5.1 Introduction: 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 5.1
Multimodal: Section 5.2
Highways, Streets, and Roads: Section 5.3
Urban Mass Transportation: Section 5.4
Rural Area Public Transportation & Social Service Transportation: Section 5.5
Aviation: Section 5.6
Active Transportation: Section 5.7
Rail: Section 5.8
Specific Transportation Strategies and Management Systems: Section 5.9
Air Quality: Section 5.10

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 upon 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 must include only those projects that have a "reasonably available" source of funding. The "financially constrained" project list in the RTP contains projects that meet the "reasonably available" funding source requirement. The RTP also includes projects that are deemed necessary, but do not have identified funding sources, in order to show a complete picture of transportation improvements that are needed for the future vitality of the region.

Transportation Conformity and 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 on the fresnocog.org website and in the RTP's appendix.

5.2 Multimodal

Overview

Transportation planning has relied heavily on the analysis of 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 Forest.
- 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 this 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:

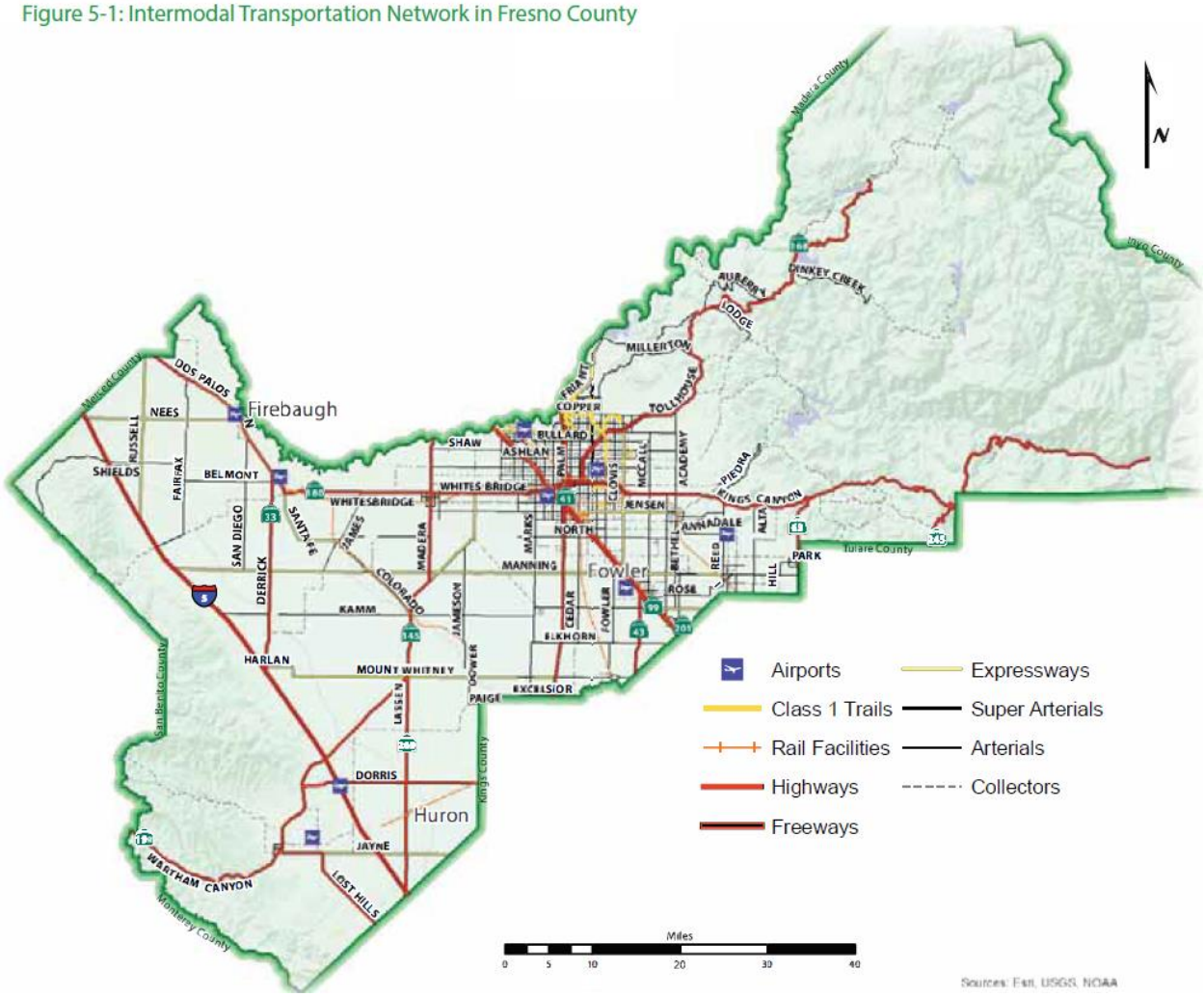
- Increasing land use intensity and residential densities, particularly along corridors used for transit or planned for future light rail systems;
- Facilitating mixed land use districts that promote living, working, shopping and recreation accessible by foot or bicycle, and that are served by centrally 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; and
- 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 we 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 5-1 shows the intermodal network, illustrating mode options that frequently exist over the same corridor, as with transit and the regional roads, or in the State Route 99 corridor, which has adjacent rail lines. Since the2011 RTP, the regional transportation system has further developed, due largely to additional resources from local sales tax Measure "C", and its reauthorization.

Figure 5-1: Intermodal Transportation Network in Fresno County



Streets and Roads

Through the Measure C, which has been extended for a 20-year period, and federal and state participation, Caltrans continues to develop the completion of a metropolitan freeway system which includes Freeways 41, 168, and 180 including major improvements to overcrossings and interchanges. 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 transportation 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 actively 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.

Ridership and marketing surveys report high satisfaction levels among Fresno Area Express (FAX) riders in all areas except for those related to waiting time and overcrowding. These projects are expected to address those concerns.

Changing attitudes about the environment, traffic congestion and population growth has 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 region, with a dedicated stop at the Fresno Yosemite International Airport (FAT). FCOG was successful with their grant application and continues to administer daily seasonal transit service from Fresno to Yosemite. For more information, see YARTS under Recreational Travel.

Airport

Fresno COG received funding through the Department of Transportation's State Aeronautics program, on behalf of the Fresno County Airport Land Use Commission, in 2017 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 is scheduled for completion in late 2018.

Highway access to FAT and Chandler Executive Airport has improved considerably. State Routes 168 and 180 provide much better access to FAT and connect the airport with the Fresno highway system and beyond. SR180 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 Sequoia National Park entrance. SR 168 has been improved between SR180 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. Freight rail service is provided by Burlington Northern Santa Fe and Union Pacific, both Class 1 railroads, and the San Joaquin Valley Railroad, a short-line 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 region wide approach for corridor preservation that crosses jurisdictional boundaries is needed to ensure future demand is met.

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.

Ultimately, transit service must be extended to new growth areas if travel options are going to be offered for those residents and workers. Funding limitations continue to constrain transit services to those corridors with highest demand, for cost-efficiency.

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 of 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:

- 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 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: (1) a full traffic analysis that takes into account all potential traffic shifts; (2) analysis of future demand and associated

benefits; and (3) a review of connectivity and access enhancements in line with regional land use and development plans. This report recommends proceeding with further analysis of corridor-to-corridor connectors.

- 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.

