Work with the County of Merced on land use and master planning issues in the vicinity of Castle Airport and its Land Use Compatibility Zones."

Noise impacts associated with the Merced Regional Airport are addressed in Noise Policy N-1.1 in Chapter 10, and the importance of maintaining airport service to the community are addressed in Transportation Policies T-3.1, 3.2, and 3.3 in Chapter 4. The Implementing Actions above are to ensure that adequate measures are taken to protect residents and businesses on the ground from air crashes that could occur in and around the airport. This will include implementing the policies of the Merced County Airport Land Use Compatibility Plan regarding restricting residential land uses, prohibiting the location of inappropriate land uses, such as hospitals, schools, etc., and limiting the peak occupancy of industrial and commercial uses within certain compatibility zones as well as acquiring approach protection and overflight easements in the vicinity of the runways. The City currently has land designated for agricultural use only at the ends of the runways for this purpose.

The City of Merced recognizes that Castle Airport is a County asset with the potential to generate job growth within the County of Merced. Merced County is currently in the process of developing a new Castle Airport Master Plan, which would outline Castle's proposed development over the next 20 years. Merced County has expressed an interest in expanding Castle's current role as mostly a general aviation airport (the County's website in 2011 indicates that general aviation uses are 99% of current operations) to include air cargo, military exercises, and commercial air service. If such a Master Plan was approved, the Land

Use Compatibility Zones for Castle Airport would need to be modified to reflect those changes. If modified, Castle Airport's Land Use Compatibility Zones could affect development within the existing City and the proposed SUDP/SOI. (Long time residents will remember the significant noise impacts of Castle's military operations until Castle Air Force Base closed in 1995.) Therefore, the City wants to continue to work with the County on ensuring that any adopted Castle Airport Master Plan contains realistic aircraft operation projections that do not hinder both existing and future development within the City.

Policy S-5.2
Prevent the Encroachment of Potential Hazards to Flight Within the Airport's Airspace.

Implementing Action:

5.2.a Continue to follow Federal Aviation Regulation standards regarding the maximum height of structures and other objects within the Merced Regional Airport Land Use Compatibility Zones.

The above Implementing Action will ensure that objects that might pose hazards to flight due to height are not allowed adjacent to the Merced Regional Airport.

Goal Area S-6: Crime

GOAL

- **Reduced Criminal Activity and An Increased Feeling of Safety and Security in the Community**

POLICIES

S-6.1 Provide superior community-based police services within the resource constraints of the City.

S-6.2 Provide services and personnel necessary to maintain community order and public safety.

Policy S-6.1
Provide Superior Community-Based Police Services Within the Resource Constraints of the City.

Implementing Actions:

6.1.a Continue programs, such as "Neighborhood Watch" which increase residents' involvement in, and ownership of, police operations.

6.1.b Direct services and outreach programs towards youths in the community.

6.1.c Locate future police facilities to enhance the "community policing" concept through the expansion of existing or the addition of new police service districts as the City grows.

Crime is an important safety issue within any community and Merced is no different. The Merced Police Department has several on-going programs that seek to prevent crime, which are addressed in the above Implementing Actions. The City uses "community policing," which seeks to make sure that the Police are visible and engaged throughout the community. The City has two police stations and will continue to expand police facilities, perhaps in conjunction with fire facilities, as the City grows.

Policy S-6.2
Provide Services and Personnel Necessary to Maintain Community Order and Public Safety.

Implementing Actions:

6.2.a Maintain a police force sufficiently staffed and deployed to ensure quick response times to emergency calls, within the financial constraints of the City.

6.2.b Encourage approaches to crime prevention to be designed into new buildings and subdivisions.

6.2.c Identify changes to current laws and ordinances or create new ones to help carry out crime prevention strategies.

In addition to maintaining sufficient Police staffing levels, the City can use other methods as described above to help prevent crime. Special attention should be paid to crime prevention through the design of new buildings, subdivisions, and public places. Design issues that need to be addressed include lighting, "hiding places," graffiti prevention, the location of doors and windows "on the street," etc. Various ordinances are in place to address crime prevention strategies, which include curfew laws, restrictions on the sale of spray paint, etc, but new ones should be added as needed.

Goal Area S-7: Hazardous Materials

GOAL

- **Hazardous Materials Safety for City Residents**

POLICIES

S-7.1 Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.

S-7.2 Ensure that hazardous materials are cleaned up before a property is developed or redeveloped.

Policy S-7.1
Prevent Injuries and Environmental Contamination Due to the Uncontrolled Release of Hazardous Materials.

Implementing Actions:

7.1.a Support Merced County in carrying out and enforcing the Merced County Hazardous Waste Management Plan.

7.1.b Continue to update and enforce local ordinances regulating the permitted use and storage of hazardous gases, liquids, and solids.

7.1.c Continue to make sure underground storage tanks containing hazardous materials are properly installed, used, and removed.

7.1.d Provide continuing training for hazardous materials enforcement and response personnel.

7.1.e To the extent feasible, encourage new residential developments and other projects to locate an adequate distance from potential existing sources of toxic emissions, such as freeways, heavy industrial sites, and other hazardous material locations.

The above Implementing Actions are designed to prevent injuries and environmental contamination due to hazardous materials. The City and County have several existing programs to ensure that personnel are adequately trained to handle the uncontrolled release of hazardous materials and enforcement of various regulations regarding the storage of hazardous materials are enforced. The City will encourage residential development and other sensitive receptors from location too near sites with potential for hazardous materials.

