Chapter 4

Reedley, California *Spring Blossoms*

Actions

Assessing Our Transportation Needs

The Actions Chapter establishes a plan for addressing identified needs and issues amongst the various modes of travel, consistent with the goals, policies and objectives of the Regional Transportation Plan.

4.1 Moving People and Goods

The Regional Transportation Plan's Action Element (RTP) describes the programs and actions necessary to implement the RTP and assigns implementation responsibilities. The Action Element will describe transportation projects that may be completed during the RTP plan horizon (2042) and consider congestion management activities within the region. All transportation modes (highways, local streets and roads, mass transportation, rail, bicycle, aviation facilities and services) are addressed. The Action Element provides direction about the MPO's and other agencies' roles and responsibilities as RTP projects and policies are established. It consists of short- and long-term activities that address regional transportation issues and needs. The first section demonstrates the relationship between transportation modes. Each mode is then addressed along with other transportation and air quality strategies, as listed below:

- Introduction: Moving People and Goods 4.1
- Multimodal: Section 4.2
- Highways, Streets, and Roads: Section 4.3
- Urban Mass Transportation: Section 4.4
- Rural Area Public Transportation & Social Service Transportation: Section 4.5
- Aviation: Section 4.6
- Active Transportation: Section 4.7
- Rail: Section 4.8
- Specific Transportation Strategies and Management Systems: Section 4.9
- Air Quality: Section 4.10
- Integrated Land Use-Transportation Planning 4.11

Each mode or transportation strategy includes an inventory of the existing system, an assessment of needs, and proposed actions. The latter will be divided into short-range (0-4 years) and long-range (5-26 years) actions. Proposed actions will be based on projected travel demand and appropriate policy. The short-range measures will then form the basis for the Regional Transportation Improvement Program (state funding) and the Federal Transportation Improvement Program (federal funding).

Federal transportation legislation requires that long-range transportation plans include only those projects that have a "reasonably available" source of funding. The RTP's "financially constrained" project list meets that requirement. The RTP also includes projects that are deemed necessary but do not have identified funding sources, to show a complete picture of transportation improvements needed for the region's future vitality

Transportation Conformity with the Clean Air Act Amendments of 1990

The Federal Clean Air Act (FCAA) requires states to improve coordination between transportation and air quality planning and set a firm schedule to attain national air quality standards. Federal transportation legislation strengthens the Federal Clean Air Act Amendments' (FCAAA) reforms by requiring that local and state transportation planning in nonattainment areas, such as in the San Joaquin Valley air basin, be consistent with, or conforms to, the State Implementation Plans (SIP) for clean air. The financially constrained plans, programs, and projects discussed in the financial element and included in the RTP as an appendix have been analyzed to ensure that they will not produce new air quality violations, worsen existing violations or delay timely attainment of the National Ambient Air Quality Standards. The 2018 RTP's final Transportation Conformity Analysis can be found at fresnocog.org.

4.2 Multimodal

Overview

Transportation planning has relied heavily on analyzing separate and discrete transportation modes; however, as planners address congestion and air pollution, there is a growing awareness that solutions must be evaluated within the context of an integrated system rather than by individual mode only. This approach considers Fresno County's specific characteristics which may affect travel demands, including but not limited to the following:

- Fresno is the major population center for the Valley
- Fresno County contains Kings Canyon National Park, as well as the Sierra and Sequoia National Forests
- State Route 41 north is the primary corridor to Yosemite, one of the two most visited national parks in the nation. More than 5 million people visited Yosemite National Park in 2016, 93% of whom came by automobile
- As the largest farm commodities producer in the world, Fresno County has a strong "farm-to-market" travel demand affecting local roads and the state highway system. Freight movement occurs throughout the County, as farm agricultural and other commodities are brought to market and onto interregional routes
- The county is crossed by two north-south corridors, Freeway 99 and Interstate 5, each of which is vital to the statewide transportation network
- Recreational trips are served by several state highways: Routes 33, 41, 168, 180, 99, and 5
- Amtrak serves Fresno and is experiencing increasing ridership, despite limited rail service to Sacramento and a lack of service to southern California
- While the distances between destinations and low housing densities have encouraged automobile travel, there are still both urban and rural populations that rely on public transit service. The transit systems are responsible for meeting State and Federal farebox and ridership requirements
- Fresno-Yosemite International Airport provides a hub airport to its service area of six counties
- The climate and terrain are compatible with bicycle ridership for short commutes and recreational trips
- Existing rail lines offer potential for an expanding share of commodity movement

Any ultimate state of multimodal transportation service would be a system in which a traveler could make a "seamless" journey with connections between modes, taking minimum effort and involving little delay. Currently, such an ideal state can be reached only in the country's largest and densest cities. In these areas, land use densities and developed commuter rail lines, subways, transit buses, trolleys, airport shuttles and taxis offer a variety of choice and scheduling flexibility that make travel times and accessibility reliable. In the Central Valley, where cities have experienced much of their growth since the automobile's debut, residential densities tend to be comparatively low, with streets and land uses designed to encourage automobile use and storage.

During hot summer days when upper temperatures can remain around 100 degrees, an air-conditioned care is highly attractive. It will require an even stronger commitment to air quality and quality-of-life goals in Fresno County to make the changes needed to implement the "seamless" multimodal system. It involves people making conscious choices to use alternative transportation modes and providing those alternate systems in a manner that encourages their use. To succeed, those efforts would have to focus on long-term changes:

- Increasing land use intensity and residential densities, particularly along corridors used for transit or planned for future light rail systems
- Facilitating mixed land use districts that promote living, working, shopping and recreation accessible by foot or bicycle, and that are served by centrally

located transit routes (the Tower District in Fresno, Clovis' Old Town and many of the County's small cities serve as examples built more than 40 years ago)

- Expanding transit systems and service frequency
- Developing connecting bikeway systems and encouraging their use
- Improving connectivity between transit and rail, transit and air travel, cycling and transit, etc
- Reserving future "park-and-ride" opportunities
- An organized public education effort
- Appropriate financing, including both operational and capital investment

Accomplishments

Although transportation systems planning encourages considering the many ways in which trips can be made, only a select group of Californians' trips are truly multimodal in the sense that they use more than one mode for a particular journey. These could include "park-and-ride" commuting trips where a private automobile or bicycle is taken to a vanpool site, or taking a car, bus or shuttle to the airport or train. Transportation corridors where rights-of-way can be preserved and developed to accommodate more than one form of travel are also being evaluated. Most commonly, efforts are directed to improve existing facilities, maintain those options and work to create the potential to make connections among systems in a manner that allows and encourages a gradual shift to more environmentally favorable travel patterns. Figure 4-1 shows the intermodal network, illustrating mode options that frequently exist over the same corridor, as with transit and the regional roads, or along the State Route 99 corridor, which has adjacent rail lines. Since the 2011 RTP, the regional transportation system has further developed, due largely to additional resources from local sales tax Measure C and its reauthorization.

Streets and Roads

Through the Measure "C," which has been extended for a 20-year period, and federal and state participation, Caltrans continues developing a metropolitan freeway system that includes Freeways 41, 168, and 180, including major overcrossing and interchange improvements. Measure C and its reauthorization have also been largely responsible for maintenance and improvements to the rural highway system, connecting Fresno County to adjacent regions.

Active Transportation

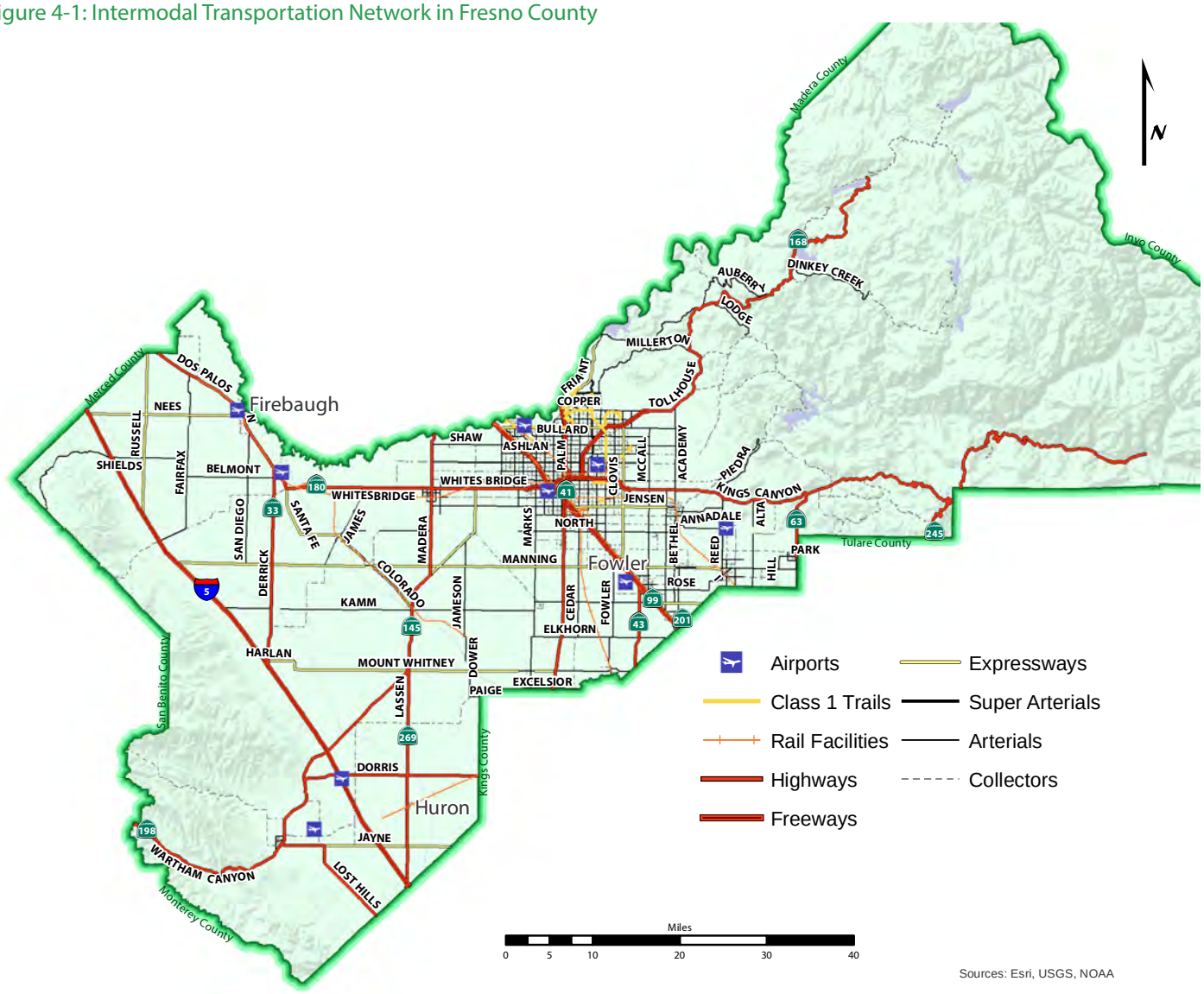
In that vein, the cities of Fresno, Clovis, Coalinga and Selma recently completed bicycle, pedestrian, and trail planning efforts, demonstrating the region's active transpor¬tation commitment. In order to maintain this momentum, Fresno COG developed a Regional Active Transportation Plan. This plan not only met California Transportation Commission requirements for the Active Transportation Program, but also enables all Fresno County cities and the County of Fresno to realistically compete for active transportation funding to implement their bicycle and pedestrian projects.

Transit

The transit system continues to improve service to its existing riders and to expand ridership despite constrained funding. Projects undertaken and planned for 2017 and 2018 represent more service changes to the FAX transit system than in the previous 50 years. Some of the projects completed, planned or under construction include:

- FAX Q: bus rapid-transit service along 15.7 miles of the heaviest-traveled FAX routes
- FAX 15: 15-minute bus headways between 6 a.m. and 6 p.m. along the most heavily traveled sections of Cedar Avenue and Shaw Avenue
- Additional night and weekend service: Weekend service frequencies improve to 30 minutes on most FAX routes, with night service on the core FAX routes until 1 a.m.
- FAX has also successfully transitioned to a 'clean fleet,' having taken all diesel buses out of service
- Several Intelligent Transportation Systems-related projects and upgrades that have focused on improving customer service, productivity, safety, and system performance
- New electronic fare systems on FAX and Clovis Transit that include magnetic fare media
- Better transit amenities throughout the region

Figure 4-1: Intermodal Transportation Network in Fresno County



Ridership and marketing surveys report 88% of users are satisfied with the overall service provided (1) by Fresno Area Express (FAX). The most important features of the transit service are identified as on-time performance, frequency of buses and the duration of the trip. This is consistent with the trends at a national level. These projects are expected to address those concerns.

Changing attitudes about the environment, traffic congestion and population growth have created an emerging marketplace of consumers who are more aware and more accepting of mass transit benefits. Recent improvements to the public transit system are intended to serve as a catalyst for such sentiment in the Fresno/Clovis area.

With intermodal transportation strategies in mind, Fresno COG sponsored a federal Congestion Mitigation Air Quality funding request for transit service from Fresno to the national parks in the Fresno County region, with a dedicated stop at the Fresno Yosemite International Airport (FAT). Fresno COG was successful with its grant application and continues to administer daily seasonal transit service from Fresno to Yosemite. For more information, see YARTS under Recreational Travel.

Airport

In 2017, Fresno COG received funding through the Department of Transportation's State Aeronautics program, on behalf of the Fresno County Airport Land Use Commission to develop a unified Fresno County Airport

Land Use Plan. This plan combines all eight existing airport compatibility plans into one document, adding an additional chapter to address the land use compatibility issues and requirements of NAS Lemoore. The plan update will be completed in late 2018.

Highway access to FAT and Chandler Executive Airport has improved considerably. State Routes (SR) 168 and 180 provide much better access to FAT and connect the airport with the Fresno highway system and beyond. SR 180 has been improved between Brawley Avenue west of SR 99, providing freeway access to Chandler Executive Airport; east of Academy Avenue to the City of Sanger, improvements continue to connect to the Yosemite National Park entrance. SR 168 has been improved between SR 180 and Tollhouse Grade. The braided ramp project has improved the interchange system among SR 180, 168 and 41, providing safer and more efficient access to and from FAT.

Rail

Meanwhile, daily Amtrak service has increased to seven round-trip trains and can be expected to increase further if passenger train service is provided to Los Angeles. The historic Santa Fe Depot has been rehabilitated and functions as the new passenger rail station. Burlington Northern Santa Fe and Union Pacific, both Class 1 railroads, and the San Joaquin Valley Railroad, a short-line service, provide freight rail service. Fresno COG member agencies are considering potential means for retaining abandoned rail corridors for bikeways and future light rail options. FAX transit lines and an off-ramp from SR 41 offer easy connections to the Amtrak station in downtown Fresno.

Needs Assessment

Corridor Preservation

Local jurisdictions, Fresno COG, Caltrans and the public will need to work to coordinate closely to set aside rights-of-way for planned ultimate corridors of State highways, including interchanges, as well as major local arterial and collector streets. A Future demand will require a regional approach for corridor preservation that crosses jurisdictional boundaries.

Metropolitan agencies have encouraged that abandoned rail lines be preserved for either non-motorized trail or bikeway systems, or for eventual conversion to public transit or light rail systems. Eastside and Westside cities with an agricultural base need to maintain rail service options to move crops to market. Meanwhile, the State continues to plan for high-speed rail in California.

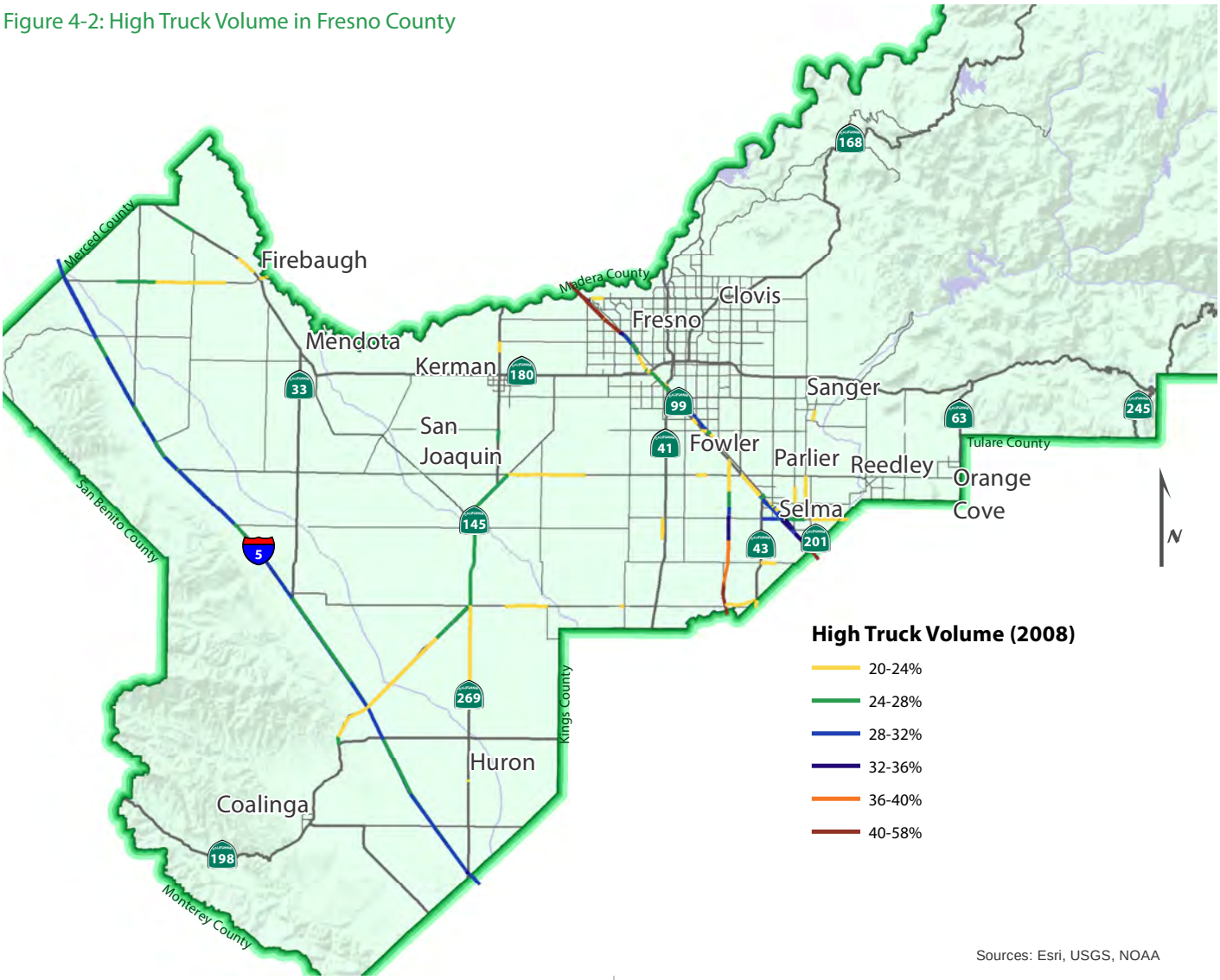
Given the population growth and air quality constraints, this RTP supports the corridor alignment that provides service to major population centers within the Central Valley.

Goods Movement

Shipping raw materials and finished goods is a central feature of any economy. While the trucking industry carries the majority of freight, commodity movement can occur by road, rail, air and pipeline. Throughout the state, freight movement over State highways has grown faster than capacity; Fresno County is no exception to this trend.

The San Joaquin Valley I-5/SR 99 Goods Movement Study recommends projects and improvements that contribute to an efficient, safe, integrated, multimodal transportation system, including:

Figure 4-2: High Truck Volume in Fresno County



- Shovel-ready projects. This report identifies projects and programs in a variety of areas That may be eligible for various funding sources, including those that are ready for construction within 0-5 years.

- Connector projects. Less congestion, increased corridor capacity, and greater safety may be obtained through a series of I-5 / SR99 connector enhancement projects.

Before moving forward with any of these projects, further study will be required, including: a full traffic analysis that takes into account all potential traffic shifts; an analysis of future demand and associated benefits and; a review of connectivity and access enhancements in line with regional land use and development plans.

ITS - Technological improvements. Potential technology benefits -- including ramp metering at specific locations, truck parking information systems and truck platooning -- all have the potential to improve efficiency, safety and reliability. Their unique technological focus makes them candidates for funding sources unavailable for other types of projects, as well as strong candidates for private investment.

Operational improvements. Operational demonstration projects were considered but deemed not feasible within the study's timeframe and/or budget. These demonstrations include: real-time truck parking applications, truck tolling on I-5 and eliminating the lower speed limit for heavy-duty trucks on I-5.

The report recommends a truck platooning demonstration. Truck platooning consists of a series of trucks following each other on the road, with automatic acceleration and braking controlled by vehicle-to-vehicle communication, but using manual steering. The technology provides significant fuel economy, safety and environmental improvements, along with a reduction in road congestion. While truck volumes on county roads and regional streets will still be a major factor, highway systems would be relieved. This would free up comparable capacity on State highways and lower maintenance costs. Figure 4-2 on the previous page shows routes with high truck volumes in Fresno County.

Recreational Travel

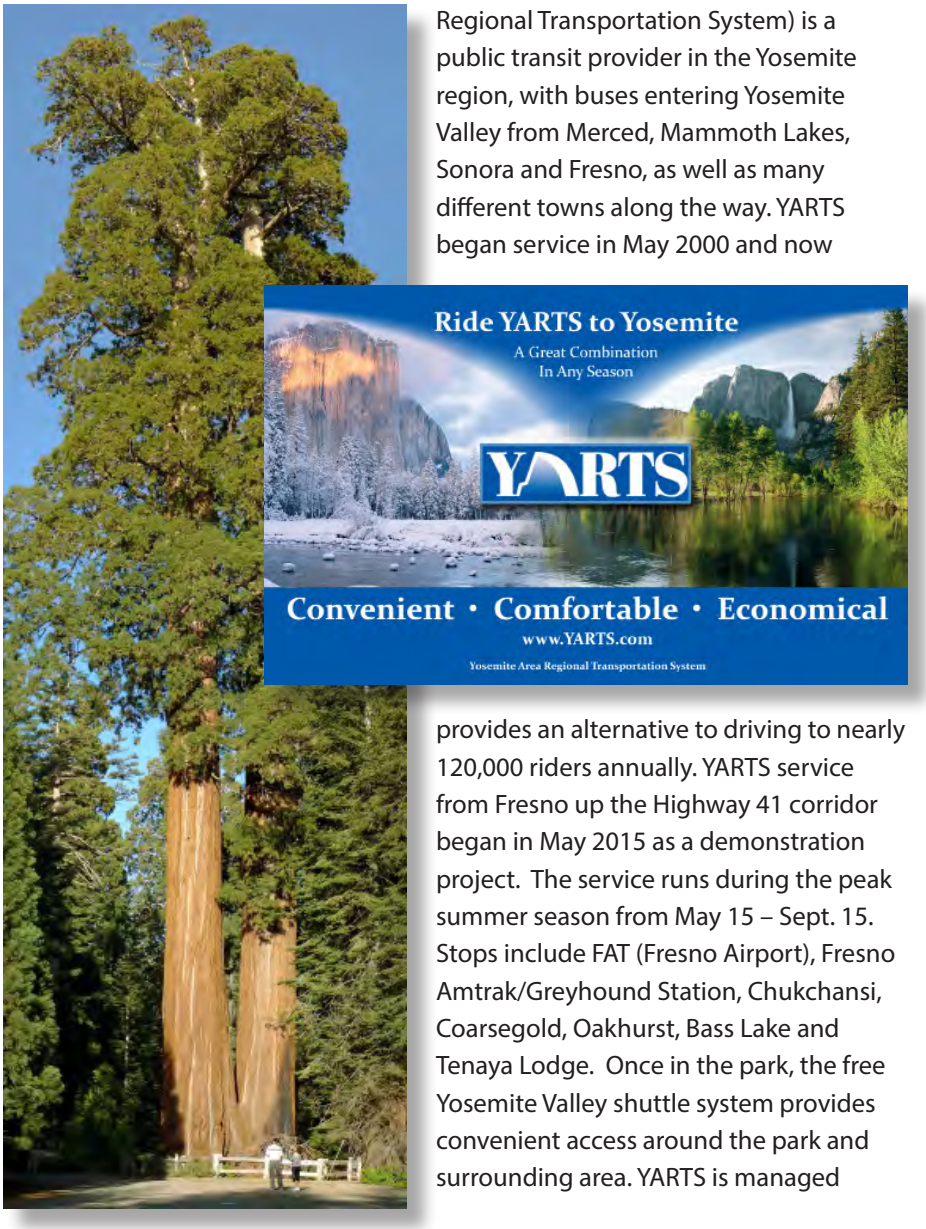
Fresno County hosts many recreational destinations of regional significance, and includes routes to others in adjacent counties. County residents and travelers throughout the state vacation to or pay short visits to many sites including:

- Yosemite Valley
- Grant Grove
- Boyden Cavern
- John Muir Wilderness
- Millerton Lake
- Sequoia Lake
- San Joaquin River
- Kings River
- Shaver Lake
- Huntington Lake
- Kaiser Wilderness Area
- Pine Flat Reservoir

The metropolitan area also houses the Fresno Convention Center and is the destination point from outlying communities for theater, musical events, the Fresno County Fair, sports and other special interest events and regional shopping. California State University, Fresno is a major attractor for football, baseball, basketball, track and cultural events. The University itself serves approximately 24,400 students and employs 2,334 full- and part-time faculty and support staff. The State Center

Community College has campuses in Clovis, Fresno, Reedley and in Madera County north of the Fresno County border near State Route 99. The City of Fresno maintains two regional parks: Roeding and Woodward. Fresno County maintains Kearney Park and Lost Lake Park, which is sited along the San Joaquin River.

Transportation is one of the major issues facing many of the national parks today. This is particularly evident in Yosemite National Park, which had more than 5.2 million visitors in 2016. YARTS (Yosemite Area Regional Transportation System) is a public transit provider in the Yosemite region, with buses entering Yosemite Valley from Merced, Mammoth Lakes, Sonora and Fresno, as well as many different towns along the way. YARTS began service in May 2000 and now



provides an alternative to driving to nearly 120,000 riders annually. YARTS service from Fresno up the Highway 41 corridor began in May 2015 as a demonstration project. The service runs during the peak summer season from May 15 – Sept. 15. Stops include FAT (Fresno Airport), Fresno Amtrak/Greyhound Station, Chukchansi, Coarsegold, Oakhurst, Bass Lake and Tenaya Lodge. Once in the park, the free Yosemite Valley shuttle system provides convenient access around the park and surrounding area. YARTS is managed

by the Merced County Association of Governments, and offers rides to all Yosemite visitors to Yosemite, providing the highest possible level of service regardless of ethnicity, national origin, gender, sexual orientation, or accessibility needs.

Transportation Security

Given potential, unexpected, large-scale security incidents or natural disasters, the federal FAST Act requires that MPOs consult with agencies and officials responsible for planning natural disaster risk reduction and recommends the RTP be consistent with emergency relief and disaster preparedness plans, strategies and policies that support homeland security and safeguard users' personal security of all motorized and non-motorized users. The Fresno-Clovis Metropolitan Area is the major population center within Fresno County. Both the cities of Fresno and Clovis developed Emergency Operations Plans in recent years. The plans lay out emergency response strategies in the face of disaster risks including: wildfires, floods, mudslides, dam failure, earthquakes, tornadoes, chemical spills, civil unrest and the always-present threat of domestic or international terrorism.

In the emergency plans, transportation plays a big role in emergency evacuations. Among the transportation strategies identified are: traffic signal controls, in which the City of Fresno Traffic Operation Center (TOC) Advanced Transportation Management System (ATMS) has the capability to provide continuous green lights to ITS corridors; traffic control guides that deploy traffic control personnel to key intersections based on criteria to manually direct traffic; electronic signage that uses freeway changeable message sign boards to post messages about evacuation centers and other important traffic movement information; and mobilizing mass transit, including Fresno Area Express (FAX), handy ride, school buses, public and private-sector transportation providers to assist the general public and populations with special transportation needs. Agencies are continuously working on improving their emergency response plan with efforts such as developing citywide emergency or evacuation signal timing plans and incorporating TOC's strategy and plan development into the citywide planning efforts.

Consistency with the Strategic Highway Safety Plan

This section documents Fresno COG's efforts to develop and implement the Strategic Highway Safety Plan. The Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) amended Section 148 of Title 23 to create a new, core Highway Safety Improvement Program (HSIP) that replaces the Hazard Elimination Safety Program (23 U.S.C §152). The purpose of the HSIP is designed to achieve significant reductions in traffic fatalities and serious injuries on public roads. The HSIP, with the exception of the High Risk Rural Roads subprogram, is also included in the Fixing America's Surface Transportation (FAST) Act.

Caltrans led the effort to develop the statewide Strategic Highway Safety Plan (SHSP) to identify key safety needs along with strategies to address those needs. Caltrans developed its first SHSP in 2005, amended it in 2010, and subsequently updated the plan in 2015.

The SHSP contains the most effective behavioral and infrastructure strategies and countermeasures for each of the following Challenge Areas:

- Roadway Departure and Head-On Collisions
- Intersections, Interchanges and Other Roadway Access
- Work Zones
- Alcohol and Drug Impairment
- Occupant Protection
- Speeding and Aggressive Driving
- Distracted Driving
- Driver Licensing and Competency
- Pedestrians
- Bicycling
- Young Drivers
- Aging Road Users
- Motorcycles

Information about the SHSP, its implementation timeline and the list of safety partners is downloadable from www.dot.ca.gov/trafficops/shsp/.

Statewide Transportation Plans, Regional Transportation Plans, Transportation Improvement Programs (TIP), Statewide Transportation Improvement Programs (STIP), as well as the HSIP, Commercial Vehicle Safety Plan (CVSP) and other State and local plans are all critical to the SHSP's success.

Safety is identified as one of the 2018 RTP's overarching goals that guide the Fresno County region's transportation planning efforts and as a top priority during the 2018 RTP project development process.

MAP-21 and the FAST Act require MPOs to set safety performance targets as part of performance-based planning. Future-year targets need to be established for each of the five following safety performance measures: number of fatalities; rate of fatalities per 100 million Vehicle Miles of Travel (VMT); number of serious injuries; rate of serious injuries per 100 million VMT and; number of non-motorized fatalities and serious injuries. Fresno COG has developed a set of evidence-based safety performance targets for all five performance measures, in which targets project future year fatalities and serious injuries based on recent trends. Chapter 8 provides a more detailed description on the base safety conditions and the safety target-setting efforts in Fresno County. Fresno COG will continue to track its progress to maintain consistency between the State's efforts and those undertaken at the regional level.

4.3 Highways, Streets and Roads

Overview

Fresno County has an extensive planned system of streets and highways intended to satisfy users' transportation needs. The transportation system also plays an important role in the region's economy, helping move both people and goods. As one of the top three agricultural counties in California, with a gross production value of nearly $6.2 billion in 2016, Fresno's economy is dependent on moving agricultural goods efficiently from farm to market. In most cases, at least the first leg of the farm-to-market route is via the street and road network. The majority of trips within Fresno County rely on trucks and automobiles using the streets and highways network.

This section identifies the existing system and recognizes streets and highways of regional significance to describe the future streets and highways network, noting both short-term improvements and the envisioned long-range system. In addition, this chapter identifies regional transportation network planning efforts. It also address policies, needs and major issues related to the highways, streets and roads network.

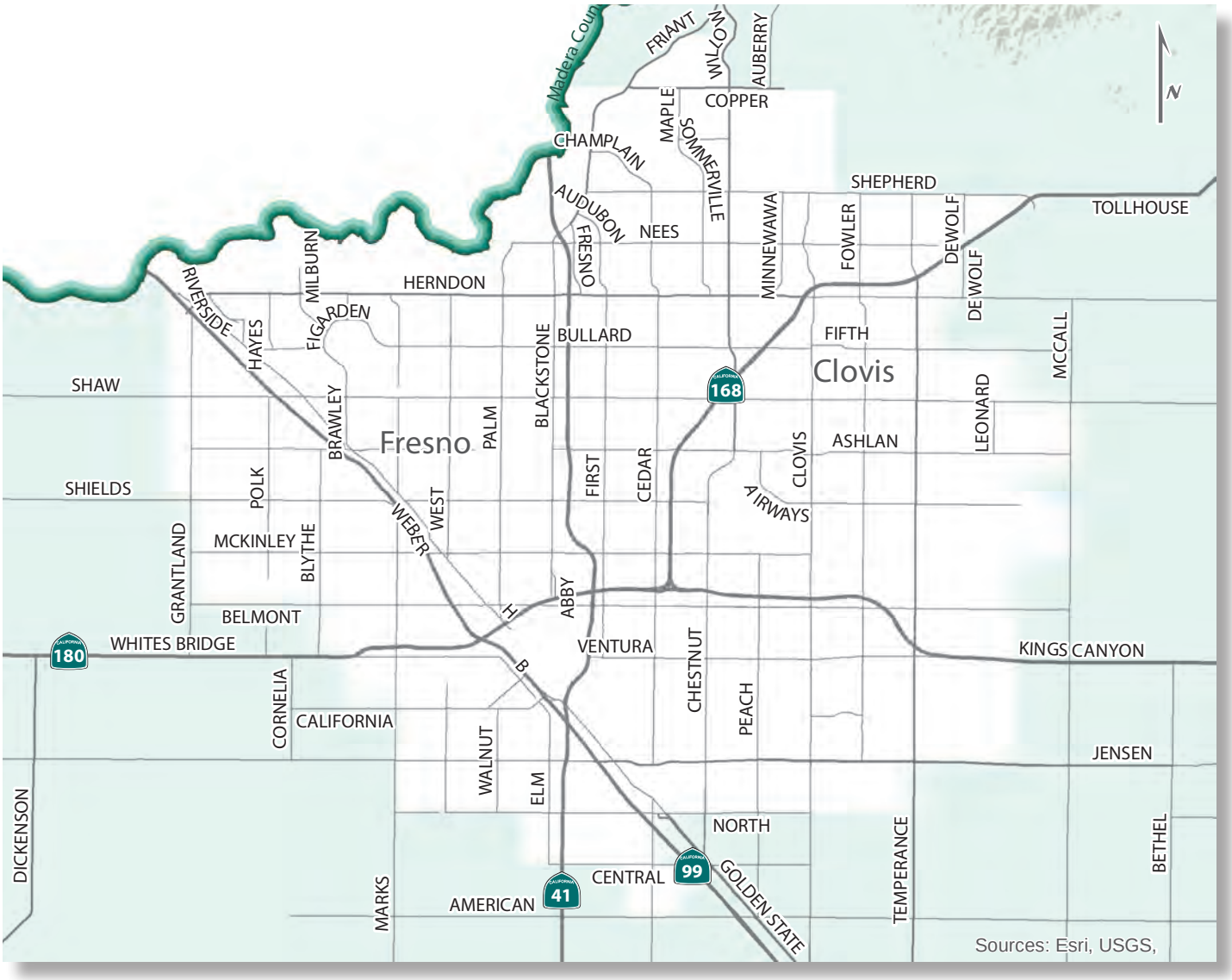
While the needs assessments and the planned highway improvements to meet those needs are presented in this document, financing remains a major concern. The people of Fresno County made a commitment in 2006 to the future transportation system by choosing to continue a sales tax over a 20-year period (Measure C) aimed at improvements to the regional and local transportation network. Unfortunately, this anticipated revenue still is not sufficient to finance the requisite long-range transportation improvement needs. This Plan's Financial Element comprehensively discusses the various alternative strategies for financing the regional transportation network.

Existing System Inventory

Regionally Significant Road System

The COG, in conjunction with its member agencies and Caltrans, has developed a "Regionally Significant Road System" for transportation modeling purposes that is

Figure 4-3: Regionally Significant Road System - Metro Area

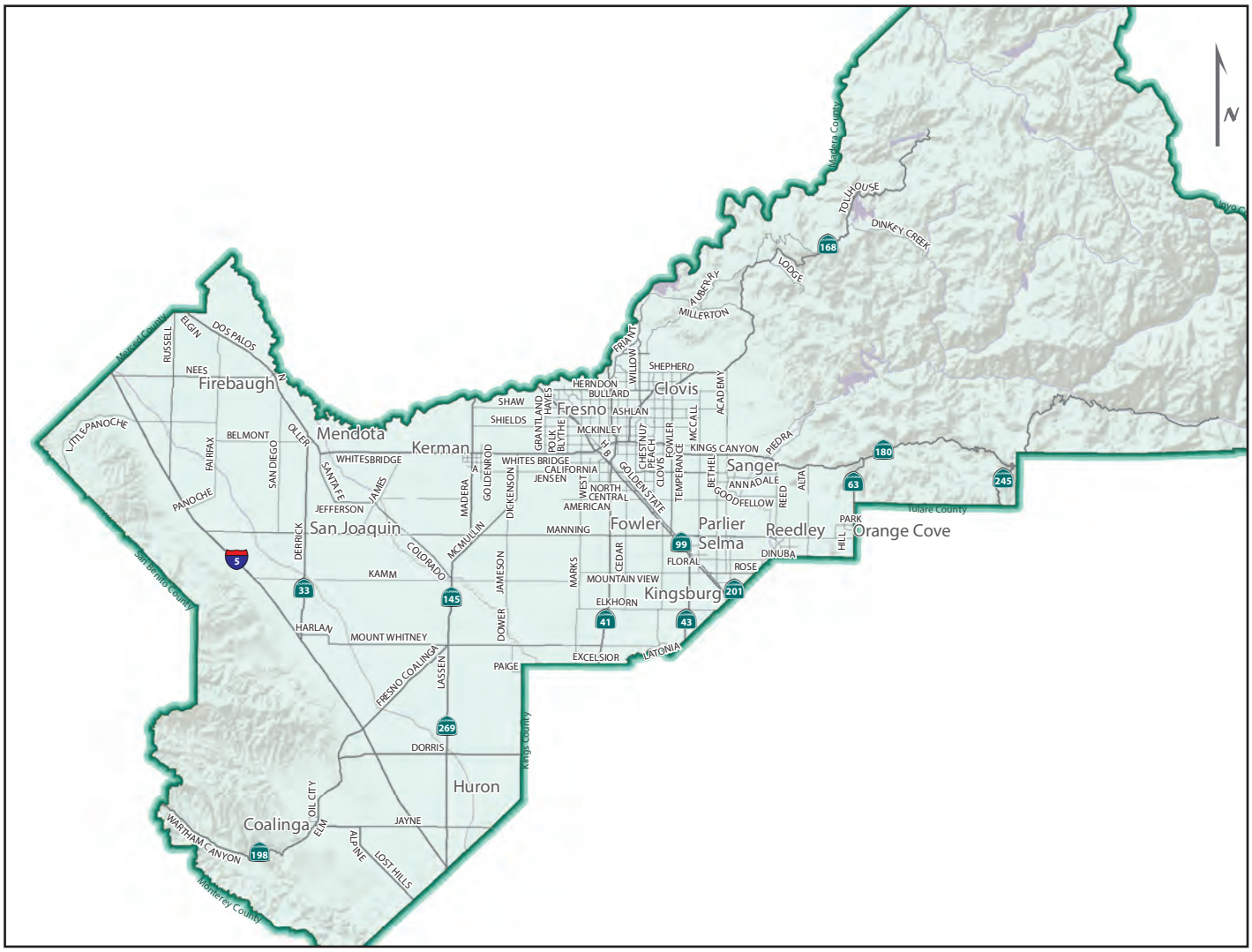


based on the Federal Highway Administration's (FHWA) Functional Classification System of Streets and Highways, plus additional facilities of regional significance. Figures 4-3 and 4-4 show the Regionally Significant Road System for the Fresno County region.