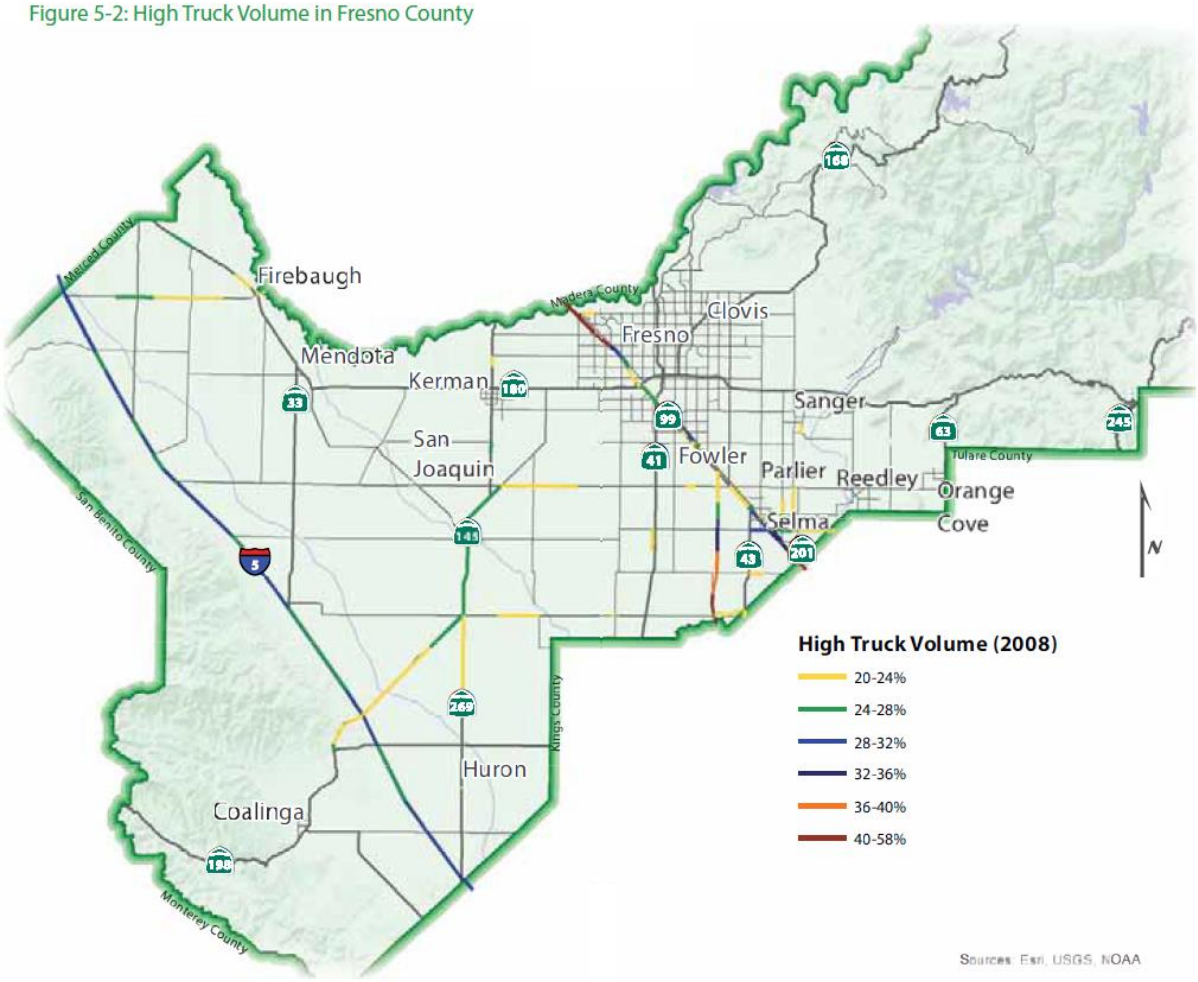
- Operational improvements. Operational demonstration projects were considered but deemed not feasible within the study's timeframe and/or budget. These demonstrations include: real-time truck parking applications, truck tolling on I-5 and eliminating the lower speed limit for heavy-duty trucks on I-5.

This report recommends a truck platooning demonstration in the corridor, as studied during Task 7. 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. Of note, the California Air Resources Board has announced a Grant Solicitation for On-Road Advanced Technology Demonstration Projects. Up to $17 million is available for an advanced technology freight demonstration, for which this project appears to be a strong candidate.

High truck traffic volumes within the Central Valley raise concerns about highway maintenance, capacity, and safety, and have led Valley RTPAs to share a goal of encouraging a shift of some commodity movement to rail. 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 5-2 shows routes with high truck volumes in Fresno County.

Figure 5-2: High Truck Volume in Fresno County



As discussed in Chapter 1, the eight San Joaquin Valley RTPAs in conjunction with Caltrans and the San Joaquin Valley Air Pollution Control District have undertaken a series of studies to improve commodity movement within and through the Valley. The third phase culminated with a truck model, intended to forecast truck trips and vehicle miles traveled, analyze air quality and emissions from heavy-duty trucks, impacts of congestion on major truck routes, and safety and road maintenance issues associated with truck activity. The third phase also provided improvements to truck model and integration with local models. This model provided an analytical basis for evaluating transportation investment benefits that impact goods movement in the San Joaquin Valley.

In addition, the San Joaquin Valley RTPAs developed the San Joaquin Valley Goods Movement Action Plan, 2007. The document is a coordinated strategic plan for system-wide, multi-modal goods movement planning in the San Joaquin Valley. The plan defines the linkages between the goods movement system and the role it plays throughout the rest of the state and nation. The plan also identifies the crucial role the Valley's $20 billion in agricultural output plays in the state and national economy

In addition to the San Joaquin Valley Goods Movement Study, Fresno COG served as the project manager for a Caltrans-funded study focusing on the potential for a short-haul rail intermodal service to

connect the San Joaquin Valley with the Port of Oakland. The study, known as the California Interregional Intermodal Service (CIRIS), analyzed alternatives that would reduce truck traffic by diverting some of the goods between the Valley and the Port of Oakland from the current truck operations to rail. Although short-haul rail barriers continue to decrease, trucking to the Valley remains the preferred transportation option to locations within 500 miles of California's ports due to costs and flexibility. The Valley should continue to monitor inland port concepts and analyses, as well as railroad operating changes, port policies, shipper needs and terminal operator business practices as they relate to short-haul rail opportunities.

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 24,400students 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 15th – September 15th. 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 – 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 to achieve significant traffic fatality and serious injury reductions 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
Commercial Vehicles
Emergency Medical Services
Information about the SHSP, its implementation timeline, and the list of safety partners, are downloadable from Caltrans website at http://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 Highway Safety Improvement Plan (HSIP), Commercial Vehicle Safety Plan (CVSP), and other State and local plans are all critical to the success of an SHSP.

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

MAP-21 and FAST Act require MPO to set safety performance targets as part of the 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? 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.

5.3 Highways, Streets and Roads

Overview

Fresno County has an extensive planned system of streets and highways. The system is intended to provide an adequate level of traffic service within Fresno County in an effort to satisfy users' transportation needs. The transportation system also plays an important role in the region's economy, helping move both people and goods within the region. 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, and thus on 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 the planning efforts for the regional transportation network. 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. A comprehensive discussion of the various alternative strategies for financing the regional transportation network is examined in this Plan's Financial Element.