Policy S-7.2
Ensure that Hazardous Materials are Cleaned Up Before a Property is Developed or Redeveloped.

Implementing Actions:

7.2.a Continue to work with the State Department of Health Services and Merced County in developing cleanup programs for known hazardous waste sites within the Merced planning area.

Prior to the development or redevelopment of a piece of property, the City routinely works with the appropriate State and local agencies to ensure that any hazardous materials contamination is eliminated.

11.4 TECHNICAL DATA

11.4.1 Definitions

Earthquake:

An earthquake is a perceptible trembling to violent shaking of the ground produced by the sudden displacement of rocks below the earth's surface.

Epicenter:

An epicenter is the point directly above the segment of a fault that shifts in an earthquake. Surface rupture can be the result in the areas immediately surrounding a fault or the epicenter.

Fault:

A fracture along which rocks on one side have been displaced with respect to those on the other side. An "active fault" is one that has exhibited surface displacement within the past 11,000 years. A "potentially active fault" has shown such displacement during the last two million years.

Mercalli Scale:

The Mercalli scale measures the earthquake's effect on humans and real property.

Richter Scale:

The Richter scale is a function of the energy expended in an earthquake, and is based on logarithmic (base 10) measurement. (For example, an earth-quake of "6" in the Richter scale expends 10 times the energy of an earthquake measured at "5").

Seiche:

A seiche is an earthquake-related event where the sudden shifting of the ground creates a wave. In an earthen dam, if the wave is large enough, it can overtop it and result in the failure of the dam.

Liquefaction:

The behavior of soils that, when loaded, suddenly suffer a transition from a solid state to a liquefied state, or having the consistency of a heavy liquid. Liquefaction is more likely to occur in loose to moderately saturated granular soils with poor drainage, such as silty sands or sands and gravels capped or containing seams of impermeable sediments.

11.4.2 Dam Failure Characteristics

Yosemite Lake Dam

- Earthfill
- East and northeast of the City limits
- Within the SUDP/SOI
- Failure would be gradual
- Initial flood wave to reach SUDP/SOI 20 minutes after failure
- Initial flood wave to pass out of the SUDP/SOI two hours after failure
- Floodway center inundation depths of approximately 20 to 30 feet
- 3 "major" facilities in SUDP/SOI inundation area:
  - 1 community college
  - 1 future high school (at G and Farmland)
  - 1 new hospital (at G & Mercy)

Bear Reservoir Dam

- Earthfill
- East and northeast of SUDP/SOI
- 20 miles from SUDP/SOI (estimated)
- Failure would be gradual
- Initial flood wave to reach SUDP/SOI six hours after failure
- Initial flood wave to pass out of SUDP/SOI nine hours after failure
- 26 "major" facilities (existing) in inundation area, including:
  - 10 K through 12 schools
  - 1 jail
  - 4 hospitals (1 community)
  - 4 of the City's 5 Bear Creek bridges

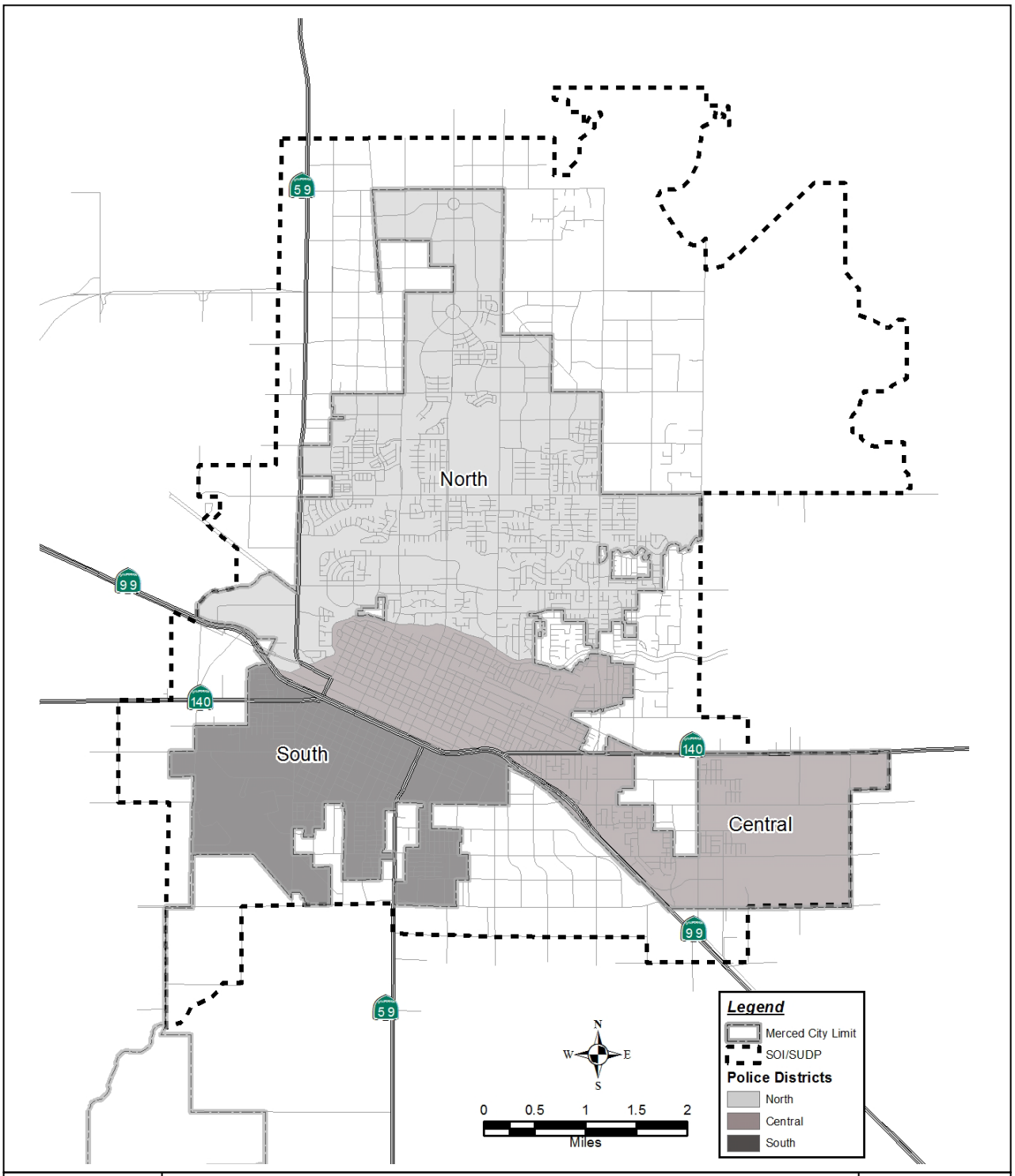
11.4.3 Hazards Unknown in the Merced Planning Area