Functional classification refers to the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. This process recognizes that individual roads and streets do not serve travel independently. Rather, most travel involves movement through a roadway network. Functional classifications examine how this travel can be channeled within the network in a logical and efficient manner. They define the nature of this channeling process by first defining the role that any particular road or street should play in serving the flow of trips through a highway network.

In general, the regionally significant system was selected to maintain and improve access among cities, accommodate a high level-of-service access to and within the Fresno-Clovis Metropolitan Area and to link regionally significant commercial, educational, industrial and recreational facilities. The criteria used to establish the regionally significant system included factors such as functional classification, service and connections to regional facilities and present and projected use. Environmental Protection Agency (EPA) regulatory guidance clearly requires specific air quality conformity

Figure 4-4: Regionally Significant Road System - Rural Area



discussion and analysis for all facilities shown on the regionally significant system.

The Regionally Significant System in Fresno County serves all county residents, not just those within urbanized areas. The rural highway system accommodates not only people but is a particularly vital aspect freight-based economy. As one of the prime agricultural counties in the nation, the intracounty road linkage of goods to processing plants and later, finished goods to other regions is essential.

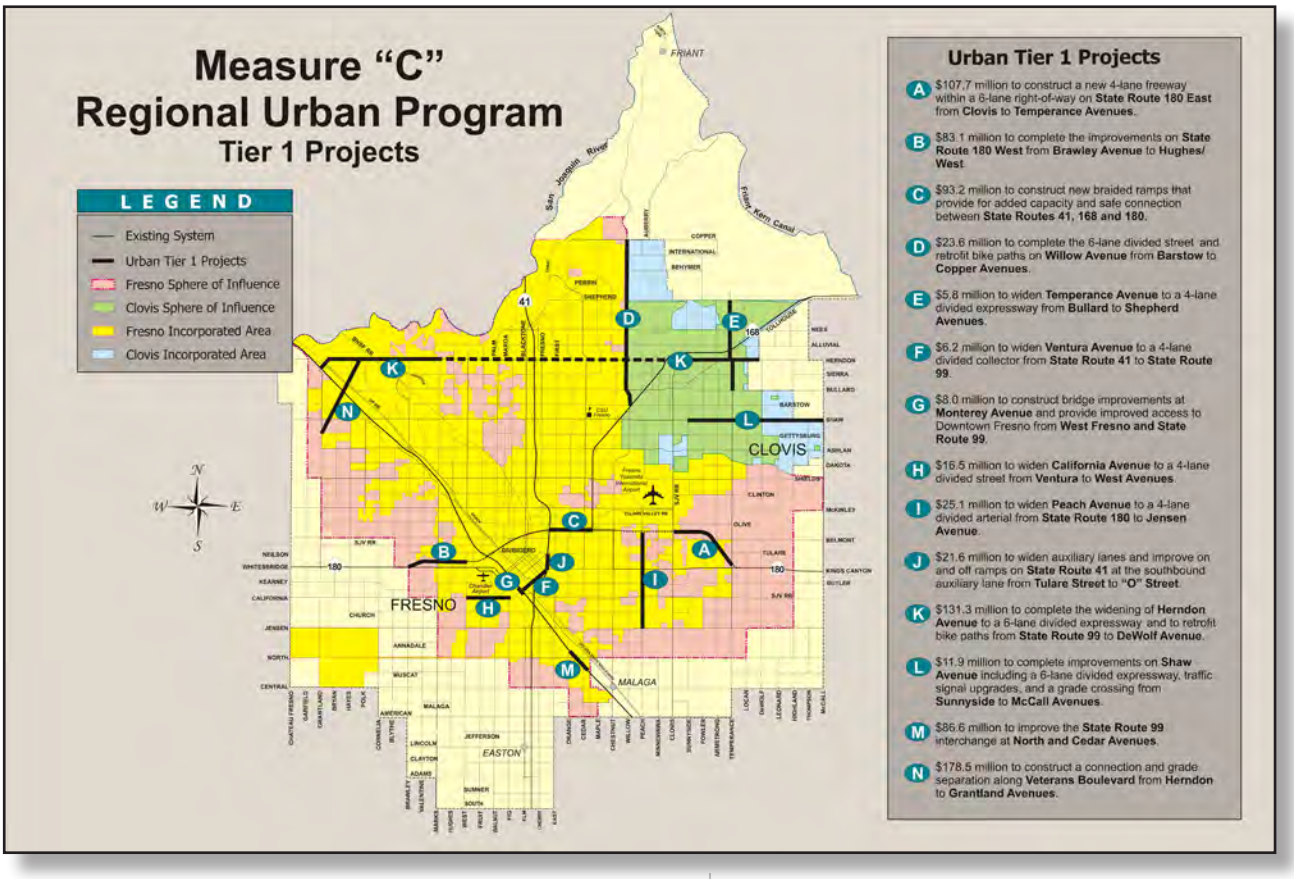
Accomplishments

Fresno COG, Caltrans and various local entities have worked to understand the strengths and weaknesses of the streets and highways system throughout Fresno County. The County has a formally adopted Road Improvement Program (RIP), 2015-2020, that is used fortransportation planning and implementation. Regional planners have examined methodologies and strategies to expand, enhance and maximize the existing system given current financial constraints. This process has required coordinated planning activities and careful road project programming among the COG, its member agencies and Caltrans. The following text itemizes planning activities with which the COG is involved.

Measure C Expenditure Plan

In 2006, Fresno County voters reauthorized Measure C, a 1/2 cent sales tax collected specifically for transportation purposes. The Fresno County Transportation Authority (FCTA) oversees all Measure C program expenditures. Upon the Measure's approval, the COG, in its role as

Figure 4-5: Measure C Projects - Urban Area



the Regional Transportation Planning Agency, became legislatively responsible for preparing an expenditure plan. Estimates suggest that Measure C will generate approximately $1.5 billion over its lifetime, which will be used to construct and employ the expenditure plan's multi-modal projects and programs.

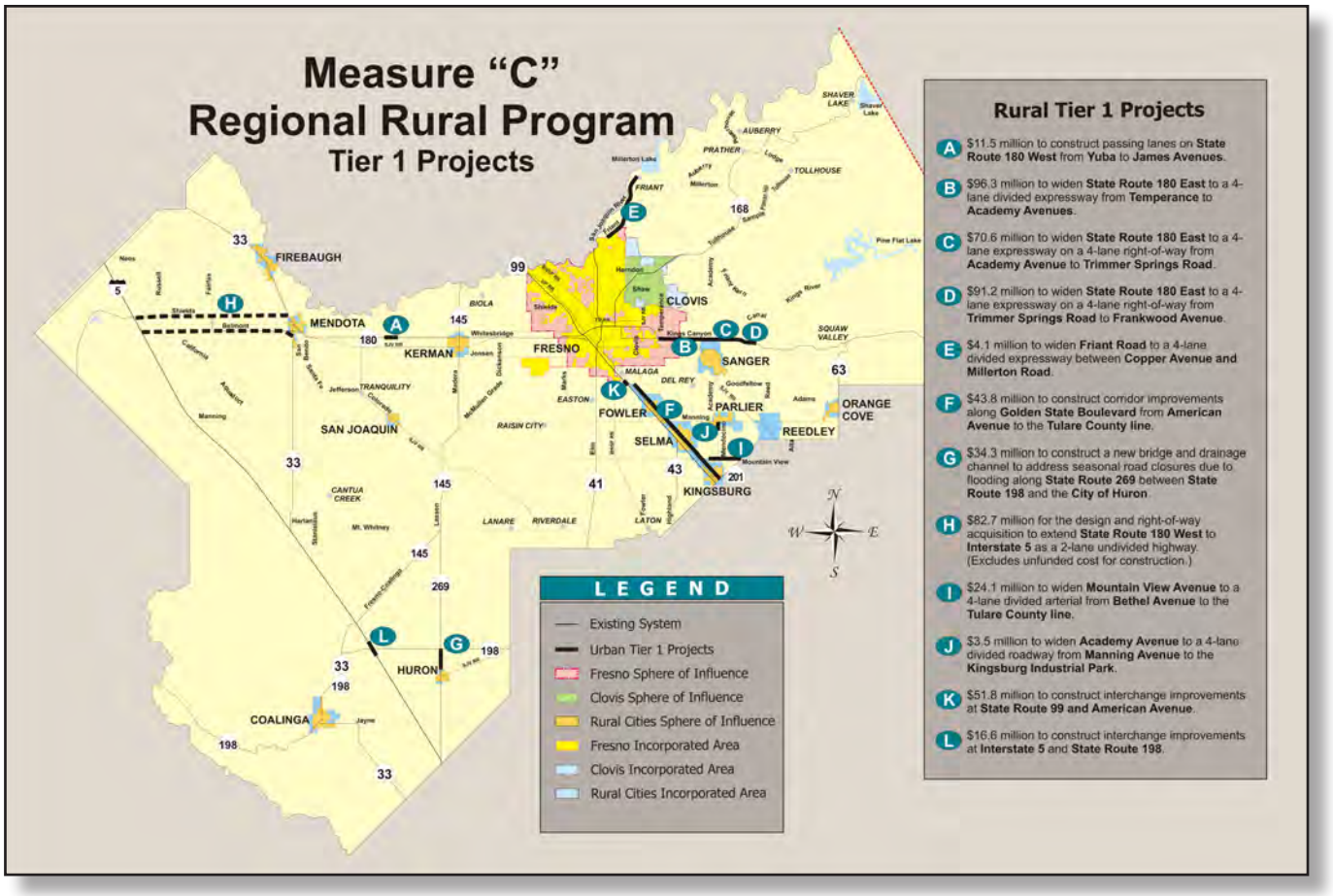
The Authority is charged with implementation and is required to coordinate its actions to secure funding to complete and improve highway projects with high regional priority. The Measure C improvements (shown in Figures 4-5 and 4-6) reflect this system.

Fresno COG is charged with specific planning responsibilities, including a highway expenditure plan that considers not only Measure C dollars but also other federal, state and local revenue available for improvements. As a first step, the COG must assess needed highway improvements and consult with Caltrans, the cities and the county for candidate projects. All projects are then evaluated and, if appropriate, scheduled based upon a locally adopted procedure. There are more project nominations than identified revenue. Updates are required to remain responsive to changing costs, revenues and delivery schedules. The plan serves as the base upon which future plans and strategies are built. It also assumes consistent state financial participation for the 20-year program.

COG Regional Travel Demand Forecast Model

Since the mid-1980s, Fresno Council of Governments, its member agencies and Caltrans have jointly developed and maintained a microcomputer-based travel forecasting model. In 2010, the eight San Joaquin Valley (SJV) MPOs embarked on an ambitious joint effort to upgrade their land use and travel demand forecasting model systems. This San Joaquin Valley Model Improvement Plan (VMIP 1) was funded by $2.5 million in Proposition 84 grant money from the Strategic Growth Council.

Figure 4-6: Measure C Projects - Rural Area



The largest coordinated modeling project in SJV history has resulted in a significant increase in all eight MPOs' modeling resources, and in time to apply the results for SB 375 target setting and 2014 RTP/SCS development, as well as for Climate Action Plans and other local and regional projects. The Plan's second phase (VMIP 2) was completed in 2017, further improving the model sensitivity and updating the models with more up-to-date survey data, such as the 2010 Census and the 2012 California Household Travel Survey.

The Fresno COG travel demand forecast model is used extensively to fulfill requirements for:

- Air quality
- Congestion management
- Project development
- SB 375 and Sustainable Communities Strategy
- Regional Transportation Plans
- Design new roads
- Transit studies
- Evaluate land use alternatives

Fresno COG's and the other SJV MPO models have all been upgraded to a much higher standard. They are more advanced and are built on similar modeling platforms. Valley model standardization will make collaboration and information sharing among the MPOs much easier. Collaboration and information sharing in turn will allow for greater compatibility among models in neighboring jurisdictions and greater understanding of how to meet common modeling challenges.

Fresno COG is also developing an activity-based model (ABM), which is scheduled to be completed in 2018. As the Fresno County region moves toward more sustainable land use development and greater investment in supportive transportation strategies such as Bus Rapid Transit (BRT) and bike and pedestrian facilities, an ABM is better positioned to estimate the benefits of such strategies and investment than a traditional 4-step

travel demand model. Having the capability to track each individual in a household, changes to household travel patterns can be better modeled in ABM to address increasing interests in measuring impacts from compact and mixed-use development, active transportation, transit, pricing, etc.

In summary, the traffic model represents more than 25 years of development by local agencies, Caltrans and Fresno COG. It is regionally recognized as the finest available source of information on existing area traffic and future condition projections. Modeling activities are monitored by the Model Steering Committee. This committee comprises representatives from local agencies, private consultants and others interested in the model's application to local traffic analysis issues. The committee provides a focused forum to present traffic-related issues to local agency planning and traffic engineering staffs as well as project proponents. Since being formed in 1986, the committee has developed into a valuable resource to both monitor modeling applications and to provide ongoing direction for continued model development.

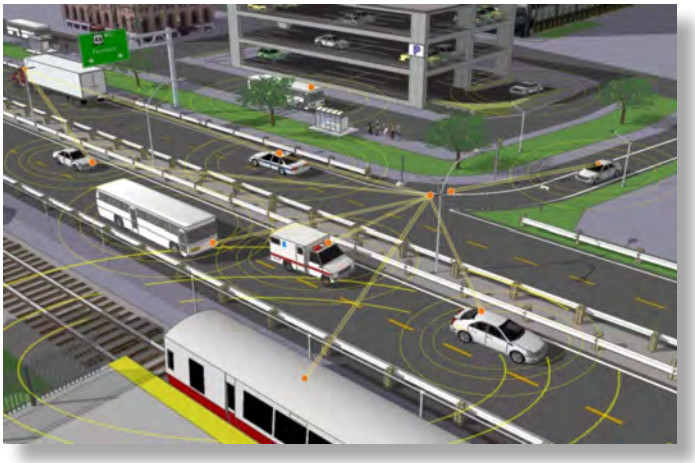
Intelligent Transportation Systems Strategic Deployment Planning

While the Fresno County region is fortunate that significant efforts are under way to improve basic transportation infrastructure, building new facilities are not as simple or affordable as they used to be. Transportation professionals have recognized Intelligent Transportation Systems (ITS) as a means to improve performance to provide the most efficient mobility possible within the limited funds available.

ITS technologies refer to a wide variety of tools and techniques that focus on addressing transportation problems by improving efficiency and safety through communications, computers, information and other "high-level technologies." They include features such as: traffic operations centers, changeable message signs, roadway cameras, signal synchronization and emergency vehicle preemption, as well as more advanced technologies, including: real-time traveler information, automatic vehicle location devices, vehicle collision avoidance and electronic toll collection.

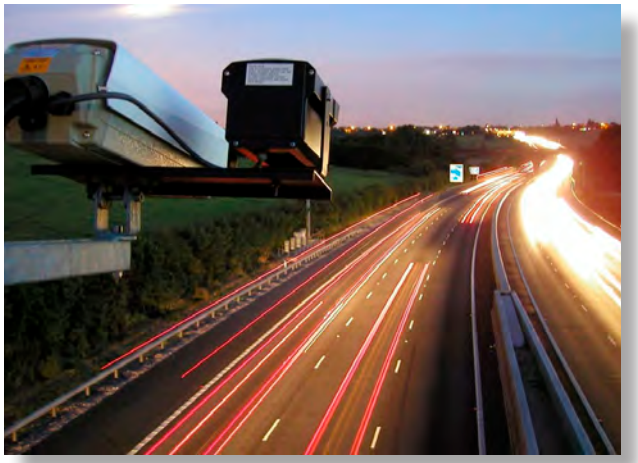
The 2015 Fresno County Intelligent Transportation System Strategic Deployment Plan (SDP) was developed with significant stakeholder input and is intended to provide a framework for planning, programming, and deploying advanced transportation systems. The ITS SDP represents a comprehensive effort to deploy ITS systems that are integrated, shared and coordinated to allow public agencies to better manage the existing transportation system.

In 2014 and 2015, regional stakeholders helped produce the Fresno County Intelligent Transportation System Strategic Deployment Plan and Regional Architecture. This project addressed ITS' expanded realm in Fresno County and responded to specific recommendations and requirements to bring the Fresno COG into compliance with FHWA's ITS program standards (23 CFR 940), as well as the Federal Transit Administration's (FTA) National ITS Architecture Policy on Transit Projects. Furthermore, the SDP provides a vision for ITS, outlines low-, medium- and high-priority projects, a funding strategy and establishes a plan for managing, integrating, operating and maintaining regional ITS elements over a 20-year horizon.



The Fresno County ITS Plan followed the required federal ITS planning process. As the lead agency, Fresno COG established an ITS subcommittee to oversee the Plan's development that included representatives from all Fresno COG member agencies as well as FHWA, Caltrans Headquarters and the private sector. Subcommittee meetings often separated representatives into their specific areas of interest (traffic systems, incident management, transit, etc.) in order to provide for more focused input at key development points.

This project also developed the Fresno County Regional ITS Architecture, as required by the final rule/policy on ITS Architecture and Standards Conformity for federally funded Intelligent Transportation Systems projects. The ITS architecture identifies integration opportunities among regional transportation systems (the "ITS elements"). An up-to-date regional ITS architecture allows jurisdictions to request federal project funding or programming. The Fresno County Regional ITS Architecture may be found at http://fc-its-arch.fresnocog.org/index.htm.



Individual agencies in the Fresno County Region have already undertaken several ITS deployment efforts, ranging from traffic signal system improvements to transit management systems and from enhanced emergency service computer-aided dispatch to freeway surveillance projects.

Over the last 15 years, the City of Fresno has instituted multiple ITS phases. These include its traffic operations center with an Advanced Transportation Management System that interconnects approximately two-thirds of the City's 466 traffic signals, synchronizing 20 of the most congested corridors, totaling more than 100 miles. The City's traffic engineers have a state-of-the-art technology to monitor, model and coordinate traffic on some of the City's major arterials, improving safety, operations, energy conservation and effective capacity.

The City of Fresno's ITS program partners with Fresno COG, Caltrans, the City of Clovis and the County of Fresno for traffic network interconnectivity. The City of Fresno and Caltrans are further expanding their ITS partnership with a joint project to improve congestion at freeway ramp traffic signals and City arterials. Congestion Mitigation Air Quality (CMAQ), State of California, Proposition 1B, and Traffic Light Synchronization Program (TLSP) funds have been key to regional success. The City's ITS Program continually expands the advanced transportation system with a goal to interconnect and synchronize all City traffic signals -- improving safety, operations, energy conservation and effective capacity of all corridors.

San Joaquin Valley Intelligent Transportation Systems Strategic Deployment Program

In addition to developing its own ITS plan for Fresno County, Fresno COG has also been a participant, with the other seven SJV MPOs, in an overall Valley ITS deployment plan. In 2001, the eight counties -- Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare -- adopted a Strategic Deployment Plan (SDP) to help guide ITS implementation in the San Joaquin Valley and also to fulfill an FHWA requirement for the region to have a plan that conforms to the National ITS Architecture, thus ensuring that FHWA will honor funding from the Federal Highway Trust Fund for all future ITS projects or those projects that have an ITS element. By participating in the San Joaquin Valley ITS Plan, Fresno COG is now connected to the Valley wide system architecture and will have access to federal funds that may become available for Valley wide ITS projects.

The San Joaquin Valley ITS Plan was a 20-month foundation study for integrated ITS applications. The plan coordinates architecture, standards and institutional issues, and also provides the framework for deploying an integrated ITS.

Regional ITS Architecture

Fresno COG accepts the San Joaquin Valley regional architecture as its common structure for ITS development throughout the region. All ITS projects funded with highway trust funds will be based on a systems engineering analysis. The eight Valley COGs have established a maintenance plan to support the regional architecture in compliance with federal deadlines.

Needs Assessment

The regional streets and highways network includes multiple issues and needs that require Fresno COG's attention. Among these are financing for maintenance, rehabilitation, reconstruction and construction; travel

demand modification; capacity problems; general plan circulation element inconsistencies and; transportation corridor needs. The following text analyzes each of these issues in further detail.

Financing the Regional Transportation Network
Developing financing mechanisms to deploy the planned transportation network remains a primary concern not only in Fresno County but throughout the entire state.

Measure C is projected to generate $1.5 billion, to be expended through the Fresno County Transportation Authority. Fresno COG and the Authority have developed a Strategic Implementation Plan for those funds.

Senate Bill 1
The Road Repair and Accountability Act of 2017, Senate Bill (SB) 1, provides the first significant, stable, and on-going increase in state transportation funding in more than two decades. SB 1 provides funding to the Fresno County region through various programs for road maintenance and rehabilitation projects, corridor-based freight projects, Measure C expenditure projects and State highway repair, safety, and operational improvements.

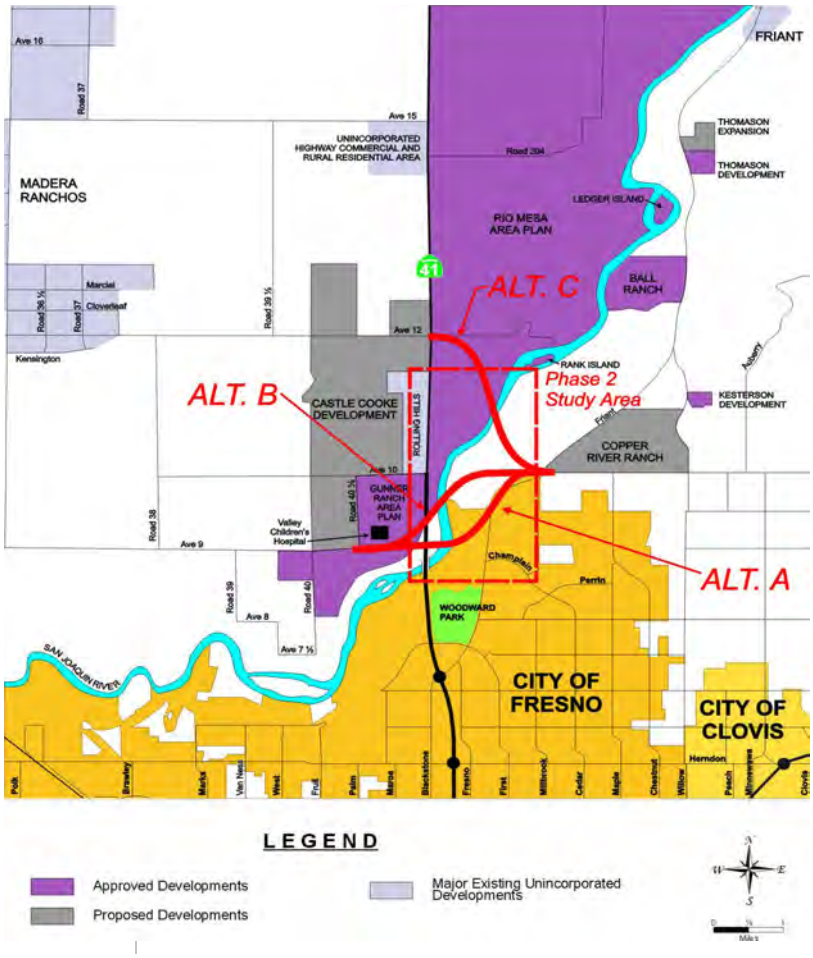
Travel Demand
Modifying travel demand is a critical issue. It is becoming increasingly apparent that financial, energy and environmental resources are slowly being overburdened by ever-increasing travel demands. Over time it will be necessary to develop and implement a variety of measures to reduce this demand. The measures range from incentives to promote multi-occupancy vehicle use (i.e. rideshare and transit) to alternative modes such as non-motorized and rail, and trip reduction through land-use planning mechanisms.

Transportation Corridor Needs
All new regional transportation projects are required to take a "Multimodal Transportation System Corridor" planning approach. In keeping with this federal direction, the COG is working in partnership with Caltrans, local jurisdictions and the private sector to identify transportation corridors and projects that will provide a multimodal system for Fresno County citizens.

Fresno-Madera East-West Corridor Study
To better address future east-west travel demand needs between northeast Fresno County and southeast Madera County, Fresno COG, the Madera County Transportation Commission (MCTC) and Caltrans District 6 participated in a regional transportation corridor study known as the Fresno-Madera County East-West Corridor/Subarea Study.

Phase One focused on Fresno and Madera Counties' long-range transportation needs by considering future land use plans together with circulation element policies and engineering/environmental constraints. Phase Two focused on the preliminary engineering and detailed environmental analyses associated with potential river crossings between the State Route 41 San Joaquin River Bridge and approximately one mile north of the Alternative #3 corridor. See Figure 4-7.

Figure 4-7: Fresno-Madera East-West Corridor Study



Fresno-Madera Origin-Destination Study
In partnership with the cities and counties of Fresno and Madera, Fresno COG and the MCTC have undertaken a joint Origin-Destination Study to better understand transportation movements and effects between the two counties. Part One entailed analyzing origin and destination traffic movements between the two counties. Part Two considered the fiscal impacts of those movements on the local and regional economy. The results can better inform local decision-making bodies regarding commute patterns and their economic impacts, while improving the MPOs' abilities to implement their Sustainable Communities Strategies.

Blackstone Corridor Transportation and Housing Study
The Blackstone Corridor Transportation and Housing Study identified opportunities and tools to achieve the City of Fresno's General Plan goals for transforming Blackstone Avenue from an auto-oriented corridor to a multi-modal, mixed-use livable street through focused and strategic interventions. The study took into account Fresno City College's (FCC) campus master planning effort and recommended that FCC establish an institutional presence along the corridor and become a positive contributor to its character.

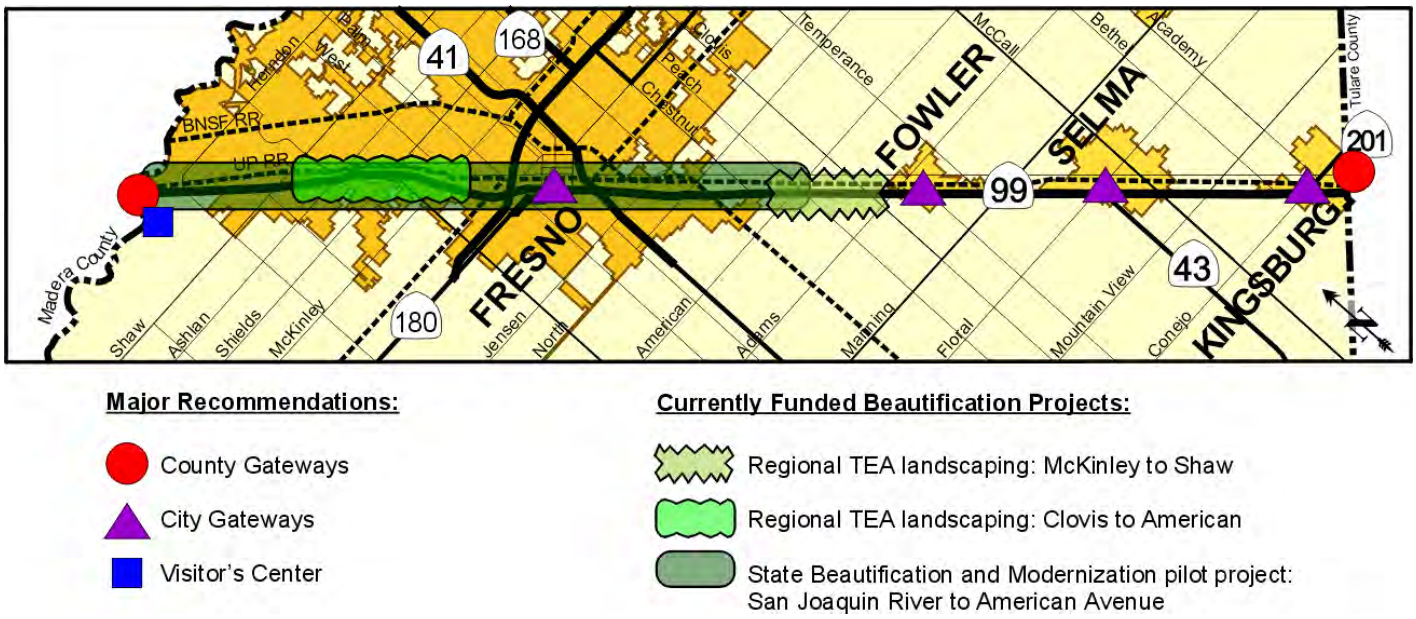
The study identified opportunities for transit supportive infill development, improved connectivity to Blackstone Avenue and prioritized catalytic sites to kick-start the revitalization process. The recommendations will help direct investment in private development and public infrastructure projects during appropriate timeframes.

Association for the Beautification of Highway 99
In 1998, concerned policy makers and citizens began meeting regarding SR 99's poor appearance both inside and outside of the State right-of-way, which, they feared, stifled economic development in the area.

Caltrans, the County of Fresno and the cities of Fresno, Fowler, Selma and Kingsburg, through individual resolutions, agreed to form and participate in the Association for the Beautification of Highway 99. The Association continues to meet bimonthly and work with Fresno COG to improve SR 99's appearance. See Figure 4-8.

In addition to the corridor needs identified above, there are also several planning efforts under way to determine what types of long-range transportation improvements will be necessary to provide adequate levels of service and overall mobility within Fresno County. The transportation corridors being analyzed are as follows:

Figure 4-8: Highway 99 Beautification Master Plan



Golden State Corridor Economic Development Infrastructure Improvements: Planning, Engineering and Environmental Study

Fresno COG will oversee the Golden State Corridor Project's design phase. The project extends over 12.9 miles from Lincoln Avenue (just north of the Fowler city limits) to Mission Street (in Kingsburg). The multijurisdictional project passes through the cities of Fowler, Selma and Kingsburg and Fresno County unincorporated areas within the sphere of influence of one of the three cities. Improvements will include community planning, an economic analysis, infrastructure improvements, pavement rehabilitation, drainage facilities, traffic signals, bicycle lanes and pedestrian/bicycle paths, landscaping and other hardscape improvements. The project aims to revitalize the Corridor, enhance economic development and improve Corridor safety for both commercial purposes as well as local drivers. The Fresno County Transportation Authority will oversee construction. Funding has been made available through the Measure C sales tax extension.

San Joaquin Valley I-5/SR 99 Goods Movement Corridor Study

This study identified critical mobility, safety, economic development and environmental issues and opportunities, and compiled a master list of planned goods movement related projects on I-5 and SR 99 in the San Joaquin Valley. It also identified programs and developed project concepts for a few critical goods movement issues and opportunities and qualitatively assessed the strategic programs for cost, VMT reduction and potential public funding.

State Route 180 Western Extension Corridor Study

Caltrans and Fresno COG conducted a route adoption study for extending State Route 180 West from SR 33 to I-5. The study considered the future route alignment that would best serve western Fresno County's mobility needs, as well as providing a "direct" state highway route for travelers and goods movement from I-5 to the City of Fresno. See Figure 4-9.

State Route 198 Corridor Preservation and Improvement Strategic Plan

Forming a major east-west link for the San Joaquin Valley, State Route 198 (SR 198) is a significant transportation corridor for Kings and Tulare Counties and the southern part of Fresno County. Fresno COG participated in this study along with Kings County Association of Governments and Tulare County Association of Governments. The study forecasted future traffic demands compared those demands to infrastructure capacity and assessed shortfalls in operational capability. Several improvements have been recommended over a short-, medium-, and longer-term period and an evaluation of these recommendations tested their viability and justification.

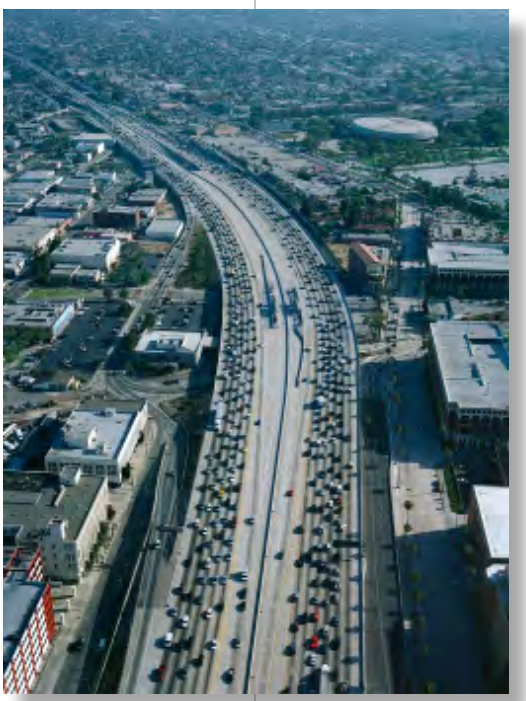
Figure 4-9: SR 180 Western Extension Corridor Study

Proposed Actions

Future Planning Activities

Fresno Council of Governments will continue to work with its member agencies, Caltrans and the federal government to develop a comprehensive multi-modal regional transportation network designed to provide maximum mobility for both people and goods throughout Fresno County. To the extent possible, Fresno COG intends for its state highway planning process to complement Caltrans'.

In the short-term, Fresno COG will continue to work with its member agencies to address any general plan circulation element inconsistencies. Updated traffic monitoring counts on selected corridors will also serve as key input to future metropolitan and rural streets and highways analysis. Also, FCOG is responsible for annually coordinating sample system performance data within Fresno County. This responsibility was assigned by FHWA, which initiated a Highway Performance Monitoring System process. COG will also remain involved in what is commonly known as Transportation Demand Management techniques. These are traditional strategies designed to ease congestion.



Short-Term Improvement Program (2018-2022)

- Fresno County jurisdictions have completed numerous projects over the last several years, with highest priority given to system maintenance. System optimization through traffic signal improvements and operational improvements has also been heavily emphasized. The following are the top priorities in the region for the short-term (2018 through 2022):
- Maintenance and rehabilitation of the state highway system and local streets and roads network
- Complete construction on segments of the long-planned freeway network and Measure C Extension Urban Area and Rural Area Tier 1 Street and Highway Projects
- Provide necessary operational improvements
- Promote transportation demand management actions where possible; Improvements on the local street network will focus primarily on safety, maintenance and rehabilitation projects
- Continued implementation of Transportation Control Measures such as improved public transit, traffic flow improvements, additional bicycle facilities, park and ride lots and voluntary ridesharing

Long-Term Improvement Program (2023-2042)

By 2042, approximately 1,347,000 people will inhabit Fresno County. This increase will further strain the transportation network's ability to provide fluid mobility. The top priorities for the long-term will continue to be network maintenance and rehabilitation, providing operational improvements and additional transportation demand management improvements. Fresno COG will work with its member agencies and Caltrans to identify and prioritize projects for the long-term program.

Caltrans' District System Management Plan

The State of California (through Caltrans) employs a long-range planning process -- the District System Management Plan (DSMP) -- that provides Caltrans with a periodic and uniform method of assessing the State's transportation system, district by district. It is intended as an objective assessment of the statewide transportation network irrespective of mode or jurisdiction, and considers the entire transportation system, including facilities, vehicles and operators. The DSMP process was established to aid decision-making in managing the State's transportation system, to guide future development and to represent Caltrans' input into each Regional Transportation Planning Agency's RTP.

Caltrans' DSMP emphasizes highways with statewide significance (i.e., State Highway 99 and Interstate 5). The

region's priorities are those highways that best serve regional needs (i.e., State Highways 41, 168, 180 and 198). These differences are recognized and taken into consideration whenever project fund programming occurs.

The DSMP is one tier of a two-tier Caltrans planning process that identifies current and potential system deficiencies and proposes realistic alternatives. The other tier is the Transportation Corridor Concept Reports (TCCRs).

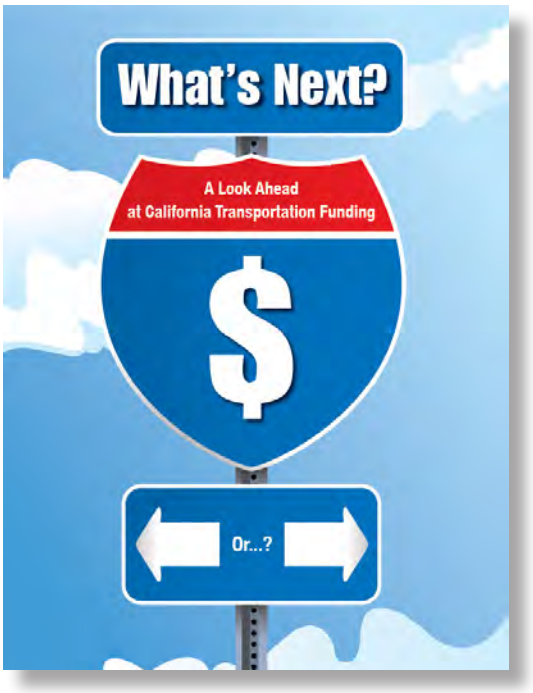
Transportation Corridor Concept Reports

Transportation Corridor Concept Reports (TCCRs) refine the DSMP and represent the next level of system planning that Caltrans conducts. TCCRs analyze prospective transportation service areas, establish 20-year transportation planning concepts and identify modal transportation opportunities and applications needed to achieve the 20-year concept. TCCRs are designed to only outline affordable multimodal alternatives that are both politically and environmentally realistic. TCCRs must also be consistent with DSMP policies and strategies.

Unfinanced Needs

State highway funding and local streets and roads funding from statewide fuel subventions has decreased dramatically. For California to remain economically competitive it must maintain its existing transportation system (at the local as well as the state level) in good operating condition to maximize the return on its huge investment. Maintaining the existing transportation system limits the cost of future repairs and minimizes delay or service interruptions. Failure to adequately maintain the system will burden the State's economy with increased travel times, delays and more expensive goods.

Local jurisdictions use Measure C dollars for capacity increasing projects, as well as maintenance and rehabilitation needs. SB 1 doubles funding to cities and counties for local road maintenance and repair through the local streets and roads program and it also provides increased oversight and funding for major State highway repair, safety and operational improvements through the State Highway Operation and Protection Program (SHOPP).



SB 1 increases several taxes and fees to raise more than $5 billion annually in new transportation revenues. SB 1 adjusts for inflation every year so that the revenues' purchasing power does not diminish as it has in the past. SB 1 prioritizes funding towards maintenance and rehabilitation and safety improvements on state highways, local streets and roads, and bridges and to improve the state's trade corridors, transit, and active transportation facilities.

California's transportation funding structure has experienced a significant shift over the years, with operational and maintenance costs increasing much more rapidly than gas taxes' relatively flat revenue growth. With increased auto fuel economy, revenue per mile traveled reduced. Higher construction costs and design standards, environmental mitigation and increased repair and rehabilitation requirements on aging freeways reduced state transportation investments to essentially a maintenance program.

Fresno COG will continue to work closely with federal, state and local governmental entities towards a strategy to address the unfinanced needs of Fresno County, both in maintenance and new construction.