Existing System Inventory

Regionally Significant Road System

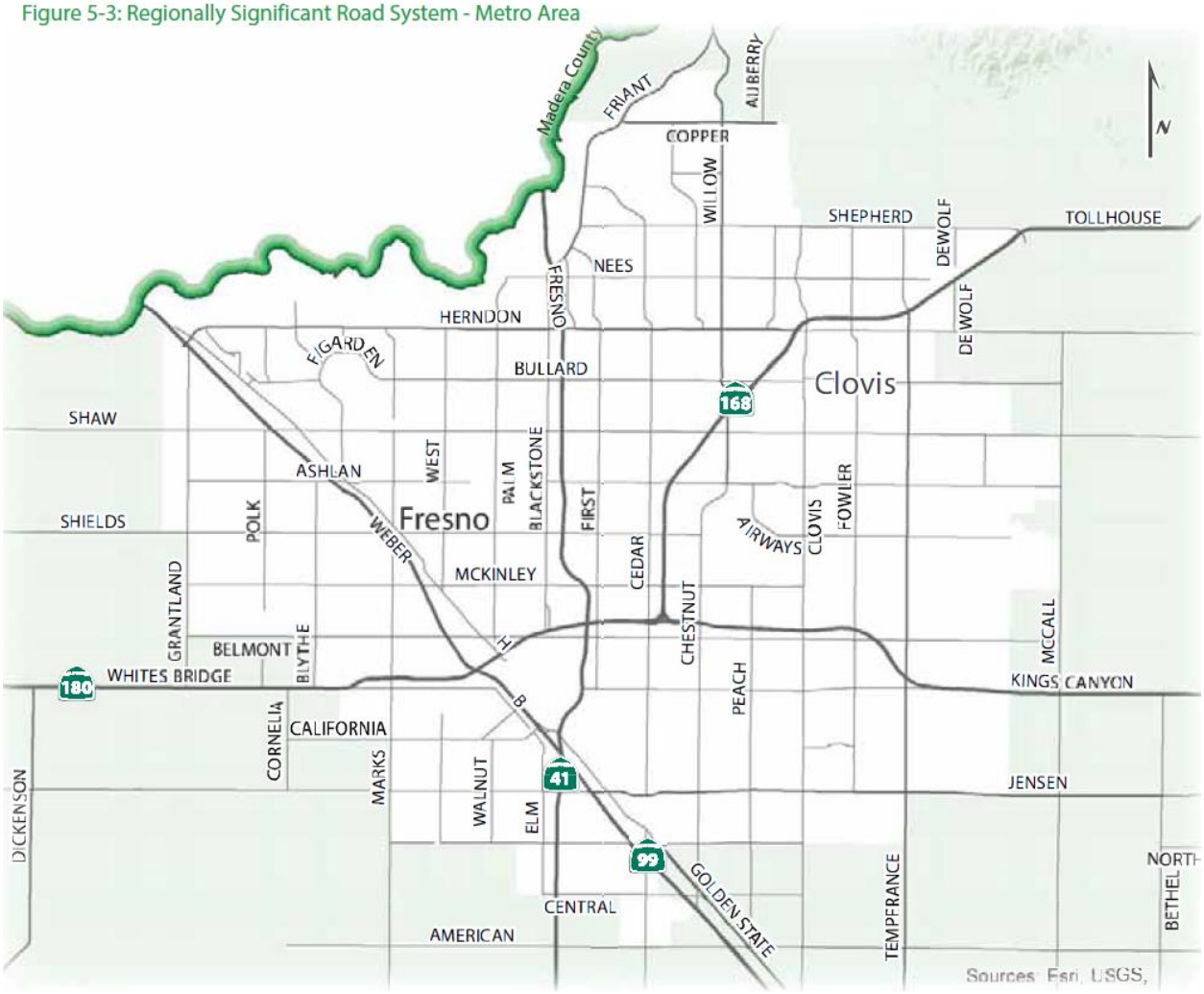
The COG, in conjunction with its member agencies and Caltrans, has developed a "Regionally Significant Road System" for transportation modeling purposes that is based on the Federal Highway Administration's (FHWA) Functional Classification System of Streets and Highways, plus additional facilities of regional significance. Figures 5-3 and 5-4 show the Regionally Significant Road System for the Fresno County region.

Functional classification is 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 network of roads. 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 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)

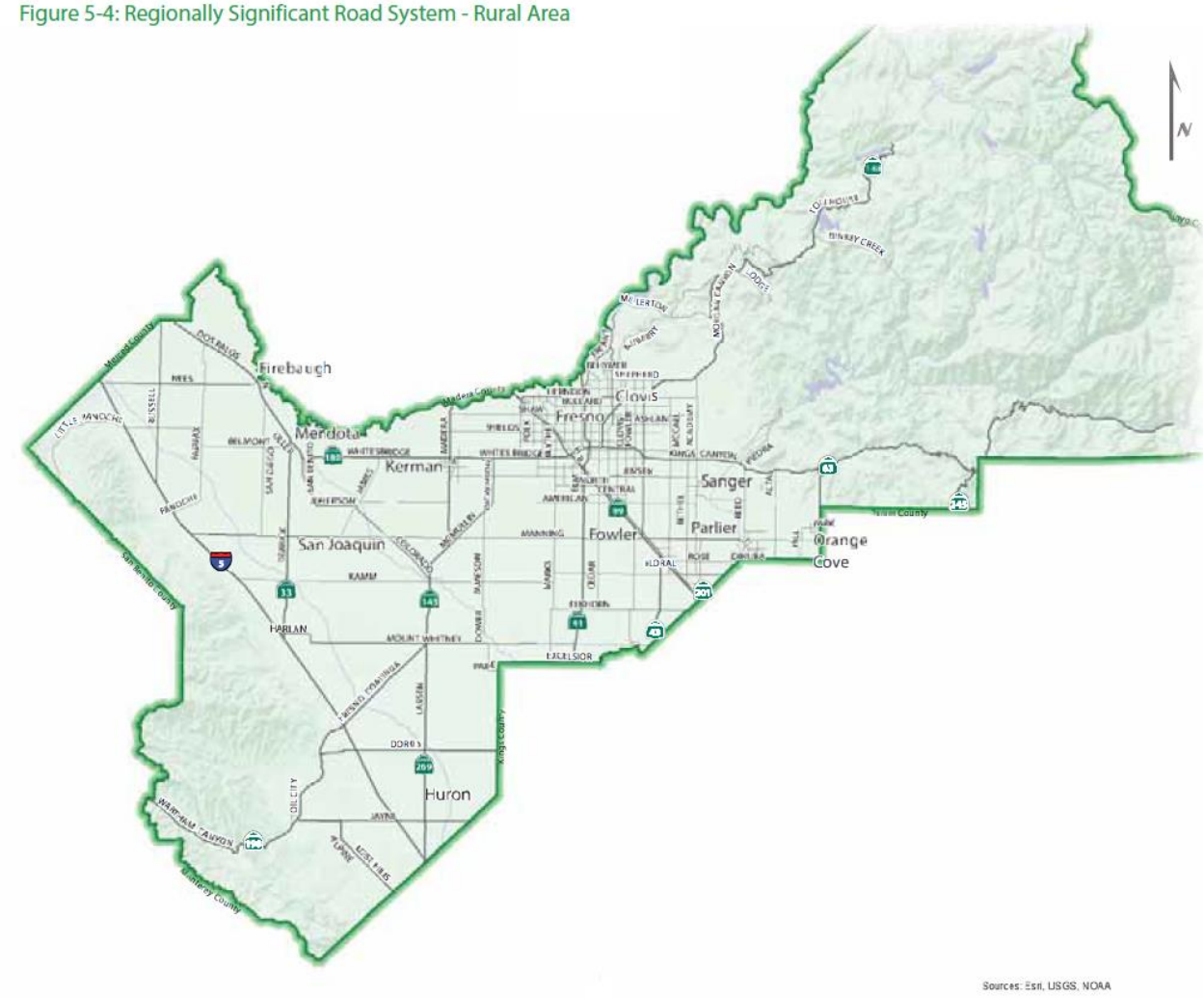
regulatory guidance clearly requires specific air quality conformity discussion and analysis for all facilities shown on the regionally significant system.

Figure 5-3: Regionally Significant Road System - Metro Area



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.

Figure 5-4: Regionally Significant Road System - Rural Area



Accomplishments

The 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 for transportation 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 the Regional Transportation Planning Agency, became legislatively responsible for preparing an Expenditure Plan. It is estimated that Measure C will generate approximately $1.5 billion over its lifetime, which will be used to construct and implement the multi-modal projects and programs contained within the Expenditure Plan.

The Authority is charged with implementation responsibility and is required to coordinate its actions to secure funding for the completion and improvement of highway projects with high regional priority.. The Measure C improvements (shown in Figures 5-5 and 5-6) reflect this system.