The following geologic or other hazards are unknown in the Merced SUDP/SOI:

- **Hydrocompaction:** Hydrocompaction occurs when open-textured soils become saturated with water for the first time, lose their strength, and consolidate under their own weight. In California, about 124 square miles of land surface has experienced, or is subject to, subsidence due to hydrocompaction. Subsidence of three to five feet is common and has damaged ditches, canals, roads, pipelines, electric transmission towers, and buildings. Hydro-compaction on the west side of the San Joaquin Valley required special consideration and engineering treatment during construction of the California Aqueduct. In contrast, the Delta-Mendota Canal was built without knowledge of the problem, and subsidence of certain portions has required extensive repair.
- **Seismically Induced Surface Rupture:** A break in the ground's surface and associated deformation resulting in the movement of a fault.
- **Tsunami:** A wave, commonly called a tidal wave, caused by an underwater seismic disturbance, such as sudden faulting, landslide, or volcanic activity.

Chapter 9—Housing

The Housing Element was adopted on July 18, 2016, by the Merced City Council, replacing the previous Housing Element adopted in 2011.



POLICE DISTRICTS

Figure 5.2

strategies for combating crime in their neighborhoods. Neighborhood Watch programs are located throughout the City and have been highly successful.

Criminal activity and calls for police service will increase due to population growth alone. By 2030, officer responses to incidents could increase from nearly 65,000 in 2009 to over 130,000 annually if current population trends hold true. To cope with this anticipated workload, additional officers, equipment, and facilities will need to be added. Police districts may be revised or added. The Central Station will be relocated in the future to a site in North Merced.

5.2.3 Water

Under the water rights of the Merced Irrigation District (MID), the City of Merced received its water from the Merced River via Lake Yosemite until 1917. Since then, the City has relied on groundwater as its primary water source, but groundwater is recharged almost entirely through agricultural application of surface water from the Merced River.

In 2010, the City's water supply system consisted of four elevated storage tanks with a combined storage capacity of approximately 1.6 million gallons, and 21 wells and 14 pumping stations equipped with variable speed pumps that attempt to maintain 45 to 50 psi (pounds per square inch) nominal water pressure. The City is required to meet State Department of Health Services pressure requirements, which call for a minimum of 20 psi at every service connection (in 2010) under the annual peak hour condition and maintenance of the annual average day demand plus fire flow, whichever is stricter. All of Merced's wells are now equipped with emergency standby diesel generators.

Through the Capital Improvement Program, the City plans to increase water wells to match the requirements of development, generally one well per square mile. The City continues to monitor any ground water contamination and the cleanup of contamination upon detection. Water treatment includes fluoridation and chlorination at each well site.

Merced Water Supply Plan

Increasing urban demand and population growth, along with an increasing shift by farmers from surface water to groundwater and prolonged drought, have resulted in

Policies in the NTC include: 1) To the extent feasible, through traffic should be routed to Arterial Streets, Regional Routes and Highways and away from neighborhood streets; 2) Access for emergency vehicles should be preserved at levels that meet City response standards; 3) The City will cooperatively work with its citizens to employ a variety of measures that achieve the traffic speed and volume standards set forth in these guidelines, the Circulation Element of the City's General Plan and the State Vehicle Code; 4) Permanent NTC facilities will be designed in conformance with sound engineering and planning practices and should complement the residential character of the neighborhood; 5) NTC activities employed along particular street corridors should not create sub-standard traffic conditions on other streets; 6) Residents and property owners within an area where NTC facilities are installed should be prepared to share in the cost of their installation; and, 7) Maintain and improve planning for a pedestrian-friendly environment.

Policy T-1.8
Use A Minimum Peak Hour Level of Service (LOS) "D" As a Design Objective for All New Streets in New Growth Areas and for Most Existing City Streets Except Under Special Circumstances and Use Vehicle Miles Traveled (VMT) for the Purposes of California Environmental Quality Act (CEQA) Analysis.