4.4 Urban Mass Transportation

Overview

Mass transportation is an economical mode of moving large numbers of people to designated places by bus or train. Mass transportation in Fresno County consists of both public transit and Amtrak rail passenger service.

Public transportation may be operated by either the public, private or non-profit sector of the economy. Service may be provided in either a conventional manner, such as, fixed-route, scheduled service, or as a "demand responsive" service. Public transportation may take the form of shared ride taxis, car and vanpools, subscription bus services, transportation network companies and specialized accessible service for disabled persons.

Funding constraints have made efforts to maintain reliable and accessible transit service commensurate with reasonable needs difficult. Measure C's 2006 reauthorization established a stable funding source for Fresno Area Express; however, actual revenues have been significantly lower than expected. During the recession years, Measure C revenues dipped below $6 million per year. This was significantly less than the estimated $11 million per year. It is anticipated that in fiscal year 2017 Measure C accounted for just less than $10 million in revenue. This is still under the projected revenues, but has allowed FAX to recover lost service and implement service improvements. FAX will use the 2006 Measure C Extension Expenditure Plan, as well as customer satisfaction surveys and route analysis, to determine future service levels. Attention will continue to focus on transportation disadvantaged populations, including low-income, elderly and disabled persons; however, effort must also be directed towards other mass transportation challenges including improving air quality, reducing congestion and expanding service for an ever-increasing population. If public transportation is to play an effective role in addressing these issues, transportation policy must place a greater emphasis on providing attractive alternatives to the private automobile.

Legislative mandates, including the Americans with Disabilities Act (ADA) of 1990, the federal Clean Air Act Amendments (CAAA) of 1990, the California Clean Air Act and the California Air Resource Board's (CARB) Transit Fleet Rule have had a profound impact on public transit. The ADA brought about many changes for transit operators, including requirements to provide accessible buses, trains and facilities for the disabled. The ADA mandated comparable paratransit service by fixed-route operators and assurances that transit facilities will be constructed using accessible features.

The 1990 Federal Clean Air Act Amendments significantly strengthened transportation and air quality regulations.

The Act requires substantial emission reductions from the transportation sector and establishes conformity requirements to ensure that reductions are achieved. From a transportation perspective, the California Clean Air Act requires air pollution control districts to adopt and implement regulations to reduce emissions from indirect and area-wide sources and to encourage ridesharing, vanpooling, flexible work hours and increased multi-passenger trips through mass transit or other measures to reduce vehicle use.

As a result of these legislative mandates, both public and social service transportation systems have modified fleet replacement programs to include clean-fuel and alternative-fuel vehicles. The cleaner vehicles are more expensive to purchase and maintain. Operators have also made significant service changes to comply with legislated requirements, including service designed to meet ADA mandates. The ADA has required significant capital and operating outlays to meet compliance for accessible transportation services.

The Personal Responsibility Work Opportunity Resource Act of 1996 and California's CalWorks Program have illuminated public transportation's role in providing an important and necessary link to job training and development. Transit operators continue to work with the Fresno County Department of Employment and Temporary Assistance to assess transit services for CalWorks recipients.

Social service transportation in Fresno County is being guided in a direction consistent with the Social Service Transportation Improvement Act of 1979 (AB 120), designed to improve social service agencies' transportation service through coordination and consolidation. Fresno COG designated three Consolidated Transportation Service Agencies (CTSAs) within Fresno County. They include: the Clovis CTSA, the Fresno Metropolitan CTSA and the Fresno County Rural CTSA. The CTSAs are responsible for consolidating their existing services to achieve cost savings. Notwithstanding the social service agency consolidation efforts, the CTSAs are also to coordinate their services, to the maximum extent possible, with existing public and private transportation providers.

The Regional Transportation Plan's Mass Transportation section reviews existing and planned transit services and determine those improvements that will provide the greatest benefit while maintaining system efficiency. This section will focus on the following topics:

- Existing System
- Needs Assessment
- Unfunded Needs
- Accomplishments
- Proposed Actions

Where appropriate, the discussion will distinguish among services provided by Fresno-Clovis Metropolitan Area Public Transportation, Fresno County Rural Area Public Transportation and Social Service Transportation.

Existing System

Fresno-Clovis Metropolitan Area (FCMA)

Fresno Area Express (FAX), a department of the City of Fresno, is the major public transportation provider in Fresno County. FAX provides two types of public transportation service: the fixed-route service for general public riders and Handy Ride, a demand-responsive service designed for individuals who, because of an impairment or disability, are unable to use the regular fixed-route bus service. The fixed-route network follows a modified grid pattern with intersecting north-south and east-west bus lines. The Handy Ride demand-responsive system provides complementary paratransit service as required by the Americans with Disabilities Act (ADA) of 1990 to paratransit certified disabled persons.

The City of Clovis also provides public transportation in the FCMA. Clovis operates two types of service: Clovis Stageline, a general public fixed-route service, and Round-Up, a demand-responsive paratransit service. Stageline operates on two routes -- each on 30-minute headways -- and two express routes that operate on school days only. The routes are scheduled to coordinate with FAX service whenever feasible to simplify transfers between Stageline and FAX routes.

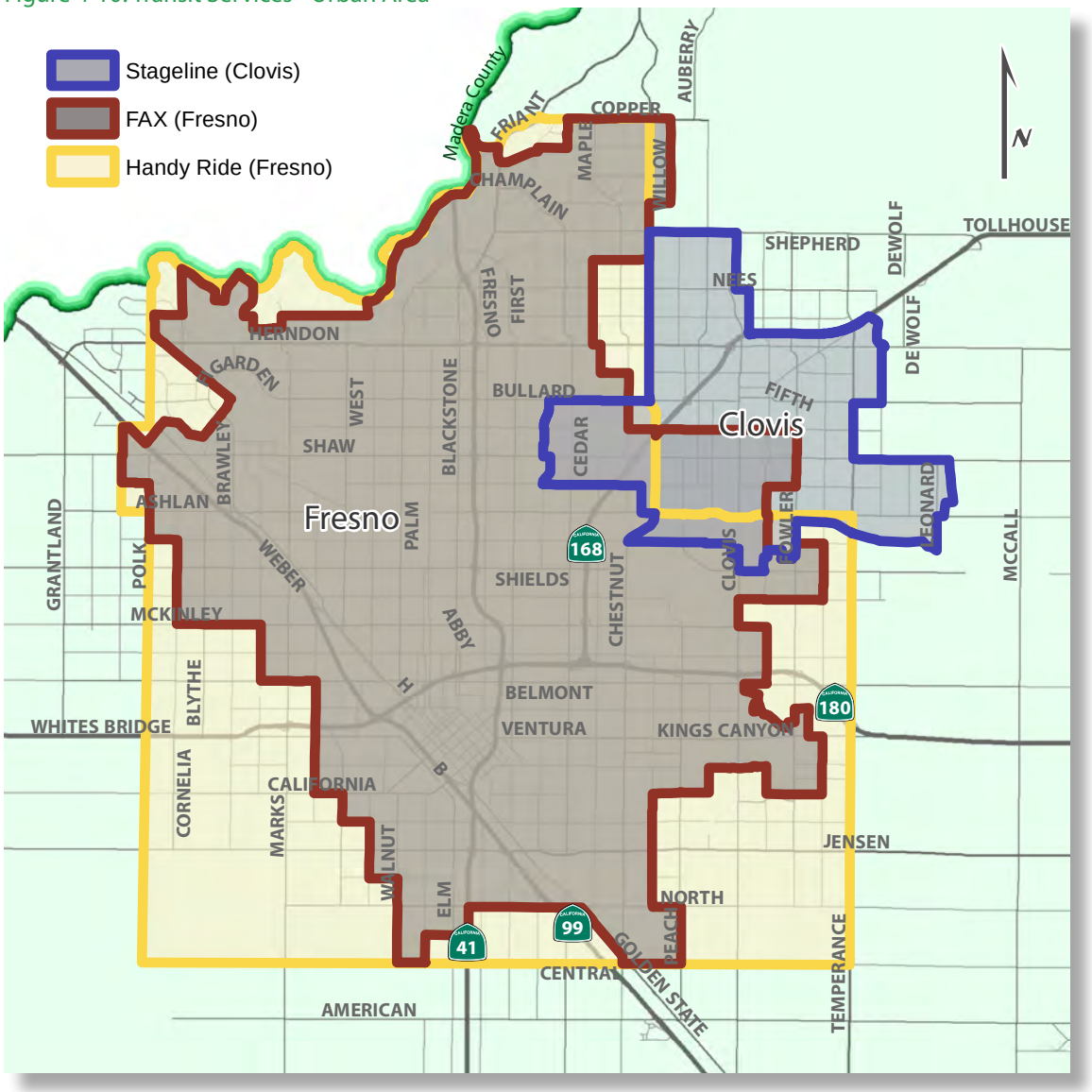
Clovis Round-Up provides demand-responsive transportation service for the elderly and disabled within the city's sphere of influence. The City of Clovis and the County of Fresno also contribute funds to FAX through formal contracts to provide fixed-route and paratransit services to and within Clovis and to unincorporated County areas within the FAX service area. Clovis provides fixed-route services on weekdays and demand-responsive service Monday through Friday in Clovis and Fresno, and seven days a week within Clovis using wheelchair lift-equipped vehicles. The City of Clovis designated its Round-Up services as a 100% CTSA function. Measure C local funding dollars augment fare revenue to provide the necessary match for Transportation Development Act Article 4.5 funding. Service areas for FAX and Clovis are shown on Figure 4-10.

Inter-city Ground Transportation

Amtrak San Joaquins

Amtrak operates the San Joaquins rail service, with financial support from Caltrans, which offers seven round-trip trains daily, linking Fresno with Hanford, Corcoran and Bakersfield to the south, and Madera, Merced, Riverbank, Stockton, Antioch, Martinez, Richmond, Berkeley and Emeryville to the north. Two of the seven trains continue on to Sacramento.

Figure 4-10: Transit Services - Urban Area



Amtrak augments the San Joaquins rail service with an extensive system of thruway buses that offer guaranteed connections at train side. At Bakersfield, eight buses fan out to cover 40 destinations all over Southern California and Nevada, including Las Vegas, Palm Springs, San Diego, Orange County, Los Angeles, Ventura and Santa Barbara. At Stockton, Thruway Buses connect to 30 destinations, including South Lake Tahoe, Reno, Sacramento, Davis, Chico and Redding.

Greyhound

Greyhound provides frequent daily service from Fresno to a variety of points within California. Destinations served north of Fresno include Hayward, Sacramento, San Francisco, San Jose and Stockton. Destinations south of Fresno include Visalia, Bakersfield and Los Angeles. Connecting service is available to San Diego (via Los Angeles) and Yosemite National Park (via Merced).

Transportes Intercalifornias

Transportes Intercalifornias provides three daily trips from Fresno to Los Angeles, with connecting services onward to Santa Ana, San Ysidro and Tijuana. There are also two daily trips to San Jose with service to the west side of Fresno County and two daily trips to Stockton, with service to the northern Central Valley.

YARTS (Yosemite Area Regional Transportation System)

YARTS is public transit in the Yosemite region, with buses entering Yosemite from Merced, Mammoth Lakes, Sonora, and Fresno. Merced County Association of Governments manages YARTS. For more information on YARTS, see Section 4.2 Multimodal/Recreational Travel.

Accomplishments

Fresno Area Express (FAX)

DDuring the past decade, FAX has experienced an approximately 31% ridership decrease. The ridership decline followed a record year of passenger trips in 2009. In an effort to revive ridership, FAX commissioned the Strategic Services Evaluation to explore ways to improve service without significant cost increases. In 2015, FAX was presented with a restructuring plan that focused service on a high frequency network. FAX implemented increased frequencies on routes 9, 30 and 38. These routes represent some of the busiest corridors in the system and serve high-ridership generators such as the university, a community college and major shopping destinations.

Some of FAX's major accomplishments during the past two years have occurred in conjunction with efforts to improve service coordination and address air quality, accessible service objectives and pursue Intelligent Transportation Systems technology for public transportation. Three new service levels have been rolled out as well. These accomplishments include:

- FAX Q: FAX's bus rapid transit (BRT) service along Blackstone Avenue and Kings Canyon Boulevard. This is a $54 million project that encompasses 51 stations: 48 one-way stations, two terminal stations, and one transit center with a shared platform station. Also included are 17 low-floors, multi-door, compressed natural gas, low-emission, 40-foot BRT vehicles.
- FAX 15: New buses and service every 15 minutes along the most traveled sections of Shaw and Cedar Avenues. Service provided in 15 minute intervals from 6 a.m. to 6 p.m. weekdays. Headways were every 20-30 minutes.

- New night and weekend service on existing FAX routes.
- Several capital improvements, including new bus shelters, a new facelift, and new fare media at the FAX terminal at Manchester Mall
- The latest FAX Strategic Service Evaluation.
- The FAX Short-Range Transit Plan and an update to FAX Title VI requirements.
- Completed intelligent transportation system (ITS) software and hardware projects, updates and upgrades to improve the FAX transit system. Specific projects include:
- An upgrade to the computer-aided dispatch and automated vehicle location (CAD/AVL) system to add new customer service and safety improvements.
- Analytics software to track driver and system performance.
- 'Off-board' ticket vending machines for Bus Rapid Transit (BRT)
- Enabled real-time bus location data for transit users, including Google Transit.
- A Web-based driver communication tool.
- An integrated fare collection system with Clovis Transit that provides users with a seamless ticketing experience between systems.
- Wifi to all transit vehicles in the FAX fleet.
- Added 26 new buses to the FAX transit network for more than 100 buses, all of which have been transitioned to 100% clean energy.
- Added 27 new paratransit and 18 support vehicles to the FAX transit network.

Clovis Transit

- Over the past two years, Clovis Transit has accomplished many of its goals, including:
- Purchased two, new 32-foot buses for fixed-route service, to better accommodate more passengers using mobility devices
- Transitioned its paratransit call-taking and dispatch operations to a software scheduling system. Drivers communicate with dispatchers via tablet for better efficiency communication about passenger locations
- Replaced an aging on-board camera system to improve security
- Installed additional bus stop amenities, including benches and shelters with solar lighting

Urban Transit - Safety and Security

FAX customers value safety and security when using the transit system; FAX addresses these concerns:

- Transit Security Plan: FAX uses City of Fresno police officers to deliver systemwide protection. Customers see uniformed patrol officers on buses and at transit facilities. Passengers report feeling safer and public property has been protected from vandalism and graffiti. Since introducing the police presence, crime has reduced. When BRT is introduced in 2018, FAX will increase the number of officers to 18.
- Video Surveillance System: In an effort to prevent graffiti and vandalism on buses, and to increase passenger and driver safety, FAX installed an on-board video surveillance system. Video surveillance cameras serve as a deterrent to vandalism and other crimes.
- City of Fresno Emergency Operations Plan: The Department of Transportation/Fresno Area Express (FAX) is included in the City's Emergency Response Plan. This plan addresses responses to extraordinary emergency situations such as natural disasters, technological incidents and national security emergencies in or affecting the City of Fresno

Needs Assessment

Urban Transit Needs Process

Each year the Fresno COG holds "Unmet Transit Needs" hearings consistent with Section 99401.5 of the Transportation Development Act. The Act clarifies that the Regional Transportation Planning Agency (Fresno COG in the Fresno County Region) must issue a finding, after a public hearing, that there are no unmet public transportation needs within a jurisdiction that can be reasonably met before it may approve LTF claims for streets and roads.

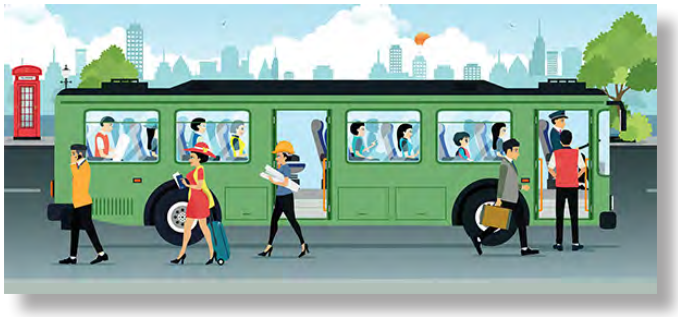
The Fresno COG Policy Board adopted the following definition of Unmet Transit Needs in 1984:

> "Those public transportation or specialized transportation services that are identified in the Regional Transportation Plan and that have not been implemented or funded."

The definition also sets forth the criteria by which "reasonable to meet" is determined. This definition does not prohibit new proposals but requires that, prior to implementation, the proposal be incorporated within the RTP, by amendment, if necessary.

Prior to issuing a finding, Fresno COG prepares an annual assessment and analysis of the existing and proposed transportation system. This report is the foundation for the public hearing process each year.

Fresno COG established its Social Services Transportation Advisory Council (SSTAC) in 1988 to comply with 1987 legislation (SB 498). Primarily comprising members



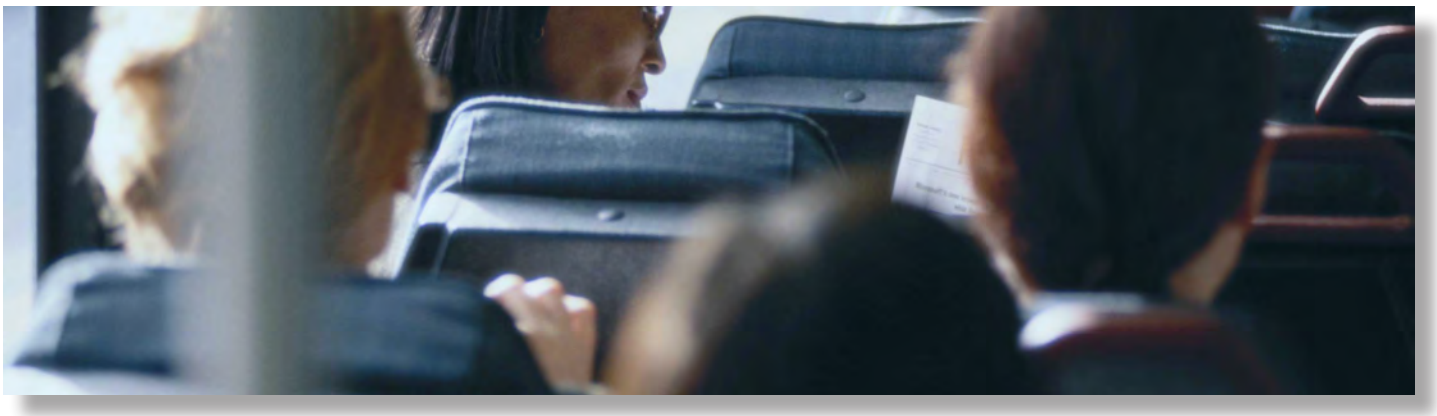
representing the elderly, disabled and the economically disadvantaged, the SSTAC's purpose is to:

- Annually help identify transit needs
- Review and recommend appropriate action for a jurisdiction that finds a) there are no unmet transit needs, b) there are no unmet transit needs that are reasonable to meet, or c) there are unmet transit needs that are reasonable to meet.
- Advise Fresno COG on any other major transit issues, including coordinating and consolidating specialized transportation services.

Within Fresno County, there are no adopted findings of unmet transit needs that are reasonable to meet.

Public Transit-Human Services Transportation Coordination Planning

As the designated MPO, Fresno COG producing a Coordinated Human-Services Transportation Plan (CHSTP) that provides a strategy for meeting local needs. It prioritizes transportation services with an emphasis on individuals with disabilities, older adults and people with low incomes. The Fresno County CHSTP was updated in 2015.



Proposed Actions

Short-Range Transit Plan

Fresno Area Express (FAX)

Fresno COG adopted its most recent Short-Range Transit Plan (SRTP) for the Fresno-Clovis Metropolitan Area on June 29, 2017. The Plan represents a short-range evaluation of transit needs and proposes specific recommendations for implementing the RTP's long-range objectives. The Plan guides transit service provision in the FCMA over a five-year period, and sets forth an action plan commensurate with reasonable needs and available funding.

FAX Maintenance Facility

FAX has addressed system productivity by instituting an ongoing program of service evaluation to identify inefficiencies and respond with corrective measures.

FAX measures individual route performance as its primary assessment method. When appropriate, FAX takes corrective action to modify route alignments or change the service schedule. FAX employs several service evaluation methods, including peer review analysis, system minimum/maximum standards assessment and passenger surveys.

Peer Review Analysis uses standard service measurement criteria to compare one agency's system performance against another. This kind of analysis is most valuable when standard, well controlled data sets are available and when the systems being evaluated have similar operating environments.

The System Minimum/Maximum Standards Assessment uses standards that are established both through legislation and local effort. Federal and State regulations require public transit operators to provide and maintain service in some very specific ways. The Federal Transit Administration has regulations governing "Charter Service." Also, Title VI of the Civil Rights Act of 1964 states the following:

> *"No person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."*

FAX provides a Title VI Evaluation Report every three years that includes two sections. General reporting requirements include information about active lawsuits and complaints, a description of any pending applications for Federal financial assistance, a summary of civil rights compliance review activities, FTA civil rights assurances and a fixed facility impact analysis.

The second section, program-specific requirements, contains information regarding the Title VI internal review process for service delivery, the internal monitoring process, the service standard policies and a description of service changes specific to the Fresno Area Express fixed-route transit system and its impacts on the minority population. The Title VI assessment is designed to ensure that FAX provides its services equally among various population groups. Specifically, census tracts designated as "Minority Census Tracts" must be evaluated and compared to Non-Minority Census Tracts to determine whether any discriminatory practices are evident.

The State's Transportation Development Act (TDA) regulations require FAX to maintain a minimum 20% farebox recovery ratio. The TDA also places restrictions on State Transit Assistance (STA) funds. Regulations require transit agencies to keep cost increases under the State Consumer Price Index (CPI). If cost increases exceed the State CPI, transit agencies are not allowed to use STA funds for operating expenses. Finally, local and regional

concerns are used to develop minimum productivity standards. For FAX, Fresno COG develops these standards through a coordinated, comprehensive, continuous process. The Fresno-Clovis Metropolitan Area (FCMA) RTP and SRTP sets guidelines for service evaluation. Additionally, Fresno COG prepares the Annual Transit Productivity Evaluation. This document assesses all public transit operators in Fresno County and reviews the most recent Triennial Audit recommendations.

In 1981, a transit corridor analysis that evaluated service efficiency and effectiveness on a route-by-route basis recommended service measures that were developed to assist in evaluating individual route performance in relation to the system wide performance. Those minimum performance measures continue to be the basis of local service evaluation. At a minimum, an individual route should exceed 60% of the systemwide average for a number of key passenger productivity indicators. The 60% figure is an overall industry standard that assumes a transit system may tolerate some low performing routes if they provide an important component of the system, and especially if the component helps meet the needs of the transit-dependent riders. Cost performance measures should not exceed 140% of the total system average, with 140% representing the system maximum.

Passenger surveys allow public transit operators to include human aspects of service in the evaluation mix. Opinions regarding overall satisfaction, friendliness and services provided are most appropriately collected through customer surveys. Additionally, customer surveys provide an effective way to measure customer expectations and needs, and provide valuable information for quality decision making.

FAX collects surveys at outreach events and through a biennial customer survey. The survey is more detailed and takes place onboard buses and at stop locations. These surveys are used to collect passenger demographics, origin/destination information and travel habits.

Clovis Transit

Clovis Transit has also been affected by limited funding, which necessitated changes to improve efficiency. Route changes will be implemented based on demand, reducing transfers and eliminating unproductive routes or portions of routes. Peak-hour service will continue to be emphasized.

Clovis Transit will continue to monitor existing services for productivity and internal efficiencies including coordinating services among transit systems. Ongoing coordination and consolidation of all Clovis transportation service for social service agencies will continue to be the focus of Clovis' specialized services.

Long-Range Improvement Plan

Fresno, like other Central California cities, is expected to continue experiencing growth and development over the next 20 years. This growth will bring both opportunities (new jobs, new housing and increased prosperity) and challenges (increased traffic congestion, air pollution and general over-crowding).

With Fresno County's population expected to grow from

945,750,000 people to 1.3 million people by 2042, growth management, transit and land development policies are timely for Fresno to consider proactive planning that may stem the tide of Fresno County's past trends.

Increased congestion impacts not just cars but buses as well. Congestion increases the time it takes for a bus to make a round trip, which, in turn, increases the number of buses needed just to maintain service levels. This in turn can increase annual operating costs by several hundred thousand dollars. In the near future, as much as 25% of a bus's total round-trip time could be spent waiting at red lights or creeping along in stop-and-go traffic.

With limited resources, shifting FAX's service objectives could result in difficult trade-offs. A system that is designed to be competitive with the automobile is not always appropriate for social service needs. FAX identifies two short-term scenarios as well as long-term strategies that build upon these scenarios.

Short-term scenario A focuses all resources toward maximizing systemwide ridership. This scenario reduces service in areas that generate low ridership, while increasing the frequency of service to every 15 minutes all day in areas of high ridership. The service assumes a 25% increase in resources and suggests that ridership growth in the range of 35-50% is conceivable.

Short-term scenario B retains coverage to all areas now served, and even expands the coverage area to include most developed parts of the city. Relatively few improvements are made to increase productivity, although some frequencies are improved. This scenario is likely to increase the growth rate in ridership slightly, but at a rate below that of scenario A. To date, this has been the scenario of choice for FAX and other Fresno County service providers.

For long-term growth, the service plan recommends either of the short-term scenarios and then to grow service only as funding resources permit. The approach assumes that the region's projected 30% travel growth will occur overwhelmingly as single-occupant auto trips.

The Public Transportation Infrastructure Study (PTIS) began as an effort to identify strategies for transportation investments and land use policies that would result in measurable reductions in vehicle miles traveled (VMT) and improve mobility choices for Fresno County residents. The following recommendations were developed through the PTIS for the Fresno Clovis Metropolitan Area (FCMA):

- Apply for funding for a second bus rapid transit corridor along Shaw Avenue from Highway 99 to Clovis within 5-6 years serving CSU Fresno. The Shaw alignment's eastern end could be either north on Highway 168 to a future high density employment center or continue into downtown Clovis on Shaw Avenue if sufficient base zoning has employed to support high-capacity investment.
- Another priority for high-capacity transit investments was identified for Cedar Avenue from Shepherd Avenue to near Butler Avenue (and serving the CSU

Fresno campus). The timeframe for this investment has not been identified, but would depend on a transit travel demand assessment of local buses serving that route.

- The City of Fresno General Plan identified California Avenue has a potential high-frequency corridor. This route could connect the veteran's home in the west with downtown Fresno.
- Restore 15-minute service frequency on high demand routes No. 34 (First Street) and No. 38 (Cedar Avenue). Increase frequency on route No. 32 (Fresno Street) to 15 minutes.
- Provide late-night "Owl Service" on additional routes, extending service hours until midnight.

As the High-Speed Rail project becomes operational and policy decisions are implemented to support higher-density development, housing and mixed-use projects in downtown, the following transit investments could be considered:

- Provide a direct link between the planned BRT system and the planned High-Speed Rail (HSR) system to serve as a transit connection to destinations beyond downtown and minimize the HSR station's parking footprint.
- Consider building and operating a streetcar in downtown Fresno, serving Chinatown, the future HSR station and the regional medical center along Fresno Street, and terminating at San Joaquin Memorial High School.
- Pursue funding for streetcar project expansion that would operate along Fulton or Van Ness to connect the downtown convention center, the Fulton Mall and continue up to the Tower District, terminating at Fresno City College.
- Pursue federal funding assistance to convert BRT lines to LRT, particularly along Blackstone Avenue and Ventura Avenue/Kings Canyon Road.

The PTIS and several other regional studies of concern to public transit have been completed since the last RTP update. Additional planning studies completed since the last RTP update cycle include the Fresno-Clovis Metropolitan Area (FCMA) Public Transportation Strategic Service Evaluation, as well as the City of Fresno's Fresno County Public Transportation GAP Analysis and Service Coordination Plan.

FCMA's Strategic Service Evaluation aims to examine

metro travel patterns through extensive origin and destination studies; transit ride check and transfer studies and; public and stakeholder input, with a goal of reducing transit travel times and improving linkages to major trip generators. Improving transit travel time and responsiveness to community needs is critically necessary to making transit a viable alternative in contemporary urban environments.

In addition, the FCMA, along with the rest of the San Joaquin Valley, continues to suffer the Great Recession's economic impacts. Identifying the most effective and efficient service design and operating strategies is critical for the region's ability to sustain long-term public transit services.

The Fresno County Human Service Coordinated Transportation Plan identifies, in broad strokes, general transportation needs and gaps. Although general transportation improvement opportunities are identified, there is insufficient data to develop meaningful transportation solutions. Fresno COG conducted a countywide survey of transportation needs that focused on low-income, minority and transportation disadvantaged populations. According to the Fresno County Human Services Coordinated Transportation Plan, Fresno County has a higher percentage of disabled and low-income residents than the statewide average.

Due to lower real estate prices and lower cost of living, many retirees relocate to Fresno County from major metropolitan centers. As this population ages, it is expected there will be increased demand for specialized services for senior citizens.

Connected: The Fresno County Sustainable Communities Public Transit Plan (Fresno County Regional Long Range-Transit Plan)

Fresno COG is developing the area's first Regional Long-Range Transit Plan, intended to guide transit and multimodal investments serving the Fresno County region through 2050. The plan will detail how to continually provide and preserve a sustainable, safe, innovative, integrated and efficient transit system to improve the region's economy and livability for all, in line with the State's Transportation Planning Goals to Improve Multimodal Mobility and Accessibility for All People, Preserve the Multimodal Transportation System, and Foster Livable and Healthy Communities and Promote Social Equity; and Federal transportation goals related to accessibility, safety, mobility and integration. Fresno COG will accomplish this focus through direct public outreach and partnership, bringing together Fresno County, the 15 incorporated cities, representatives from the unincorporated communities/rural areas, the major transit providers, transit riders, bicycle and pedestrian advocates/users and additional stakeholders and the general public. Together, they will develop "Connected: The Fresno County Sustainable Communities Public Transit Plan" to help achieve the California Air Resources Board's (ARB) GHG reduction targets and help update the 2022 and further future Fresno Country Sustainable Communities Strategy (SCS).

The statewide model CalEnviroScreen 3.0 identifies 13 of the 15 incorporated cities, as well as the predominant area of unincorporated Fresno County, as disadvantaged communities. In total, 67.6% of Fresno County's population -- 628,720 residents -- fall within this classification. Such economic challenges often limit families' and individuals' transportation options to walking, bicycling and public transit resulting in high demand for such options to be readily available, affordable and efficiently operated. The Plan will also improve public health and air quality by providing better services to the more than 15 million annual transit riders throughout the region, 79% of whom are completely transit dependent – more than double the national average – and living within the fifth most polluted airshed in the United States, as ARB has documented. The Plan will also incorporate linkages with bicycle and pedestrian plans throughout the region, including products and services such as the Bicycle Guide for District 6 and individual bike/ped plans, ensuring an integrated, connected and resilient multimodal system that supports the region's economy, human and environmental health and social equity, as well as the California Transportation Plan 2040 Vision.

Additional Discussion

Fare, Schedule Coordination

Management and staff from FAX, Clovis Transit, Fresno County Rural Transit Agency, and Fresno County Economic Opportunities Commission meet regularly to discuss ongoing planning projects and reports, service issues, and connectivity among systems. Coordinating fares and schedules is an ongoing topic. FAX includes Clovis Roundup schedules with the FAX Schedule Guide, and the agencies both use a single, 31-day pass that is valid on all fixed-route buses. Information for both systems is available by phone at 559-621-RIDE.

In addition, Fresno COG continues to publish the Fresno County Transportation Guide, a bilingual (English/Spanish), user-friendly pamphlet that provides basic information such as maps and fares. The Guide also includes contact information on regional, intercity, and local transportation providers; information on transportation services to many popular destinations; and clear direction on how to plan trips and make connections within and between systems and modes. Fresno COG continues to revise the document each time it is published.

Along with schedule coordination, the local transit providers also collaborate on fare collection. FAX introduced a new Automated Fare Collection System in 2014. In 2017, Clovis Transit installed comparable equipment that allows for shared media to be electronically accepted. This includes the 31-Day Pass, transfers and ride cards. As the two transit agencies that provide service to the Fresno Clovis Metropolitan Area (FCMA) FAX and Clovis Transit continue to achieve the benefits of a regional transit agency without a new political structure.

Public/Private Sector Coordination

FAX continues to contract for multiple services that can be provided more reliably and economically by the private sector. The maintenance department contracts for major overhauls and vehicle painting. FAX also contracts with private firms for special studies, surveys, marketing projects, technical training and administrative equipment servicing. Planning and related services are now contracted with the Fresno Council of Governments. Many administrative support services such as legal, personnel, communications, finance, data processing and purchasing are performed by other city departments.

Intercity Rail

Amtrak provides intercity passenger rail service for seven round trips daily. Freight is carried along both the Burlington Northern Santa Fe and the Union Pacific railroads, as well as several short-haul rail carriers.

Passenger Rail Project Priorities

Passenger rail priorities facing Fresno include:

- Preserving abandoned railroad right-of-way and track
- The California High-Speed Rail Project
- Assessment of future light rail potential

A more detailed discussion of rail issues can be found in Section 4.8 under Rail.

Unfunded Needs

Maintaining Service Consistent with Growth

Maintaining Service Consistent with Growth

Demand for additional public transportation service remains consistent with the rapid population growth occurring in the Fresno-Clovis Metropolitan Area. FAX service has struggled to keep up with that growth and service area over the last decade. This is illustrated in some detail in Table 4-1. Between 1997 and 2016, the City of Fresno's population grew by 27.1%. The geographic area within the city's boundaries grew by 12.5% during that same period. FAX service miles increased by 27.4%,

Table 4-1: Fresno Area Express (FAX) Performance History (1997-2016)

Year	Total Passengers	% Change	Total Service Miles	% Change	Square Miles	% Change	City Population	% Change
1997	9,545,574	3.5%	3,050,894	0.1%	102.1	0.0%	410,900	1.1%
1998	10,399,087	8.9%	3,061,294	0.3%	102.4	0.3%	414,700	0.9%
1999 (1)	11,021,716	6.0%	3,281,329	7.2%	102.9	0.4%	419,800	1.2%
2000	12,419,412	12.7%	3,966,338	20.9%	104.6	1.6%	426,900	1.7%
2001 (2)	13,178,495	6.1%	4,277,175	7.8%	104.9	0.3%	434,948	1.9%
2002	11,905,195	-9.7%	4,289,968	0.3%	105.1	0.2%	442,279	1.7%
2003	11,213,049	-5.8%	4,026,408	-6.1%	106.0	0.9%	448,453	1.4%
2004	10,854,859	-3.2%	3,957,463	-1.7%	106.7	0.6%	458,170	2.2%
2005	11,241,838	3.6%	4,101,325	3.6%	107.4	0.6%	464,784	1.4%
2006	11,808,724	5.0%	4,229,020	3.1%	108.8	1.4%	471,479	1.4%
2007 (3)	15,542,564	31.6%	4,335,012	2.5%	110.7	1.7%	470,817	-0.1%
2008	16,925,826	8.9%	4,661,278	7.5%	111.3	0.5%	477,499	1.4%
2009	18,049,827	6.6%	4,690,193	0.6%	112.2	0.8%	487,353	2.1%
2010	17,589,425	-2.6%	4,586,748	-2.2%	112.4	0.1%	494,054	1.4%
2011 (4)	15,778,132	-10.3%	3,893,426	-15.1%	112.5	0.1%	497,561	0.7%
2012	14,304,222	-9.3%	3,881,078	-0.3%	112.5	0.0%	505,009	7.1%
2013	12,442,248	-13.0%	3,861,958	-0.5%	113.2	0.6%	508,971	8.1%
2014	12,059,050	-3.1%	3,867,515	0.1%	113.8	0.5%	514,376	7.7%
2015	11,364,431	-5.8%	3,869,787	0.1%	114.4	0.5%	518,503	6.4%
2016	10,672,577	-6.1%	3,887,681	0.5%	114.9	0.4%	522,053	5.7%
Total % Change		**11.8%**		**27.4%**		**12.5%**		**27.1%**

Notes: (1) FAX beegan operating night service until 10:00 PM on weekdays (September 1999); (2) Base cash fare increased to $1.00 per trip in 2001; (3) Began using FTA approved stratified sampling plan to determine ridership; (4) Base cash fare increased to $1.25 per trip in 2011

primarily due to new 15-minute frequencies on four of FAX's busiest routes and total passengers increased by 11.8%.

Funding limitations have restricted FAX's ability to provide many important services. The Short-Range Transit Plan for the Fresno-Clovis Metropolitan Area identifies these services as: a third shift on weekdays to provide night service; a second and third shift on weekends to provide later weekend service; additional service west of highway 99; new transit centers at key locations; and regular service to high-growth areas within the City limits. These services are vital to transit-dependent populations seeking jobs, education, recreation and other essential services.

Americans with Disabilities Act (ADA) Compliance

FAX continues to refine its Handy Ride service to maintain compliance with both the letter and the spirit of the ADA. Service hours over the last three years have increased by 2.9%, primarily from an increase in "no shows." Staff continues to work with the clients to better understand the process and to reduce unproductive service. Service miles have increased proportionate to the hours over this same three-year period. FAX and the City of Clovis continue to arrange trip transfers for clients wishing to travel into Clovis.

Paratransit service requires constant service evaluation and FAX is working closely with the service provider and the City of Fresno Disability Advisory Council (DAC) to improve paratransit service.

Air Quality and Transit

As a non-attainment area for federal air quality standards, ways to increase transit's market share will continue to be a major focus of transit planning; however, transit's inabilities to expand service into new areas, provide service during non-traditional work hours and improve frequency and convenience, prevent transit from increasing market share. This makes transit's real impact on congestion and vehicle miles traveled (VMT) nominal.

Stable Funding Source

Measure C has provided jurisdictions with additional local funds; however, until recently, actual revenues had been significantly lower than expected. Prior to the Great Recession, Measure C was expected to provide an estimated $11 million per year. During the recession actual revenues for Fresno Area Express, the major public transit provider, dropped to less than $6 million per year. As the economy rebounded, so did Measure C tax revenue. In fiscal year 2017 Measure C accounted for just under $10 million dollars in revenue for Fresno Area Express.