Figure 5-5: 2010 Measure C Projects - Urban Projects

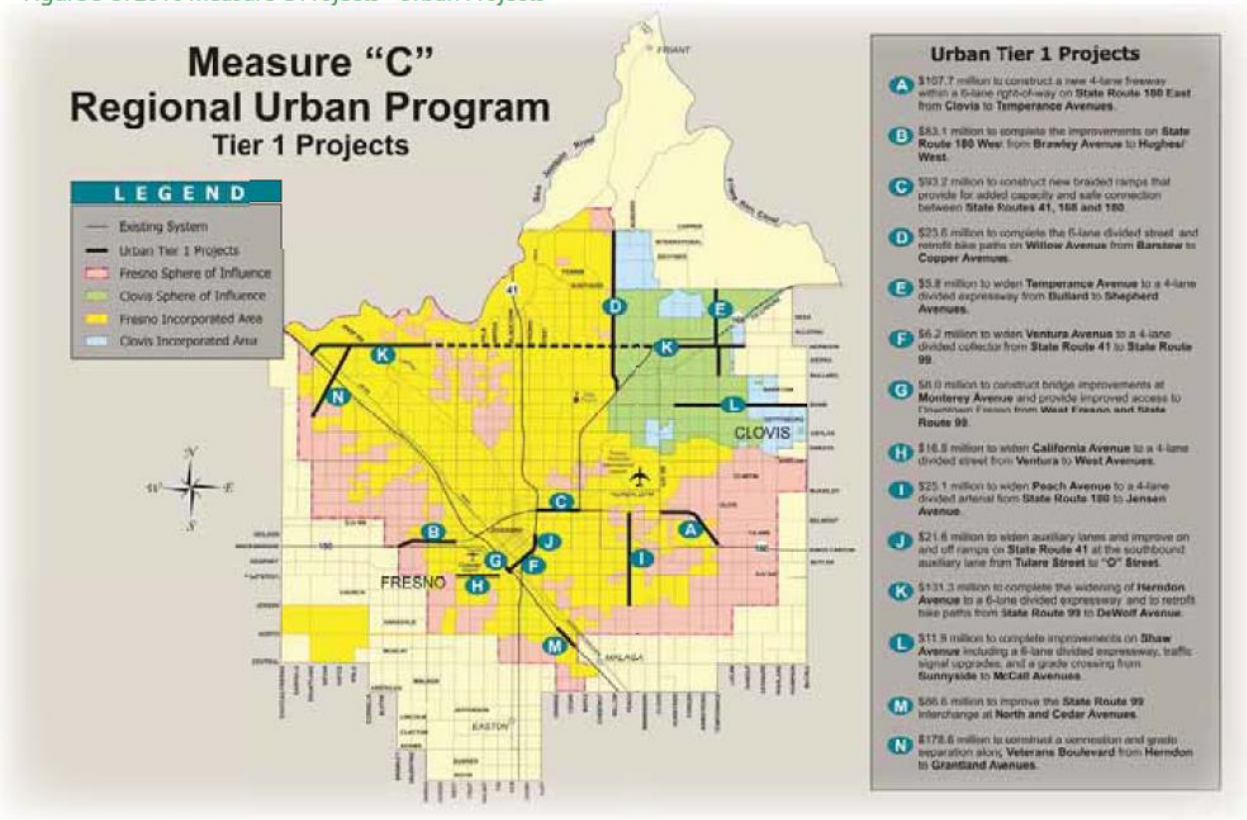
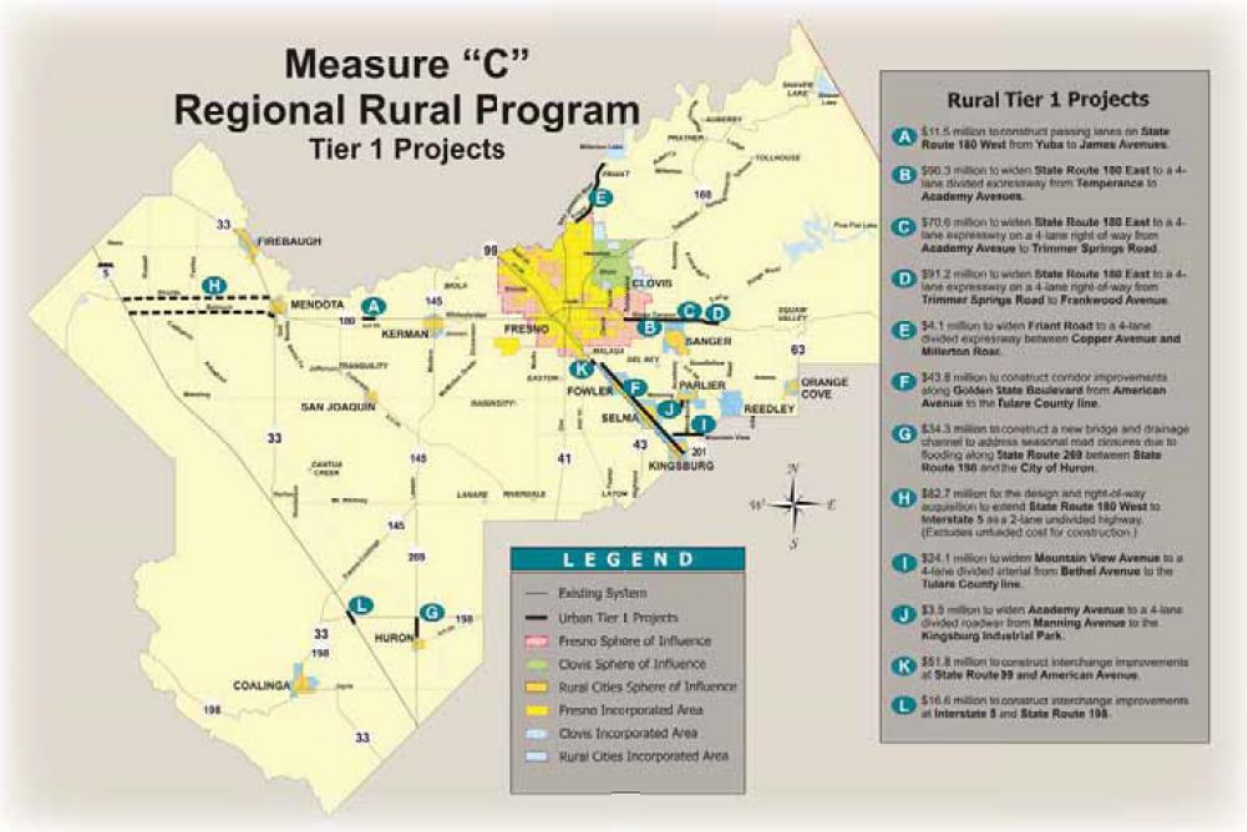


Figure 5-6: 2010 Measure C Projects - Rural Projects



The COG is charged with specific planning responsibilities, including development of 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 in the process, the COG must assess the need for 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 a required to remain responsive to changing costs, revenues and delivery schedules. The plan is intended to serve 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.

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 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 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 the 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 there are significant efforts 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 the Federal Highway Administration (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. A primary purpose of the ITS Architecture is to identify 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 as projects must be consistent with the area's regional ITS architecture to receive federal funds. 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, Traffic Light Synchronization Program (TLSP) funds have been key to the success for the region and 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 of ITS in the San Joaquin Valley and also to fulfill a requirement by the FHWA for the region to have a plan that conforms to the National ITS Architecture, thus ensuring that funding from the Federal Highway Trust Fund for all future ITS projects, or projects that have an ITS element will be honored by FHWA. By participating in the development of the San Joaquin Valley ITS Plan, the 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 study that serves as a foundation 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

The COG accepts the San Joaquin Valley regional architecture as its common structure for development of ITS 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; modification of travel demand; capacity problems; general plan circulation element inconsistencies; and, transportation corridor needs. The following text will analyze each of these issues/needs in further detail.

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

Fresno County voters in 2006 reauthorized a ½ cent local sales tax, Measure "C," for transportation purposes. The 20-year tax 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 to facilitate expenditure of those funds.

SB1
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 our 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 improvement projects.