In order to remain in compliance with State regulations pursuant to Senate Bill 743 and CEQA Guidelines Section 15064.3, the City can no longer use LOS as a metric by which to evaluate the transportation impacts of development projects under CEQA. MCAG has adopted VMT Thresholds and Implementation Guidelines, which the City should use for its transportation analysis methodology for the impacts of development projects under CEQA.

The change in CEQA policy does not invalidate the use of LOS for other purposes, specifically design, traffic operations, and safety. As the City grows, traffic volumes will increase significantly. In designing the City's future circulation system, the City has required sufficient rights-of-way be preserved to maintain an adequate level-of-service, a minimum of LOS "D" but typically LOS "C" or better. On some existing roadways, such a standard will most likely not be able to be maintained without widening these roadways and causing great disruption to adjacent properties. The City will strive to maintain the minimum LOS throughout the system, but some exceptions may need to be made.

Implementing Actions:

1.8.a Implement the Merced County Association of Governments (MCAG) Vehicle Miles Traveled (VMT) Thresholds and Implementation Guidelines for California Environmental Quality Act (CEQA) purposes. Traffic studies will be conducted as needed to determine the traffic impacts and to apply appropriate mitigation measures for new development projects.

The California Environmental Quality Act (CEQA) requires cities to assess the environmental effects, including traffic impacts, of new development. *The City will adopt by reference and follow the recommendations as outlined in the MCAG VMT Thresholds and Implementation Guidelines, as amended from time to time.*

In summary, the City will require VMT analysis of projects that are not screened out. Using the County of Merced as the region for analysis purposes, the MCAG Travel Demand Model is the recommended for evaluating project VMT.

For all non-retail projects, the City will use a significance threshold of 86% of the existing regional average of the respective VMT metric. For retail projects, the City will use a significance threshold of no net increase in VMT. For mixed use projects, the City will use VMT thresholds based on the respective thresholds for the various land use components. For transportation

projects, the City will use net increase in induced VMT as the significance threshold. Finally, for land use plans, the City will use the existing regional average VMT per capita, VMT per employee, and/or VMT per service population as the threshold of significance. Certain projects may be screened out from the need for a VMT analysis.

Several options for VMT mitigation measures for development projects which may not meet the recommended significance thresholds are provided in the MCAG VMT Thresholds and Implementation Guidelines. Additionally, implementation of a future VMT mitigation bank, VMT mitigation exchange, and/or VMT impact fee are potential future regional VMT mitigation mechanisms. The City should continue exploring these and other options with its regional partners.

*W*hen the traffic analysis shows that the development will cause an intersection or roadway segment to drop below desired LOS standards, the City can require the new development to alleviate its share of the congestion as a condition of project approval, but not CEQA mitigation measures.

1.8.b Use peak-hour Level of Service "D" ("Tolerable Delays") as the design standard for new streets and intersections in new growth areas.

The preferred LOS levels are typically "C" and "D," particularly for larger roads and major intersections. With LOS C, the road provides stable operation but is still underutilized to some degree. LOS D represents a fine balance between the relatively large number of vehicles served and the generally acceptable level of service provided. It is the intent of the City's standards and policies for new and most upgraded intersections and road segments to be designed and built so as not to drop below LOS D ("tolerable delay") during peak traffic periods.

1.8.c Establish minimum Level of Service standards for existing roadways and intersections that reflect the special circumstances of the surrounding area. For example, in the downtown area or adjacent to interchanges in build-out areas, LOS E or F would be acceptable if roadway widening conflicts with other General Plan policies or significant right-of-way acquisition, which would be severely disruptive to adjacent development, is required.

Maintaining a LOS D on existing roadways and intersections is not always feasible, appropriate, or necessary. People may expect and tolerate varying levels of congestion depending on location (e.g. central Merced) and time of day. Heavier traffic can also be a reason to encourage greater pedestrian activity and heavier transit use in such areas. Other factors may make higher levels of service infeasible. In Central Merced, for example, widening existing streets could create great disruption to stable, older neighborhoods. In these areas, "significant delays" (LOS E) or even LOS F may have to be acceptable at peak hours. Special studies may be necessary to determine the appropriate LOS standards in such areas.

1.8.d Promote Transportation System Management (TSM) strategies in areas where LOS standards fall below the minimum.

Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used in the future. Ridesharing programs, preferential treatment for High Occupancy Vehicles (HOV's), Park-and-Ride lots, one-way streets, the provision of bicycle facilities, and the promotion of variable work hours and telecommuting are also strategies which will be promoted by the City of Merced.

NOTE: Because of the longer length of Policy 1.8, some shifts occurred to the content of Pages 4-55 through 4-58 of the General Plan but no changes in the text of those pages occurred.

Phasing of Development and Services

The City of Merced is willing to provide interim sewer and water services from existing sewer and water lines along Bellevue Road that serve the University campus, provided that certain conditions are met:

- Interim services to the University Community require compliance with environmental law and permitting, including the California Environmental Quality Act (CEQA) and approval by the Local Agency Formation Commission (LAFCo).
- Prior to providing interim services, the City must receive an acceptable plan for long term service provision, enforceable commitment for annexation, and financial planning and commitments necessary to fund long term services.

The City should encourage annexation along the Bellevue Corridor to provide contiguity between the University Community and the City of Merced.