4.5 Fresno County Rural Area Public & Social Service Transportation

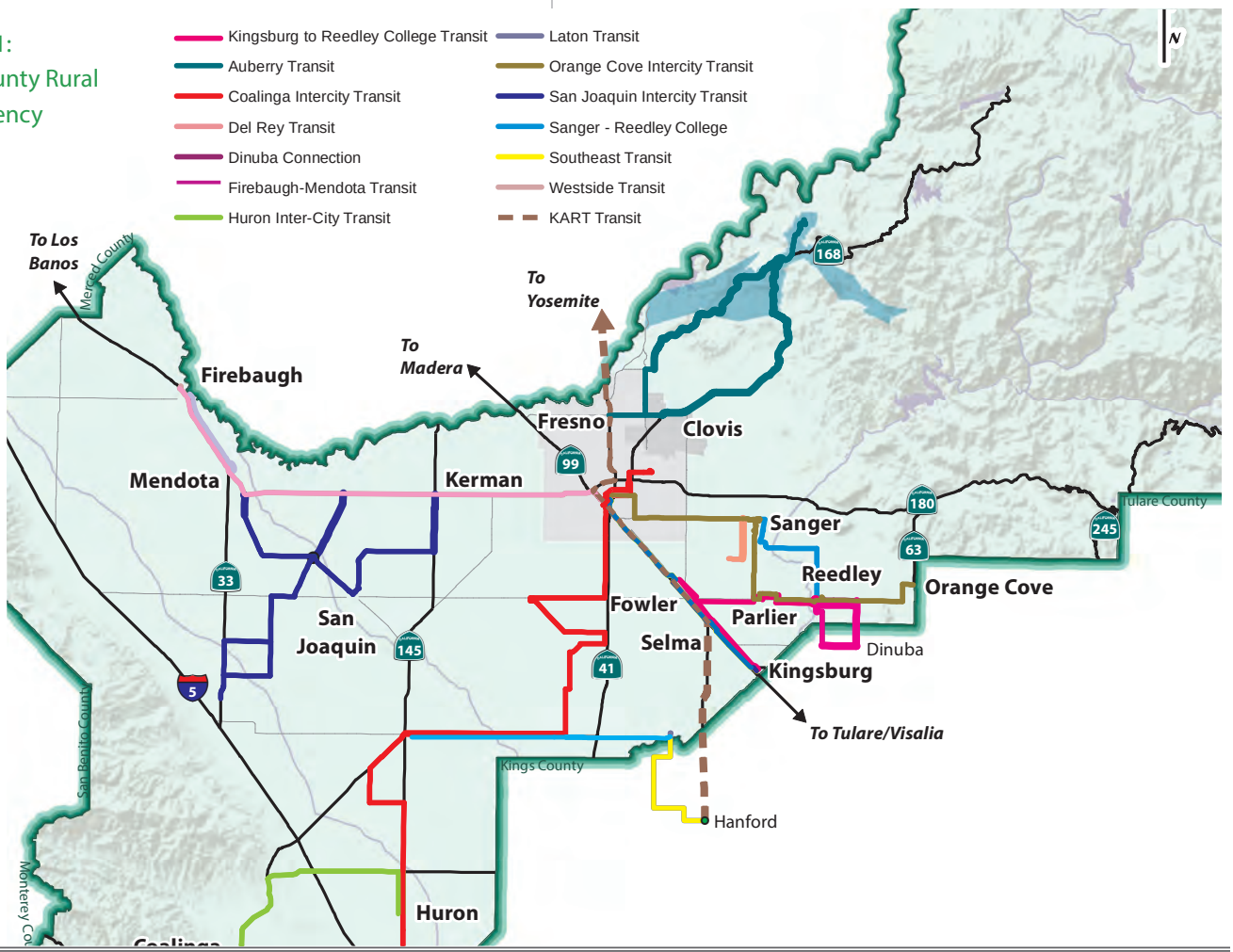
Existing Systems

Fresno County's rural communities are served by a combination of providers: common carriers, general public and social service.

Rural Intercity Ground Transportation

The rural transportation network leverages the limited services provided by regional common carriers. They include Greyhound, Orange Belt Stage Lines, and Transportes Intercalifornias. Their services generally rely on portions of state highways and provide very limited service to a few of the County's incorporated cities. Their routes are shown on Figure 4-11.

Figure 4-11: Fresno County Rural Transit Agency Services



Rural General Public Transportation

Fresno County Rural Transit Agency (FCRTA) operates as the primary provider for rural general public transportation. The Joint Powers Agency was formed in 1979 to address the rural incorporated cities' transit needs including: Coalinga, Firebaugh, Fowler, Huron, Kerman, Kingsburg, Mendota, Orange Cove, Parlier, Reedley, Sanger, San Joaquin, Selma and Fresno County. FCRTA provides fixed-route services that link communities with each other and the Fresno-Clovis Metropolitan Area. The services specifically address elderly, disabled and general public patrons' needs. All vehicles continue to be accessible to frail elderly and disabled passengers in compliance with the Americans with Disabilities Act.

Rural public transportation services are provided along four basic corridors to the FCMA as follows:

- Coalinga – Huron – Five Points – Lanare – Riverdale – Caruthers – Raisin City – Easton Corridor
- Firebaugh – Mendota – San Joaquin - Kerman Corridor
- Kingsburg – Selma – Fowler Corridor
- Orange Cove – Reedley – Parlier – Sanger Corridor

Additional intercity corridors also provide linkages among rural incorporated cities:

- Huron – Interchange developments at State Highways I-5 and 198, Harris Ranch, West Hills College, and Coalinga.
- Sanger -- Reedley Corridor
- Kingsburg – Selma -- Fowler – Parlier – Reedley Corridor

Appendix J displays a summary table of the FCRTA's services in the rural system.

Rural Social Service Transportation

The Fresno COG has co-designated FCRTA and the Fresno Economic Opportunities Commission (FEOC) as the Rural Consolidated Transportation Service Agency. FEOC is the lead agency responsible for overall program administration, including acting as liaison with social service agencies, data collection, development and implementation of the rural CTSA operations program and budget (OPB), executing service contracts and related administrative tasks. FCRTA administers the Transportation Development Act (TDA) Local Transportation Fund (LTF), provides technical assistance and evaluates FCEOC's performance.

The Social Transportation Improvement Act of 1979 encourages social service transportation coordination and consolidation. It enables up to 5% of the County's LTF monies to be set aside to improve social service transportation. The Rural CTSA receives a share of these funds on a population ratio basis between the urban and Clovis CTSAs. TDA/LTF Article 4.5 revenues, contract service revenues and fare box revenues fund CTSA operating costs. TDA funding must be matched with contract revenues and farebox revenues on a 45%, 45%, and 10% (45/45/10) basis.

The Rural CTSA process primarily involves four types of coordinated transportation services. These services are provided through: 1) Vehicle timesharing; 2) Ridesharing; 3) Consolidation; and 4) Maintenance.

Annually, the Rural CTSA prepares a comprehensive "Operations Program and Budget" that reflects its specific work program for the coming fiscal year.

Fresno County Coordinated Human Services Transportation Plan

As part of transit requirements established under the federal FAST Act, Fresno County was responsible for coordinating with public transit and human services providers and other stakeholders to produce a Coordinated Human Services Transportation Plan (CHSTP), last completed in 2008 that:

- Identifies resources currently in use for public transit; and
- Surveys users to determine current needs and future expectation of users; and
- Develops strategies to close gaps in perceived service levels.

The federal funds tied to the CHSTP are also the resources close the gaps the Plan identifies.

Accomplishments

FCRTA has modified its services and operations to address California legislation, realizing a number of operational objectives in recent years. Specific changes are documented in the "Short-Range Transit Plan for the Rural Fresno County Area, 2018-2022". They include the following:

FCRTA has modified its services and operations to address California legislation, realizing a number of operational objectives in recent years. Specific changes are documented in the "Short-Range Transit Plan for the Rural Fresno County Area, 2018-2022". They include the following:

Centralized Administration

Rural CTSA's centralized administration has allowed it to join with other agencies to provide a broader-based and more comprehensive view of service needs and objectives, resulting in more efficient expenditures. The Rural CTSA continues to serve as a technical advisor and clearinghouse for small, community-based organizations and other governmental member agencies. Staff time devoted to administration has been reduced and other cost savings have been affected through greater technical expertise in service planning and delivery.

Transit Systems Building Technology and Capacities

During FY 2013-14, FCRTA implemented several technology upgrades, including Mobilitat Dispatching Software, which allows FCRTA to dispatch trips quicker and more efficiently. FCRTA dispatchers are now able to monitor all transit trips system wide: Mobilitat tracks each vehicle's location and passenger activity on a countywide basis. FCRTA also acquired Verizon tablets that enable drivers to use Mobilitat and send transit data back to the operations center. In fall 2014, the buses received upgraded Apollo Camera equipment that that allows transit staff to view live and recorded bus operations both inside and outside the vehicle. In summer 2015 drivers received electronic equipment to help with pre-trip tasks and report vehicle problems directly to maintenance staff.

Acquisition of Electric Vehicles and Electric Charging Infrastructure

In FY 2016-17 FCRTA, for the first time, purchased four electric vans and 75amp "Juicebox" Electric Vehicle battery chargers. Five additional Juicebox chargers followed to help meet FCRTA's goal of placing electric chargers in every member city in the near future. The same year, FCRTA obtained 13 Envision Solar Chargers and placed in each member city. On May 24, 2017 the City of Fowler hosted a ribbon-cutting ceremony for the solar charger, with dignitaries from the State Legislature, the California Air Resources Board, the San Joaquin Valley Air Pollution Control District and local elected officials attending.

Funding Consolidation

The Rural CTSA maximizes available services by aggregating different operating revenues from social service agencies, which helps to achieve farebox and program matching fund requirements.

The CTSA must rely on all available funding sources, primarily FTA Section 5310, to replace existing vehicles that exceed budgeted maintenance costs due to age and high mileage.

Centralized Dispatch and Route Consolidation

The Rural CTSA continues to primarily use its centralized dispatching system for transportation routes, while its centralized Food Preparation Center continues to have a measurable positive effect on the meal congregate site-delivery program routing system and related operations.

Consolidating routes and services has enabled CTSA to reduce overall operating expenses, such as fuel consumption and vehicle maintenance; however, these reductions do not measurably affect service levels.

The FCRTA has provided the majority of its services on a "real-time" demand responsive basis since its inception in 1979. The alternative was to take reservations a day or more in advance but patrons may forget their appointments and not be ready to ride or change their mind at the last minute and decide they really don't want to ride that day. The transit agency has wasted time and mileage, with no fare, for unnecessary service. Those delays and inefficiencies affect the next trip. .

Centralized Maintenance

All preventive maintenance work is performed at the CTSA maintenance service facility. All repairs are performed according to existing preventive maintenance schedules approved by the California Highway Patrol (CHP) for all motor carriers.

Driver Training and Safety

The CTSA employs a comprehensive training and orientation program for all CTSA and FCRTA drivers.

Ongoing training programs are scheduled on a quarterly basis to orient new drivers and satisfy in-service training requirements. On-line supervisors hold cardiopulmonary resuscitation (CPR) and first-aid certificates. Certified driver instructors, the California Highway Patrol (CHP), American Red Cross and insurance carrier representatives conduct the training..

Combined Purchasing

Combined purchasing at the maintenance facility plays an integral role in maximizing savings, which lowers transportation costs to the Rural CTSA's clients and participating agencies.

Recap of Transit Service Expansions

Over the past 38 years, FCRTA has implemented several demonstration programs. A demonstration service is subject to meeting stipulated minimum performance criteria. In each case where a service was "discontinued" actual ridership and farebox receipts did not meet minimum expectations and standards, despite extra efforts:

- Coalinga Transit Inter-County Extension Service (through Avenal and Lemoore Naval Air Station in Kings County, to Fresno)– discontinued)
- Westside Transit (Intercity service between San Joaquin, Tranquility, Mendota and Firebaugh - discontinued)
- Kerman Transit's Service Expansion (between Kerman and Biola - discontinued)
- Firebaugh Transit's Inter-County Extension Service between (Firebaugh and East Acres in Madera County - discontinued)
- Auberry Transit (service from Auberry and the foothill communities of: Adler Springs; New Auberry; Big Sandy Indian Rancheria; Friant; Jose Basin; Marshall Station; Meadow Lakes; Mile High; Prather; Sycamore; Tollhouse to the Fresno-Clovis Metropolitan Area - modified and ongoing)
- Friant Transit (service within Friant and to the Fresno-Clovis Metropolitan Area - discontinued)
- Laton Transit (service extension of Kings Area Rural Transit's Inter-County route from Laton in Fresno County to Hanford in Kings County - ongoing)
- Coalinga Transit's I-5 Interchange Development Service (between Coalinga to Interchange developments at Interstate Highway-5 and State Highway 198, Harris Ranch with connection to Kings Area Rural Transit for service to Hanford in Kings County, and to Huron - discontinued)
- Eastside Transit (between Selma, with connections from Southeast Transit and Reedley, with connections from Orange Cove Transit - discontinued)
- Huron Transit's Inter-City Service (between Huron and Coalinga - ongoing)

- Kings Area Rural Transit's Medical Service (to medical appointments in Fresno County at the Kaiser Clinic in Selma, Community Regional Medical Center in Downtown Fresno, Veterans Hospital, Kaiser Hospital, Saint Agnes Hospital, and Children's Hospital - Central California in Madera County - ongoing)
- Biola Transit (within Biola and to Fresno - discontinued)
- Juvenile Justice Campus Transit (between Downtown Fresno and the Juvenile Justice Campus at State Highway 99 and American Avenue, twice - initially (September 2006-June 2007) to provide service for visitors of clients retained at the facility, and reintroduced July 2009 – November 2009) when the Juvenile Justice Courtrooms and Probation Offices were completed - discontinued)
- Dinuba Transit Connection (Inter-County service between Dinuba in Tulare County and Reedley in Fresno County with connections to Reedley Transit and Orange Cove Transit - ongoing)
- South Sierra Transit (within the foothill communities of Dunlap, Miramonte, Pinehurst, and Squaw Valley and to Orange Cove, Reedley, Parlier, Sanger and the Fresno-Clovis Metropolitan Area - discontinued)
- Rural Transit (service to unincorporated areas of Fresno County, beyond incorporated cities - ongoing)
- Firebaugh – Mendota Transit (inter-city service between Firebaugh and Mendota, - discontinued, reinstituted and ongoing)
- Coalinga Transit's Medical Express Service (from Coalinga to medical appointments in the Fresno-Clovis Metropolitan Area - discontinued)

Fresno COG is striving to meet SB 375 goals by engaging FCRTA to work with community representatives, especially those in Lanare, Laton, Riverdale, Huron and West Fresno County. As a result, there was one pilot transit shuttle service (Lanare Transit) planned and programmed for the Lanare-Riverdale communities that connected those communities with intracommunity and intercity locations.

This service connected passengers to Coalinga Transit into Fresno daily, and Kings Area Rural Transit (KART) into Hanford, as well as included scheduled stops within Lanare and Riverdale. The service concept percolated since the first meeting with Lanare residents in September 2012, multiple meetings in February 2014 and after surveys were conducted in cooperation with the Leadership Counsel for Justice and Accountability staff and former California Rural Legal Assistance staff. The service began after July 2014 but was ended in June 2015 due to poor ridership.

Another change in rural service is the expansion of the Huron Transit Inter-City into Coalinga which currently operates from 9 a.m. to 3 p.m. for five hours per day. As of July 1, 2014 the Huron transit intercity will operate from 9 a.m. to 5 p.m. for seven hours per day so Huron residents will be able to attend college classes and extend business in Coalinga.

On August 14, 2014, FCRTA began the Sanger Express, an intercity bus route between Sanger and Reedley College. This service has achieved consistently good ridership and is now considered a permanent FCRTA transit route.

FCRTA introduced Big Trees Transit in May 2015. In conjunction with the City of Sanger and the National Park Service, FCRTA operated fixed-route service from Fresno to Kings Canyon National Park with stops in Fresno, Sanger, Squaw Valley, and Kings Canyon National Park. Big Trees was a two-year demonstration project that tested the long-term feasibility of this type of service and was discontinued early in FY 2016-17 because it unable to consistently demonstrate the required 10% fare box ratio. FCRTA had also operated an internal park shuttle bus that served seven bus stops in the Grant Grove area free of charge.

The West Hills North District Center College Transit Service opened on Jan. 11, 2016 to provide intercity services

between Kerman and Firebaugh. It was intended to provide access to West Hills College's North District Center in Firebaugh, with additional access to additional goods and services in Kerman and Firebaugh but experienced poor ridership and was ended in summer 2016.

The Kingsburg-Reedley College Transit Service opened on Jan. 11, 2016 to provide intercity services between Kingsburg and Reedley. It provides access to Reedley College, as well as to additional goods and services in those communities. This service, provided by a separate single vehicle, is ongoing and available from 7 a.m. to 4:30 p.m. Monday through Friday on a fixed-route basis.

The newest expansion of FCRTA Transit service was the startup of a new West Park Transit bus route on November 13, 2017. This new fixed route service resulted from the Unmet Needs process responding to the needs of the residents of West Park. In conjunction with California Rural Legal Assistance, FCRTA planned a bus route that would address the desire of West Park residents to have access to Downtown Fresno and the FAX Transit System. This bus route will start in the rural community of West Park which is located a few miles west of the Fresno city limits. The route will then go into Fresno with bus stops at the FoodMaxx grocery store and the FAX transfer center near Courthouse Park. The West Park Transit Service will operate as a Demonstration Project for a minimum of six months and will possibly become a permanent FCRTA Transit Service if the required 10% farebox revenue is reached during the Demonstration Project period. This additional service is consistent with the 2014 SRTP and FCRTA's efforts to improve air quality in the San Joaquin Valley Air District.

Rural Transit Study - Opportunities for Shared-Use Mobility Services in Rural Disadvantaged Communities in California's San Joaquin Valley

The eight San Joaquin Valley MPOs in partnership with the Institute of Transportation Studies at UC Davis and Michael Sigala (Sigala Inc.) developed a pilot program that leverages new shared-use mobility services (such as ridesourcing, ridesharing, carsharing, and bikesharing) to enhance and/or complement traditional fixed-route and Dial-A-Ride transit serving rural disadvantaged communities. The final report and recommendations can be found at https://ncst.ucdavis.edu/project/opportunities-for-shared-use-mobility-services-in-rural-disadvantaged-communities/.

In this study, the cost-effectiveness of existing inter-city transit service in rural disadvantaged communities in the San Joaquin Valley (California) is compared to hypothetical ridesharing and carsharing services. The results show significant potential to reduce transit costs and reinvest those cost saving to expand shared mobility services. The cost-effectiveness analysis is supplemented with reviews of existing shared-use mobility pilots and consultations with experts in shared mobility and local transportation planning. The result is two shared-use mobility pilot concepts in seven communities in four counties in the San Joaquin Valley region.

Subsequent to a successful valleywide grant application, with the SJV Air Pollution Control District as the lead, the San Joaquin Valley was awarded the Air Resources Board Grant for Car Sharing and Mobility Options in May 2017. Pilot projects will be commencing in early 2018 once all contracts have been executed.

Needs Assessment

Needs Assessment Surveys

FCRTA routinely conducts needs assessment surveys, several of which have resulted in new demonstration services that are carefully monitored to ensure anticipated ridership expectations are realized and minimum performance characteristic measures are maintained.

Recent demonstration programs that resulted from needs assessment surveys include: Biola Transit (within the community and to the FCMA); Coalinga Transit Express Transit (service to the FCMA for medical appointments); Friant Transit; Juvenile Justice Campus Transit (first for the Juvenile Campus and second for the Juvenile Court System); Lanare Transit, and South Sierra Transit (among Dunlap, Miramonte, Pinehurst, Squaw Valley and eastside cities and to the FCMA).

FCRTA has also for several years used Welfare-to-Work funding from the Fresno County Employment and Temporary Assistance Department for: Coalinga Transit service to the I-5 interchange development between Coalinga and Huron; and Eastside Transit (between Reedley and Selma). The program also funded a service hour expansion from 6 a.m. to 6 p.m., including Saturday service. Unfortunately, in each case, minimum ridership did not materialize.

The annual unmet needs process and transit system performance evaluations ensure continued modifications, improvements, and expansion of rural transit service during the next 25-year RTP planning period.

Proposed Actions

Short-Range Improvement Plan

Fresno COG's Board adopted the 2018-2022 Rural Short Range Transit Plan (Rural SRTP) in June 2017. The SRTP provides a five-year, action-oriented program to implement the public transportation as defined in the RTP; provides a basis for local governments to demonstrate that public transportation needs within their jurisdictions have been reasonably met; serves as the planning basis for federal and state assistance to rural public transportation operations in Fresno County, and provides valuable information for citizens and local-elected officials.

Over the next five years, plans call for continuing public transportation services within and between incorporated cities, reflective of warranted service levels. Expansion may include longer service hours and weekend services. Requests to expand to new areas should be accommodated within existing available operations. FCRTA will ensure that existing transit services are not diluted or jeopardized as it considers service expansion requests.

Those subsystems exhibiting the weakest performance will continue to be monitored for possible service adjustments that may include service revisions, consolidation through new institutional arrangements or termination.

With the common carrier service deregulation, some rural communities in Fresno County experienced a lack of adequate intercity bus service. The FCRTA acquired seven large-capacity, alternatively fueled vehicles to address these needs.

Fresno COG will continue to monitor and consider elderly and disabled needs in the planning process. Annually, the "unmet transit needs" process evaluates the needs of all segments of the community. The CTSAs annually review client needs and the elderly and disabled community plays an important role in that evaluation. Social service agencies must also recognize their responsibility under statute and continue to fund services for their clients.

Future Expansion Service

Inter-City Service Modifications

The intercity services in Fresno County provided by Greyhound and Orange Belt Stages have been declining. The local agency representatives (elected and staff) and the general public asked the FCRTA to respond to these deteriorating circumstances. The adopted Rural Short-Range Transit Plan recommended that the FCRTA become responsible for assuming intercity service responsibility for "general public patrons". To this end, the FCRTA acquired grant funding through the Federal Transit Administration's Congestion Mitigation/Air Quality program to purchase intercity compressed natural gas powered buses. The original objective of these inter-city replacement services was to attract a mix of "transit dependent" and "choice" riders that would reduce vehicle miles traveled (VMT) by single-occupancy vehicles. The air quality benefit from this upgrade has proven beneficial to Fresno County.

Long-Range Improvement Plan

Connected: The Fresno County Sustainable Communities Public Transit Plan (Fresno County Regional Long-Range Transit Plan)

As described under the Urban Mass Transit section, Fresno COG is in the process of developing a Regional Long-Range Transit Plan intended to guide transit and multimodal investments serving the Fresno County region through 2050. The plan will detail how to continually provide and preserve a sustainable, safe, innovative, integrated and efficient transit system to improve the region's economy and livability for all, in line with the State's Transportation Planning Goals to Improve Multimodal Mobility and Accessibility for All People, Preserve the Multimodal Transportation System, and Foster Livable and Healthy Communities and Promote Social Equity; and federal transportation goals related to accessibility, safety, mobility and integration. Fresno COG will accomplish this focus through direct public outreach and partnership, bringing together Fresno County, the 15 incorporated cities, representatives from the unincorporated communities/rural areas, the major transit providers, transit riders, bicycle and pedestrian advocates/users and additional stakeholders and the general public. Together, they will develop "Connected: The Fresno County Sustainable Communities Public Transit Plan" to help achieve the California Air Resources Board's (ARB) GHG reduction targets and will provide input to the 2022 and further future SCSes.

Rural Fresno's long-range transit improvement plans reflect RTP recommendations. Generally, the improvements are very conservative. Additional vehicles and/or service hours come on line when justified by need and sustainable by performance criteria. Additional services may also be justified by population growth and residential, commercial, and industrial development.

Overall, FCRTA member agencies envision short-term, subsidized transit operations that could prove self-supporting and assumable by the private sector. As plans are implemented, FCRTA is prepared to coordinate its services in whatever manner necessary to further improve their chances for success. FCRTA members have also expressed a desire to program at least one or more intercommunity/interregional demonstration programs to promote economic and community development.

Several other specific projects have also been suggested. FCRTA's plans could include subsidizing a service for up to a three-month period to attract ridership that would make the service completely self-supporting. Some of the programs would invite contracting with a vanpool vehicle provider. Possible examples include:

- Offering services to employees living in and around a city and working at nearby correctional/mental health facilities. The program would involve multiple vehicles

to respond to the facilities' 24-hour operation.

- Similar arrangements for workers or trainees employed at a common business.

Air quality compliance appears to be the most significant determinant impacting future rural transportation services. The COG has developed and adopted transportation control measures to address harmful emissions from conventional petroleum-based vehicles. Single occupancy vehicles have been targeted, especially for commuter home- to-work trips. Alternatives, including pedestrian and non-motorized transportation, carpooling, vanpooling, and public transportation are strongly encouraged.

To date, FCRTA's operations have primarily been responsive to the transit-dependent population. Estimates suggest that less than one percent of FCRTA's regular riders are considered "choice" riders (individuals who choose not to use their personal transportation in completing a particular trip). In addition, less than five percent of FCRTA's regular riders use the services to reach work sites. The ridership growth potential for both "choice" and "commuter" patrons is certainly significant. In both cases, fares should be sufficient to ensure self-supporting services. FCRTA intends to target its marketing program efforts to attract and serve these riders. Multiple round trips per weekday over an extended 10-hour operating period continues to address both commuter and transit-dependent patron needs between rural and metropolitan areas. In general, rural services could double over the 25-year RTP life cycle in an attempt to keep pace with increased population trends and in an effort to reduce vehicle miles traveled (VMT) for air quality considerations.

In western Fresno County several institutional facilities may impact travel patterns, including: Pleasant Valley Prison; Claremont Custody Center; Coalinga's Mental Health Facility; West Hills College – Coalinga Campus, Firebaugh Campus, Lemoore Campus, Lemoore Naval Air Station Campus; Mendota's Prison; community medical facilities; unincorporated communities service for Caruthers, Easton, Five Points, Lanare, Raisin City and Riverdale; connectivity to Kings County with Kings Area Rural Transit (KART) – Lemoore, Hanford and Amtrak, Madera County; – Madera and the State Center College Center Campus; Merced County – Dos Palos and connectivity to Merced Transit; Tulare County for connectivity through Dinuba to Visalia and Tulare.

The facilities that may impact travel patterns in eastern Fresno County include: Native American rancherias – Big Sandy, Cold Springs and Table Mountain and their respective casinos; (Table Mountain has recently taken over Millerton - Brighton Crest New Town development); Reedley College; Reedley Regional Job Initiative Center; community medical facilities; and Fresno County One-Stop Centers.

FCRTA also connects to Tulare County, including stops in: Cutler, Orosi, Dinuba (the FCRTA, in cooperation with the City of Dinuba implemented an intercounty service between Dinuba and Reedley subsidized with local sales taxes), Tulare, Visalia and the College of the Sequoias.

In central Fresno County, FCRTA may consider a "cross-town medical express service" to ensure passengers arriving on its intercity services to the FCMA receive faster access to medical appointments. Other express connectivity may include: Amtrak, Fresno Yosemite International Airport, Bus Rapid Transit (BRT) stations; light -rail transit and the future high-speed rail station.

Coordination of Fares and Schedules

FCRTA, along with rural CTSA staff and other transportation providers in Fresno County, are participating on a quarterly basis with other transportation providers in Fresno County working to improve internal operations, including coordination and communication to provide the public with seamless service.

FCRTA now interfaces with Greyhound in the metropolitan area and is pursuing a more robust transfer arrangement with Fresno Area Express-Handy Ride, Clovis Stageline and the Clovis CTSA's Round-Up service.

Transit Interface
In 2016, the FCRTA upgraded its website at www.ruraltransit.org to better present its public services, including transit fares, phone numbers and schedules.

Fresno COG has distributed its "Fresno County Transportation Guide through rural Fresno County. It describes the multi-modal public transportation services available, such as airports and airline, intercity, common-carrier bus services, Amtrak and public taxis. Each provider's services are highlighted in English and Spanish text, with multi-colored maps, time schedules and phone numbers available to assist potential riders in getting around the County as easily as possible. A trip planner is included to assist the first-time rider. A suggestion questionnaire is included to assist staff with updating subsequent editions.

Coordination/Consolidation Efforts
FCRTA continues to adjust its subsystems to promote greater efficiencies. Coordinating transportation services and administrative functions with FCEOC has produced considerable long-term cost savings. The two agencies have made notable progress in combined purchasing and driver training, in centralized dispatching and administration, and in unified grant applications.

Accessible Services in Compliance with the Americans with Disabilities Act and Subsequent Implementation Regulations
FCRTA has employed a 100% wheelchair-accessible vehicle fleet since it began more than 36 years ago.

FCRTA operations have been carefully crafted to meet the transit disadvantaged's special needs. For example each respective service may deviate from its specified route on a demand-responsive basis, up to three-quarters of a mile to pick up or drop off a disabled passenger.

Common carrier service providers in Fresno County such as Greyhound offer their respective "helping hands" service to disabled passengers. FCRTA provides comparable intercity "back-up" to ensure disabled passengers travel safely and securely within Fresno County. The FCRTA shall continue with the process of systematically implementing necessary modifications to bring it into full compliance with the spirit and intent of the law.

Responsibilities and mandates under the Clean Air Act of 1990, the San Joaquin Valley Air Pollution Control District's Air Quality Plans, and California State Implementation Plans
Following the passage of the Federal Clean Air Act in 1990, the FCRTA has instituted alternative fuel programs as an example to other the public governmental entities and the private and non-profit sectors. The FCRTA Board of Directors, comprising the mayors of each of the 15 cities and the County Board of Supervisors chairman, understands that the Valley has, potentially, the worst air quality in the nation. FCRTA has consistently used proven technology and readily available fuels. Some large urban operators challenged that commitment away from diesel; however, other jurisdictions have recognized and acknowledged that if the small rural agency could make it work, so could they.

In 2016, FCRTA obtained new electric vehicles (EV) for its fleet, as well as EV chargers, solar EV chargers and solar EV charger "trees." FCRTA secured grant funding from the following agencies:

- State of California's Low Carbon Transit Operations Program for 6 Zenith electric vans
- California Air Resources Board for 4 Proterra electric buses

- San Joaquin Valley Air Pollution Control District's Charge-Up Program for 13 solar EV chargers
- Measure C's New Technology program for 2 BYD Electric buses and 2 solar EV charger trees (a larger, more powerful version of the solar EV charger)

The FCRTA vehicle fleet in 2016-17 consists of 90 vehicles, of which 44 are CNG-powered,, four by electric batteries and the other 42 by unleaded gasoline, because no conversion kits were approved by the California Air Resources Board. . The detailed fleet breakdown includes: three 2006 CNG-powered, 37-passenger Blue Bird buses; four 2007 CNG-powered 37passenger Blue Bird buses; 11 2008 CNG-powered 22,–passenger, modified GMC Glaval Vans;16 2009 CNG-powered, 22-passenger modified GMC Glaval Vans; four 2009 gasoline–powered, five–passenger, modified Chevrolet mini-vans; two 2014 gas-powered, nine passenger Ford four-wheel vans; 38 2013 gas-powered, 17-passenger Chevy Arboc buses; eight 2016 CNG-powered, 35-passenger El Dorado buses; and four 2016 electric battery–powered, 6-passenger vans.

FCRTA continues to bring its fleet vehicles into full compliance with the spirit and intent of federal and State air quality laws and regulations.

California has taken an additional step towards addressing Greenhouse Gas Emissions. The California Air Resources Board (CARB) has introduced its Cap and Trade Investment Plan. The CARB's Plan recognizes that zero emission vehicles should be one of the program's priorities. That intent is now focused on the implementation of electric vehicles and their needed infrastructure.

The program seeks to make funds available for GHG-reducing projects such as additional transit investments, sidewalks, bicycle lanes and paths and others to the state's most disadvantaged areas. The Plan identifies the locations and communities that are eligible to submit applications for funding.

The FCRTA has ten years of experience operating two zero emission battery powered vehicles in Fresno County. They have the proven ability to operate such equipment. They have identified a vehicle manufacturer that has introduced a conventional cut-away modified van that is powered by

electric battery. The FCRTA is interested in submitting applications for its members who have been identified as eligible to receive funds for such purposes. It could again be the leader in reintroducing zero emission vehicles in the State.

Measure C

The Measure C Expenditure Plan has multiple provisions relating specifically to rural transit over the next 20 years. FCRTA addresses the specifics through the Short-Range Transit Plan for the Rural Fresno County Area and its annual budgets.

FCRTA Primary Program

- Install and integrate a regional automated farebox system to improve transit coordination and seamless passenger travel between transit systems
- Expand intracity services to improve demand-responsive paratransit service frequencies to Fresno County's elderly, disabled, low-income and youth populations
- Complete fleet conversion to low-emission buses
- Deploy other operational and infrastructure improvements such building a dispatch terminal, using intelligent transportation system technology such as safety surveillance cameras and global positioning systems to provide better services within and among rural incorporated cities and unincorporated communities
- Expand intercity service to improve scheduled, fixed-route service frequencies for employment opportunities.
- Operate an unincorporated County-area shuttle program
- Operate escort medical non-emergency transit service program
- Expand transit services to both Fresno County's east and west sides
- Open subregional east side and west side transit terminal facilities with compressed natural gas refueling stations

FCRTA Secondary Program

FCRTA's phased implementation will accomplish all the primary programs within the 20-year timeframe of available resources

The following Measure C funding policies will apply to each of the transit providers, to implement with their respective programs.

Seniors Fare Subsidy Earmark Programs

Primary Program

- Free general public transit fare program for seniors 65 years of age and older
- Each transit agency will commit to a Measure C reimbursement program from earmarked funds to offer free fares for general transit ridership for seniors 65 years of age and older
- At five-year intervals, each transit agency will conduct a performance evaluation to determine if the free senior fare reimbursement program is meeting its intended goals of increasing senior ridership on general public transit services. The evaluation will measure actual senior use and fare reimbursement versus available program funding to ensure continued viability
- If ridership increases beyond the Measure C earmark, other funding sources may be used to continue the free senior fare program. Otherwise, the transit agencies may charge a reduced fare to augment and continue the fare subsidy program

Secondary Program

- Taxi Scrip Program for Seniors 70 years of age and older
- The three transit agencies developed a Taxi Scrip Program for seniors age 70 years and older who do not meet ADA eligibility requirements for access to paratransit services

- The program is uniform among the three agencies and provides a predetermined amount of scrip to be purchased and used for taxi service by qualifying clients. Each participant may purchase up to $100 worth of scrip each month that can be spent like cash on taxi fare with 15 different providers.
- At five-year intervals, each transit agency conducts a performance evaluation to determine if the program is meeting its intended goals of increasing ridership among eligible seniors and to assess whether or not to continue or redirect the funding to a more effective alternative.

Public Transit Agency Performance Criteria

- Measure C funds can be used to provide new demonstration service for a period of up to three years. The service must meet each transit agency's minimum performance standards
- Service that does not meet minimum standards may be discontinued, unless the transit agency can demonstrate that continued reduced/minimal "life-line" service is in the community's best interest.
- Any request to extend such "lifeline" service(s) shall be reviewed by the Fresno Council of Governments Social Service Transportation Advisory Council (SSTAC) with final approval made by the appropriate transit agency board

Transit Consolidation

Fresno COG has already commissioned two studies to determine if consolidating the different public transit agencies is viable. This Measure C Plan will provide funding to implement study recommendations should consolidation be warranted, such as coordination tasks, developing a Joint Powers Authority (JPA) or some other mechanism to consolidate all transit service functions under one agency and other required activities..

ADA / Seniors / Paratransit

Dedicated funding is available for ADA and senior/ paratransit services under the Regional Public Transit Program and could be used as matching funds for state or federal funds or to augment funding under the Public Transit Agencies Program or the Local Transportation Program.

Vanpool Subsidy Programs

The Measure C Commuter Vanpool Program offers a variety of subsidies and reimbursements to help ensure that commuters can reach their destinations safely by using a cost-effective alternative to a single-occupant vehicle. This program will help to improve our air quality and alleviate traffic congestion in Fresno County. The Commuter Vanpool program is funded by the Measure C Extension, which is a 20-year, half-cent transportation sales tax, passed by Fresno County voters in November 2006. The program is designed to encourage, facilitate and help fund new vanpools and offer financial assistance to existing vanpools to ensure their viability.

To qualify for subsidies or reimbursements, new and existing vanpools must originate in Fresno County and have at least six riders and one driver. Vanpools also should operate at least five days per week, unless participants are working full-time on an alternate work schedule that requires fewer commuter days.

Information outlining new and existing vanpool subsidies is available on Fresno COG's website at www.valleyrides.com/vanpools.

Carpool Subsidy Programs

The Measure C Carpool Incentive Program provides incentives to participants who carpool with at least one other person, two days per week or more. Monthly prizes are awarded to participants who register on the Valleyrides.com website and submit weekly carpool logs that serve as entries into monthly drawings. Each eligible entry or log submission also qualifies participants for the annual Grand Prize Giveaway drawings held in May of each year.

Advanced Transportation Technologies

Measure C's New Technology Program finances new transit innovations, such as Personal Rapid Transit (PRT) or similar transit or transportation systems. To receive funding, projects must achieve as many as possible of these local objectives:

- Reduced traffic congestion and vehicle miles traveled
- Reduced energy consumption and fossil-fuel dependence
- Reduced air pollution and greenhouse gas emissions
- Improved access to safer, more convenient travel for Fresno County residents.

To further its Measure C New Technology Program goals, Fresno COG focuses on technological advances in public systems, safety features, fuel efficiencies and alternatives, intelligent transportation system (ITS) applications and information dissemination. These areas help to promote passenger safety and satisfaction, attract customers, improve capital and operating efficiencies, reduce environmental pollution and ease dependence on fossil fuels.

Identified Needs and Issues

Rural services have centered around these primary issues:

Adequate and stable funding for additional transportation improvements. Transit vehicles and passengers are being subjected to less-than-optimum driving conditions. A significant revenue base must be secured to replace decaying infrastructure. Dedicated funding sources, with escalation factors for inflation and population growth, are a common theme for transportation providers. Local, state and federal programs are being delayed in an effort to balance their respective budgets.

Staff continues to respond to periodic requests from the state and federal government to program our needs on an immediate, short-term and long-term basis, while recognizing the difficulty to provide timely revenue projection information.

Home-to-work commuter transportation services. The public appears to be reluctant to change, especially in lifestyle matters. To significantly reduce vehicle miles traveled and air pollution, the public must accept carpooling, vanpooling and commuter bus service. To date, these programs have not been universally embraced. Measure C specifically included funding for computer vanpool and farm labor vanpools services for the next 10 years.

Specific Measure C programs to address this matter are now in place. They include: subsidized carpooling,

commuter vanpooling and farm labor vanpooling. The financial incentives are significant and attractive. Fresno COG's programs have been offering monthly drawings for $1,000, with an annual drawing as well. In 2013, one recipient received a hybrid vehicle, with other valuable prizes available as well. Vanpooling providers such as VPSI, Enterprise and CalVans have provided more than 450 vehicles in the South San Joaquin Valley, in such counties as Fresno, Kern, Kings, Madera and Tulare. CalVans has expanded from five to 14 counties, with additional members joining quarterly.

FCRTA has funded several demonstration programs to improve access to adjacent counties. Coalinga Transit provided intercity service to Avenal and the Lemoore Naval Air Station in Kings County. Firebaugh Transit provided service to Eastside Acres in Madera County. Kings County Public Area Public Transit Agency provides service to Laton in Fresno County for patrons going to Hanford in Kings County. Previously, it also provided connection between Hanford and Coalinga. It also connects Hanford to Fresno and Madera for access to medical facilities. Dinuba Transit provides service from Dinuba in Tulare County to Reedley in Fresno County.