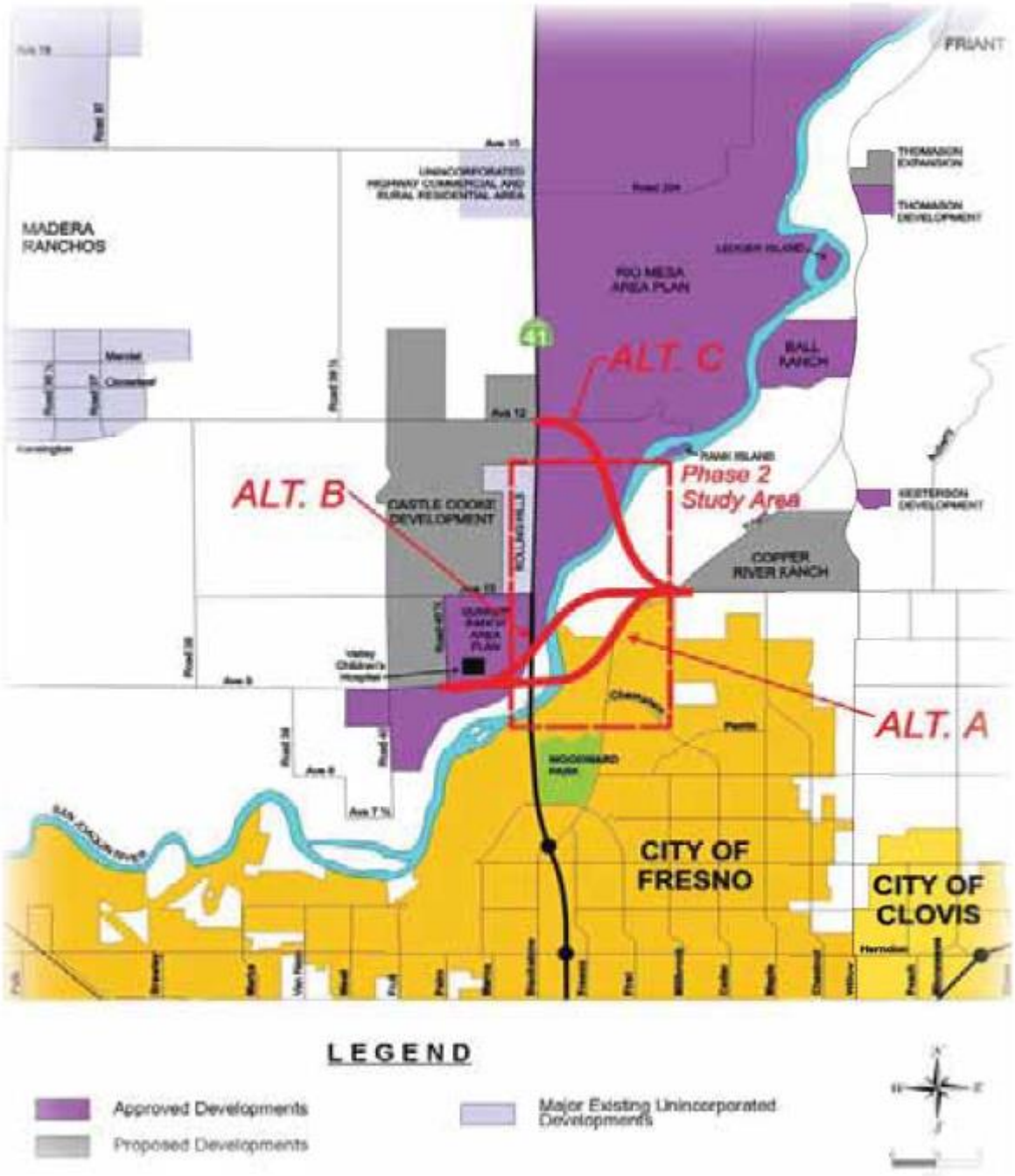
Travel Demand
Modifying travel demand is a critical issue. It is becoming increasingly apparent that financial, energy, and environmental resources are slowly being overburdened by the need to satisfy ever-increasing travel demands. Over time it will be necessary to develop and implement a variety of 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 examining Fresno and Madera Counties' long-range transportation needs by considering future land use plans together with circulation element policies and engineering and 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 5-7.

Figure 5-7: Fresno-Madera East-West Corridor Study



Fresno-Madera Origin-Destination Study

In partnership with the counties of Fresno and Madera, and the cities of Fresno and Madera, Fresno COG and the Madera County Transportation Commission (MCTC) have undertaken a joint Origin-Destination Study = to provide a comprehensive understanding of transportation movements and effects between Fresno and Madera counties. Part One entailed an analysis of origin and destination traffic movements

between the two counties. Part Two provided an analysis of 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.

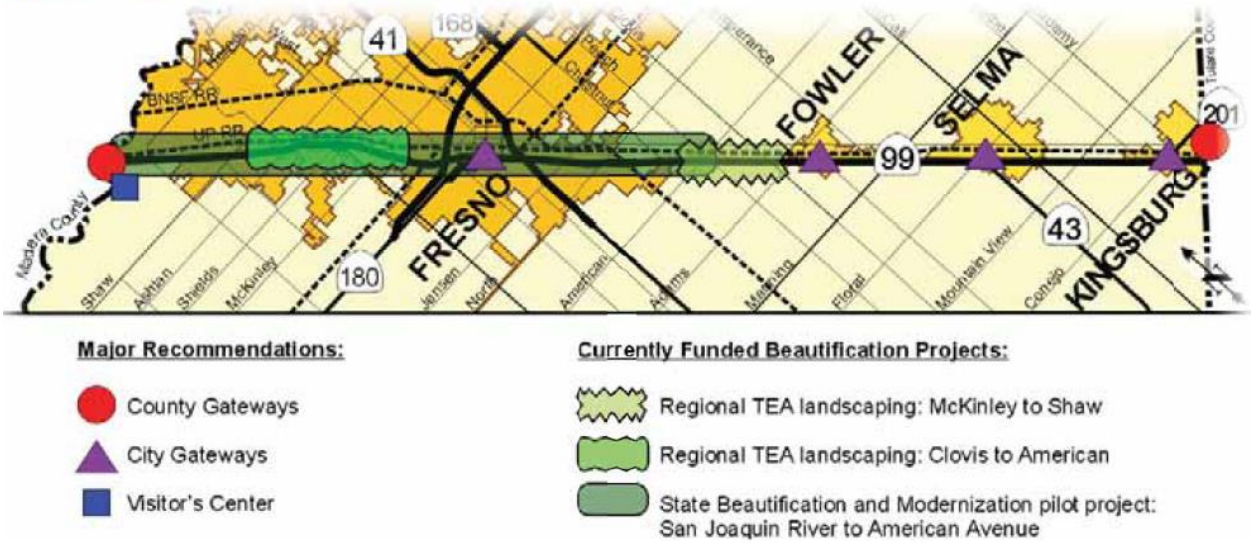
The study identified opportunities for transit supportive infill development, improved connectivity to Blackstone Avenue and prioritized catalytic sites to kick-start the revitalization process. The recommendations will help direct investment in private development and public infrastructure projects 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 5-8.

Figure 5-8: Highway 99 Beautification Master Plan



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:

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 in the Measure "C" Sales Tax Extension.

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.

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 5-11.

Figure 5-11: 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, the 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, the COG is responsible for annually coordinating sample system performance data within Fresno County. This responsibility was assigned by the FHWA which initiated a Highway Performance Monitoring System process designed to provide a means to assess and monitor federally-funded highway systems'

performance. 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; and
- 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, building the planned freeway network, providing operational improvements, and additional transportation demand management improvements. 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 known as the District System Management Plan (DSMP). The DSMP planning process 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 the Regional Transportation Plan of each Regional Transportation Planning Agency.

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 have decreased dramatically. In order 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 the amount of 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 over $5 billion annually in new transportation revenues. SB 1 makes adjustments for inflation every year so that the purchasing power of the revenues 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. Operational and maintenance costs increased 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.

The 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.