- The Bellevue corridor is expected to become a major regional transportation arterial. Bellevue Road also contains sewer and water lines which have been extended from the City to the University of California campus. The western half of the Corridor, from G Street to Golf Road, is already within Merced's SUDP, and annexation proposals are pending. East of Golf Road, the area along Bellevue Road is held in large tracts by a few land owners, and is mostly undeveloped. It is realistic to expect development proposals in this area in the near term.
- Phasing of the University Community's development should provide for logical extension of urban services.
- The Merced County "Rural Residential Center" bounded by Lake Road, Cardella Road, Yosemite Avenue, and Golf Road (extended) should be annexed into the City of Merced as well. However, this area, which is already developed to a large extent, should be allowed to retain its rural character, with a special plan Designation to be worked out through the General Plan update process.

Planning Processes

The City accepts the University Community Plan adopted by Merced County on October 17, 2023, as a general conceptual framework for the planning of the University Community. The City also accepts the Virginia Smith Trust (VST) Specific Plan adopted by Merced County on October 17, 2023, as the design framework and program for the VST property, including development standards, land use diagram, circulation diagram, development plan, lot sizes and standards, and recreation, open space and park standards. These documents and plans were developed through a collaborative effort with UC Merced, the City, and the County, in conformance with the City's policies for the area, including annexation to the City.

The City should revise all of its various planning documents to accommodate the incorporation of the University Community into the City of Merced. These include not only the General Plan, but also plans for wastewater treatment, water, storm drainage, parks, fire protection, and other services

3.7.b Continue to implement City policies and programs that conform to the Smart Growth Principles of the San Joaquin Valley Regional Blueprint

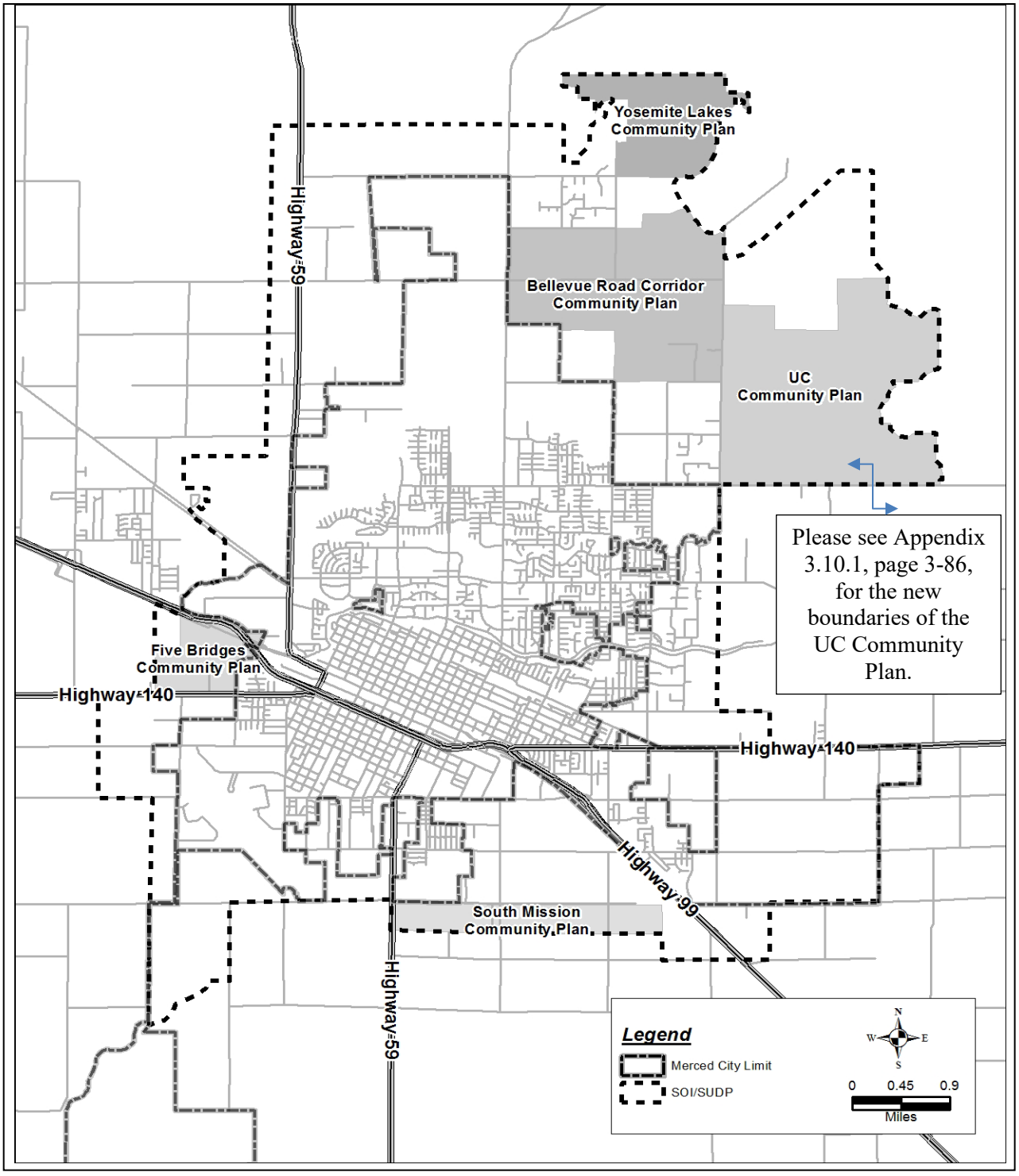
In April 2009, the San Joaquin Valley Regional Policy Council adopted Smart Growth Principles to be used as a basis for Blueprint planning in the San Joaquin Valley. The policies include:

1) Create a range of housing opportunities and choices.
2) Create walkable neighborhoods.
3) Encourage community and stakeholder collaboration.
4) Foster distinctive, attractive communities with a strong sense of place.
5) Make development decisions predictable, fair, and cost effective.
6) Mix Land Uses
7) Preserve open space, farmland, natural beauty, and critical environmental areas.
8) Provide a variety of transportation choices.
9) Strengthen and direct development toward existing communities.
10) Take advantage of compact building design.
11) Enhance the economic vitality of the region.
12) Support actions that encourage environmental resources management.