Agricultural workers need access to transportation services that are safe, affordable, reliable and available. Traditional transit services do not meet farm workers' needs due to the work's itinerant nature. The Caltrans Agricultural Industries Transportation Services (AITS) Pilot Program, involving Fresno, Kern, Kings and Tulare Counties was the first of its kind in California and continues to expand. To date, nearly 100 farm labor vanpools are operating within Fresno County. It offers a unique approach to help individuals come together in meeting their collective need to travel to and from work, as necessary. Additional programs are also being explored. Funding under the recently approved State program will be coupled with Measure C funding to dramatically expand the farm labor vanpool program over the next 20 years.

In February 2013, the FCRTA Board of Directors set aside another $1 million to purchase 35 vehicles for farm labor vanpools that CalVans administers for Fresno County farm workers. The vehicles were delivered in May 2013.

FCRTA and the Rural CTSA have been implementing programs recommended in the recently adopted Human Service Coordination Plan for Fresno County. Both agencies work closely with nearly two dozen other agencies to ensure that the transit-dependent population may receive at least lifeline service; however, many of the programs offered by non-profit and other public agencies have been dependent on County, State and federal funding programs that may lose funding..

Unfinanced Needs

Unfunded mandates continue to have a major impact on the Rural CTSA and FCRTA's year to-year operations. Examples of such unfunded mandates are: the Americans with Disabilities Act, alternative fuels under the Clean Air Act and U.S. Department of Transportation drug and alcohol testing requirements.

Timely fleet vehicle replacement qualifies as the most significant ongoing need. Measure C addresses this particular need over the next 10 years. Of course, additional support from State and federal sources will also be required. Existing grant programs remain very competitive.

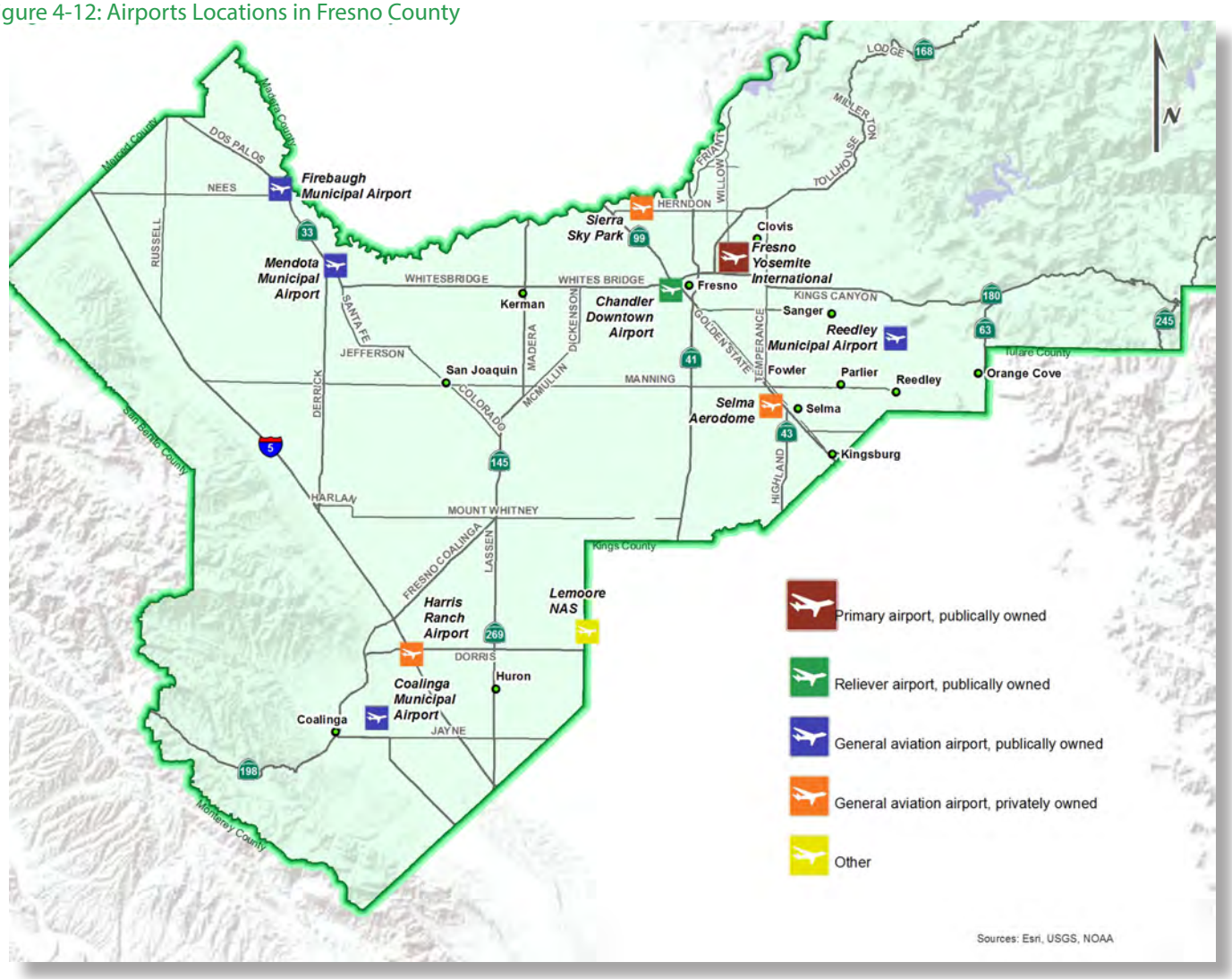
4.6 Aviation

Overview

The Aviation Element focuses on Fresno COG's aviation-related planning efforts as well as those of its member agencies and other local entities.

There are nine public use airports in Fresno County and portions of Naval Air Station Lemoore as shown in Figure 4-12. Specific facilities' precise location, design and detailed costs are contained in the individual airport facilities' master plans. The master plans address long-term planning goals, potential land use, noise and safety impacts and the means by which to implement the short- and long-range improvements.

Figure 4-12: Airports Locations in Fresno County



Delineating airport impacts on the surrounding land is an integral next step in the master plan process. The Fresno County Airport Land Use Commission coordinates airport land-use planning among state, regional and local agencies. The Commission delineates a compatible environment for the airport facility and, in turn, protects a valuable local investment by adopting land-use policy plans. COG member agencies with jurisdiction over an airport also incorporate these policies into their Airport Master Plans and general planning efforts.

State and federal funding agencies require regional airport system planning to inventory facilities, evaluate needs (both on the airport and as a result of aircraft activity in the surrounding areas), forecast demand and determine funding levels and apportionment. The California Aviation System Plan's Central California region is integrated into the California Aviation System Plan (CASP) and, ultimately, into the National Plan of Integrated Airport Systems (NPIAS), which identifies existing airport relationships on a state and national level and service and facility needs. All non-NPIAS airports are considered for improvement through state funding since they are not eligible for federal funding.

Many of the public airports in Fresno County are subsidized by the jurisdiction's general fund; however, capital improvement costs cannot be met by local funding sources alone. Neither the Federal Airport Improvements Program (AIP) nor the California Aid to Airports Program (CAAP) adequately fund airports in Fresno County.

Existing System Inventory

Caltrans' Division of Aeronautics prepares the CASP as a multi-element plan intended to develop and preserve a system of airports responsive to State needs. A segment of the CASP, the Central California Aviation System Plan, includes all the public use airports in Fresno County (dot.ca.gov). The Capital Improvement Plan (CIP) is a 10-year, compiled capital projects listing predominantly based on general aviation airport master plans or other comparable, long-range planning documents. The CIP allows Caltrans' partners to help coordinate its ongoing, statewide, aviation system planning and project funding effort. The CIP is updated biennially, per CPUC section 21704. These updates provide the basis for funding program development, which consists of airport development and land-use compatibility plan projects that Caltrans selects based on a priority matrix. The California Transportation Commission adopts the Aeronautics Program from the projects listed in the CIP, requiring projects to be in the CIP to obtain State funding. The CIP is published every odd year and the Aeronautics Program, based on the CIP, is adopted every even year.

Coalinga Municipal Airport

In 1996, Coalinga completed a new basic utility airport facility located about four miles east-northeast from the city center in the County's southwest portion on 1,002 city-owned acres, about 248 of which are devoted to the airport and have been annexed into the city. Unused property is either retained in agricultural use or included in a Regional Habitat Conservation Plan. At an elevation of 625 feet, the airport is relatively fog-free year-round. It is classified as a General Aviation Airport in the National Plan of Integrated Airport Systems (NPIAS) and a Community General Aviation Airport in the California Aviation System Plan (CASP).

The airport has one runway (12-30), 5,000 feet long and 100 feet wide with a two-light Precision Approach Path Indicator system on each side and medium intensity runway edge lights. A gravel-surfaced crosswind runway (1-19), available for daytime use only, is 2,471 feet long and 60 feet wide. An asphalt helipad (H1), 50-by-50 feet, is also available but the last inspection revealed that the helipad is not within standards, so plans are under way for a design change. A parallel taxiway is located on the south side of Runway 12-30 with five entry/exit taxiways. A hangar building houses 15 based aircraft and a 60-by-50-foot maintenance hangar is available for aircraft

maintenance activities. The on-site flight facility center accommodates pilot and crew flight preparation and includes restrooms, a public telephone and a kitchenette. Airport services include 24-hour self-serve 100LL fuel, an aviation fuel used in spark-ignited internal-combustion engines to propel aircraft. Avgas is distinguished from mogas (motor gasoline), which is the everyday gasoline used in motor vehicles and some light aircraft. (The airport accommodates approximately 2,400 annual aircraft operations.

Firebaugh Airport

The Firebaugh Airport is a Basic Utility airport at 157 feet elevation, encompassing 37 acres. It has one runway that is 3,102 feet long and 60 feet wide. It has about 13 based aircraft, two fixed-based operators and handles about 9,855 annual operations. The Firebaugh Airport Commission meets regularly to discuss airport projects and priorities. The Firebaugh Airport is classified as a General Aviation Airport in the NPIAS and a Community General Aviation airport in the California Aviation System Plan.

Fresno Chandler Executive Airport

Fresno Chandler Executive Airport is a federally designated "reliever" airport at 279 feet elevation, encompassing 200 acres. Runway 30/12 was recently extended to 3,630 feet and 75 feet wide. Chandler hosts 124 based aircraft, five fixed based operators and handles approximately 25,000 annual operations. Chandler is classified a Reliever Airport in the NPIAS and as a Regional General Aviation Airport in the California Aviation System Plan.

Fresno Yosemite International Airport (FAT)

Fresno Yosemite International Airport (FAT) is Fresno's primary commercial air carrier airport facility and the largest and busiest airport in the San Joaquin Valley. Owned and operated by the City of Fresno, FAT is 336 feet in elevation and encompasses 1,700 acres of land located approximately five miles east of downtown Fresno. It has two runways: a principle runway (11L/29R) 9,539 feet long and 150 feet wide and a parallel general aviation runway (11R/29L) 8,008 feet long and 150 feet wide. This two-runway system is supported by full-length parallel taxiways on both the north and south. An FAA Airport Traffic Control Tower (ATCT) is located on the airport's south side and provides 24-hour traffic control services. Category III Instrument Landings are available to Runway 29R and non-precision landings to Runway 11L.

FAT has 179 based aircraft, with about 97,680 operations. There were 773,160 enplanements in 2016, with a passenger count of 1,540,923. Total aircraft landed weight for airlines that are strictly all cargo (freighter) and "other" airlines that have cargo in the belly of the aircraft was 9,520 tons. International flights to Mexico that began in 2006 have been very successful and account for 13% of all passengers.

This joint civil-military public airport also houses the 144th Fighter Wing/California Air National Guard (CANG) base, which supports a west coast air superiority mission. The Army National Guard has an Aviation Classification Repair Activity Depot (AVCRAD) facility on site to perform high-level maintenance and repair on Army aircraft. Its jurisdiction covers a 15-state region in the western United States. The U.S. Forest Service operates an Air Attack Base at the airport for fighting forest fires with aerial tankers. Additional services available at the airport include: airfreight, avionics, cargo handling, charter, flight and aircraft maintenance instruction, aircraft rental, aircraft sales, fueling and aerial surveying.

The terminal facility has been modernized, including a

capacity increase at baggage claim, a new security check point and a rehabilitated main ticketing lobby. FAT has also instituted a 100% shared-use technology system that allows for both ticket counter space and gates to be maximized. FAT is one of three airports in the country to have this system 100% implemented. The airport also features a giant Sequoia forest treescape in the main lobby that is reflective of the region's proximity to the national parks. A consolidated rental car facility provides easy access to and from the baggage claim area. FAT houses a 2.4 megawatt solar system, completed in March 2008, which provides 74% of the airport's annual electrical demand.

FAT's two fixed-base operators (FBOs) offer a wide range of services, including: fueling, aircraft maintenance, repair, storage, charter services, flight instruction, an aircraft mechanic school, advertising, surveying, air taxi, patrol, rentals and sales. FAT is designated a Primary Commercial Service Hub Airport in the California Aviation System Plan.

Harris Ranch Airport

Harris Ranch is a privately owned and operated public use airport near the Harris Inn and Restaurant at an elevation of 465 feet encompassing 80 acres. It has one runway that is 2,820 feet long and 30 feet wide. There are no aircraft based at the airport, but it handles approximately 10,000 operations a year. Harris Ranch is classified a Limited Use General Aviation Airport in the California Aviation System Plan but it is not listed in the FAA NPIAS, making it more dependent on alternative funding sources.

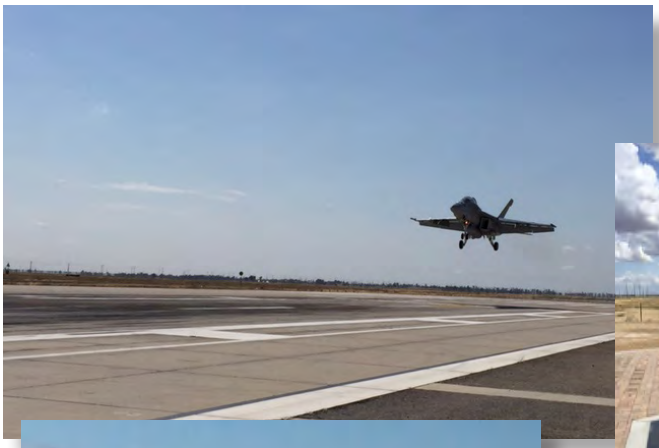
Mendota (William R. Johnston) Airport

The Mendota Airport is a basic utility airport at an elevation of 162 feet encompassing approximately 130 acres. It has one runway that is 3,499 feet long and 50 feet wide. It has no based aircraft but handles about 1,000 operations per year. The Mendota Airport is classified a General Aviation Airport in the NPIAS and as a Community General Aviation Airport in the California Aviation System Plan.

Naval Air Station Lemoore

Naval Air Station Lemoore's (NASL) principal mission is to support Strike-Fighter Wing, U.S. Pacific Fleet, and training, manning and equipping West Coast Strike-Fighter squadrons NASL is the Navy's newest and largest Master Jet Base with more than 40 tenants involved in aviation. The installation boasts two 13,500-foot, offset parallel runways roughly one mile apart with aircraft parking and maintenance hangars aligned between them. Each runway has arresting gear designed to support tail hook equipped aircraft, arrested landings and aborted takeoffs. NASL aircraft operations are typically conducted year-round, day and night. Separated from the hangars by underpasses beneath taxiways, the remainder of the air operations area is located directly southeast.

Straddling the county line between Kings and Fresno counties, NASL covers nearly 19,000 acres, about 10,000 acres of which are leased for agricultural uses acting as mitigation for the Bird/Animal Aircraft Strike Hazard Program. Additionally, the U.S. Navy holds restrictive use easements over 11,020 acres of privately owned property to its immediate west, as well as 57 acres on the western side of the City of Lemoore under its low-level flight path known as the Ground Control Approach Box.



NASL has three operational areas:

- Air Operations Area: Includes airfield, weapons handling and storage facilities, fuels, aircraft maintenance and aviation storage
- Administration Area: Contains NASL administrative offices, training schools, public works facilities, emergency services and a water treatment plant
- Housing Area: Contains K-8 and K-5 grade schools, Youth Center, single and multi-family homes, several restaurants, Enlisted & Officers clubs, barracks, hospital, gymnasium, shopping mall, equestrian center and other community support facilities.

NASL employs approximately 6,400 military personnel; 1,400 government civilian personnel and; 850 contractors. The installation contains 1,630 single and multi-family residential units of housing for approximately 2850 military dependents. In support of its bachelor population, the installation has 20 barracks that can accommodate up to 2,000 personnel. The remaining population resides in communities surrounding NASL. Central Union School District has two schools located on base teaching grades K-8 that accommodate up to 1,600 students. Military dependents attend high school within the surrounding communities.

NAS Lemoore hosts the Navy's entire West Coast fighter/attack capability. NAS Lemoore has several operational advantages and relatively few operational constraints as a result of its rural location. The primary aircraft based at NAS Lemoore is the F/A-18E/F Super Hornet Strike Fighter and as of October 2014, NASL was chosen to home base the F-35C Lightning II Joint Strike Fighter (F-35C). About 250 Super Hornets and seven F-35Cs are based at NAS Lemoore, operating from two Fleet Replacement (training) Squadrons, 16 Fleet (operational) Squadrons and one Search and Rescue Squadron (SAR). By 2028, NASL is slated to be home to approximately 280 operational aircraft, including ten Super Hornet Squadrons and seven Joint Strike Fighter Squadrons.

Reedley Municipal Airport

The Reedley Airport is a basic utility airport at an elevation of 383 feet, encompassing 138 acres. It has one runway that is 3,302 feet long and 60 feet wide. It has about 66 based aircraft and two fixed based operators handling about 33,000 operations per year. The Reedley Airport Commission meets regularly to discuss airport improvements and priorities. It is owned and operated by the City of Reedley and is classified a General Aviation Airport in the NPIAS and as a Community General Aviation Airport in the California Aviation System Plan.

Selma Aerodrome

The Selma Aerodrome is a basic utility airport at an elevation of 305 feet, encompassing 23 acres. It has one runway that is 2,490 feet long and 50 feet wide. It has

about 45 based aircraft four fixed based operators and handles about 10,000 operations per year. The Selma Aerodrome is a privately owned and operated, public use airport not listed in the National Plan of Integrated Airport Systems and, therefore, is more dependent on state or local funding sources. It is designated a Community General Aviation Airport in the California Aviation System Plan.

Sierra Sky Park Airport

Sierra Sky Park opened in 1946 as a basic utility airport on 130 acres adjacent to the San Joaquin River in north Fresno and is the first residential aviation community in the world. William and Doris Smile are credited for creating an airport/neighborhood hybrid in 1953 when they built the project's first of 110 homes on the property.

Sierra Sky Park residents can land, taxi down extra-wide avenues and park in their homes' driveways. It is at an elevation of 321 feet, now encompassing 34 acres within the city limits of Fresno in a fairly dense urban residential and commercial area near State Route 99 on one of the busiest roadways in Fresno, Herndon Avenue. It has one runway that is 2,473 feet long and 50 feet wide. It has about 60 home-based and T-hangar/transient aircraft and handles approximately 8,000 operations per year. Sierra Sky Park is a privately owned, public use airport not listed in the FAA National Plan of Integrated Airport Systems and is, therefore, more dependent on state or local funding sources. It is designated a Community General Aviation Airport in the California Aviation System Plan.

Recent Planning Improvements

Coalinga Airport Planning and Improvements

The City of Coalinga completed and adopted an Airport Master Plan in 2008 for the Coalinga Municipal Airport, which was approved by the ALUC. The Plan accommodates the type and extent of aviation facilities needed through 2025. In preparation for future improvements, the Pavement Maintenance Management Plan update was completed on June 30, 2017.

Firebaugh Airport Planning and Improvements

The airport would welcome a master plan as an important tool to identify facility and safety improvements and priorities. The Firebaugh Airport Layout Plan was revised in 2013 and approved in early 2014. In 2012, the City of Firebaugh received $156,496 to improve taxiway and tie-down aprons' pavement.

Fresno Chandler Executive Airport Planning and Improvements

Fresno Chandler Executive Airport began a comprehensive Master Plan update in September 2017. The updated plan will guide development over the next 20 years, reinforce Chandler's role as a reliever airport to Fresno Yosemite International Airport (FAT) and as an executive airport suitable for business aircraft.

Fresno Chandler Executive Airport continues to make improvements as funds allow. New T-hangars and maintenance facilities have been constructed, as well as an Automated Weather Observing System (AWOS). Two new GPS approaches now exist. Runway 30/12 was recently extended to 3,630 feet, while Taxiway A was rehabilitated and airfield drainage and security improvements conducted.

Fresno Yosemite International Airport (FAT) Planning and Improvements

In cooperation with the FAA, FAT is in the process of updating its airport master plan. Known as the Fresno Yosemite International Airport Master Plan Update 2016 (AMP), the process includes six public meetings, including one with the Airport Land Use Commission (ALUC). The AMP will provide FAT a 20-year planning window, including an FAA-approved, 20-year aviation demand forecast and an FAA-approved Airport Layout Plan (ALP).

FAT's facilities have undergone several improvements recently. In 2015, FAT saw the addition of a mothers/ lactation room with well-appointed, private space. In 2016, FAT completed an $11 million Commercial West Ramp reconstruction project that replaced existing pavement, lighting and drainage facilities, and provided vehicle charging stations for airline support equipment and infrastructure for future boarding bridges. In 2016, FAT added a new, $2.3 million employee parking lot and expanded its cell phone waiting area from 17 stalls to 47. The employee parking Lot expanded to 436 stalls. Other improvements included a relocated and larger taxi queuing area, a new ground transportation drivers' enclosed waiting facility, electric vehicle charging stations in the employee lots, lighting and security enhancements and reduced traffic circulation on the Terminal drive. In the same year, a FAT completed 14 electric vehicle charging stations in the general public parking lot.

FAT began a Taxiway C reconstruction project towards the end of 2017. This project is a $27 million, multi-phased effort that removes and replaces existing Taxiway C pavement, lighting, markings and drainage facilities. The project is part of the airport's ongoing commitment to ensure FAT remains operationally ready and is properly positioned for local and regional growth.

Harris Ranch Airport Improvements

There have been no major improvements or projects at the Harris Ranch Airport other than regular maintenance such as painting faded runway markings, cleaning and levelling safety areas and all other safety measures recommended during required Caltrans Aeronautics safety and permitting inspections to meet current design standards.

Mendota (William R. Johnston) Planning and Improvements

The Mendota Airport needs an airport master plan to address airport infrastructure deterioration. Continuing deferred maintenance will result in the eventual obsolescence of this community asset. The airport's layout plan was last updated in 2011.

NAS Lemoore Joint Land Use Study and Master Plan 2030

Spearheaded by the Kings County Association of Governments, NASL participated in a 2011 Joint Land Use Study with Fresno County, Kings County and the City of Lemoore in which land use recommendations were published to protect naval operations. As a result, both Fresno and Kings Counties zoned the areas within three-to-four miles of the NASL boundary as "exclusive agriculture" to ensure compatible land uses near areas that are closest to flight operations. The City of Lemoore created an Overlay Zone under the Navy's low-level flight path called the "Ground Control Approach Box" that limits structure heights and requires noise mitigation building standards for future incompatible developments, such as residential uses. Stakeholders adopted the JLUS in 2011 and informally re-evaluated in 2016.

With local community input, NASL completed a Master Plan in 2014. The process included several community meetings and visioning sessions that resulted in an approved 2030 Plan. While the Plan is considered a dynamic document, it focuses on a walkable base community and access to amenities, increasing quality of life for active duty military and their dependents. Additionally, to accommodate for the needs of the Joint

Strike Fighter, the plan emphasized specific facilities requirements, including upgrades and modifications to hangars, additional infrastructure and utilities improvements and a new simulator training facility.

Reedley Airport Master Planning and Improvements
The City of Reedley is updating its Airport Layout Plan, which includes an extensive draft report identifying needed improvements and priorities. Reedley officials adopted their most recent Master Plan was adopted in 2008. The latest airport improvement was completed in 2012 and included an apron overlay (slurry seal, design and construction) and a beacon replacement.

Selma Aerodrome Master Planning and Improvements
The Selma Aerodrome does not have a master plan; however, an airport layout plan is being developed as part of the Airport Land Use Compatibility Plan update that focus attention on facility preservation and improvement. Selma Aerodrome does not receive funding from local, state or federal sources to conduct planning or major improvement efforts.

The Selma Aerodrome has not made any major improvements since it was built in 1963, and focuses on maintaining FAA (Federal Aviation Administration) FAR Part 77 safety requirements, even though it must do so with limited funding from its shrinking private operating revenues. This makes modernization projects out of reach without support from local sources such as the City of Selma.

Sierra Sky Park Airport Planning
The Sierra Sky Park Airport does not have a master plan; however, as a privately owned public use airport that is not unusual. An airport layout plan is being developed as part of the Airport Land Use Compatibility Plan update process, which will focus attention on facility preservation and improvement. Surrounding land use encroachment is of constant concern.

There have been no major improvements completed, other than regular maintenance in compliance with Caltrans Aeronautics safety and permitting regulations and recommendations. All runway maintenance and improvements are financed directly by the Sierra Sky Park homeowner's association using HOA dues. Therefore, no public funds of any kind have ever or will be used to operate or maintain the airport. In recent years, airport operators installed a runway 30 Precision Approach Path Indicator (PAPI) and, in accordance with Caltrans directives, obstacle lighting along the east airport boundary. In 2016, operators installed a new runway/taxiway lighting system, while in 2017, runway designators were repainted and runway/taxiway pavement borders installed.

Airport Land Use Commission
Fresno Council of Governments assumed responsibility from the County of Fresno for staffing the Airport Land Use Commission (ALUC) in 2008. The ALUC reviews land uses and land use changes, rezoning applications, zoning ordinance text amendments, airport master plans and building regulations proposed by local jurisdictions when located in Fresno County airport influence areas. This review process determines plan and projects land use consistency with Fresno County Airport Land Use Compatibility Plans (ALUCP) for noise, safety, airspace protection, and avigation easement and protection.

In 2017, Fresno COG received funding from the Department of Transportation's State Aeronautics program to develop a unified Fresno County Airport Land Use Plan. This plan combines all eight existing

airport compatibility plans into one document, adding an additional chapter to address the land use compatibility issues and requirements of NAS Lemoore. Many of the adopted Airport Land Use Compatibility Policy Plans are out-of-date with adoption dates ranging from 1983 to 2012, and must be brought into compliance with the State Aeronautics Act. It is crucial to provide updated, unified tools for consistency review findings on plans and projects adjacent to Fresno County's airports. The plan is expected to be completed in late 2018.

Needs Assessment

Several issues continue to impact aviation in California, including safety, noise, ground access, transportation system management, airport financing, institutional relationships, land use, air quality, air service and public awareness. These issues also impact the Fresno County aviation sub-system.

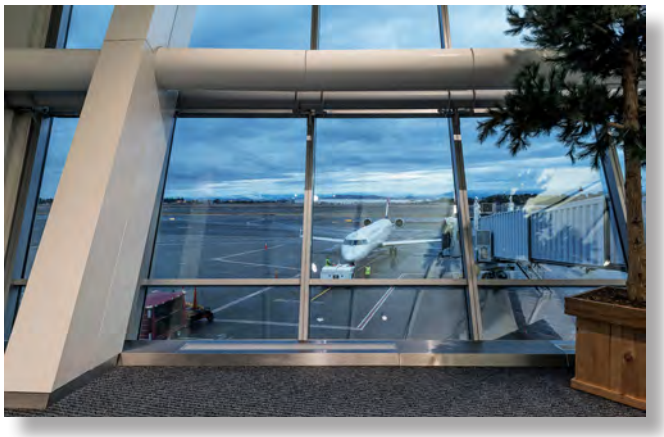
Of particular importance to Fresno County airports is the need for additional state and federal funding to maintain existing airport facilities and construct new facilities necessary to accommodate anticipated levels of growth in based aircraft and aircraft operations. While the general aviation airports located in the county will likely have ample capacity to accommodate forecasted levels of aircraft operations, this capacity could be significantly reduced if airport runways, taxiways, landing and navigation aids and other airport support facilities cannot be adequately maintained because of funding constraints. Likewise, airports' ability to accommodate forecast levels of based aircraft depends on funding to both maintain existing parking facilities and to construct additional parking as the need arises.

The California Aviation System Plan identifies all eight Fresno County General Aviation Airports for facility enhancement and funding for master plans. While Coalinga and Reedley have successfully secured funding to develop airport master plans, airports in Firebaugh, Mendota and Selma, as well as Sierra Sky Park, will require master plans to guide future improvement and development. A master plan could help reignite the conversation within the City of Selma to acquire the airport. Also, each of the cities, including Selma, believes its airport is important for economic development. Airport master plans would help delineate the physical relationship between airport development and adjacent industrial and business park development.

FAT's service area consists of six counties including Fresno, Kings, Madera, Mariposa, Merced and Tulare. As of January 2017, the State Department of Finance population figures indicated this six-county area has a population of 2,066,659 or 5.2% of California's population of 39,523,613. The passenger usage at FAT has been steadily growing since 2010 and ridership reached an all-time airport record in 2016 with 1,540,923 passengers. Airfares are stable due to the choice diversity travelers have among ten airlines and 12 destinations, five of which are major gateway hubs. The airlines have responded to sustained, regional economic growth by adding flights, destinations and available seats; however, leakage occurs due to market forces generated by the automobile and alternative airports in Sacramento, the Bay Area and Los Angeles. Passengers within FAT's service area who choose to fly

out of these alternative airports or drive to their final destinations will continue to respond as the airlines offer more flight destinations, frequencies and additional seats, all of which make other travel choices less convenient. In addition, ongoing education will inform residents within the six-county service area of FAT's advantages over other airports in larger metropolitan areas. These advantages include: reduced travel time, lower congestion, less vehicle

wear, cost and exposure and better parking and security. Complementary services like the Yosemite Area Regional Transportation System with strategic airport stops may dramatically improve options for travelers and increase interest in the city and the region.



Airport maintenance's capital-intensive nature, makes it difficult to plan and prepare for future improvements. Air traffic system modernization technologies such as NexGen (Next Generation Air Transportation System http://www.faa.gov/nextgen) have safety and efficiency benefits for both commercial airports like FAT and general aviation public use airports in Fresno County. As access and funding to these technologies becomes available, the Fresno County region will join the nation's air transportation system's improvement in travel times, safety, fuel economy, environmental impact and economic contribution.

There is also an ongoing effort to quantify and promote FAT's economic significance to Fresno and the entire San Joaquin Valley to better develop and sustain ongoing support. It is important that this marketing effort continue. Policy research on long-term economic development planning and revenue generation strategies has consistently shown that airports provide a city, region and state with many co-benefits. Airports provide global connectivity for general and business travel and they generate tourism revenue at the local level. California is among the top two destinations for foreign travel and exports, ranking No. 1 in domestic air travel.

Of increasing economic significance to FAT is air cargo's role and value. In this regard, major airports in both southern and northern California may experience significant air cargo constraints that include both facilities and operations capacity, thereby presenting FAT an opportunity. Short-term intermodal goods movement planning should focus on greater air cargo/distribution services, resulting in long-term increases associated with passenger demand.

Proposed Actions - Future Planning Activities

The land use policy plans for general-aviation, public-use airports in Fresno County provide for orderly growth. Local governments' future land use planning efforts will seek to assure that land use actions are consistent with these recommended policies. Fresno COG is committed to include aviation system planning as an integral part of its transportation planning program and to prepare special aviation studies or reports as needed. It is further committed to update the Fresno County Regional Aviation System Plan at the appropriate time.

Short-Range Improvement Plan

The short-range improvement plan calls for continued airport facility maintenance, ongoing improvements and clear zone protection to comply with safety standards. Airport land use compatibility will continue to be emphasized.

Coalinga Airport Short-Range Improvements

The City of Coalinga plans to build a 7,500 foot runway with a full Instrument Landing System (ILS). Planned short-range improvement projects include runway, taxiway and apron pavement maintenance, additional vehicle parking, as well as sewer and natural gas line extensions to the airport. Longer-range improvements include a 4,000-foot cross wind runway with parallel taxiway and lights, hangars for potential light industrial tenants, shades for existing tiedowns, a terminal building and a fire station which is needed due to wind direction and velocity safety considerations at the airport.

Firebaugh Airport Short-Range Improvements

The City of Firebaugh's planned short-range improvement projects include: new taxiway lighting, additional aircraft apron and hangars, a fuel island, pilot's lounge and security gates. As with other airports in the County, producing an Airport Master Plan remains a high priority.

Fresno Chandler Executive Airport Short-Range Improvements
The airport's planned short-range improvement projects are designed to improve safety and security and rehabilitate aircraft taxiways. Longer-range improvement projects are to design and build airport access road improvements, north airfield drainage improvements and improve the airport's runway safety areas.

Fresno Yosemite International Airport (FAT) Short-Range Improvement
FAT's planned short-range improvement projects include rehabilitating the West Commercial Aviation Ramp, acquiring a new aircraft rescue/firefighting vehicle and rehabilitating taxiways C, B3, B4, C4, and B7.

Harris Ranch Airport Short-Range Improvement
Harris Ranch operates as a private, limited-use airport that primarily serves the Harris Ranch Inn and Restaurant. The airport does not rely on federal or state funding for operating or capital improvement revenue and therefore does not have any significant improvement projects planned. With close proximity to Interstate 5, the airport is a good site for emergency aircraft services, which is the main reason for its public use designation. Harris Ranch Airport provides an important public safety function for the surrounding rural community, and travelers and commuters in the region.

Mendota (William R. Johnston) Airport Short-Range Improvement
Now permitted for day use only, Mendota's airport is focused on bringing the airport runway lighting, taxiways and apron up to standard. Planned short-range improvements include a parking ramp cap-and-seal job, a new runway seal coat, widening the runway's southern 700 feet to the 60-foot width of the north end, reconstructing and extending taxiways, apron expansion, provide hangars, improve access roads, major runway light replacement and electrical improvements. Developing an Airport Master Plan is also a high priority.

Reedley Airport Short-Range Improvement
Short-term development projects (five-year) include: improvements to airport and airfield drainage, grading runway safety areas, fuel facility relocation, southside transient parking apron area improvements, electrical vault replacement and perimeter fencing replacement. Other recommended medium (10-year) to long-term (20-year) projects include: acquiring land to maintain a buffer against incompatible land-use encroachment around the airport and upgrades to the antiquated and deteriorating main hangar and terminal facilities.

Selma Aerodrome Short-Range Improvement
The Selma Aerodrome's needed short-range improvements include rehabilitation and lengthening the runway from 2,400 feet to 3,600 feet, although the airport meets federal design standards. The airport maintains an excellent record of maintenance and safety measures, even though it operates as a private public use airport and does not receive funding from local, state or federal sources. This makes modernization projects challenging and improvements impossible at this time. An Airport


Fresno Chandler
1936


Executive Airport
Today

Master Plan would be instrumental in focusing attention on needed improvement funding and support from the City of Selma.

Sierra Sky Park Airport Short-Range Improvement
The only short-range improvements planned for Sierra Sky Park include regular maintenance in compliance with Caltrans Aeronautics safety and permitting regulations and recommendations. This is carried out by the homeowners' association.

Ground Access Improvement Program

FAT is the only primary air carrier airport in the Fresno COG planning region. This section identifies existing and anticipated access conditions that may impact FAT and affect its ability to serve future demand. Ground Access Capital Improvement projects and funding are discussed in this section.

Highway Accessibility From The Urban Area
Highway access to FAT and Fresno Chandler Executive Airport, two of the region's largest airports, has improved considerably with State Routes 168 and 180 connecting the airports with the state highway system and beyond. State Route 180 has been improved between Brawley Avenue west of State Route 99, providing freeway access to Chandler Executive Airport. East of Academy Avenue to the City of Sanger, improvements continue to connect to the Sequoia National Park entrance. State Route 168 has been improved between State Route 180 and Tollhouse Grade. The braided ramp project has also improved the interchange system among State Routes 180, 168 and 41, providing safer and more efficient access to and from FAT.

Surface Streets
Major streets providing access to FAT include McKinley, Clinton, Shields, Dakota, Peach and Clovis Avenues. FAT's commercial passenger and parking facility access is on Clinton Avenue, while McKinley Avenue provides both commercial and military access. Clovis Avenue is a major arterial that offers direct access to commercial areas as well as providing north and south access to McKinley Avenue. Clovis Avenue also provides major access to FAT from the City of Clovis. Shields Avenue borders the airport on the north side and provides access to commercial, military and private aviation-related traffic.

With newly completed, capacity-increasing projects on State Routes 168 and 180, major traffic feeders to the airport, certain surface streets have been affected by increased traffic levels. Peach Avenue between Freeway 180 and McKinley Avenue, which provides major access to FAT, was widened to a four-lane arterial street that includes an attractive "gateway" treatment at McKinley Avenue.

Mass Transit Service

Urban Transit
FAT is directly served by the city of Fresno's transit service, Fresno Area Express (FAX). FAX Routes 39 and 26 provide interline service every half-hour on weekdays and every hour on weekends. FAX also provides scheduled, fixed-route and demand-responsive Handy Ride services throughout the Fresno-Clovis Metropolitan Area. FAX annually reviews bus routing and schedules, evaluating the need for new service.

Rural Transit
Fresno County Rural Transit Agency (FCRTA) provides access and connectivity throughout Fresno County. Its Coalinga Transit intercity services provide direct, end-to-end service to FAT once a day, Monday through Saturday. Other rural, intercity routes provide service connection to FAX in Downtown Fresno at three transfer locations in Courthouse Park. It's important to note that each transit service is 100% accessible for frail, elderly and disabled passengers.

The Yosemite, Sequoia and Kings Canyon National Park Transit Market Assessment & Feasibility Study conducted in 2011, showed significant demand for public transit from Fresno to these national parks. Two pilot programs, one providing transit service to Sequoia-Kings Canyon

National Park and the other to Yosemite National Park, began in May of 2015. Fresno County Rural Transit Agency managed the service to Sequoia-Kings Canyon National Park, which ran for both the 2015 and 2016 summer seasons, providing rides to thousands of passengers. The Fresno-to-Yosemite service is administered by Fresno COG, managed by Merced County Association of Governments and is part of Yosemite Area Regional Transportation System (YARTS). This service continues to operate five daily runs seasonally, May 15–September 15, and begins each of its five seasonal daily runs at FAT, transporting passengers north on State Route 41 to Chukchansi Casino, Coarsegold, Oakhurst and Bass Lake before eventually reaching Yosemite Valley.

High-Speed Rail

Fresno COG and its member agencies anticipate that future high-speed rail service through the Valley will stop in downtown Fresno with connecting service to FAT by bus or some other fixed-guideway transit system.

Taxis

Taxi service is available at FAT throughout the airport's service hours.

Transportation Network Companies (TNCs)

Transportation network companies provide ridesharing service at FAT, operating under an agreement with the airport.

Hotel Shuttle Service

Several area hotels operate shuttle services to and from the airport.

Terminal Area

Curbside Access

Until recently, FAT experienced considerable curb congestion. The Terminal Area Plan recommended terminal curbside area expansion and an on-airport recirculation roadway, both of which have been completed. The plan also calls for an additional access lane from East Clinton Avenue and East McKinley Avenue to improve airport access from the north and south.