5.4 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 van pools, 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. The 2006 reauthorization of Measure C, has established a stable funding source for Fresno Area Express; however, actual revenues have been significantly lower than expected. During the recession years, Measure C revues 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 revues, 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 much 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 provideing 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)

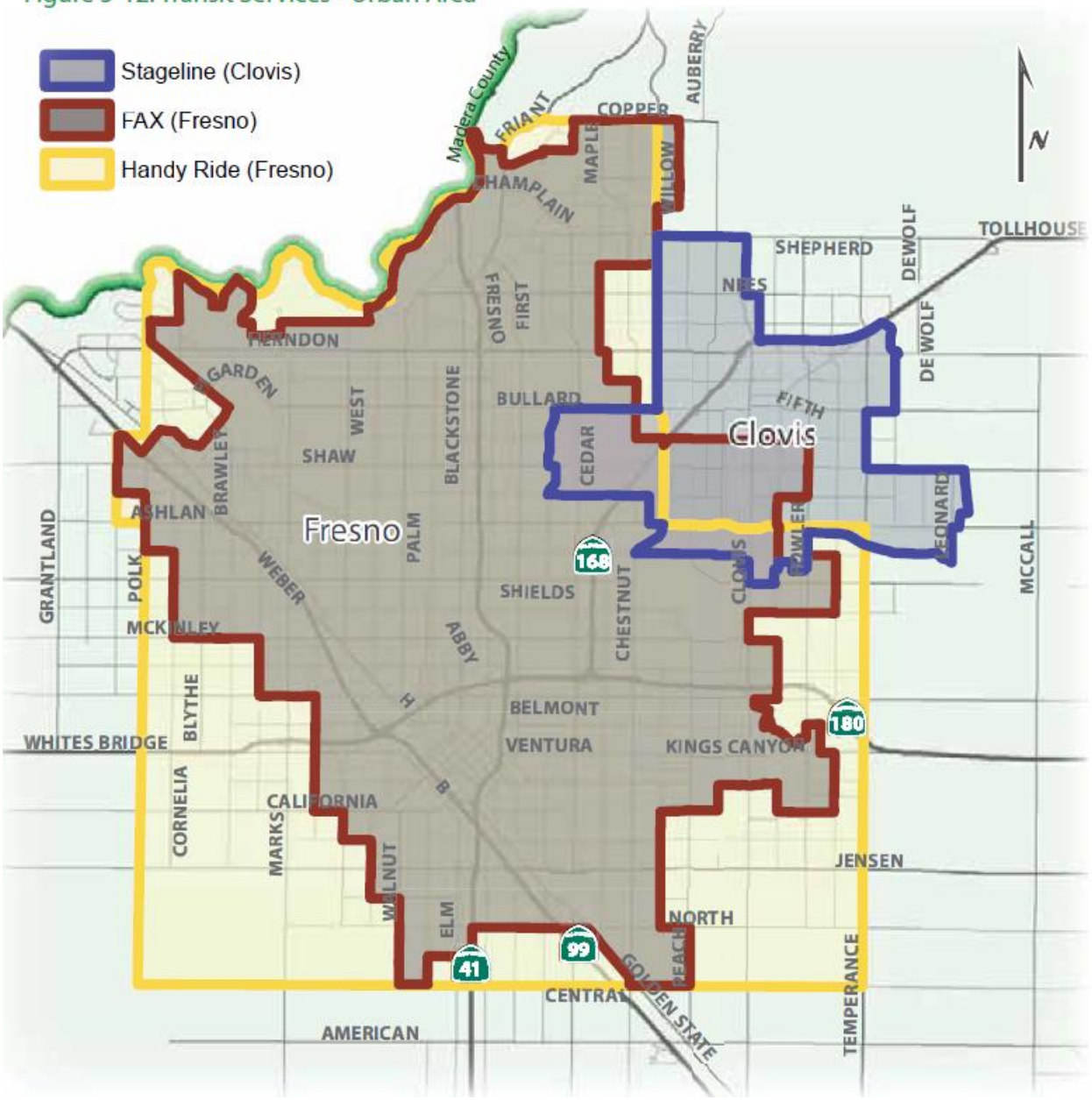
Fresno Area Express (FAX), a department of the City of Fresno, is the major public transportation provider in Fresno County. FAX provides two types of public transportation service: the fixed-route service for general public riders and Handy Ride, a demand-responsive service designed for individuals 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, in order to facilitate transfers between Stageline routes 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 percent CTSA function. Measure C local funding dollars are used to augment fare revenue to provide the necessary funds to match Transportation Development Act Article 4.5 dollars.

Service areas for FAX and Clovis are shown on Figure 5-12.

Figure 5-12: Transit Services - Urban Area



Intercity Ground Transportation

Amtrak

Amtrak, with financial support from Caltrans, operates 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 eight trains continue on to Sacramento.

Amtrak augments the San Joaquin trains 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 5.2 Multimodal/Recreational Travel.

Accomplishments

Fresno Area Express (FAX)

During the past decade, FAX has experienced an approximately 31 percent 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 a 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 takes place in 15 minute intervals from 6 AM to 6 PM weekdays. Prior to these improvements, 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 adopted 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

Fresno COG, as the designated Metropolitan Planning Organization (MPO), is responsible for transportation planning in Fresno County. Fresno COG produces 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 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 the provision of "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 includes 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 Transportation Development Act (TDA) regulations require FAX to maintain a minimum 20 percent 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, these standards are developed through a coordinated, comprehensive, continuous process carried out by the Fresno Council of Governments (Fresno COG). The RTP and SRTP for the Fresno Clovis Metropolitan Area (FCMA), sets guidelines for service evaluation. Additionally, each year 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 was completed which evaluated the efficiency and effectiveness of service on a route by route basis. At that time, service measures 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 percent of the system wide average for a number of key passenger productivity indicators. The 60 percent 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 percent of the total system average, with 140 percent 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 twenty 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 the current 94,575,000 people to 1.3 million people by 2042, the topics of growth management, transit and land development policies are timely for Fresno for 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 system-wide ridership. This scenario reduces service in areas that currently 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 percent increase in resources and suggests that ridership growth in the range of 35-50 percent 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 percent 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 greater 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 #34 (First Street) and #38 (Cedar Avenue). Increase frequency on route #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 as the rest of the Central Valley continues to suffer the economic impacts of the Great Recession. Identifying the most effective and efficient service design and operating strategies is critical for the long-term sustainability of public transit services in the area.

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 statewide. Due to lower real estate prices and lower cost of living, many retirees relocate to Fresno County from major

metropolitan centers. As this segment of 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 in the process of developing a Regional Long Range Transit Plan. This project will yield Fresno County's *first* integrated long-range transit plan, intended to guide transit and multimodal investments serving the Fresno 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 Mutlimodal 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 percent 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 percent 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, inter-city, 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 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.

Inter-city 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 currently 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

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 5-1. Between 1997 and 2016, the population in the City of Fresno grew by 27.1 percent. The geographic area within the city's boundaries grew by 12.5 percent during that same period. FAX service miles increased by 27.4 percent, primarily due to new 15 minute frequencies on four of FAX's busiest routes and total passengers increased by 11.8 percent.

Table 5-1: 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 w eekdays (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

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 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 the amount of 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, the ½ cent sales tax, is dedicated for transportation and transit purposes, and 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 the measure C tax revenue. In fiscal year 2017 Measure C accounted for just under $10 million dollars in revenue for Fresno Area Express