The *Merced Vision 2030 General Plan* contains many policies that relate to the above principles, which are spread throughout the General Plan Elements, including Land Use, Transportation, Public Facilities & Services, Urban Design, Open Space & Conservation, Sustainable Development, etc.

Policy L-3.8
Implement the 2023 University Community Plan (UCP) and Virginia Smith Trust (VST) Specific Plan as Adopted by the County of Merced

Editor's Note: No specific text for this policy or Implementing Actions were part of General Plan Amendment #23-04, adopted by the City Council on January 16, 2024. Please see Section 3.73 on page 3-71 for more information on the VST Specific Plan, which was also adopted by the City Council and incorporated by reference into the General Plan per City Council Resolution #2024-14,



PROPOSED COMMUNITY PLANS

Figure 3.9

change brought about the need to revise the UC Merced LRDP and the University Community Plan, for which UC Merced officials prepared applications and an associated EIR, adopted by the University of California Board of Regents in 2009.

After that adoption, the University Board of Regents had indicated that it intended to submit an application for a University Community Plan Update to Merced County, which has land use jurisdiction over the University Community. Although this application has not yet been submitted to the County, the City of Merced has chosen to acknowledge the revised 2009 external boundaries for the University and the University Community North within the *Merced Vision 2030 General Plan* since the environmental impacts of those boundaries have been fully analyzed in UC's EIR, which involved the participation of the University, the County of Merced, and the City of Merced.

The Proposed Revised University Community Plan area consists of two areas – Community North and Community South. Community North consists of 833 acres and is owned by the University Community Land Company LLC, a not-for-profit organization composed of the Virginia Smith Trust and the University of California. Community South is 1,118 acres and is owned by LWH Farms, LLC.

2023 Amendments—VST Specific Plan

After the 2009 Amendments, the University Community Plan was further amended. The amendments included substantial revisions to the UCP policies text to reflect the current regulatory conditions, annexation the City of Merced as the preferred form of development, reduction of the planning area from 2,133 acres to 1,841 acres to include only those areas outside of the boundaries of the LRDP(and subject to local land use regulations), modification of the land use program to reduce the number for dwelling units from 11,616 to 9,680), a reduction of the amount of commercial development from 2,022,900 square feet to 1,246,150 square feet, and a modification of the circulation diagram. The modification of the circulation diagram included changes to the alignment of Campus Parkway. A revised land use diagram was also adopted and is included in Appendix 3.10.1. A Specific Plan was developed for the Virginia Smith Trust (VST) property concurrent with the update of the UCP.

3.7.4 Bellevue Community Plan

The *Bellevue Corridor Plan* (BCP), incorporated into the General Plan by reference, is located to the northeast of the City of Merced, and covers an area of approximately 2.4 square-miles. (The Plan was adopted by the City Council on April 6, 2015.) The planning area is generally bounded by G Street on the west; Farmland Avenue on the north; Lake Road on the east and Cardella Road on the South (between Lake Road and Gardner Road), and generally ½ mile south of Bellevue Road (between Gardner Road and G Street).

The BCP is a long-term document with a tremendous amount of uncertainty. To counter this, the plan has a policy framework for future master planning that is comprehensive and is supported by the community. The policy and development framework will deliver an interconnected transit-oriented development pattern, clarity of urban character and flexibility of use to respond to changing markets. Included in the BCP is a dynamic "neighborhood master plan" process that ensure that each new increment of development is well-connected to existing and future adjacent development, while responding to market. The framework for new development is a clear and