Air Cargo

Total air freight and mail tonnage is forecast to increase by 2030. Additional air cargo facilities have recently been completed, including the north side air cargo facilities among the US Marine Base, the Army National Guard facility, Taxiway B and Airways Drive. A new air cargo ramp and access road improvements have been designed to accommodate air freight companies and to capitalize on Fresno's mid-state location. The large staging area built on airfield's north side will consolidate air cargo in a strategic location and provide room to expand.

Parking

The Terminal Area Plan recommended new parking facilities within the terminal access roadway loop to meet increased demand, both of which have been completed. Additional parking spaces will be addressed as the enplanement level rises.

Financing

Existing Financial Sources

Aeronautic projects are funded from federal, state and local sources. The Regional Transportation Plan anticipates that funding for airport projects will fall short over the next 20 years. The Measure C Extension Plan established an estimated $17,000,000 for airport projects (approximately one percent of the Measure's extension), at Fresno Yosemite International Airport and Fresno Chandler Executive Airport. Estimated funding has been revised

to $14,474,820; a $2.52 million adjustment that reflects reduced sales tax receipts originally anticipated for the 20-year period ending in 2027. These funds will be available to match state and federal funding for improvements at the two airports.

Unfinanced Needs

Funding for public use airports in the county have recently been and likely will continue to be increasingly precarious and complex. Recent and future trends indicate that there will be increasing reliance upon local, private, and non-traditional sources of funding for airport maintenance, operation, and development. Consequently, airport operators and managers who recognized these funding trends compensated with funding changes at the local level. For example, the City of Fresno imposed a Passenger Facility Charge for Fresno Yosemite International Airport, and the City of Reedley re-evaluated its entire airport fee structure to generate additional revenues. However, for the county's remaining airports, it is not possible to substantially raise revenue from fees, leases, concessions and other local and private sources. These airports still require subsidy from their individual community's general fund.

This increasingly difficult funding situation exists just as airports have identified necessary development projects with a growing awareness how important local airports are to the entire transportation system and regional economy. A reliable airport development and maintenance funding source is vital to the region's economic well-being.

4.7 Active Transportation

Overview

The Active Transportation Element discusses human-powered travel -- such as walking and bicycling -- using regional, metropolitan and community bikeway and pedestrian networks. A community's ability to travel by bicycling and walking is a strong indicator of good land use and transportation planning. This is accomplished by placing complementary land uses in close proximity and by developing attractive, convenient pedestrian and bicycle environments, increasing the number and percentage of trips taken by bicycling or walking. This element also recognizes the value of equestrian and hiking trail systems for recreational purposes, as enhancements to the multimodal transportation system and for their contribution to an improved quality of life in Fresno County.

For many, bicycling and walking has several appealing aspects. Both have positive air quality, energy, economic and health impacts and can reduce automobile congestion. From an air quality perspective, every bicycle or walking trip that replaces an auto trip results in cleaner air.

The bicycle's door-to-door capability and the flat terrain makes cycling an attractive alternative mode of transportation in the Fresno County region when the climate is mild. A comprehensive bikeway system provides connectivity between cities and access to destinations of regional interest.

Pedestrian and bicycle access also improves public transportation's effectiveness and efficiency, considering most trips incorporate walking or cycling at one or both ends of the journey. Commuters are more likely to take transit if they can easily walk or bike from their home or worksite to a transit stop or station, making walking and bicycling infrastructure improvements an effective way to support transit use. The Blueprint Planning Program outlined this relationship through its Blueprint Smart Growth Principles that emphasized the need to "create walkable neighborhoods, mixed land uses, and provide a variety of transportation choices" among many others.

Within the 2007/08 – 2026/27 Measure C Expenditure Plan, four percent of funding is allocated to pedestrian/trails/bicycle facilities subprograms. Measure C earmark funds may be used for new construction of pedestrian/bicycle trails, bike lanes, for the development of Bikeways Master Plans for retrofitting pedestrian/bicycle trails that existed within the circulation system as of January 2007

or the Master Plan/Active Transportation Plan's adoption date.

The Final Measure C Extension Expenditure Plan includes additional requirements applying to all streets, roads and highways using either regional or local allocation funds. For example, every highway, expressway, super-arterial, arterial, or collector built or reconstructed with Measure C Extension funds shall include accommodations for bicycle travel either by a shared roadway or by bike lane. The Expenditure Plan includes a description of these additional requirements, including exceptions.

In 2008, the State of California enacted AB 1358, the Complete Streets Act, which requires cities and counties to incorporate provisions for multimodal streets into their general plan circulation elements. A complete street is a transportation facility that is planned, designed, operated and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Complete Streets policies emphasize walking, bicycling and transit for good health and well-being. Every complete street looks different, according to its context, community preferences, types of road users and their needs. Policy and funding are coming together to establish an achievable relationship between transit and bicycling/pedestrian infrastructure.

Bicycle and pedestrian transportation goals in Fresno County are as follows:

- **Planning** - Recognizing and integrating bicycling and walking as valid and healthy transportation modes in transportation planning activities
- **Physical Facilities** - Safe, convenient and continuous routes for bicyclists and pedestrians of all types that interface with and complement a multimodal transportation system

Figure 4-13 (a): Bikeway System - North Fresno

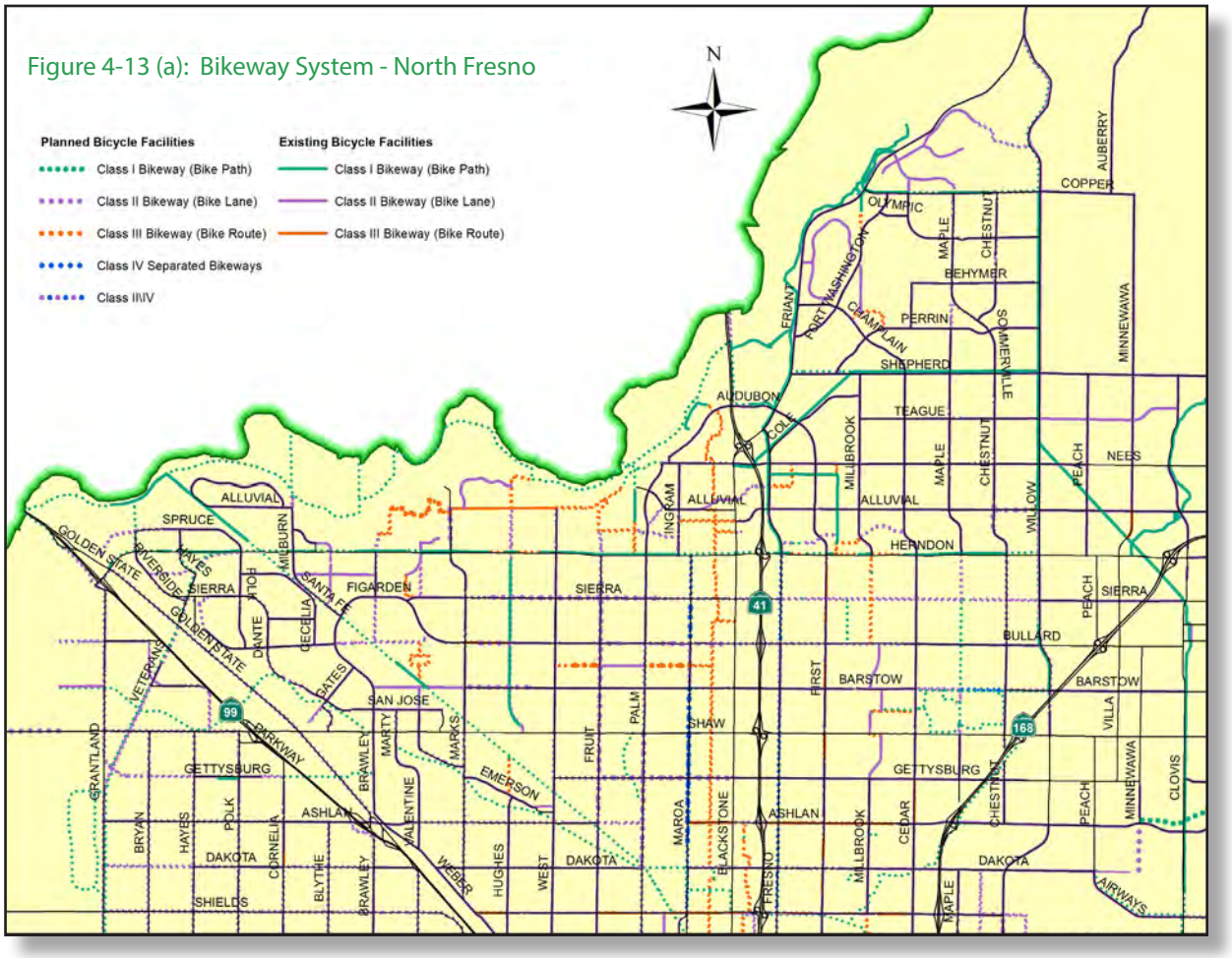


Figure 4-13 (b): Bikeway System - South Fresno

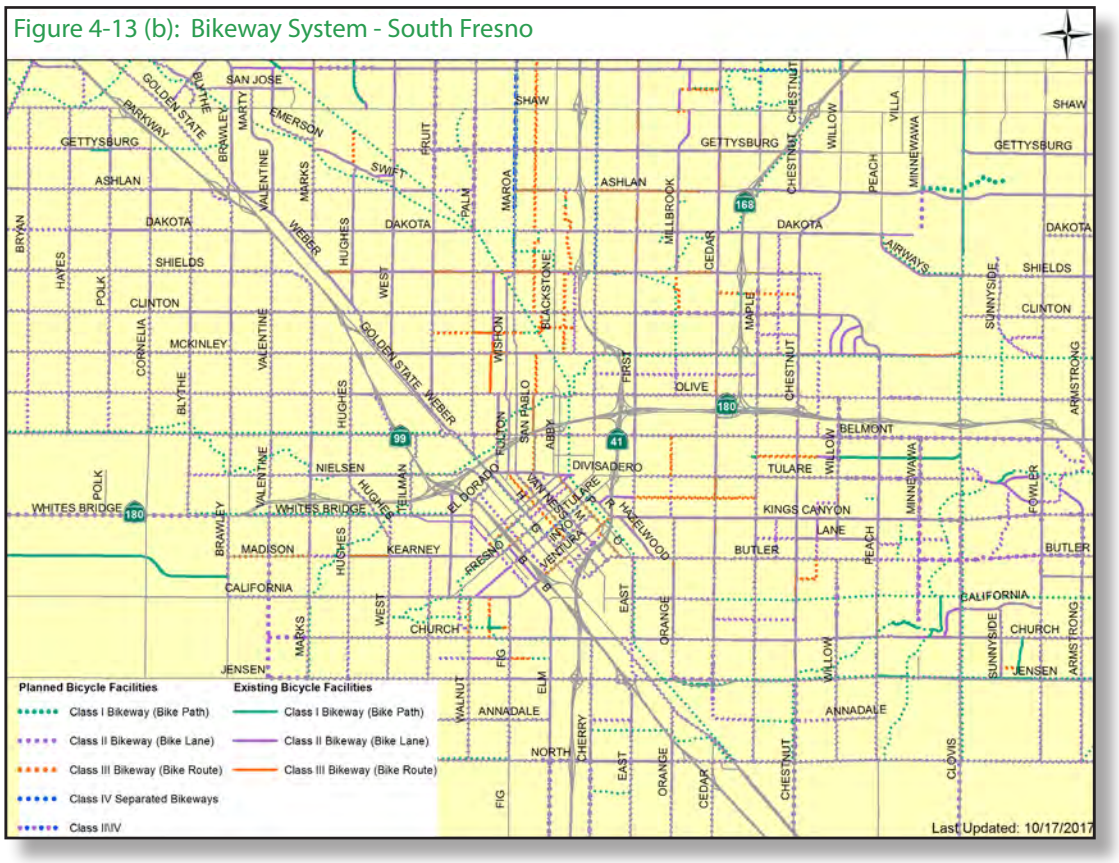


Figure 4-13 (c): Bikeway System - Clovis

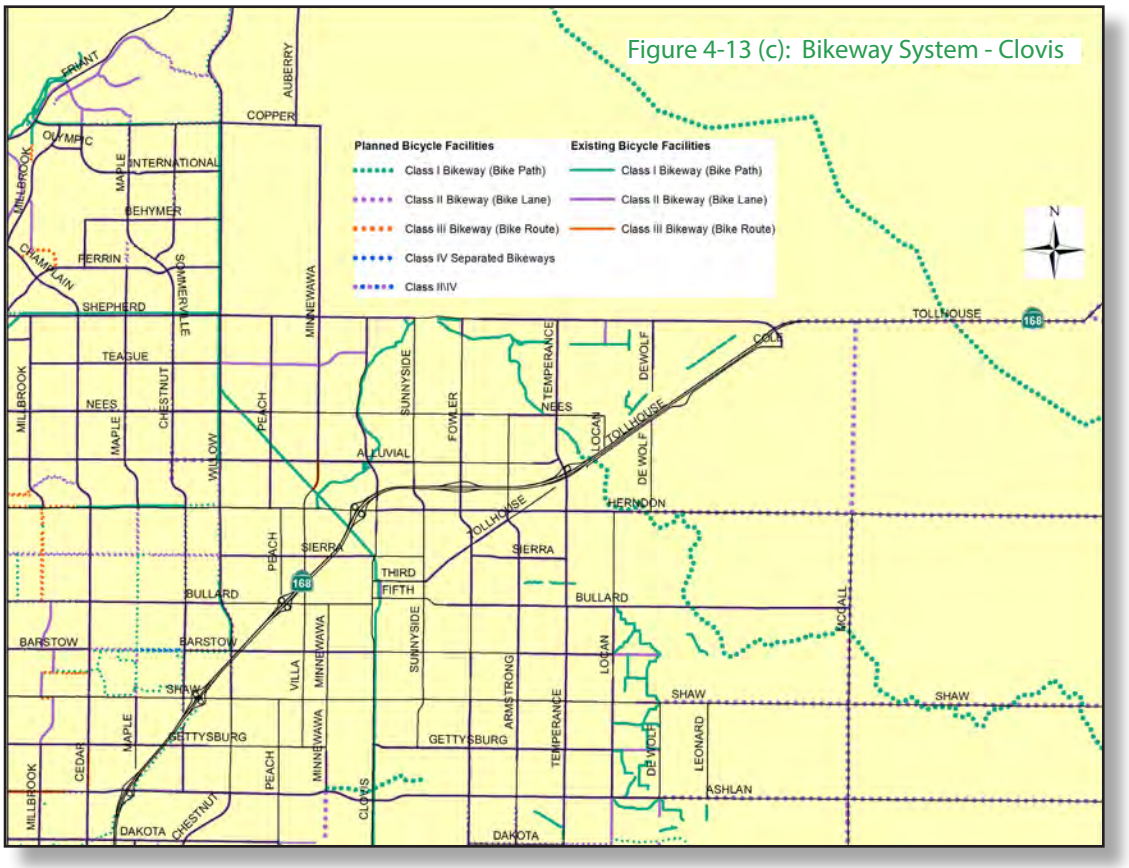
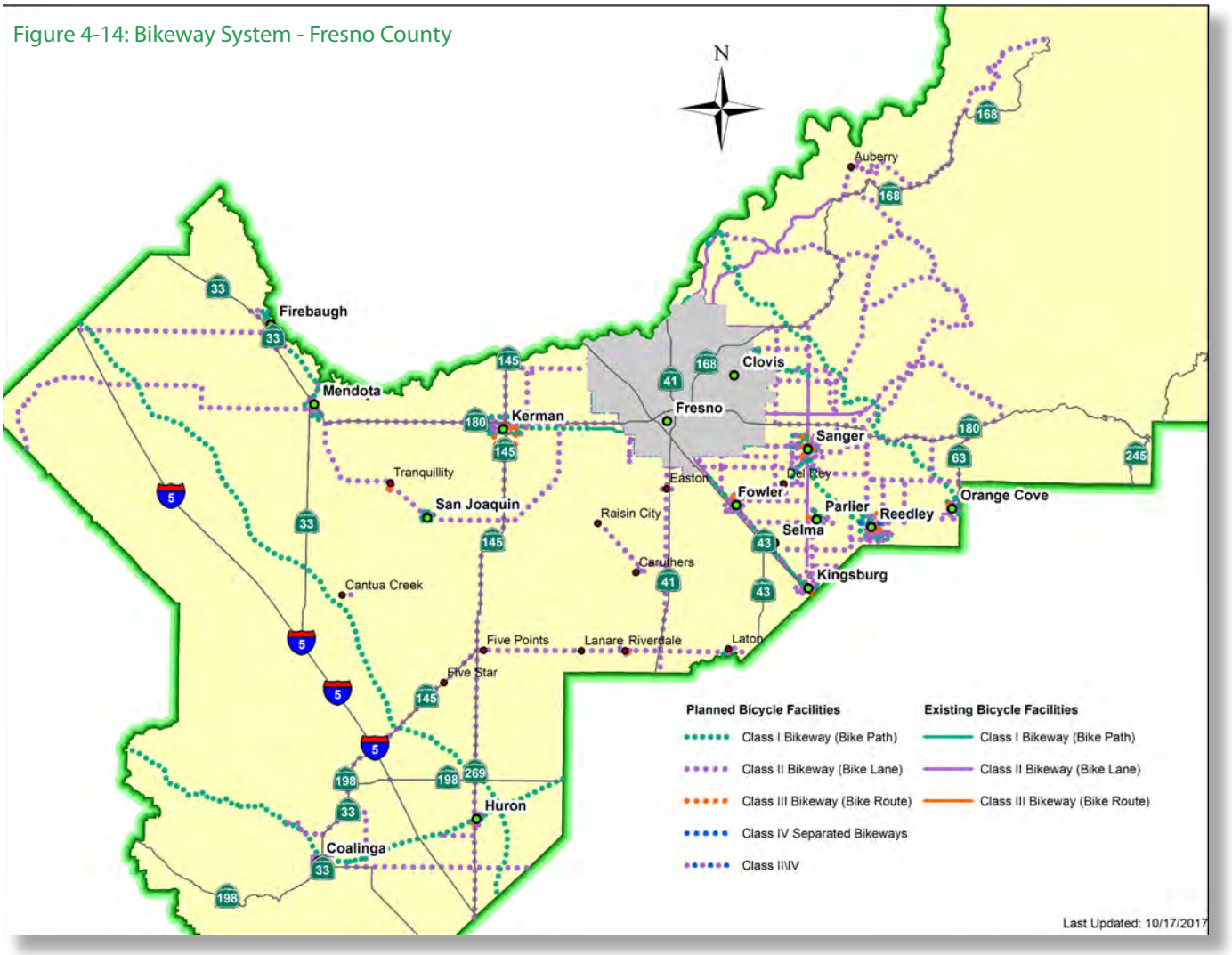


Figure 4-14: Bikeway System - Fresno County



- **Safety and Education** - Improved bicycle and pedestrian safety through education and enforcement
- **Encouragement** - Increased acceptance of bicycling both as a legitimate transportation mode on public roads and highways and as a transportation mode that is a viable alternative to the automobile
- **Implementation** - Maximizing funding opportunities to increased development of the regional bikeways system, related facilities and pedestrian facilities

Accomplishments

The cities of Fresno, Clovis, Coalinga and Selma recently demonstrated the region's active transportation commitment through their bicycle, pedestrian and trail planning efforts. To maintain this momentum, Fresno COG assisted its remaining member agencies in developing a Regional Active Transportation Plan that advances and complements the region's planning goals. The plan provides an overview of bicycle and pedestrian mode conditions and highlights needs and improvements. Existing and planned urban bikeways are shown in Figures 4-13(a) to 4-13(c). Existing and planned regional bikeways are shown in Figure 4-14.

The Regional Active Transportation Plan meets the California Transportation Commission's requirements for the Active Transportation Program and enables all Fresno County cities and the County of Fresno to actively compete for bicycle and pedestrian project funding. The plan calls for routes to link communities and provide access to activity centers, including major commercial and employment centers, major recreational sites and schools. The networks include shared-use paths, bike

lanes and routes and separated bikeways. The sidewalk improvements also fill gaps in the sidewalk network and add crossing improvements to enhance safety near schools and across busy roads; however, limited funding has a big impact on their construction. Nevertheless, local agencies continue to add to the inventory of completed bikeways on an ongoing basis, particularly in conjunction with new development.

In September 2014, the Legislature amended the California Streets and Highways Code to include Class IV Separated Bikeways, which are facilities that include a vertical physical barrier, such as flexible bollards, a curb, on-street parking, or planter boxes between the bikeway and moving traffic. Shortly thereafter, Fresno COG funded a Class IV bikeways feasibility study. The study evaluated potential Class IV separated bikeway routes on corridors strategic to developing a comfortable and connected active transportation network in the Fresno-Clovis Metro area. Separated bikeways can improve safety by reducing conflicts between people biking and driving, and they appeal to less confident or inexperienced bicyclists because of the protection they offer from moving vehicles. When well designed and integrated into an active transportation network, separated bikeways can also help the region meet goals and performance measures in local and regional planning documents by promoting bicycles for transportation.

The Separated Bikeways Feasibility Study presented a review of design guidance and implementation needs, evaluates existing corridors in the Fresno-Clovis area and identifies key locations where separated bikeways will likely provide the greatest benefit or return on investment. To do this, the project compared area demographics to activity generators, the existing bicycle network and bicycle-related collision maps to help develop evaluation criteria assessing separated bikeways' feasibility and priority in the Fresno-Clovis Metro area.

The City of Fresno street design standards for collector and arterial streets in newly developing areas require a minimum of five feet of paving in both directions of travel dedicated for use as bike lanes. This standard has promoted the long-term development of a bikeway system in newer areas and avoids conflicts when on-street parking losses become a necessary part of bikeway implementation after construction. Since 2010, the City of Fresno has increased the number of bicycle facilities throughout the City by adding 24 miles of Class I bike paths, 205 miles of Class II bike lanes (one direction) and eight miles of Class III bike routes (one direction), which brings the city's totals to 38 miles of Class I bike paths, 431 miles (one direction) of Class II bike lanes and 22 miles (one direction) of Class III bike routes. In recognition of this ongoing effort, the League of American Bicyclists designated City of Fresno a Bicycle Friendly Community with a bronze-level award in 2009, which was re-established in 2015. Since 2011, the City of Clovis has increased the number of bicycle facilities by adding 13 miles of Class I bike paths and 127 miles of Class II bike lanes, bringing its totals to 27 miles of Class I bike paths, and 169 miles of Class II bike lanes.

The cities of Fresno and Clovis require bike racks in new commercial development to encourage bicycling and bus commuting. They have also installed bike racks on their entire fixed-route transit fleets, as has the Fresno County Rural Transit Agency. The City of Fresno additionally established a Bicycle Pedestrian Advisory Committee that advises the City Council and Mayor on matters involving bicycle and pedestrian transportation.

Cities outside of the metropolitan area have also incorporated bikeway facilities in their plans and programs by addressing bicycle transportation in their general plan circulation elements and within other local planning documents and planning policies.

Needs Assessment

In May 2014, the Fresno COG Policy Board directed staff to develop three Sustainable Communities Strategy (SCS) implementation programs in response to a coalition of community groups during the 2014 RTP/SCS development process. The Transportation Needs Assessment study was one of the three programs for which the following tasks have been completed:

- Databases for existing and future bike and pedestrian facilities
- An inventory of existing bike lanes and sidewalks
- Mapping health data and bike, pedestrian and transit facilities in combination with disadvantaged communities, as defined by the study
- A regional gap analysis for bike and trail facilities that focused on their inter-city/community connectivity. Demand scores for such facilities were developed based on factors such as population/ employment density, proximity to schools, transit stop, land use mixes, etc. Missing connections were identified and projects were prioritized based on the demand scores, proximity to needs assessment hot-spots and schools, disadvantaged community status, employment density, population density, proximity to transit stops and many other factors

  A prioritized list of gap projects

- A transportation connectivity/accessibility analysis for 10 major regional and subregional facilities:
  - A connectivity and accessibility analysis conducted for 10 hot-spots
  - A connectivity and accessibility analysis focused on access to such facilities in disadvantaged communities.
  - The analysis covered all modes, including: bike, pedestrian, transit and auto.
  - Improvement recommendations for each of the 10 hot-spots, presenting opportunities for more detailed system improvement as funding becomes available.

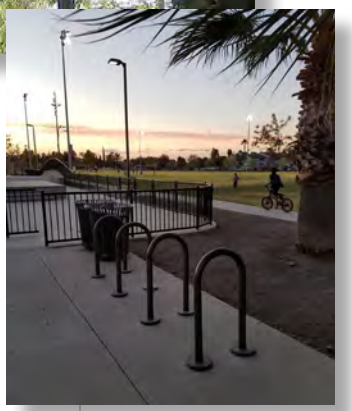
Proposed Actions

Future Planning Activities

Bikeways and pedestrian facilities, including trails, have become increasingly important to the Fresno County region due to air quality, economic development and quality of life (health) considerations. Consequently, Fresno COG has become more involved in integrating active transportation into the regional transportation planning processes.

Regional ATP Short-Term Program (1 - 4 Year Programs and Projects)

California's Transportation Development Act requires that two percent of the Local Transportation Fund be set aside each year for bicycle and pedestrian purposes. Fresno COG apportions these monies annually to each jurisdiction by population. In recent years, local jurisdictions have increasingly used these funds for pedestrian projects as they sought funding to meet ADA requirements. Given the growing emphasis on air quality and Transportation Demand Management objectives, and funding available through the Measure C Expenditure Program that must be spent on ADA improvements, the focus may shift back to allocating them for bikeway system implementation.



Moving forward, Fresno County will continue to build bikeway facilities as a part of its road construction program. The cities of Fresno and Clovis will stripe and sign major street segments recently constructed, particularly within the growing northern, eastern and western portions of the Fresno Clovis Metropolitan Area. The RTP anticipates that the cities of Fresno and Clovis, and Fresno County, will continue to implement the regional bikeway system in a timely manner and that the smaller cities within Fresno County also will continue to implement their proposed bikeway plans as funding provides.

Long-Range Improvement Plan

The Measure C Expenditure Plan requires every highway, expressway, super-arterial, arterial or collector within the County that is constructed or reconstructed in whole or in part with Measure C funds to include accommodations for bicycle travel, either by a shared roadway or bike lane. A shared roadway includes a paved shoulder or a wide outside lane. The Measure includes other provisions as well, such as a list of exceptions to the requirements. The 20-year Measure C Extension Program estimates a countywide funding total for bicycle facilities at $15 million. For pedestrian/trails in the urban area (Clovis and Fresno spheres of influence) it estimates $37 million will be available and for pedestrian/trails in the rural area it projects $16.3 million.

Unfinanced Needs

The Active Transportation Program is funded from various federal and state funds appropriated in the annual budget account. In addition to the annual budget funds, Senate Bill 1 (Beall, Chapter 5, Statutes of 2017), The Road Repair and Accountability Act of 2017, provides the first significant, stable, and ongoing increase in state transportation funding in more than two decades. The Legislature has provided additional funding for transportation infrastructure for existing programs that include the Active Transportation Program. SB 1 appropriated $100 million a year from the Road Maintenance and Rehabilitation account for the Active Transportation Program starting in fiscal year 2017-2018. This funding, paired with Measure C's Pedestrian/Trails/Bicycle Facilities Program allocations, have added significant momentum to planning and developing active transportation facilities; however, unfinanced needs remain. Fresno COG will continue to encourage its member agencies to obtain funding from new sources and to utilize funding already available for completion of the planned system.

4.8 Rail

Overview

At the regional level, the Regional Transportation Plan provides a general framework to ensure coordination among freight and passenger rail with other transportation modes in the planning process. The federal Surface Transportation Board and the California Public Utilities Commission (CPUC) have historically exercised strict control over railroad operations and are, along with the railroads themselves, key partners in this planning process. Moving intercity freight by rail provides an alternative transportation option for the region's wide variety of agricultural commodities and manufactured goods. Freight rail reduces the number of trucks using major interregional roads such as State Route (SR) 99 and Interstate 5, thereby reducing traffic congestion, air pollution and maintenance costs.

Figure 4-15: Rail Network - Metro Area

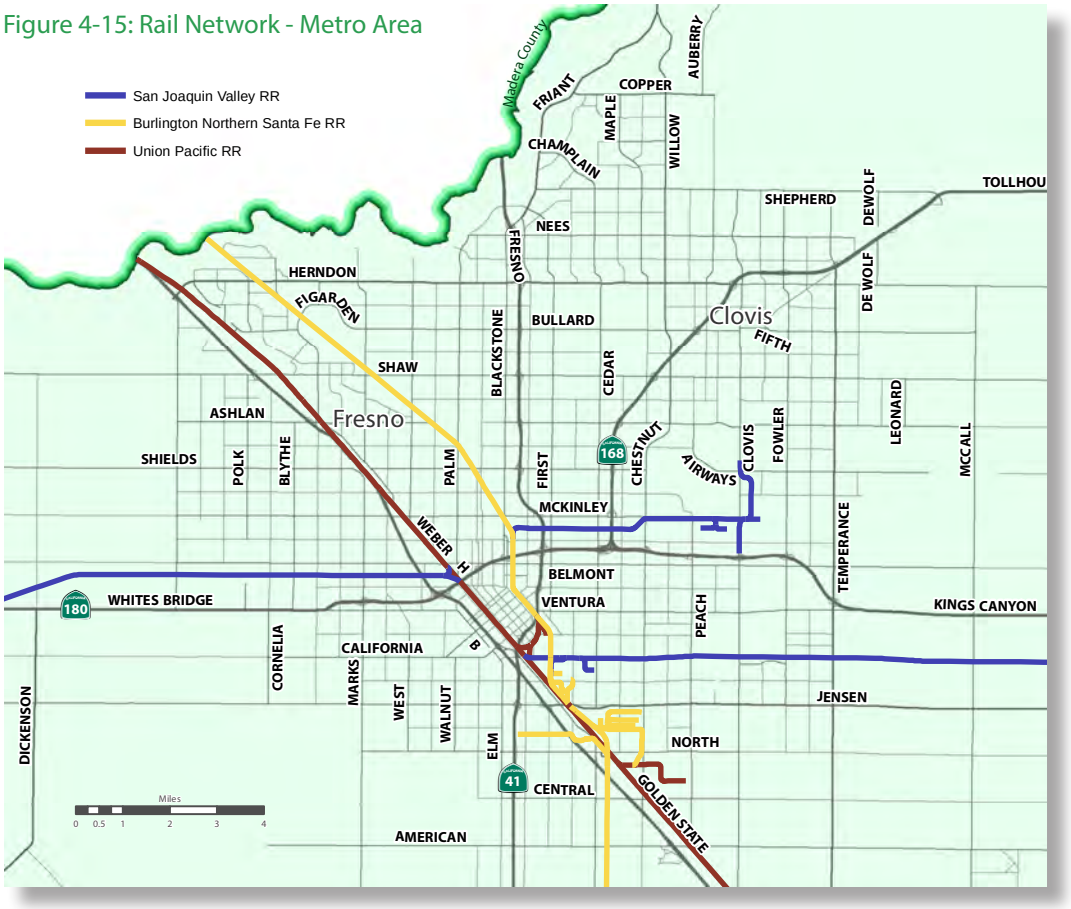


Figure 4-16: Rail Network - Rural Areas

Existing System Inventory

The rail network in Fresno County consists of approximately 280 miles of operating main and branchline right-of-way (Figures 4-15 and 4-16). Union Pacific Railroad (UP) and the Burlington Northern Santa Fe Railroad (BNSF) each operate one mainline that passes through Fresno County. In addition, there are four branchlines that either pass through (Exeter Subdivision) or lie completely within (West Side Subdivision, Riverdale Subdivision, Clovis Subdivision) Fresno County. These branchlines are operated by the San Joaquin Valley Railroad Company, a RailAmerica Company now controlled by Genesee & Wyoming Inc. Additionally, the railroads operate many spur lines to serve industrial and agricultural clients, some of which operate on adjacent property by agreement between the railroad and the property owner.

The Amtrak San Joaquins service continues to play an important role in the San Joaquin Valley's balanced transportation system, filling a service level void that exists in mass transit between intercity bus and airline services. The San Joaquin Joint Powers Authority (SJJPA) manages the Amtrak San Joaquins service, with Amtrak operating five trains per day between Bakersfield and Oakland and two trains per day between Bakersfield and Sacramento with each train making one, daily round trip. This allows for seven north-bound and seven south-bound trains each day at Fresno County's Amtrak Station in downtown

Fresno. Amtrak also operates dedicated bus service connecting rail stations with cities not directly served by the San Joaquins trains. These Amtrak thruway buses are critical to system performance, providing connections at the Sacramento, Lodi, Stockton, Oakland, Emeryville, Martinez, Merced, Fresno, Hanford and Bakersfield stations.

The Fresno station plays a strong role in the San Joaquins' success. It is the busiest station, in terms of origin/destination, serving the San Joaquins route.

Accomplishments

Recent Planning Activities

Light Rail, Commuter Rail, and other Fixed Guideway Rail Systems

Although earlier studies indicate there is not sufficient ridership for a light rail, commuter rail or some other fixed guideway rail transit system, it is prudent to identify and preserve potential future rail corridors, given the region's growth potential. Any potential, regional, fixed-guideway rail transit system should consider future Valley air quality constraints and the alternative to additional lanes on existing commuter corridors between smaller Fresno County cities and the metropolitan downtown hub. Caltrans continues to examine the rail alternative on rights-of-way for new freeway projects.

County rail trackage has been inventoried and analyzed for its future benefit as mass transportation corridors. Trackage is extensive and located in areas that could well serve many of the heavily developed portions of the metropolitan area and other areas of the county. The cities of Fresno and Clovis acquired the 13-mile Clovis Branchline/Pinedale Spurline Railroad Corridor in December 1997 for alternative transportation purposes, including potential light rail.

Commuter rail routes may someday extend into Tulare, Kings and Madera Counties, considering significant commuter activity between the Fresno-Clovis Metropolitan Area and other central San Joaquin Valley urban areas such as Visalia, Madera and Hanford.

Federal and state criteria for light rail or other fixed guideway rail transit may be modified in the future.

Such factors as changes in the economy, air quality, fuel costs and private vehicle availability of private vehicles may also make fixed guideway rail transit more attractive to local agencies and the general public. Both planning and contingency studies on fixed guideway rail transit feasibility and routing should continue.

Amtrak San Joaquins

The San Joaquin Joint Powers Authority (SJJPA) signed an Interagency Transfer Agreement (ITA) with the State on June 29, 2015, transferring the San Joaquins' administrative responsibilities to SJJPA. The 10 member agencies that make up the SJJPA are: Alameda County, Contra Costa Transportation Authority, Fresno Council of Governments, Kings County Association of Governments, Madera County Transportation Commission, Merced County Association of Governments, Sacramento Regional Transit, San Joaquin Regional Rail Commission, Stanislaus Council of Governments and Tulare County Association of Governments.

The seventh daily San Joaquins round trip was added on June 20, 2016, the first new round trip between Oakland and Bakersfield in 22 years. As part of the 2017/18 and 2018/19 operating plans, two of these seven daily round-trips will offer "morning express service" that starts/ends in Fresno as the mid-corridor location, so that they can arrive in Sacramento and the Bay Area by around 8 a.m.

SJJPA is also engaging several strategies to improve the San Joaquins' service, which has potential for increasing ridership, revenue, service coordination and performance.

The new strategies , which require little or no additional resources, include: improving schedules, reducing trip lengths and travel times, improving train monitoring, train and connecting bus schedule adjustments and improved service coordination. SJJPA is working with Caltrans and Capital Corridor to conduct studies that identify strategies to increase capacity for rail service and free up equipment.

With California's phased approach to instituting high-speed rail (HSR), conventional rail services are particularly critical to HSR initial operating segments' success. Services should complement each other, with the San Joaquins providing "feeder" service to the HSR system. On July 26, 2013, SJJPA adopted a Joint Policy Statement signed by the California High-Speed Rail Authority and Caltrans assuring that SJJPA, the California High-Speed Rail Authority and Caltrans will work together to develop viable strategies and solutions to meet the needs of the HSR system, the San Joaquin Rail Service and the stakeholder communities.

San Joaquin Valley Rail Committee

The San Joaquin Valley Rail Committee (SJVRC) provides a forum for voicing Valley rail concerns to Caltrans Division of Rail and Mass Transit and Amtrak regarding service improvements. In October 2015, the SJVRC adopted new bylaws that changed the Committee's structure, which is now citizen-based. The SJVRC is part of a larger grassroots effort by the SJJPA to engage and inform residents about the San Joaquin Valley Rail Service. The SJVRC meets 2-4 times per year, and its members include representatives from Alameda, Contra Costa, Fresno, Kern, Kings, Los Angeles, Madera, Merced, Sacramento, San Joaquin, Stanislaus, Tulare, Mariposa, San Francisco and Butte counties.

California High-Speed Rail Authority

The California High-Speed Rail Authority (Authority) plans, designs, builds and operates the HSR system. The Authority produced a 2018 Business Plan that defines the Silicon Valley to Central Valley Line as service between San Francisco and Bakersfield. This line is different than the one laid out in the 2016 Business Plan, which was from San Jose and Poplar Avenue (north of Bakersfield). The new line was defined due to the stronger ridership potential and higher commercial value. The Silicon Valley to Central Valley Line would create approximately 224 miles of high-speed rail infrastructure on two different lines, one in the Central Valley and one from San Francisco to Gilroy. Both lines could be ready for service as early as 2027, delivering early benefits on the way to completing the full Silicon Valley to Central Valley Line.

HSR broke ground at the future HSR station in downtown Fresno in January 2015. Construction is under way on the system's backbone in the Central Valley. The Merced-to Fresno-project section is part of the system's first phase. This project section is approximately 65 miles and generally parallels the Union Pacific Railroad (UPRR) tracks and State Route (SR) 99 between Merced and Fresno, with stations in downtown Merced and Fresno.

The Fresno Station will be located east of SR 99 on H Street between Fresno and Tulare Streets. The City of Fresno and the Authority are developing a station area plan. The City of Fresno has also been working to prepare a Fresno Station District Master Plan to help the city promote economic development and improve multimodal connectivity. Fresno COG will continue to work with the Authority and its consultants to provide Fresno County consensus positions regarding the many HSR issues, including a heavy maintenance facility location in Fresno County.

Fresno Works Committee

The Fresno Works Committee was formed initially to guide Fresno County's proposal for the HSR heavy maintenance facility, but now focuses on other aspects as well. Committee members include officials from the County of Fresno, City of Fresno and Fresno COG, working together with education, labor and business sectors to ensure the California High-Speed Rail initiative's and its heavy maintenance facility's success in Fresno County.

The Fresno Works Business Plan was updated in April 2015, demonstrating Fresno County's readiness to ensure the HSR Heavy Maintenance Facility's success.

Rail Abandonment

Abandoned railroad branch lines within Fresno County are detrimental to users relying solely on rail freight service and can result losing potential light or commuter rail corridors that would be almost impossible, or at least very difficult, to replace. State law requires that local jurisdictions have a right to review proposed abandonments and have the right of first refusal of that right-of-way. Additionally, Fresno County rail policy seeks legislation requiring all lines proposed for abandonment be brought under public ownership as a precondition to abandonment. COG staff is monitoring potential further abandonment of San Joaquin Valley Railroad segments in Tulare County for implications to Fresno County and future freight and passenger rail.