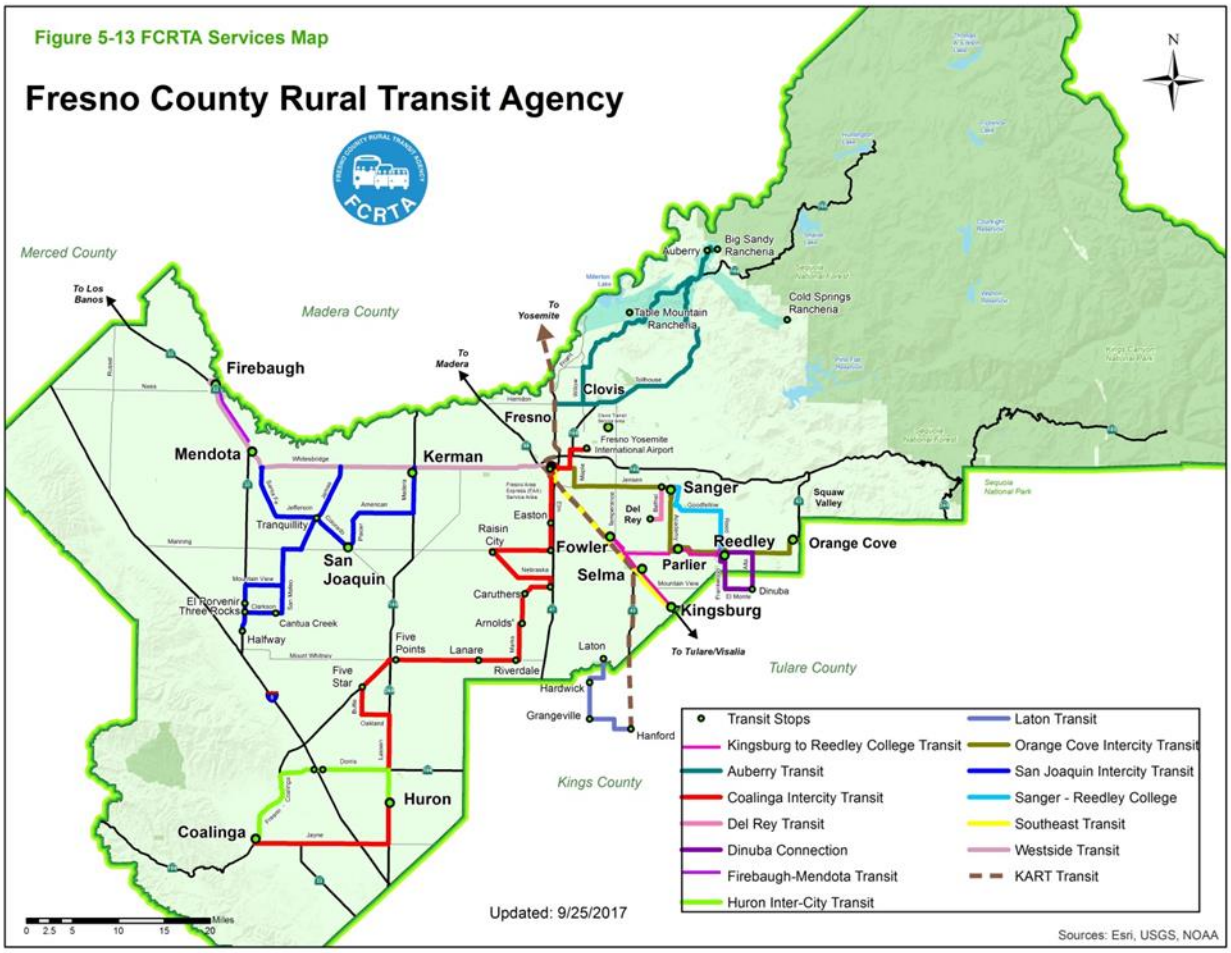
5.5 Fresno County Rural Area Public Transportation & Social Service Transportation

Existing Systems

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

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 5-13.



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. The 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 K displays a summary table of the FCRTA's services in the rural system.

Rural Social Service Transportation

Fresno COG has co-designated the 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 percent 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 percent, 45 percent, and ten percent (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:

Centralized Administration
Rural CTSA's centralized administration has allows 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 a the State Legislature, the California Air Resources Board, the San Joaquin Valley Air Pollution Control District and local elected officials attending.

Consolidation of Funding
The Rural CTSA maximizes available services by aggregating different operating revenues from social service agencies, which help 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 in do 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 thirty-eight years the FCRTA has implemented several Demonstration Programs including:

- 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), and
- Coalinga Transit's Medical Express Service (from Coalinga to medical appointments in the Fresno-Clovis Metropolitan Area - discontinued).

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.

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 was percolating since first meeting with Lanare residents in September 2012, including multiple meetings in February 2014 and surveys conducted in cooperation with the Leadership Counsel for Justice and Accountability staff and former California Rural Legal Assistance staff. The service beganafter 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 9am to 3pm for 5 hours per day. As of July 1, 2014 the Huron transit Inter-City will operate from 9am to 5pm for 7 hours per day so Huron residents will be able to attend college classes and extended business in Coalinga.

On August 14, 2014, FCRTA began the Sanger Express, an Intercity bus route between Sanger and Reedley College, with access to additional goods and services in Reedley and Sanger. 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 10percent 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 January 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 January 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.

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 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. The funding

additionally reduced holidays to just four days per year. 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.

FCOG 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 inter-city 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 inter-city 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, Fresno COG is in the process of developing a Regional Long Range Transit Plan. This project will yield Fresno County's *first* integrated long-range transit plan, intended to guide transit and multimodal investments serving the Fresno 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 Mutlimodal 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 t updating subsequent editions.

Coordination/Consolidation Efforts

FCRTA's continues to adjust its subsystems to promote greater efficiencies. Coordinating transportation services and administrative functions between 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 percent 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 has secured grant funding from: the State of California's Low Carbon Transit Operations Program for Zenith electric vans; the California Air Resources Board for Proterra electric buses; the San Joaquin Valley Air Pollution Control District's Charge-Up Program for solar EV chargers; and Measure C's New Technology program for BYD Electric buses and 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 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

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 service needs 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 quality emissions, the public must accept carpooling, vanpooling, and commuter bus service. Suggested programs, to date, 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, The Fresno COG programs have been offering monthly drawings for $1,000, with an annual drawing as well. In 2013, a hybrid vehicle was given away along with other valuable prizes. Vehicle pooling providers such as VPSI, Enterprise and CalVans have provided well over 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 worker needs 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 van pools 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 Drug and Alcohol Testing requirements of the U.S. Department of Transportation. .

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.