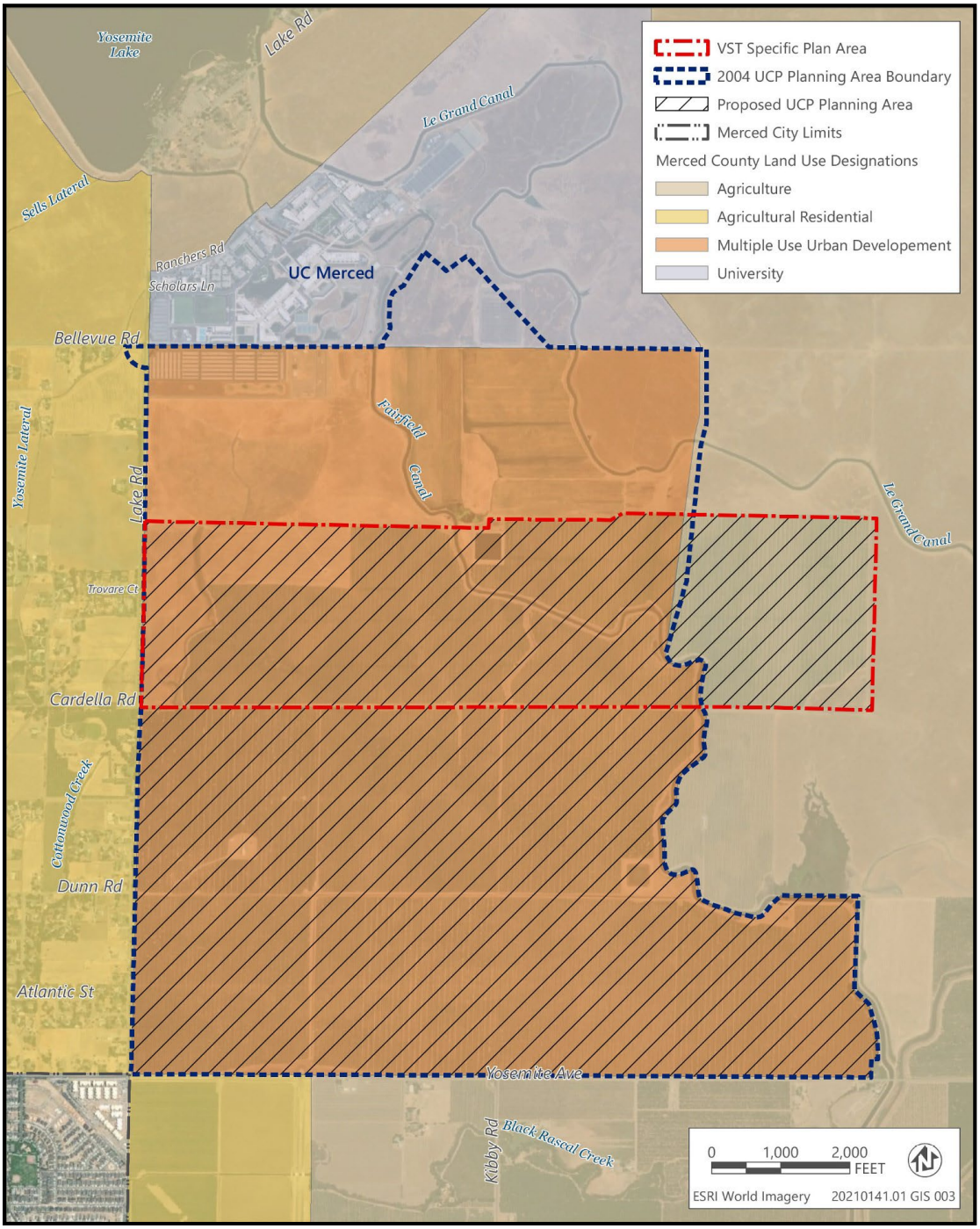
(Note: Content shifts occur on pages 3-72 through 3-75) but no change in text.)

3.10 APPENDIX

3.10.1 Conceptual Land Use Plans for Proposed Community Plans

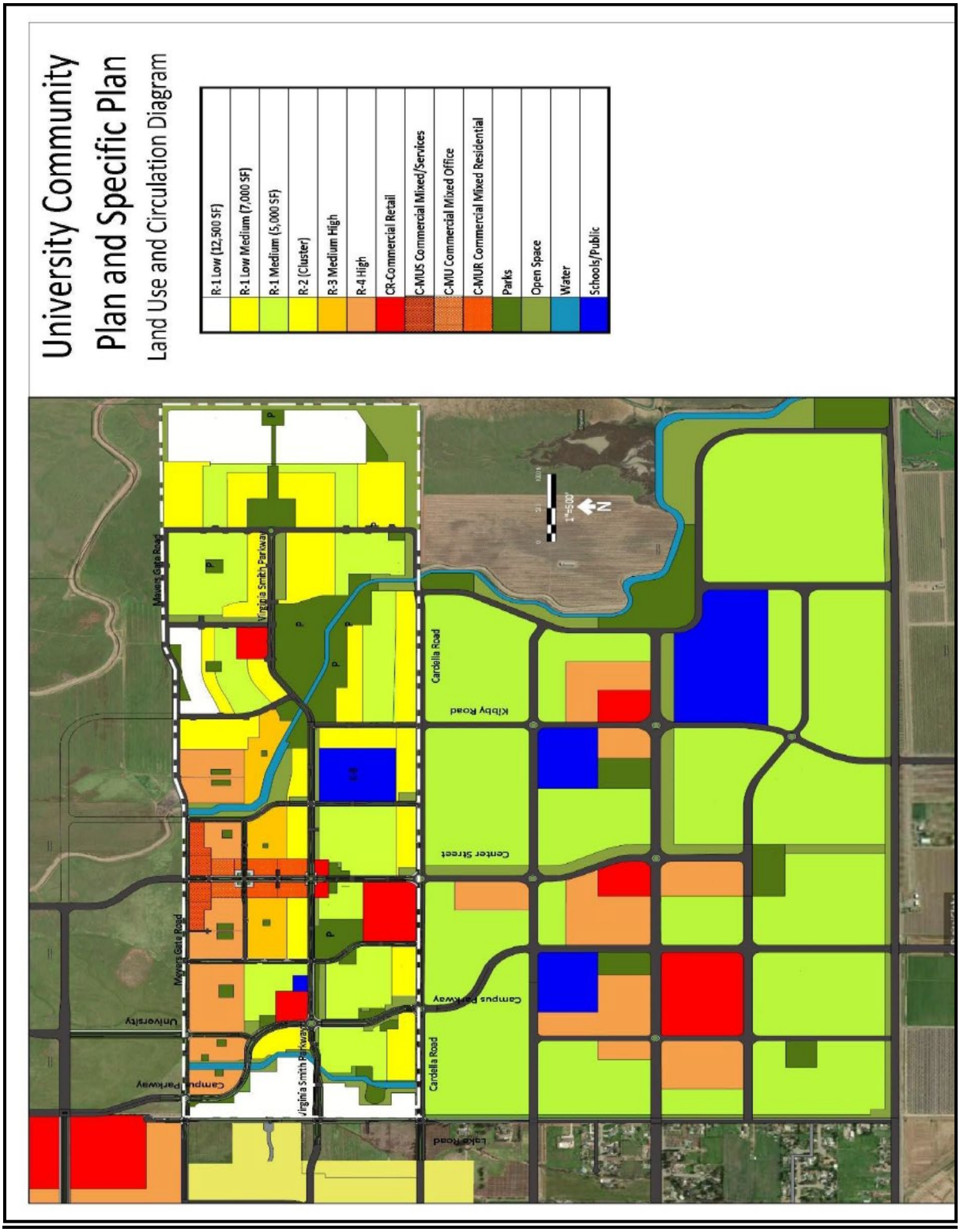
Note: Plans are included here for illustrative purposes only. No land use entitlements are granted by including these plans here.