The cities of Fresno and Clovis hold title to portions of the Clovis Branchline/Pinedale Spurline Railroad Corridor, which lies within their respective spheres of influence. The corridor was developed as a multi-use trail and may also accommodate local rail, light rail, other transit modes, pedestrian paths and bike paths.

Rail Inventory

The following studies provide detailed information on the different mainlines and branchlines existing in Fresno County, including their potential for rail transit:

- 1990 Commuter and Inter-City Rail Right-of-Way Inventory and the 1992 update of that inventory

- 1997 Fresno County Rail Corridor Preservation/ Acquisition and Transportation Alternatives Study
- 2004 Caltrans Rail Right-of-Way and Abandoned Rail Corridors Evaluation Study
- 2011 Business Plans for the San Joaquin Valley Railroad Westside and the San Joaquin Valley Eastside
- 2013 California State Rail Plan

Potential Rail Corridors in Freeway Rights-of-Way

State Routes (SR) 41, 180 and 168 within the Fresno-Clovis Metropolitan Area each contain an ultimate median of 36 feet, which would provide sufficient width for light rail, with the possible exception of interchanges. In addition to the ultimate median, 24 feet for two additional median lanes is reserved for high-occupancy vehicle, dedicated bus or regular traffic lanes, for a total median right-of-way of 60 feet.

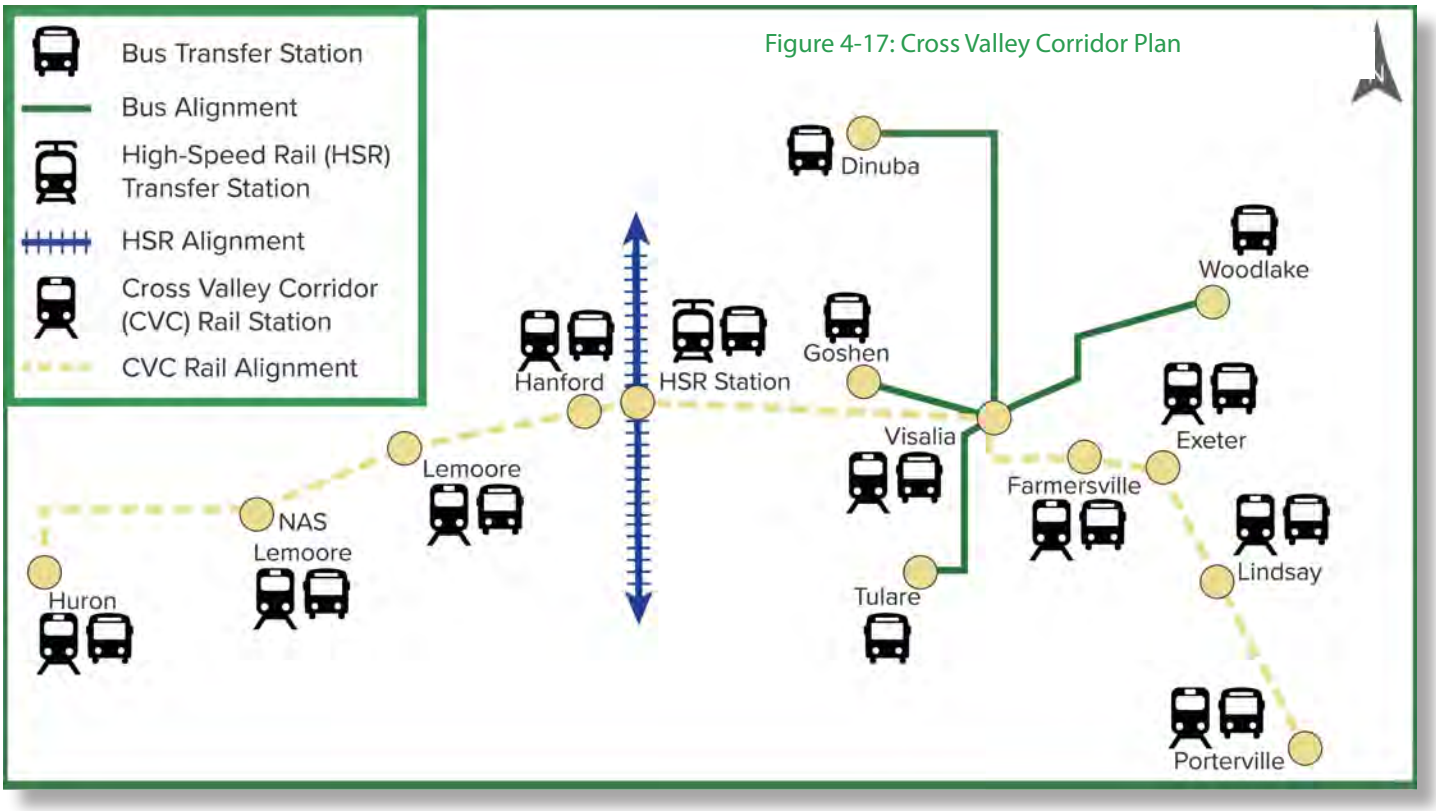
California Inter-Regional Intermodal Service (CIRIS)

This study estimated the market for the California Inter-Regional Intermodal Service (CIRIS), a short-haul rail intermodal service that would connect the San Joaquin Valley with the Port of Oakland. This short-haul rail intermodal service is an alternative that could reduce regional truck traffic by diverting goods between the Valley and the Port from truck dray operations to rail. Furthermore, the Fresno area location appears favorable because it has both a large market and a relatively low cost differential between the CIRIS service and truck-only drayage operations. Public benefits from CIRIS service include lower congestion and emission reductions due to reduced truck traffic.

Potential Commuter Rail Corridor Extension to Adjoining Counties

In addition to identifying and preserving potential future commuter or light rail corridors in Fresno County, the transportation needs and resources of adjacent counties should also be considered. The counties of Madera, Tulare and Kings have also developed rail inventories that may be helpful in determining which rail corridors have potential for regional commuter or light rail service. Kings, Tulare, and Fresno counties, along with the San Joaquin Valley Railroad, private companies and the San Joaquin Valley Air Pollution Control District, cooperated to rehabilitate the rail between Visalia in Tulare County and Huron in Fresno County to improve and re-establish freight rail service. The two-year project was completed in 2003.

Figure 4-17: Cross Valley Corridor Plan



Cross Valley Corridor Plan

In 2016, the Tulare County Association of Governments (TCAG) initiated the Cross Valley Corridor Plan (CVCP) to study connectivity and mobility improvements in the Central San Joaquin Valley. The project aims to increase transit service efficiency; enable communities and cities in the Cross Valley Corridor to promote developments that support transit usage; encourage revitalization and economic development; and, facilitate growth in support of the California High-Speed Rail (HSR) investment.

This project enabled TCAG to evaluate a range of new public transit service alternatives that would be able to accommodate future population and economic growth, while being compatible with existing land uses and future development opportunities. With a proposed California High-Speed Rail Station located in the middle of the Corridor, there is an opportunity to improve connectivity and mobility throughout the communities and cities in Tulare, Kings, and southwest Fresno Counties. These cities and communities include Huron, West Hills College, Naval Air Station (NAS) Lemoore, Lemoore, Hanford, Goshen, Visalia, Farmersville, Exeter, Lindsay, and Porterville. Unincorporated communities of Armona and Strathmore may also be served by transit stops. The City of Huron is the only community in Fresno County that is in the Study Area.

The proposed HSR station site will be adjacent to the CVC, a freight railroad corridor between Huron to the west and Porterville to the east that is active in certain segments and abandoned in others. A Diesel Multiple Unit (DMU) transit system in this corridor has the highest potential to provide an efficient and flexible transit service compared with the other mode alternatives in this study, and at moderate costs relative to the other modes considered. The DMU's ability to operate through both freight corridors and city centers makes it a desirable option to traverse the CVC and its communities, with flexibility in station distances and connectivity opportunities.

The proposed plan is expected to be delivered in three phases. Phase one (0-10 Years) focuses on interagency coordination of bus service between the CVC cities including Huron to the Kings/ Tulare High-Speed Rail Station and cities between the two stops. The second phase (10-20 Years) initiates passenger rail service between the cities of Lemoore and Visalia and maintains bus service connections between the other cities that will not be served by passenger rail service in this phase. The third phase (20+ Years) would make full use of the 75-mile corridor with passenger rail service from Huron and Porterville.

The CVCP report identifies a list of planning implementation strategies for land use, circulation, parking, multi-modal access, urban design, and public spaces for an area within a quarter mile to the proposed transit center and within the immediate vicinity of the transit center. For example, one site being considered for redevelopment as a rail station site in Huron is located on the east side of Lassen Avenue and north of 9th Street. This site is within a five-minute walk to Huron's downtown.

For more information on the CVCP, visit http://www.tularecog.org/cvcp/.

Completed Improvements

Several rail-related construction projects in Fresno County have been completed since 2005. These include a project to double-track the 8.6 mile segment of the BNSF mainline between Calwa and Bowles in Fresno County, completed in early 2007; the restoration of the historic Santa Fe Depot and related improvements for use as Fresno's Amtrak station, completed in early 2005; a new underpass at Weldon Avenue and the Burlington Northern Santa Fe; and, new quiet zones.

Local agencies, Amtrak, community rail interest groups and state and federal legislators and agencies continue to lay the groundwork for additional significant changes.

Needs Assessment

TThe following Fresno County rail transportation needs have long been identified:

- Additional intercity train service for the Amtrak San Joaquins route.
- A new multimodal station in Fresno on the Union Pacific alignment concurrent with high-speed rail.
- Obtaining and preserving appropriate, abandoned railroad rights-of-way through the County of Fresno for future local transportation purposes, including commuter or light rail.
- Long-range planning and corridor preservation for potential future commuter or light rail or other fixed guideway mass transit applications in Fresno County.
- New passenger rail service between Bakersfield and Los Angeles as a logical expansion of Valley train service

Proposed Actions

Future Planning Activities

Rail planning will continue to consider the above needs with emphasis on constructing railroad grade separations, all issues related to high-speed rail, including station area planning, and efforts to secure the heavy maintenance facility for Fresno County.

The extension of Measure C, last approved in 2006, requires progress on rail consolidation/rail realignment. A feasibility evaluation and the likelihood of securing additional funding are to be included in Measure C biennial update of the Expenditure Plan. A more thorough review will take place at 10 years. If rail consolidation/ rail realignment is not programmed with construction imminent within 15 years after the Measure passed, the funds will revert to grade separation projects that coordinate with transit improvements and provide the greatest congestion relief and air quality benefit. An amendment to the Measure C Rail Consolidation Program that called for using $25 million instead for the potential high-speed rail heavy maintenance facility, along with the dissolution of Fresno Area Residents for Rail Consolidation (FARRC), an organization founded to advocate on behalf of rail consolidation, indicate the project is highly problematic.

The potential for a light rail, commuter rail and other systems of fixed guideway transit in the Fresno-Clovis Metropolitan Area and throughout Fresno County needs to be monitored and options preserved, as feasible.

Fresno COG member agencies will continue to petition the California Public Utilities Commission for funding of grade separations, with priority given to public safety and improving the circulation system. Fresno COG and member agencies will continue to investigate "quiet zone communities" within Fresno County. A community seeking the quiet zone designation must install supplemental safety measures (SSMs), additional warning device/traffic control apparatus that compensate for the absence of the locomotive's horn.

Rail planning activity will continue to center around high-speed rail in an effort to maximize its benefits for Fresno County. This will include Fresno County proposals on the many aspects of high-speed rail, including a location for the heavy maintenance facility, the new passenger station located along the UP corridor in downtown Fresno, and the communicating enthusiasm and intent to the High-Speed Rail Authority. Fresno COG, in conjunction with its member agencies, will continue to work closely with the Authority during plan development and project implementation within Fresno County and the San Joaquin Valley.

Local agencies, Amtrak, the San Joaquin Joint Powers Authority, and state agencies will continue to work together and with the railroads to lay the groundwork for significant railroad improvements in the future.

Short-Range Improvement Plan

Grade Separation

No grade separation projects are currently scheduled.

Rail Passenger Station

The historic Santa Fe Depot was rehabilitated as the new rail passenger station in downtown Fresno on the Burlington Northern Santa Fe tracks in early 2005. However, additional improvements to the depot itself and to the site may be programmed as funds are identified and become available.

High-Speed Rail

Local agencies and the High-Speed Rail Authority will continue coordinate on building the initial operating segment through Fresno, as well as Fresno station plans and the Fresno Station District. Fresno Works and other stakeholders will also continue to coordinating to secure the High-Speed Rail Heavy Maintenance Facility in Fresno.

Amtrak San Joaquins

SJJPA is planning to add an eighth daily round trip in 2018-2019 between Fresno and Sacramento. Improvements necessary for the new round trip are almost complete between Stockton and Fresno. However, SJJPA is in the process of working with CalSTA, Caltrans, Amtrak, and UPRR to determine if the eighth round trip, and any additional service beyond that, should run on the Fresno or Sacramento Subdivision.

Other near-term operating and capital improvements include initiating the Morning Express Service to Sacramento in 2018 and to the Bay Area in 2019, as well as working with Caltrans Division of Rail and Mass Transit, Amtrak, BNSF and UPRR to develop train schedules to accommodate the service. SJJPA is also exploring: station enhancements, ways to reduce travel times for trains running from Bakersfield to the Bay Area in less than six hours, terminating Bay Area trains in Emeryville instead of Oakland and initiating a bus pilot program that would have SJJPA contract directly with bus operators to better leverage existing bus capacity. SJJPA is also working with Amtrak and the host railroads to expand the grassroots Safety and Security Program efforts that target communities along the San Joaquins Corridor to educate them about safety around the tracks.

Caltrans 2018 California State Rail Plan Update

Caltrans is updating its 10-year California State Rail Plan, which is expected to be adopted in 2018. The State Rail Plan provides a vision and strategies for California's passenger and freight rail network that will guide future investment. It will provide a long-term strategy to enable Caltrans, the California High-Speed Rail Authority, intercity and commuter rail operators, freight railroad companies and communities to plan for the future. The Rail Plan is intended to prioritize state funding and actions for integrating the statewide rail network.

Long-Range Improvement Plan

High-Speed Rail

In the long-term, rail improvements in Fresno County may occur in conjunction with statewide high-speed rail (HSR) system development. The HSR initial operating segment (IOS) will connect San Jose to a temporary station 20 miles north of Bakersfield through Fresno by 2025. Phase 1 construction, which will expand on the IOS to connect San Francisco and the Los Angeles Basin, is expected to be completed in 2029. The initial construction packages will continue to advance and additional construction packages will be identified as technical studies are completed and projects go through environmental review.

Amtrak San Joaquins

Principal long-term improvements over the next 10-15 years include increasing train frequency to provide hourly service to/from Sacramento, reducing travel time, increasing ridership and improving service reliability of the San Joaquins. Specific improvements that Caltrans previously identified include a double-track at Figarden, a new maintenance facility to accommodate additional

daily round trips and additional trainsets to accommodate several additional daily round trips. These improvements will require the SJJPA's additional review and State, Union Pacific, BNSF, local and regional agencies' approval.

Financing

Existing federal financial sources include:

- **Federal Transit Administration** programs have been available to fund urban light rail and commuter rail projects that meet federal criteria. At this time, it is doubtful local rail projects can meet current federal criteria under these programs, but Fresno COG will periodically review criteria and other factors to determine the feasibility of light rail, commuter rail or some other fixed guideway rail transit projects.
- The Federal Highways Administration's (FHWA) **Congestion Mitigation and Air Quality Improvement (CMAQ) Program**, funds transportation projects that help regions attain national ambient air quality standards. The capital costs of new commuter and/or urban rail services are potentially eligible for CMAQ funding. In some cases CMAQ funds can be used for up to three years' of new transit systems' operating costs. CMAQ funds could also be used to purchase abandoned rail right-of-way for non-motorized transportation; however, it is not likely that these funds could be used to purchase abandoned right-of-way for a future fixed guideway rail program that is not already scheduled.

- **The Surface Transportation Block Grant (STBG)** program provides funding for transit capital improvement projects, bicycle/pedestrian projects, as well as highway and transit safety infrastructure improvements and programs, including railway-highway grade crossings.
- **The FAST Act** will provide a source of funding for high-speed train projects in Fresno County, the San Joaquin Valley and elsewhere.

Existing state financial sources include:

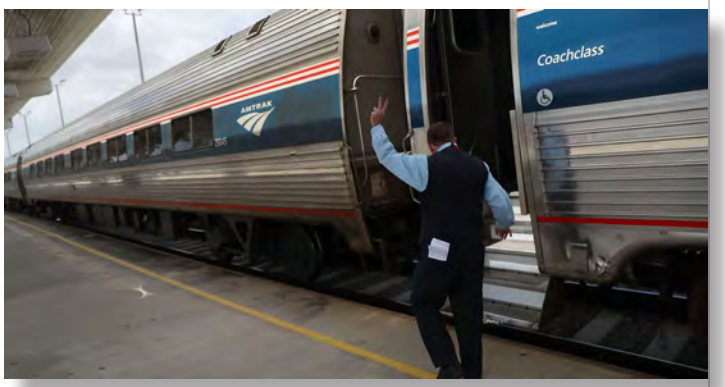
Railroad Highway Grade Crossing Program. The California Public Utilities Commission (CPUC) and the Caltrans Division of Rail and Mass Transportation jointly administer the Railroad Highway Grade Crossing Program (RHGCP), which provides for highway safety improvement projects at railroad/highway at-grade crossings. The CPUC regulates grade crossings and railroad grade separations.

- The CPUC recommends projects to Caltrans for funding from the annual Section 130 Railroad/ Highway Grade Crossing Improvement Program, a federally funded program for reducing the hazards of at-grade highway-rail crossings.
- The estimated funding level is approximately $16 million per year. The program reduces the number and severity of highway accidents by eliminating hazards to vehicles and pedestrians at existing railroad crossings.
- Although selected projects are 100% funded, funding for such crossing and separation projects is limited, providing for only a couple of projects throughout the state annually.

Grade Separation Program. CPUC and Caltrans jointly administer the Section 190 Grade Separation Program, to improve safety and expedite vehicle movements by eliminating highway-rail crossings at grade with grade separations, which separate the vehicle roadway from the railroad tracks.

- Federal funding for this program is derived from the annual Surface Transportation Program (STP) competitive grant program, providing $15 million each year to local agencies for grade separation projects.

- CPUC-selected projects are funded 80% by State grade separation assistance funds with a 10% match from the affected railroad and a 10% match from the responsible local agency. Railroad projects are constructed based on their priority list ranking and on the availability of state grade separation assistance funds.



Transit and Intercity Rail Capital Program. Senate Bill 862 established the Transit and Intercity Rail Capital Program (TIRCP) to provide grants from the Greenhouse Gas Reduction Fund that modernize California's intercity, commuter and urban rail, bus and ferry systems, to reduce greenhouse gas emissions, vehicle miles traveled and congestion. Senate Bill 9 requires this grant cycle fund a five-year program of projects beginning in 2018-19. Funding for this five-year cycle could significantly increase due to Senate Bill 1, which may direct $1.4 billion to TIRCP and with an extension of the Cap-and-Trade Program through Assembly Bill 398, which may allocate an additional $1 billion between 2018 and 2023.

State Rail Assistance Program. Senate Bill 1 also created the State Rail Assistance Program, which directs a portion of new revenue to intercity rail and commuter rail. The revenue for this program is estimated to be $25 million in 2017-18, $39 million in 2018-19 and $41 million in 2019-20.

Existing local financial sources include the following:

- Cities and counties may use general funds to purchase abandoned rail right-of-way and other rail improvements.
- Local funds available to governmental agencies through their gas and local sales tax revenues are especially useful in providing the local share of State programs described above. Measure C includes $102.5 million for the rail consolidation/rail realignment project, although the subsequent amendment redirects $25 million of this amount to the potential high-speed rail heavy maintenance facility. If this project is not programmed with construction imminent within 15 years of the date Measure C was extended (November 7, 2006), the funds will revert to grade separation projects that coordinate with transit improvements and provide the greatest amount of congestion relief and air quality benefit.
- Senate Bill 1 allocates 0.5% of the 4% diesel sales tax funds for rail ($40.8 million in 2018-2019). Fifty percent will be allocated to three intercity rail agencies (a minimum of 25% each) and fifty percent to five commuter rail agencies (equal share for first two years).

Anticipated Revenues & Expenditures

State funding supports Valley passenger rail services. Aside from possible Measure C funds for grade separations and the High-Speed Rail Heavy Maintenance Facility, there is no local budget expended for these services.

4.9 Specific Transportation Strategies and Management Systems

Overview

Given Fresno County's rural and agricultural nature, motor vehicles continue to be the primary travel mode within and through the region. The Fixing America's Surface Transportation Act (FAST Act, with the influence of the Clean Air Act, places greater emphasis on using existing systems more efficiently. Maintaining existing roadways, reducing congestion and maintaining or improving existing capacity at a low cost are all important. Capacity is also important to modal alternatives such as transit and cycling that use existing streets and trails. An efficiently functioning streets and highway system coupled with reduced congestion also contributes to improved air quality, as vehicles generally produce more air pollution in congested traffic while idling.

The California Air Resources Board and the San Joaquin Valley Air Pollution Control District contribute education, research and regulatory efforts related to transportation strategies. Fresno COG and local agencies involved in transportation and land-use planning work cooperatively with the San Joaquin Valley Air Pollution Control District to enact air quality improvement strategies. While there is overlap among many transportation strategies, efforts fall into the following categories:

Transportation Control Measures

Regions designated as non-attainment for the National Ambient Air Quality Standards (depending on their classification or air pollution severity) are required to demonstrate that they have included all reasonably available control measures (RACM) in the State Implementation Plans (SIPs). Transportation Control Measures (TCMs) are designed to reduce motor vehicle emissions by reducing vehicle miles traveled, vehicle idling and/or traffic congestion. Transportation Control Measures generally focus on reducing single occupancy vehicle use, changing traffic flow or reducing congestion. Typically, vehicle technology-based, fuel-based and maintenance-based measures that control vehicle emissions under fixed traffic conditions are not considered TCMs.

Section 108(f)(1) of the Clean Air Act, as amended in 1990, lists the following transportation control measures and technology-based measures:

- (i) programs for improved public transit;
- (ii) restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
- (iii) employer-based transportation management plans, including incentives;
- (iv) trip-reduction ordinances;
- (v) traffic flow improvement programs that achieve emission reductions;
- (vi) fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service
- (vii) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use
- (viii) programs for the provision of all forms of high-occupancy, shared-ride services
- (ix) programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place
- (x) programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists in both public and private areas

- (xi) programs to control extended idling of vehicles
- (xii) programs to reduce motor vehicle emissions, consistent with title II, which are caused by extreme cold start conditions
- (xiii) employer-sponsored programs to permit flexible work schedules
- (xiv) programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity
- (xv) programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest
- (xvi) programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.

Transportation Control Measures (TCMs) from applicable State Implementation Plans (SIPs) for the San Joaquin Valley region are updated during each Transportation Conformity Analysis. Since the San Joaquin Valley is a multi-pollutant, non-attainment area, a number of SIPs govern TCMs. The applicable implementation plans are summarized below.

Applicable Implementation Plan for Carbon Monoxide

EPA approved the California State Implementation Plan 2004 Revision for Carbon Monoxide on November 30, 2005 (effective January 30, 2006). The plan does not include TCMs for the San Joaquin Valley.

Applicable Implementation Plan for Ozone

EPA approved the 2007 Ozone Plan (as revised in 2015) on July 8, 2016 (effective September 30, 2016). The plan does not include TCMs for the San Joaquin Valley.

Applicable Implementation Plan for PM-10

EPA approved the 2007 PM-10 Maintenance Plan (as revised in 2015) on July 8, 2016 (effective September 30, 2016). No new local agency control measures were included in the plan.

EPA approved the amended 2003 PM-10 Plan on May 26, 2004 (effective June 25, 2004), for which a local government control measure assessment was completed. The analysis focused on transportation-related fugitive dust emissions, which are not TCMs by definition. The local government commitments are included in the Regional Transportation Planning Agency Commitments for Implementation Document, April 2003.

However, the Amended 2002 and 2005 Ozone Rate of Progress Plan contains commitments that reduce ozone-related emissions. These measures are documented in the Regional Transportation Planning Agency Commitments for Implementation Document dated April 2002. These commitments are included by reference in the Amended 2003 PM-10 Plan to provide emission reductions for precursor gases and help to address the secondary particulate problem. Since these commitments are included in the plan by reference, EPA approved them as TCMs.

Applicable Implementation Plan for PM 2.5

EPA approved the 2012 PM2.5 Plan on August 16, 2016 (effective September 30, 2016). EPA approved the 2008 PM2.5 Plan (as revised in 2011) on November 9, 2011 (effective January 9, 2012). The Plans do not include TCMs for the San Joaquin Valley.

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) refers to strategies aimed at providing alternatives to single-occupancy vehicle use for travel choice. TDM specifically

targets the workforce, which generates the majority of peak-hour traffic. Education that attempts to persuade people to consider their transportation choices as a way of reducing single occupancy vehicle trips serves as one of TDM's central features. Transportation Demand Management strategies and alternative transportation modes include the following:

- public transit
- rideshare programs
- carpooling
- flexible work hours
- vanpools
- cycling or walking
- telecommuting
- mixed use land development

Fresno County, the cities, private businesses and governmental offices implement some of these programs on their own. Fresno COG also sponsors, through Measure C funding, a variety of transportation programs including, carpool and vanpool subsidies, rideshare programs and reduced senior fares for taxi rides.

Fresno County has been aggressively working to expand carpools within the region to reduce traffic congestion, improve air quality, conserve non-renewable energy sources and preserve road and highway infrastructure. For these reasons, community leaders felt it necessary to include funding for a Carpool Incentive Program within the extension expenditure plan for reauthorizing the Measure C ½ cent sales tax that was passed by voters in 2006. Fresno COG has also taken the opportunity to link potential carpoolers together by upgrading the Valleyrides.com website to allow residents the ability to find potential ride matches using more sophisticated technologies.

Measure C's Carpool Incentive Program began July 1, 2009. Participants who carpool or vanpool with at least one other person who is 18 years of age or older may submit carpool logs through the Valleyrides.com website. Each log is entered into a monthly drawing for cash prizes and also qualifies in the annual Grand Prize Drawing Giveaway.

Program eligibility rules are as follows:

- Participants must travel in a carpool at least twice per week with at least one other person to work or school
- Participants must be at least 18 years of age and have a valid driver's License
- Participants must commute to or from Fresno County

Providing residents the opportunity to connect with potential carpool partners has also been a key element of the overall ridesharing program. Valleyrides.com combines all relevant ridesharing information for Fresno County. Most recently, COG staff has researched potential extensive upgrades, from the website's design, to the programming technology used to match carpoolers with one another. This upgrade will provide the best possible ridesharing resource for residents.

Fresno COG is a member of the California Vanpool Authority (CalVans), which provides vanpool service to a 16-county region through more than 600 active commuter and farmworker vanpools. Between July 2015 and June 2016, CalVans provided vehicles for 2.4 million passengers who collectively travelled more than 10.4 million miles, reducing single-occupancy vehicles miles traveled by 109 million. CalVans received $3 million in 2015/2016 for a vanpool expansion project from the Strategic Growth Council's Affordable Housing &

Sustainable Communities program, and is expected to see strong growth in future years.

Transportation System Management (TSM)

Transportation System Management (TSM) is a program to identify short-range, low-cost capital improvements that improve transportation infrastructure's operating efficiency. TSM, in coordination with the programs listed above, improves air quality and roadways' level of service, reducing congestion and improving circulation. These strategies fall within the responsibility of member agencies and Caltrans and include, but are not limited to the following:

- ramp metering
- traffic signal synchronization
- street widening
- removal or limitation of on-street parking
- access limitations on arterial streets
- turning lanes and bus bays
- traffic engineering geometric improvements
- bikeway facilities
- bus terminals
- pedestrian malls

Cities, the county, transit operators and Caltrans employ TSM strategies.

Land Use Strategies

Land-use patterns play a significant role in people's travel behavior. Segregated land uses and low-density suburban development have contributed to automobile dependency among American families. Within California, and the San Joaquin Valley in particular, residential neighborhood design still relies on the automobile. Land-use decisions through 2042 will have an important impact on future air quality. Alternative transportation must be available to provide residents with mode choices, reducing reliance on single occupancy vehicles. Community designs more conducive to walking, biking and transit use are often referred to as "livable" environments that are established to help reduce congestion, provide for healthier air and increased mobility. Land use strategies that have proved to reduce automobile trips and distance traveled include, but are not limited to the following:

- increased residential density
- infill development
- transit-oriented development
- concentration of employment densities
- enhanced downtown districts
- mixed-use development
- clustered activity centers -- nodes, urban villages, or suburban activity centers
- integrated street patterns which allow travel choices to neighborhood destinations

In 2006, the eight San Joaquin Valley regional planning agencies came together in an unprecedented effort to develop a coordinated valley vision – the San Joaquin Valley Regional Blueprint. This eight-county venture ultimately integrated to form a preferred vision for future development throughout the Valley to 2050. On April 1, 2009, the San Joaquin Valley Regional Policy Council adopted a Valleywide preferred growth scenario, along with 12 Smart Growth Principles to guide development and promote livable, sustainable communities. In

addition, Fresno COG incorporated the Smart Growth Principles in the first Sustainable Communities Strategy (SCS) developed while updating its 2014 RTP. As mandated by Senate Bill 375, Fresno COG developed its first SCS aimed at reducing greenhouse gas emissions through integrated transportation and land-use planning. The SCS contained land-use strategies such as higher density, mixed use development, infill, and growth along transportation corridors. Such land use strategies reduce the growth footprint and encourage alternative modes such as transit, biking and walking. The 2018 RTP builds upon the work of the first Sustainable Communities Strategy.

Existing Requirements

Transportation conformity is the regulatory link between the Federal Clean Air Act and transportation planning. In order to receive transportation funding or approvals from FHWA/FTA, state and local transportation agencies that have plans, programs or projects in air quality nonattainment or maintenance areas must demonstrate that they meet the Clean Air Act's transportation conformity requirements in the transportation conformity regulation [40 CFR 93 Subpart A]. The regulation requires that the RTP and Transportation Implementation Plan (TIP) conform to the State Implementation Plan (SIP) before approval by the MPO's Governing Board or the U.S. Department of Transportation. Conformity to a SIP means that transportation plans, programs and projects will not produce new air quality violations, worsen existing violations or delay timely attainment of the National Ambient Air Quality Standards.

Timely implementation of TCMs is a transportation conformity requirement. Fresno COG's conformity process is discussed in more detail in the Air Quality Conformity Analysis for the 2018 Regional Transportation Plan. The transportation conformity regulations also require following formal interagency consultation processes. Fresno COG, along with the other seven Valley MPOs, are parties in a memorandum of understanding (MOU) with the San Joaquin Valley Air Pollution Control District (SJVAPCD) to ensure a coordinated transportation/air quality planning approach and to jointly develop and implement local control measures in each SIP. These coordinated and cooperative efforts were further strengthened in September 9, 2009 with an updated memorandum of understanding (MOU) to enhance the Valley's coordinated transportation/air quality planning activities.

Emissions source regulation, while effective, is not the only means to reduce pollution from transportation. Public information and education campaigns play a role in promoting the behavior changes necessary to reduce vehicle miles traveled. Public participation is an integral component of the transportation planning process under the FAST Act. Fresno COG continues to bring transportation-related air quality issues to its Transportation Technical Committee, Policy Advisory Committee, the Fresno COG Policy Board, and the Regional Policy Council in hopes of educating not only transportation professionals, but also informing the interested public.

Accomplishments

Fresno County agencies, particularly within the metropolitan area, have been involved in implementing transportation strategies aimed at reducing congestion, improving transportation system operational efficiencies, reducing vehicle miles traveled and providing alternative travel choices since the late 1970s. Recent years have seen improvements in Fresno COG's ability to monitor and model various strategies' effectiveness. Through the San Joaquin Valley Model Improvement Plan Phases 1 and 2, the eight MPO models have all been upgraded to a much

higher standard. They are more advanced and are built on a similar platform. Standardizing modeling practices in the Valley makes MPO collaboration and information sharing more effective. Collaboration and information sharing allows for greater compatibility between models in neighboring jurisdictions and greater understanding of how to meet common modeling challenges. For more detail on transportation modeling please see the section COG Regional Travel Demand Forecast Model discussed earlier in this chapter.

The San Joaquin Valley Air Pollution Control District continues adopting new rules, strategies and requirements involving local agencies and local businesses. The Air District adopted Rule 9410: Employer Based Trip Reduction (eTRIP) that encourages businesses with more than 100 eligible employees to provide alternative transportation and ridesharing information and incentives to employees for morning and evening commutes. While Fresno COG does not have 100 employees to participate in the eTRIP program, it supports the Air District's Healthy Air Living Program (HAL) by offering a flexible work schedule, which reduces trips to the work site, and encouraging carpooling. Fresno COG's rideshare staff assists the air district and eTRIP employers with carpool incentives, vanpool subsidies and implementation of internal ridesharing programs.

Thanks to a coordinated effort among residents, businesses and agriculture -- as well as focused funding to reduce sources of particulate matter – the San Joaquin Valley has attained the National Ambient Air Quality Standard for PM10.

Needs Assessment

Fresno COG works with the San Joaquin Valley Air Pollution Control District to produce the SIP's local control measure section. The SIP identifies emissions that can be reduced in order to meet attainment deadlines. Fresno COG continues to review and improve programs that impact air quality, such as CMAQ. All San Joaquin Valley MPOs have adopted policies for distributing at least 20% of the CMAQ funds to projects that meet a cost-effectiveness threshold for emission reductions, demonstrating a strong commitment to reduce motor vehicle emissions.

Proposed Actions

Short-Range Plan

Actions required and taken between now and 2022 make up the Fresno County region's short-range transportation strategy. These actions are found in the Short-Range Transit Plan, the Regional Transportation Improvement Program, and the TCMs contained in Air District plans.

Long-Range Plan

Long-range strategies are dependent on short-range programs and available funding. Potential strategies include land-use planning with increased densities, job intensity along transportation corridors, high-speed rail, light rail or other alternative fixed route facilities, bus rapid transit, HOV lanes and other multimodal corridor alternatives.

Unfinanced Needs

The RTP's other modal sections document unfinanced transportation needs that address the transportation network in ways that do not expand SOV trips. These unfinanced needs include the following:

- improving transit service's hours, frequency, and geographical coverage
- light rail or electric bus systems
- increased densities along corridors
- alternative-fueled vehicles and infrastructure improvement needed to support new technology
- additional park-and-ride facilities
- completing all planned bikeway facilities
- signal synchronization throughout the metropolitan area
- creatively leveraging developing technology

Congestion Management Process

The FAST Act requires Transportation Management Areas (TMAs) -- urbanized areas with a population greater than 200,000 -- to address congestion management through a process that provides for safe, effective and integrated transportation system management and operation. As a TMA, the Fresno County region is required to include congestion management in transportation plan performance measures and strategies.

The Congestion Management Process (CMP) provides information on transportation-system performance and alternatives to relieve congestion and improve mobility of people and goods. The CMP includes several elements:

- methods to monitor and evaluate the multimodal transportation system's performance
- defining congestion management objectives and appropriate performance measures to assess congestion
- a coordinated program for data collection
- identifying and evaluating congestion management strategies' anticipated performance and expected benefits
- identifying each strategy's schedule, implementation responsibilities and potential funding sources for each strategy
- a process for periodic strategy assessment

Fresno COG's Congestion Management Process was updated in 2017, establishing travel-time based performance measures and redefining the CMP network as the urban freeways. A Congestion Monitoring Dashboard provides real-time traffic information on the CMP network. Historical traffic conditions were evaluated on the National Highway System (NHS) based on the performance measures and a list of the most feasible and appropriate alternative strategies was identified for the Fresno County region to manage existing and future congestion. A process/methodology has also been developed to analyze Single Occupancy Vehicle (SOV) projects to meet the requirement of alternative strategies being considered before constructing capacity increasing projects.

The 2017 Fresno County Congestion Management Process has been integrated with and implemented in the 2019 FTIP and the 2018 RTP processes.

Further documentation on the adopted Fresno County Congestion Management Process Update is included in Appendix F.

California Congestion Management Program

California's Congestion Management Program became law along with the gasoline tax increase in 1990 (Proposition 111). The Congestion Management Program tied land use and development policies to transportation with the intent of lessening smog and traffic congestion. A portion of the gasoline tax money goes directly to cities and counties that comply with a locally adopted Congestion Management Program.

With AB 2419 (Bowler) in 1996, the Congestion Management Program allowed the county and cities to exempt themselves from Congestion Management Program requirements. Fresno County's Congestion Management Program and the COG's designation as the Congestion Management Agency was then rescinded by the COG Policy Board on September 25, 1997 at the request of Fresno County and its 15 cities.

4.10 Air Quality

Overview

As discussed in Appendix B, Valleywide Information, the San Joaquin Valley faces notably poor air quality during the majority of the year National Ambient Air Quality Standards (NAAQS) are established for criteria air pollutants to protect human health and welfare. Criteria pollutants are pollutants proven to harm human health and the environment, and to cause property damage. Of the six criteria pollutants, particle pollution and ground-level ozone are the most widespread health threats. EPA calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels. Pursuant to federal law, the Environmental Protection Agency (EPA) has designated the entire San Joaquin Valley Air Basin (SJVAB) a nonattainment area that does not meet established standards for ozone and particulate matter (PM). The San Joaquin Valley is designated as attainment/maintenance for PM10 (10 microns or smaller) and carbon monoxide (CO). In addition, the State of California also has "health protective" standards for air pollutants that are even more stringent than federal levels. At the state level, the SJVAB is designated as nonattainment for ozone and particulate matter.

The following section summarizes the San Joaquin Valley's air pollutants of major concern.

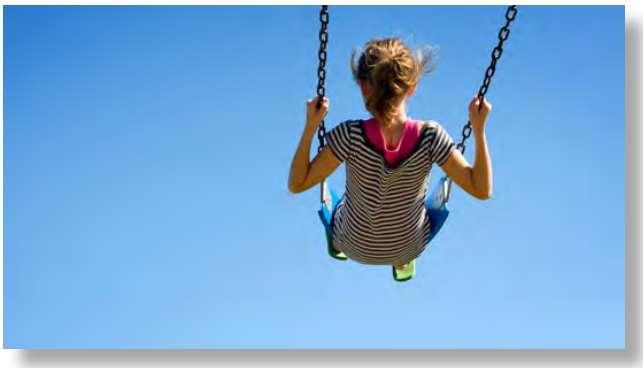
Ozone

Ground-level ozone is Fresno County's major summertime "smog" component, affecting human health and vegetation. Ozone is formed when two chemicals, volatile organic compounds (VOCs) and nitrogen oxides (NOx), interact with sunlight and heat. (VOC is also referred to as reactive organic gases or ROG) Generally, low wind, stagnant air, no clouds and warm temperatures provide the best conditions for ozone formation; typical summertime conditions in the San Joaquin Valley Air Basin. Ozone does not form immediately, but occurs over time and distance and is therefore, a regional pollutant that often impacts a large area. VOCs and NOx are emitted from fuel combustion, agricultural processes, and industrial processes, consumer products as well as from natural sources (biogenic sources such as some species of plants and trees). EPA has established ozone standards based on one-hour and eight-hour averaging periods. EPA revoked the one-hour Ozone National Ambient Air Quality Standard in 2005 and replaced it with the more stringent eight-hour standard. Due to a series of legal challenges to EPA's actions, the San Joaquin Valley Air Pollution Control District was required to address these challenges and has adopted the 2013 Plan for the Revoked 1-hour Ozone Standard.