University Community Plan Boundary (2023)



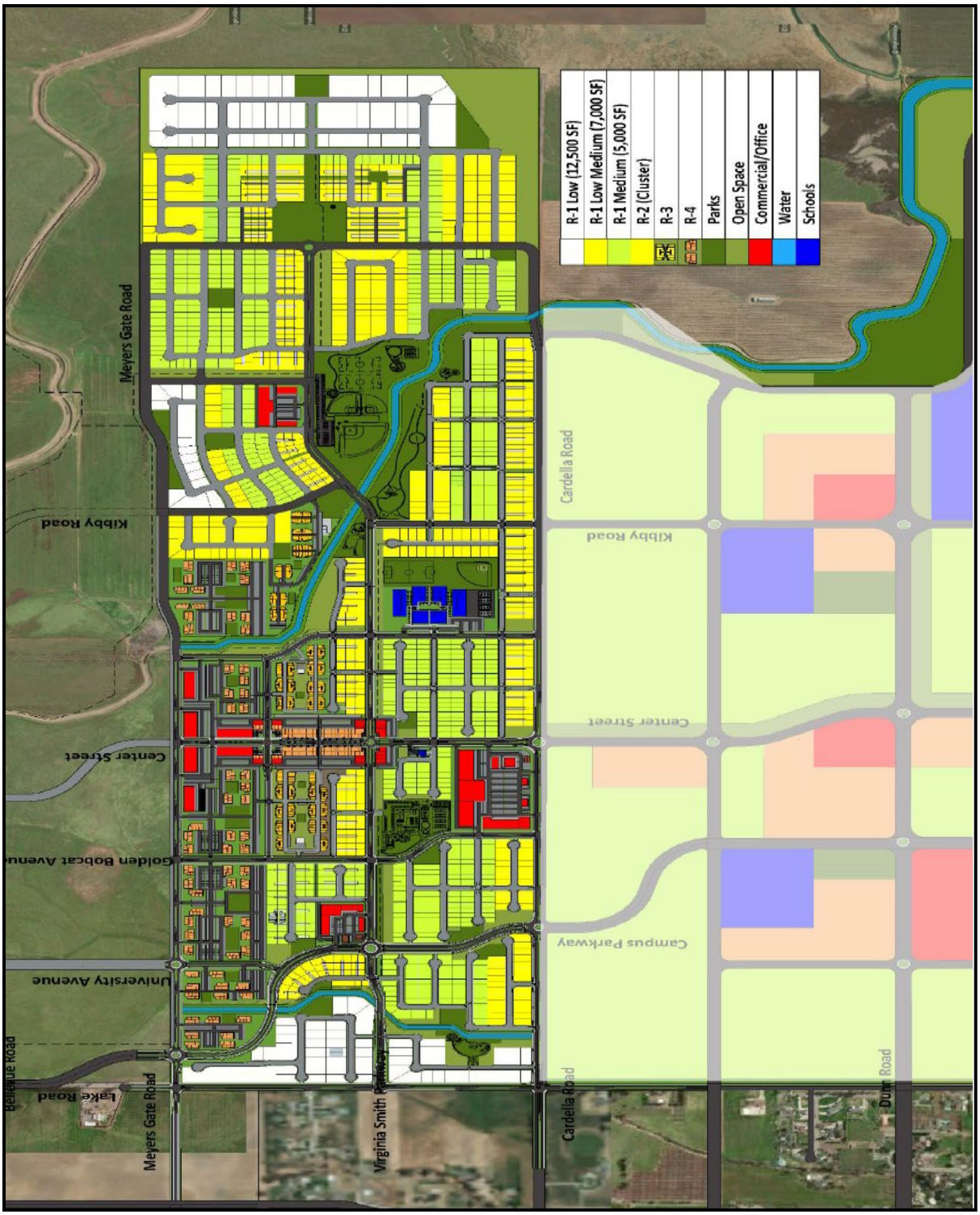
University Community Plan and VST Specific Plan (2023)

Note: Plans are included here for illustrative purposes only. No land use entitlements are granted by including these plans here.



Virginia Smith Trust (VST) Specific Plan (2023)

Note: Plans are included here for illustrative purposes only. No land use entitlements are granted by including these plans here.



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