Particulate Matter

The other significant pollutant in the San Joaquin Valley is particulate matter (PM). Particulate matter is a mixture of solid particles and liquid droplets in the air. PM size is directly related to potential health problems: The smaller the particles, the more detrimental it is to health. EPA has set federal standards for PM10 (10 microns or less in diameter) and PM2.5 (2.5 microns or less in diameter). The finer particles pose an increased health

risk, because they can reach deep into the lungs and are associated with both acute and chronic health effects including aggravation of existing respiratory diseases, heart and lung disease, coughing, and bronchitis. (As a reference: the diameter/cross-section of a human hair is anywhere from about 50 to 100 microns.) PM's chemical composition is also a factor in the type and severity of health impacts. In addition to directly-emitted particles, PM can form in the atmosphere through photochemical reactions of precursors. These particles can include basic elements such as carbon and metals, or can be complex mixtures such as diesel exhaust and soil.



In addition to the ozone problem in summer and early fall, the San Joaquin Valley exceeds PM standards at other times of the year. The particulate matter levels in the San Joaquin Valley are found in late fall (October) through winter (February). This, in combination with ozone, creates a year-round air pollution problem, producing the additional concern that the Valley does not have a "clean" season that would allow for respiratory system recovery. Farming operations, paved road dust, fugitive dust, unpaved road dust, and waste burning comprise the primary sources of particulate matter. Residential wood burning's impact has been reduced due to innovative regulations by the San Joaquin Valley Air Pollution Control District. Diesel particulate matter is further recognized by California's Air Resources Board as a toxic air contaminant based on its ability to cause cancer and other health effects.

Carbon Monoxide

Carbon monoxide (CO) is formed by incomplete fuel combustion. The main source is motor vehicles. CO has been an air quality problem in the past, affecting four of the eight Valley counties in the San Joaquin Valley Air Basin, including Fresno, Kern, San Joaquin, and Stanislaus. The San Joaquin Valley is designated as attainment for CO and has an adopted maintenance plan to ensure continued control. All requirements for attaining the CO standard are expected to be met through 2018. Meanwhile, contingency emission reductions from adopted ARB measures that generate progressively more benefits over time --effectively decreasing CO emissions well below the attainment levels -- will continue.

Regional Air Quality Planning

The eight Valley Metropolitan Planning Organizations (MPOs) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) employ a Memorandum of Understanding (MOU) to ensure a coordinated transportation/air quality planning approach. The MOU defines a cooperative process aimed at maximizing effectiveness and compatibility for both air quality and transportation plans. It also facilitates compliance with the federal Clean Air Act's air-quality conformity provisions. .

The Regional Transportation Plan recognizes the importance of state and federal air quality planning regulations. This chapter summarizes these regulations and reviews actions to reduce mobile source emissions to a level necessary to attain state and federal air quality standards.

Federal Regulations

In September of 1975, the Urban Mass Transportation Administration (now the Federal Transit Administration) and the Federal Highway Administration issued joint regulations for developing transportation improvement programs. The regulations called for a short-range, low-capital, multimodal Transportation Systems Management Element to be consistent with the long-range Regional Transportation Plan. The California Legislature also passed statutory requirements (AB 3705, 1988) that mandated a separate Transportation Systems Management element for regional transportation planning areas greater than 50,000 in population.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 redefined the joint regulations and created a new framework linking air quality, transportation and land use. It intended to produce a significant shift in federal transportation policy from reliance on roads and motor vehicles to a multimodal approach. ISTEA and its successors -- TEA-21, SAFETEA-LU MAP-21 and Fixing America's Surface Transportation Act (FAST Act)

-- delegates major planning decisions to the states and MPOs. They also reinforce Clean Air Act goals by making air pollution a central concern of transportation planning and spending decisions.

The FAST Act continues the Congestion Mitigation and Air Quality (CMAQ) Improvement Program, which funds transportation projects and related programs that contribute to air quality improvements and provides congestion relief. CMAQ aims to reduce emissions in nonattainment and maintenance areas and supports two important U.S. DOT goals: improving air quality and relieving congestion.

Air Quality Planning

Federal and state legislation requires an integrated transportation/air quality planning process. The 1990 Federal Clean Air Act Amendments reaffirmed that all regions are required to attain the National Ambient Air Quality Standards. Numerous specific emissions reductions and an aggressive attainment time frame were required. Although the EPA, California ARB and the San Joaquin Valley Air Pollution Control District are responsible for implementing most federal Clean Air Act requirements, Valley MPOs are responsible for developing transportation control measures and complying with transportation conformity regulations.

Under certain conditions, failure to meet requirements may be met with sanctions and the EPA is required to impose automatic sanctions under certain circumstances. The EPA can apply two sanctions:

1. Offset Sanctions: Establishing a two-to-one emission offset ratio for new stationary sources.
2. Highway Sanctions: A restriction on federally funded highway projects, plans and programs.

The first sanction could make industrial expansion prohibitively expensive in the Valley while the second could delay needed highway improvements and jeopardize economic growth and jobs.
If sanctions are not resolved in a timely manner, the EPA would also be required to file a Federal Implementation Plan (FIP) which would detail how the region will reduce emissions to reach attainment, effectively taking control away from the state and local air district.

State Implementation Plans (SIPs)

Federal clean air laws require areas with unhealthy criteria air pollutant levels (designated as non-attainment) to develop plans, known as State Implementation Plans (SIPs). SIPs detail how an area will attain National Ambient Air Quality Standards (NAAQS) and are not single documents, but a compilation of new and previously submitted plans, programs, district rules, state regulations and federal controls. Due to the very complex nature of air quality planning in the San Joaquin Valley Air Basin information below is current as of the latest Transportation Conformity determination for this RTP. For information on the latest air quality planning efforts for Fresno County and the San Joaquin Valley Air Basin please see: http://www.valleyair.org/Air_Quality_Plans/Ozone_Plans.htm

The 2018 RTP's Conformity Analyses includes existing and future air quality impacts for each applicable pollutant. The San Joaquin Valley is designated as nonattainment for the National Ambient Air Quality Standard (NAAQS) for 8-hour ozone (revoked 1997 and 2008 standard), and particulate matter under 2.5 microns in diameter (PM2.5) (1997, 2006 and 2012 standards); and has a maintenance plan for particulate matter under 10 microns in diameter (PM-10), as well as a maintenance plan for carbon monoxide (CO) for the urbanized/metropolitan areas of Kern, Fresno, Stanislaus and San Joaquin Counties.

State Implementation Plans have been prepared to address carbon monoxide, ozone, PM-10 and PM2.5:

- The 2004 Revision to the California State Implementation Plan for Carbon Monoxide was

approved by EPA on November 30, 2005 (effective January 30, 2006).

- EPA approved The 2007 Ozone Plan (1997 Standard), as revised in 2015, on July 8, 2016 (effective September 30, 2016).
- ARB adopted the 2016 Ozone Plan (2008 standard) on July 21, 2016. Since EPA has not yet approved the new ozone budget, the 2007 Ozone Plan budgets will continue to be used for this conformity analysis.
- EPA approved the 2007 PM-10 Maintenance Plan (as revised in 2015) on July 8, 2016 (effective September 30, 2016).
- EPA approved the 2008 PM2.5 Plan (1997 Standard), as revised in 2011, on November 9, 2011 (effective January 9, 2012).
- ARB approved the 2015 PM2.5 Plan (1997 Standards) on May 21, 2015. On February 9, 2016 EPA published proposed conditional approval of the 2015 Plan; no final EPA action has been taken on the plan. As a result, the proposed SIP budgets are assumed to be unavailable and the 2008 PM2.5 Plan conformity budgets are the only budgets applicable to the 1997 and 2012 PM2.5 standards at this time.
- EPA approved the 2012 PM2.5 Plan (as revised in 2015) on August 16, 2016 (effective September 30, 2016).

EPA designated the San Joaquin Valley a nonattainment area for the 2008 Ozone Standard, effective July 20, 2012. Transportation conformity applies one year after the effective date (July 20, 2013). SJV MPOs received Federal approval for the 2008 Ozone standard conformity demonstrations on July 8, 2013.

EPA's March 2015 final rule implementing the 2008 Ozone Standard also revoked the 1997 Ozone Standard for transportation conformity purposes. This revocation became effective April 6, 2015.

On November 13, 2009, EPA published air quality designations for the 2006 24-hour PM2.5 standard, effective December 14, 2009. On January 20, 2016 EPA published Designation of Areas for Air Quality Planning Purposes; California; San Joaquin Valley; Reclassification as Serious Nonattainment for the 2006 PM2.5 NAAQS, finalizing SJV reclassification to Serious nonattainment effective February 19, 2016. Nonattainment areas are required to meet the standard as expeditiously as practicable, but no later than December 31, 2019. The 2006 24-hour PM2.5 nonattainment area boundary for the San Joaquin Valley is exactly the same as the nonattainment area boundary for the 1997 annual standard.

EPA's nonattainment area designations for the new 2012 PM2.5 standards became effective on April 15, 2015. Conformity for a given pollutant and standard applies one year after the effective date (April 15, 2016). The 2012 PM2.5 standards nonattainment area boundary for the San Joaquin Valley are exactly the same as the nonattainment area boundary for the 1997 annual standard.

On July 29, 2016, EPA released its Final Rule for Implementing National Ambient Air Quality Standards for Fine Particles. According to the implementation rule, nonattainment areas for 1997 PM 2.5 standards must

continue to demonstrate conformity until attainment. In the San Joaquin Valley, the 1997 standards (both 24-hour and annual) continue to apply.

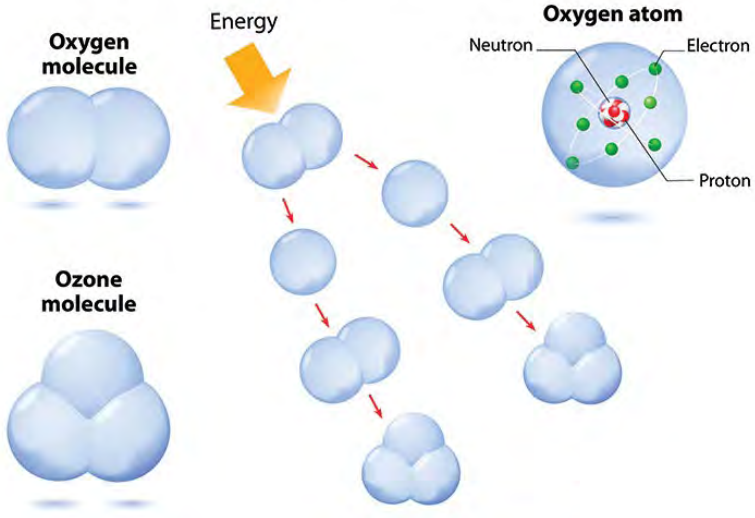
1996 Carbon Monoxide Redesignation Request and Maintenance Plan

California's Air Resources Board submitted a redesignation request to EPA in July of 1996 on behalf of Fresno County and nine other areas in the state to reclassify the areas to "maintenance" status for carbon monoxide. EPA approved the 1996 Carbon Monoxide Redesignation Request and Maintenance Plan in June 1998. On October 22, 1998 ARB revised the SIP to incorporate the effects of ARB action to remove the wintertime oxygen requirement for gasoline in certain areas. On July 22, 2004 ARB approved another State CO SIP revision showing the standard will be maintained through 2018. It is anticipated that all requirements for attaining the CO standard will have been met through 2018.

2007 Ozone Plan (8-hour Ozone)

ARB adopted the 2016 Ozone Plan (2008 standard) on July 21, 2016 and subsequently submitted it for EPA review. This plan included an in-depth analysis of all possible control measures and projected that the Valley will achieve the 8-hour ozone standard no later than 2031. EPA published its transportation conformity budget adequacy determination on July 19, 2017 (effective July 13, 2017). Full plan approval is still pending at this time.

FORMATION OF OZONE



2007 PM 10 Maintenance Plan and Request for Redesignation

The District's 2007 PM10 Maintenance Plan and Request for Redesignation, approved on September 21, 2007, assures that the Valley will continue to meet the PM10 standard and requests that EPA formally redesignate, or label, the Valley to attainment status. On September 25, 2008, EPA redesignated the SJV to attainment for the PM10 standard and approved the Maintenance Plan. On April 27, 2017 ARB adopted a Maintenance SIP revision that demonstrates how contingency measures are being implemented in the SJV. In addition, the Air District and ARB are currently working on a Second PM10 Maintenance Plan to demonstrate that the SJVAB continues to meet PM10 standard for the second half of the 20-year period.

2008 PM 2.5 Plan (Annual)

The District approved the 2008 PM2.5 Plan on April 30, 2008. This plan addresses EPA's annual PM2.5 standard of 15 µg/m^3, established by EPA in 1997. The 2008 PM2.5 Plan estimated that the SJVAB would attain the PM2.5 standard in 2014. Since SJVAB did not attain the 1997 annual PM2.5 standards by 2014, the SJV Air District has developed serious "most stringent measure" 2015 PM2.5 Plan, which was approved by ARB on May 21, 2015. On February 9, 2016 EPA published proposed conditional approval of the 2015 Plan; however, no final EPA action has ever been taken. The SJV Air District is currently in the process of developing a "5 Percent" plan to address the 1997 standards.

2012 PM2.5 Plan (24-hour)

The SJVAPCD adopted the 2012 PM2.5 Plan in December 2012, and was approved by ARB January 2013 and was submitted to EPA on March 3, 2013. This plan addresses EPA's 24-hour PM2.5 standard of 35 µg/m^3, which was established by EPA in 2006. The 2012 Plan Supplement requesting reclassification to "serious" designation, and including revised budgets was approved by ARB on October 24, 2014. EPA proposed approval of the plan on January 13, 2015. The 2015 Plan revision containing new conformity budgets was approved by EPA on August 16, 2016 (effective September 30, 2016). The SJV Air District is currently in the process of developing a "serious" SIP to address the 2006 standard.

2016 "Impracticability" PM2.5 Plan (2012 Annual Standard)

EPA's nonattainment area designations for the new 2012 PM2.5 standards (12 µg/m^3) became effective on April 15, 2015. A SIP addressing the new PM2.5 standards was due to EPA by October 2016. Although the District adopted a moderate "impracticability" plan in September 2016, the ARB Board directed its staff to hold additional workshops and develop additional control measures. The Air District is currently in the process of developing a revised SIP to address the 2012 standard.

California Clean Air Act

In addition to federal requirements, the State of California Air Resources Board requires local air districts to show progress toward meeting the California Clean Air Act (CCAA) air standards. The California Clean Air Act Triennial Progress Report and Plan Review demonstrate local air districts' reasonable progress to attain the more stringent California air pollution standards.

Accomplishments

Major accomplishments toward improving local air quality since the 2014 RTP was adopted include the following:

Regional Transportation / Air Quality Planning

The eight Valley MPOs continue through a Memorandum of Understanding (MOU) to ensure coordinated transportation/air quality planning activities. The MOU defines a cooperative process in meeting state and federal air quality standards. This MOU, was revised and adopted on September 21, 2006.

These coordinated and cooperative efforts were further strengthened on September 9, 2009 with a MOU adding the San Joaquin Valley Air Pollution Control District to enhance the Valley's coordinated transportation/air quality planning activities.

Interagency consultation is generally conducted through the San Joaquin Valley Regional Planning Agencies Interagency Consultation Group (IAC), formerly the San Joaquin Valley Model Coordinating Committee (MCC). The IAC was established by the Regional Planning Agencies' Director's Association to provide a coordinated approach to valley air quality, conformity and transportation modeling issues. The committee's goal is to ensure Valleywide coordination, communication and compliance with Federal and state Clean Air Act requirements. Each of the eight MPOs and the San Joaquin Valley Air Pollution Control District are represented. In addition, the Federal Highway Administration, Federal Transit Administration, the Environmental Protection Agency, the California Air Resources Board and Caltrans (Districts 6, 10 and headquarters) are all committee members. Since the 2014 RTP process, this committee has coordinated the unified approach among all the agencies to successfully adopt the 2012 PM2.5 State Implementation Plan completed three separate transportation conformity determinations, and played a major role in coordinating the 2018 RTP among the eight counties. Interagency communication consultation was used extensively in the greenhouse gas target-setting process for the 2018 RTP Sustainable Communities Strategies.

Valley-wide Air Quality Coordination
In November 1995, the eight Valley MPOs jointly contracted for an air quality consultant to assist and advise them regarding air quality and modeling regulations. This contract continues today.

Regional Transportation/Air Quality Plans and Programs
The Valley MPOs have continued their involvement and contributions to the San Joaquin Valley Air Pollution Control District's State Implementation Plans, continuing to work in concert with SJVAPCD providing updates and information.

Transportation Modeling for Air Quality Conformity-Model Steering Committee
The Valley MPOs have developed a coordinated transportation modeling effort for air quality conformity purposes. The Model Steering Committee satisfies air-quality conformity requirements from both an individual county as well as Valleywide perspective. This staff level committee of the Valley RPA Directors, Interagency Coordination Group and the Statewide Transportation Conformity Working Group meets three to four times per year to discuss Valley transportation and air quality planning. Since development of the 2011 RTP, all eight MPO models have all been upgraded to versions with much higher standards that are more advanced and have more in common with one another. Model standardization in the Valley makes collaboration and information sharing more effective, which allows for greater compatibility among models in neighboring jurisdictions and a greater understanding of how to meet common modeling challenges. The eight MPO models also received further improvements through the second phase of the Valley Model Improvement Project. For more detail on transportation modeling, please see "COG Regional Travel Demand Forecast Model" earlier in this chapter.

Traffic Flow Improvements
Fresno COG member agencies identify facilities, which require traffic flow improvements. When requested, Fresno COG modeling staff assists in identifying congested facilities by providing current and future years' traffic model forecasts. CMAQ has funded numerous traffic flow improvements, resulting in air-pollution emission reductions.

Rideshare Program
ValleyRides.com primarily assists two segments of the region it serves: employer worksites and individual commuters. Services include consultation, worksite program development, and carpool matching. Incentives are available to encourage commuters to leave their single-occupancy vehicle in exchange for a multiple-occupancy carpool or vanpool. These incentives are funded locally, through the Measure C sales tax initiative.

Plug-in Electric Vehicle Coordinating Council/Valley Takes Charge
Fresno COG participates in the San Joaquin Valley Regional Plug-in Electric Vehicle Coordinating Council (PEVCC), which in May 2014, published the Plug-in Vehicle Readiness Plan for the San Joaquin Valley. Pease see link: http://valleyair.org/grants/documents/pev/6-25-14/san_joaquin_valley_pev_readiness_plan.pdf

Also published was the Guide to Siting Optimal Locations for Public Charging Stations in the San Joaquin Valley. Pease see link: http://valleyair.org/grants/documents/pev/6-25-14/san_joaquin_valley_siting_analysis.pdf. Following work on the Plug-in Electric Vehicle Coordinating Council, the subsequent committee, the Valley takes Charge, formed to further regional acceptance and use of zero and near-zero emission vehicles.

Needs Assessment

Transportation system management is becoming an increasingly important need in Fresno County. Addressing air quality issues are one concern driving this need, as well maximizing existing capacity. Funding for new capacity-increasing projects is limited and even Measure C construction projects will not satisfy the long-term travel demand within the Fresno/Clovis Metropolitan Area. Therefore, the Fresno County region will be looking to transportation demand management and transportation system management measures as a means of maintaining accessibility, reducing congestion and meeting air quality standards to serve a growing and diverse population.

Previous analysis and recommendations have been regional or generalized. This focus will likely shift to more specific local corridor analyses, especially regarding federal legislation that requires consideration of alternate transportation modes, the cost/effectiveness of such

modes and analysis of potential environmental impacts associated with each mode.

Specific corridor analyses are located in the Highways, Streets and Roads (section 4.3) of this chapter.
Growth in vehicle miles traveled (VMT) continues to outpace growth in population, and varies widely following economic trends and fuel price fluctuations. Large-percentage VMT increases will continue to challenge the region's ability to demonstrate air quality conformity. Failure to provide for sufficient mobile source reductions (i.e., vehicle emissions) through transportation strategies may result in more stringent regulations.

Proposed Actions

Short-Range Improvement Plan

Air Quality Measures

The Short-Range Improvement Plan provides actions that will reduce air emissions between 2018 and 2022. As indicated in the needs assessment sections of this chapter, the majority of short-term measures improving air quality are related to system, demand, and control management strategies. Local governments, Fresno COG, and other regional, state, and federal agencies should take the following actions to facilitate the implementation of strategies necessary to ensure that air quality standards are met:

- Fresno COG will continue to consult and coordinate with the other seven Valley MPOs and the SJVAPCD in providing focused/unified transportation/air quality planning
- Fresno COG and the SJVAPCD will continue to coordinate/consult in activities aimed at achieving both federal and California air quality standards
- Designated responsible governments and agencies will identify and consider Transportation Demand Measures and Transportation Control Measures during State Implementation Plan (SIP) development and carried out where appropriate
- Fresno COG, in cooperation with the cities of Fresno and Clovis and Fresno County, will continue to evaluate the Fresno/Clovis Metropolitan Area circulation system. Planning efforts require closer evaluation of over-capacity traffic corridors and improved street and road system monitoring. This evaluation will be accomplished through focused corridor analysis, using those corridors identified in adopted local agencies' General Plans
- Fresno COG, through ValleyRides.com, will encourage individuals and employers to increase average ridership per vehicle by matching those who are interested in carpooling or vanpooling based on home and work/school locations and schedules. Fresno COG will continue the already well-developed programs to incentivize participation
- Fresno COG will continue to support the SJVAPCD's efforts to integrate appropriate policies and implementation measures identified in the Air Quality Guidelines for General Plans into local general plans
- Fresno COG, Fresno County and its 15 cities will encourage land-use patterns that reduce automobile dependency, energy consumption and support transit and other alternative modes
- Fresno COG will encourage local transit agencies to replace aging fleets with alternative-fueled buses
- Fresno COG and local transit agencies will support greater funding flexibility for bus purchases to promote the most energy-efficient models
- Fresno COG, in cooperation with Caltrans, will promote park-and-ride lots and parking management strategies where appropriate
- Fresno COG, Caltrans, cities and the county support alternate fuel strategies to reduce petroleum fuels consumption

Long-Range Improvement Plan

The 2018 RTP's policies work to protect the region's air quality and build on the short-range program's successes, on both federal and California air quality policies and mandates, and on available funding. Long-term strategies are those that will take many years to accomplish because they are often aimed at changing human attitudes and behavior toward new and alternate transportation systems and fuels, alternative means of commuting to work, and land-use changes over time. The air quality attainment and energy conservation goals, objectives, and policies stress concerted efforts toward supporting alternative transportation modes, including better bicycle and pedestrian systems and upgrading existing public transit and regional rail facilities. The long-range strategies will continue to implement Transportation Control Measures, Transportation System Management and Transportation Demand Management.

Other long-term strategies stress using existing transportation and energy resources more efficiently. Nationwide, transportation planners have come to realize that increasing the transportation system's "supply" does not alone solve complex transportation problems. With increasingly scarce resources and growing environmental concerns, it will become necessary to use the transportation network more efficiently. This entails changing demand: how we get to and from our destinations, what time we travel, whether we link trips, and how often we drive by ourselves in single occupant vehicles. Fresno COG will work to improve the system's efficiency and effectiveness. Intelligent Transportation Systems will play a larger role in incorporating innovative services to make "smarter" use of transportation networks in long-term integrated planning processes.

Regional, state and federal governments' commitment to public education is the "key" to long-range strategies' success. Even the best transportation alternatives will have a difficult time competing with the perceived benefits of the private automobile. Incentives will be necessary to overcome these built-in advantages and to make other types of travel just as economically appealing as driving alone. Subsidized bus and rail passes; preferential, free, or subsidized parking for carpoolers; and subsidized vanpools are just a few example. Fresno COG continues with Rideshare/vanpool/carpool incentives and implementation procedures. State and federal governments need to continue assisting local governments in providing funding sources to implement such strategies.

Equally important in this educational effort is that cities, the county, Caltrans, and public service and utility districts address transportation/air quality concerns in their long-range plans and programs. Long-range planning strategies that call for mixed land uses higher-density nodes supported by public transit systems, and comprehensive bikeway and pedestrian plans are necessary if alternate transportation systems are to be successful parking for carpoolers; and subsidized vanpools. Fresno COG continues with our successful Rideshare/vanpool/carpool incentives and implementation procedures. State and federal governments need to continue assisting local governments in providing funding sources to implement such strategies.

Equally important in this educational effort is that cities, the county, Caltrans, and public service and utility districts address transportation/air quality concerns in their long-range plans and programs. Long-range planning strategies that call for mixed land uses, creation of higher density nodes to be supported by public transit systems, and comprehensive bikeway and pedestrian plans are necessary if alternate transportation systems are to be successful.

4.11 Integrated Land Use-Transportation Planning

Overview

With the passage of Senate Bill 375 in 2008, Metropolitan Planning Organizations are playing a more involved role in the coordination between transportation and land use planning. The transportation sector account for over 40% of the greenhouse gas emissions in California, and in order to achieve the goals of AB 32, it is necessary to reduce travel by planning land use and transportation more efficiently, in addition to new technology and increasing use of low carbon fuel.

While a Sustainable Communities Strategy does not regulate the use of land, it is intended to guide the Fresno region toward more sustainable future by integrating land use, housing, and transportation planning to create more compact, walkable/bikable, transit-oriented healthy communities. Fresno COG works closely with the member agencies in striving to provide more transportation options and housing opportunities for the region, which is reflected in the programs described under the Accomplishments Section. In addition to developing the Sustainable Communities Strategy, Fresno COG's role in regional planning includes providing a forum for dialogue and building consensus, sharing information, and providing resources and technical analysis. Fresno COG has coordinated farmland/resource land conservation efforts in the Fresno region, and will continue to contribute to the course where needed and feasible.

Accomplishments

Blueprint

A decade ago, the eight MPOs in the San Joaquin Valley received a grant from the California Regional Blueprint Planning Program, and conducted comprehensive regional planning efforts that emphasized collaboration with stakeholders at all levels to address potential growth issues. The Valley Blueprint Planning process created a regional vision of land use and transportation that has been and will be used to guide growth in the San Joaquin Valley. During the Blueprint process, 62 cities and 8 counties in the Valley, and the community-at-large were engaged in scenario planning exercise that led to the endorsement of a preferred growth scenario in each county and a valley-wide Blueprint that was endorsed by the Regional Policy Council (2 elected officials from each of the 8 counties).

Twelve Smart Growth Principles were adopted as part of the Valley Blueprint process, which have since been used as the guidance in the planning efforts in the Valley. The 12 adopted Blueprint Smart Growth Principles are:

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 towards existing communities
10. Take advantage of compact building design
11. Enhance the economic vitality of the region
12. Support actions that encourage environmental resource management

In early 2010, on behalf of the eight valley MPOs, Fresno COG initiated preparation of the Valley Blueprint Roadmap, which resulted in a policy guide for implementing the Valley Blueprint vision and Smart Growth Principles through local implementation strategies and a planners' toolkit. The Blueprint Integration Project provided assistance to small cities in the Valley on the Smart Growth Principles integration into the general plans and ordinances. For the cities that participated in the Integration Projects, the following topics were addressed:

- Reducing greenhouse gas emissions
- Promoting sustainability, public health, equity, resource conservation and energy/water efficiency
- Increasing infill, compact development and housing affordability
- Revitalizing urban and community centers
- Reducing automobile use and improving air and water quality
- Improving infrastructure systems
- Strengthening local economies

As part of the Blueprint implementation efforts, San Joaquin Valley Blueprint Awards have been created to encourage quality in planning and development by recognizing outstanding achievement and practices in the built environment that are consistent with the Blueprint Smart Growth Principles. The Blueprint Awards have been presented annually since 2009 at the San Joaquin Valley Policy Conference.

More information about the San Joaquin Valley Blueprint can be found at: www. valleyblueprint.org.

Fresno COG Circuit Planner and Circuit Engineer Programs

Fresno COG's Circuit Planner Program commenced in 2012 and the Circuit Engineer Program in 2015. The goal of the Circuit Planner and Circuit Engineer is to act as a liaison between Fresno COG and the 13 smaller cities (those with populations less than 50,000) within Fresno County to assist with integrating the Blueprint Smart Growth Principles into local planning processes, further the objectives of the Sustainable Communities Strategy (SCS), and to assist with coordinating transportation project development between local agencies and Fresno COG. This position is not meant to supplant contract planners and engineers that local agencies are currently working with but rather complement those local planning arrangements.

At the beginning of each program cycle, the Circuit Planner and Circuit Engineer conduct one-on-one meetings with each of the smaller cities' City Manager and/or planning and engineering staff to inform them of their services and identify their needs. Projects are evaluated and prioritized based on the need and relevancy to furthering the goals of the programs. The Circuit Planner and Circuit Engineer work down the list of identified projects throughout the program cycle, and additional projects may be submitted by agencies as they are identified.

The Circuit Planner and Circuit Engineer address topics that include transportation and land use planning issues related to Blueprint and Sustainable Communities Strategy (SCS) integration into planning documents and procedures and project delivery issues that can be improved through a streamlined collaborative approach.

Regional Housing Needs Allocation Plan

The Regional Housing Needs Allocation (RHNA) Plan is a state required document that determines the number of housing units cities and counties must plan for in their housing element section of the general plan. The California Department of Housing and Community Development (HCD) determines the regional housing needs assessment for Fresno County, which is segmented by income levels, and provides this to Fresno COG. Fresno COG is then tasked with developing a methodology to allocate the total assessed housing units to each jurisdiction in Fresno County. Cities and counties then update their housing elements to show appropriate zoning to accommodate the allocated units.

A RHNA is updated every eight years, with Fresno County's last updated in 2013. Housing elements were previously required to be updated every 5 years. However, since the passage of SB 375 in 2008, housing elements are required to be updated every 8 years after 2010. The purpose of the shift from 5 to 8 year cycles was to align with the updates of Regional Transportation Plans/Sustainable Communities Strategies (SCS), which happens every four years, to ensure that projected housing unit allocations are consistent with the development pattern of the SCS.

Fresno County Multi-Jurisdictional Housing Element

California Housing Element law requires every jurisdiction to prepare and adopt a housing element as part of the general plan. In California, it is typical for each city or county to prepare and maintain its own separate general plan and housing element. However, for the Fifth-Cycle housing element update, Fresno County and 12 of the 15 cities in Fresno County, with the help of Fresno COG in administering the consultant's contract and facilitating member agency staff meetings, prepared a Multi-Jurisdictional Housing Element (MJHE) that was adopted by the participating local governments in 2016. The MJHE included the following jurisdictions: Fresno County, Clovis, Coalinga, Fowler, Huron, Kerman, Kingsburg, Mendota, Parlier, Reedley, San Joaquin, Sanger, and Selma.

The Fresno County MJHE represents an innovative approach to meeting the State Housing Element law and coordinating resources between the participating local governments to address the region's housing needs. Fresno COG assists County staff by facilitating the biannual member agency staff meetings during the fifth-cycle planning period for the MJHE in order for the member agencies to discuss regional housing issues.

Affordable Housing and Sustainable Communities Program

The Affordable Housing and Sustainable Communities (AHSC) Program is administered by the California Strategic Growth Council (SGC) and provides grants and affordable housing loans for compact transit-oriented development and related infrastructure and programs that reduce greenhouse gas emissions. Projects awarded AHSC funds link housing to employment centers and key destinations via low-carbon transportation options such as walking,

biking, and transit, resulting in fewer vehicle miles traveled (VMT).

Fresno COG participates in the San Joaquin Valley AHSC Technical Assistance team, which is comprised of the eight San Joaquin Valley Metropolitan Planning Organizations, to provide no cost technical assistance to AHSC applicants. The Technical Assistance Program is essential to helping applicants with limited resources compete for AHSC funding.

Measure C Transit Oriented Development (TOD) Program

The Measure C TOD program was created to boost transit ridership and encourage transit supportive land use. The goal of the program is to provide a range of transportation options and support well-designed, higher-density housing and mixed uses near transit stations. In addition, the TOD program also strives to support livable, viable transit oriented healthy communities that promote walking, biking and the use of public transit and reduce private auto dependence. The projects funded through the TOD program reduce vehicle trips, improve air quality and provide access to active transportation through integrated transportation and land use planning.

There are three sub-programs under the TOD program:

1. **Capital Improvement Program**
   This program funds capital improvement projects that would increase location efficiency, boost transit ridership and encourage a rich mix of housing, shopping and transportation choices. Project evaluation criteria include nexus to transit oriented development, land use and transportation characteristics, project design, parking, green building and affordable housing element.
2. **Planning Program**
   The Planning Program funds station area plans, transit corridor specific plans and specific plans that address parking and urban design guidelines in the transit oriented areas. Project evaluation criteria include nexus to TOD, planning element, project impact, green building and affordable housing element.
3. **Housing In-fill Incentive Program**
   The Housing In-fill Incentive Program was designed to encourage higher-density housing with TOD characteristics. Project evaluation criteria include nexus to TOD, density, green building, affordable housing and project readiness.

The TOD program has granted more than $6 million to projects since its inception in 2011. The program is estimated to generate about $17 million in its 20-year life span, accruing average about $850,000 annually. The latest TOD Program Policies and Guidelines can be found at: http://www.fresnocog.org/measure-c-transit-oriented-development/.

Farmland Conservation

As part of the 2014 RTP/SCS implementation efforts, Fresno COG convened an Ag Ad-hoc Committee to assist member agencies in identifying potential policies and action to minimize the loss of farmland associated with the construction of transportation facilities. After several meetings, the ad-hoc committee made recommendation to the following policy, implementation activities and other additional general future efforts.

Policy

It is recommend that FCOG adopt the following policy:

"It is the policy of the Fresno Council of Governments that the construction of transportation projects minimize the loss of farmland."

Implementation

1. It is recommended that member agencies submitting projects for inclusion in the Regional Transportation Plan (RTP) shall indicate that the agency will address the recommended FCOG policy at the project level.
2. It is recommended that member agencies be responsible for addressing the above recommended policy in their project specific environmental review.
3. It is recommended that at the scoring/programing level of project review, Fresno COG shall address agricultural land impacts by establishing scoring criteria (established within the appropriate scoring committee) to minimize the loss of prime farmland, unique farmland, farmland of statewide importance and farmland of local importance consistent with the recommended policy.

General Recommendations

COG Assistance

1. It is recommended that the Fresno COG assist member agencies, when requested, with mapping resources related to agricultural lands.

2. It is recommended that Fresno COG shall assist member agencies by maintaining, through resources such as the Planners Tool Kit or county data bases, information about agricultural land preservation best practices.

The Committee delivers the above recommendations for the Policy Board's consideration, which are intended to directly address the agricultural resource mitigation measure identified in the 2014 RTP/SCS EIR, which reads:

"Develop a methodology to help implementing agencies quantify the conversion of prime farmland, unique farmland, farmland of statewide importance, and farmland of local importance associated with their proposed projects."

Future Activities

It is further recommended that Fresno COG staff make a presentation at both the TTC and PAC (took place in January 2016) to discuss current methodologies, ratios, policies and efforts utilized by local agencies within Fresno County, and further work to identify specifics with member agency technical and administrative staff, to analyze and further address the additional language found within the certified 2014 RTP/SCS EIR regarding agricultural resources, which reads:

"Develop a methodology for implementing agencies to consider preservation ratios to minimize loss of prime, unique, and statewide importance farmland; and coordinate efforts to provide a mechanism for preservation activities."

Following the presentation, the PAC may elect to convene the member agencies to further discuss preservation ratios and/or preservation activities considered to be best practices, or may elect for the presentation to be given to the Policy Board as is. Following the PAC's direction, staff will then report back to the Policy Board concerning the Committee's overall activities, including methodologies discussed, and present them for individual agency consideration.

The Policy Board adopted the recommended policy, implementation activates and additional recommendations formulated by the Ag Ad-hoc Committee.

As a result of the work of the Ag Ad-hoc Committee, Fresno COG adopted a policy in the 2018 RTP/SCS Policy Element to minimize the loss of farmland with regard to construction of transportation projects.

Greenprint

Building upon the Blueprint efforts, Fresno COG in partnership with the eight valley MPO's developed the San Joaquin Valley Greenprint Phase I and Phase II. The SJV Greenprint is primarily a collection of maps, assembled as a comprehensive, interactive database that catalogs current conditions and trends related to the region's biological, agriculture and water resources. The User Guide, maps and data collected for the SJV Greenprint are publicly available through the San Joaquin Valley Data Basin Gateway (http://sjvp.databasin.org). The SJV Greenprint is intended to assist local agencies/ organizations and their decision-makers, making available a wide range of current public data on regional resources, compiled in a single repository with interactive mapping capability.

As part of Phase II of the Greenprint, Demonstration Projects were commissioned to demonstrate the real-world utility of the information developed in Phase I. Three Demonstration Projects that received funding during Phase II and serve as case studies for the use of Greenprint data:

- Watershed Enhancement Strategies for Groundwater Sustainability, by Sequoia Riverlands Trust
- Exploring the Land-Water Intersection in the San Joaquin Valley, by American Farmland Trust and Conservation Biology Institute
- Groundwater Recharge Assessment Tool (GRAT), by Sustainable Conservation and Earth Genome

The Greenprint Report for Phase I and Phase II, and all Demonstration Project Reports are available at http://www.fresnocog.org/san-joaquin-valley-greenprint-program.

Proposed Actions

Short-Range Improvement Plan

Fresno COG continues to serve as a forum for dialogue and consensus on regional issues pertaining to transportation and land use.

Regional Housing

Fresno COG's role in developing a methodology for distribution of the Regional Housing Needs Allocation (RHNA) will continue, with the next RHNA update in 2021. Fresno COG will assist County staff by facilitating the biannual member agency staff meetings during the fifth-cycle MJHE planning period in order for the member agencies to discuss regional housing issues.

Technical Services for Member Agencies

Fresno COG will continue to fund and coordinate the Circuit Planner and Circuit Engineer programs to provide local jurisdictions assistance in furthering the Blueprint Principles and Sustainable Communities Strategy.

TOD Program

Fresno COG will continue to evaluate the effectiveness of the project criteria and funding mechanism against the goals and objectives for the Measure C TOD program. The existing program guidelines will be reviewed again after the 2018 funding cycle. The TOD Technical Advisory Committee, which consists of representatives from Fresno COG, FCTA, FAX, FCRTA, Clovis Transit, City of Fresno, City of Clovis, Eastside cities, Westside cities, County of Fresno, and the public (2 members), will bring the result of the review and recommendation to the Policy Board in 2018/2019.

Long-Range Improvement Plan

Fresno COG will continue to support and encourage the implementation of the Blueprint Smart Growth Principles in the region, and is committed to contributing to building vibrant, healthy and sustainable communities through integrated transportation and land use planning.