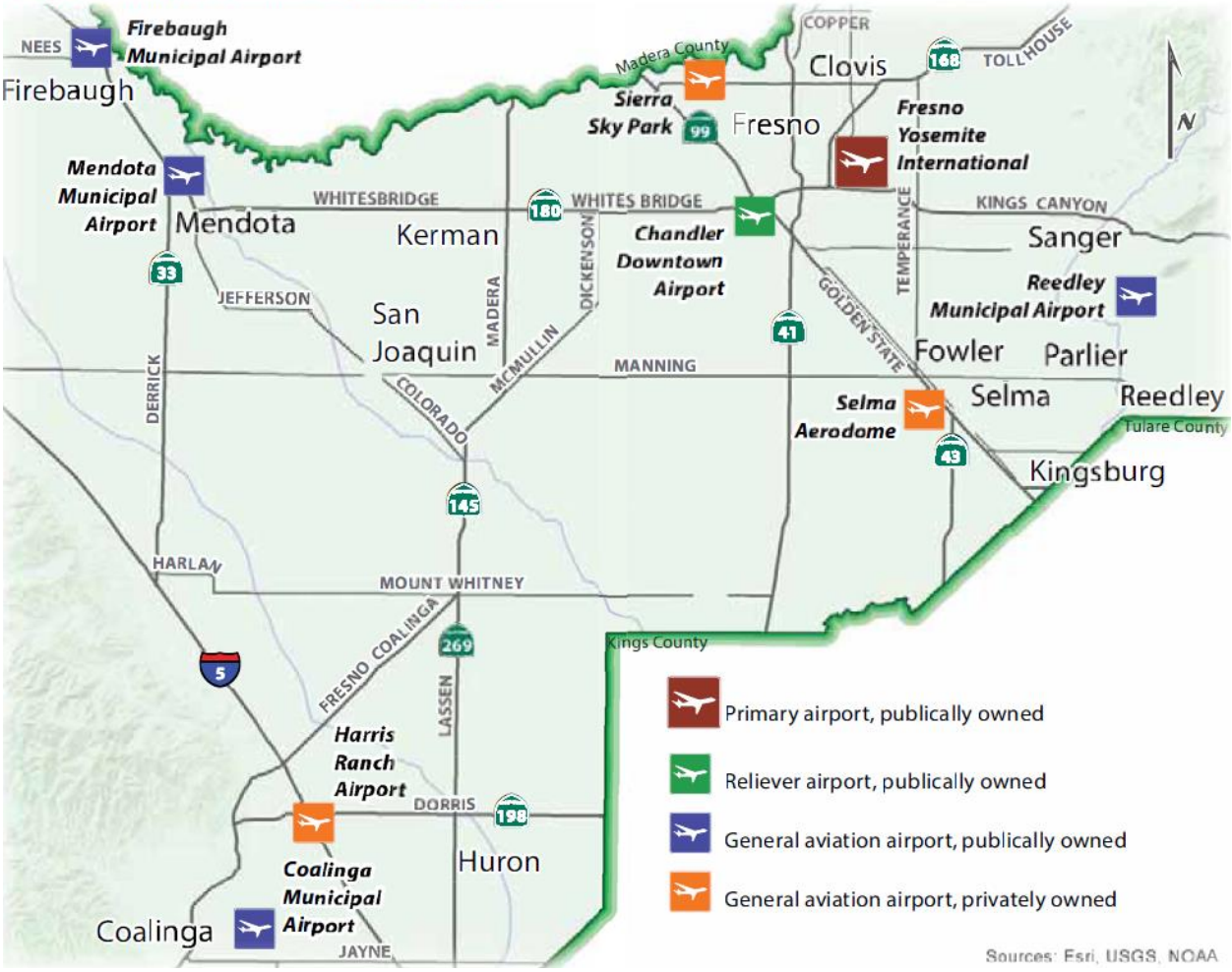
5.6 Aviation

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 5-14. 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 5-14: 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 land use planning among state, regional and local agencies in the area surrounding an airport facility. 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 Central California region of the California Aviation System Plan is integrated into the California Aviation System Plan (CASP) and, ultimately, into the National Airport System Plan, which identifies the existing airport relationships on a state and national level and the service and facility needs. All non-NPAIS 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) are also not adequately funding 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 listing of capital projects 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 PUC section 21704. These updates provide the basis 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 underway 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 is 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 percent 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 was 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 percent shared use technology system for the airlines. This system 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 percent 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, that provides 74percent 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 currently 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 equiping west coast Strike-Fighter squadrons. NASL was commissioned July 8, 1961, at a time when its location in California's Central Valley was considered remote. The location was close enough to Navy seaport facilities for logistical support but far enough from population centers to allow for possible expansion. 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 tailhook 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 homebase the F-35C Lightning II Joint Strike Fighter (F-35C). Currently, there are a total of 250 Super Hornets and seven F-35Cs homebased 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 operator and handles 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 and four fixed based operators and handles about 10,000 operations per year. The Selma Aerodome 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 was created in 1946 as a basic utility airport on 130 acres adjacent to the San Joaquin River in north Fresno and it is the first residential aviation community in the world. William and Doris Smilie are credited for creating an airport/neighborhood hybrid in 1953 when they built the project's first of 110 homes on the property. Residents of Sierra Sky Park can land, taxi down extra-wide avenues and park in the driveway of their homes. 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 at the Airport through the year 2025. In preparation for future improvements the Pavement Maintenance Management Plan update was completed June 30, 2017.

Firebaugh Airport Planning and Improvements

The airport does not have a master plan, but would welcome the development of one 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 in funding to improve the pavement of the taxiways and tie-down aprons pavement. This is the latest improvement project to receive funding in over 6 years.

Fresno Chandler Executive Airport Planning and Improvements

The process of performing a comprehensive update of the Fresno Chandler Executive Airport Master Plan began in September 2017. The updated airport master plan will guide development of the airport over the next twenty years, will reinforce the role of Chandler 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. An Automated Weather Observing System (AWOS) was constructed and is now fully operational. Two new GPS approaches now exist. Runway 30/12 was recently extended to 3,630 feet, Taxiway A was rehabilitated and airfield drainage and security improvements were made.

Fresno Yosemite International Airport (FAT) Planning and Improvements

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

Several improvements have been made to FAT facilities recently. In 2015 FAT saw the addition of a Mothers Room / lactation room with well-appointed, private space for traveling mothers in need of these facilities. 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. During 2016 a new $2.3 million employee parking lot and expanded cell phone waiting area were added. The Employee Parking Lot expanded to 436 stalls and the Cell Phone waiting area increased from 17 stalls to 47. Other enhancements associated with this project 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 dedicated project to install 14 electric vehicle charging stations in the general public parking lot was completed.

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 pavements, 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

Although the Mendota Airport does not have a master plan, an airport master plan is needed to address airport infrastructure deterioration. Continuing deferred maintenance caused by lack of funding will result in the eventual obsolescence of this community asset. It must be noted that efforts have been made by city staff to apply for funding identifying priority improvements to the airport and the airport layout plan was 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 3-4miles respectively of the NASL boundary "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" which limits structure heights and require noise mitigation building standards for future incompatible developments such as residential uses. The JLUS was adopted by the stakeholders in 2011, and informally reevaluated in 2016.

In cooperation with local community input, NASL completed a Master Plan in 2014. The process included several community meetings and visioning sessions and resulted in an approved 2030 Plan. While the Plan is considered a dynamic document, it focuses on the need for a walkable base community and access to amenities increasingt quality of life for active duty military and their dependents. Additionally, to accommodate for the needs of the Joint Strike Fighter, emphasis was placed on the specific facilities requirements of the asset 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 currently updating its Airport Layout Plan which includes an extensive draft report identifying needed improvements and priorities. The most recent Master Plan was adopted by the City of Reedley in 2008 and approved by the Fresno County Airport Land Use Commission thereafter 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, as funding constraints and less focus on facility improvement planning do not promote the need. However, an airport layout plan is being developed as part of the Airport Land Use Compatibility Plan update that will help focus attention to preserving and improving the facility. Selma Aerodrome currently 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. The Airport Layout Plan is currently being developed as part of the Airport Land Use Compatibility Plan update process which will help focus attention on preserving and improving the facility. Encroachment of surrounding land uses is of great concern, and attention to future planning is consistently needed.

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 homeowners association using HOA dues, therefore no public funds of any kind have ever or will ever be used to operate or maintain the airport. In recent years a runway 30 Precision Approach Path Indicator (PAPI) was installed and, in accordance with Caltrans directives, obstacle lighting along the east airport boundary was added. In 2016 a new runway / taxiway lighting system was also installed, and in 2017 runway designators were repainted, and runway / taxiway pavement borders were installed.

Airport Land Use Commission

The Fresno Council of Governments assumed responsibility from the County of Fresno for staffing the Airport Land Use Commission (ALUC) in 2008. As the Metropolitan Planning Organization (MPO) and Regional Transportation Planning Agency (RTPA) for Fresno County, the County of Fresno and the 15 incorporated cities agreed that Fresno COG was the logical place to house the ALUC. 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 the Airport Influence Area of Fresno County airports. This review process is established to determine plan and project's land use consistency with adopted Fresno County Airport Land Use Compatibility Plans (ALUCP) for noise, safety, airspace protection, and avigation easement and protection.

Fresno COG received funding through the Department of Transportation's State Aeronautics program, on behalf of the Fresno County Airport Land Use Commission, in 2017 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 currently 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 update is scheduled for completion in late 2018.

Coalinga Airport Completed Improvements

Needs Assessment

A number of 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. To a greater or lesser degree 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 are anticipated to have ample capacity to accommodate future forecast 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, the ability of airports to accommodate forecast levels of based aircraft is dependent upon the availability of funding to both maintain existing parking facilities and to construct additional parking as the need arises.

All eight General Aviation Airports in Fresno County were identified for facility enhancement need in the California Aviation System Plan (can be found at dot.ca.gov). Another need identified by many of the general aviation airports in the county is funding for airport master plans. While Coalinga and Reedley have been successful in securing funding to develop Airport Master Plans, airports in Firebaugh, Mendota and Selma, as well as Sierra Sky Park, have identified the need to develop an airport master plan to guide future improvement and development. The information contained in a master plan could help in re-opening the conversation that at one time was moving the City of Selma toward the acquisition of 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 total population of 2,066,659 or 5.2 percent of the total California population of 39,523,613. The passenger usage of FAT has been steadily growing since 2010 and ridership reached an all-time airport record in 2016 with a total of 1,540,923passengers. Airfares are stable due to the choice diversity travelers have between ten airlines and 12 destinations, five of which are major gateway hubs. The airlines have responded to the sustained economic growth of the region by adding flights, destinations and available seats in the market. However, there is still leakage that occurs due to market forces generated by the automobile and alternative airports in Sacramento, the Bay Area and Los Angeles. Passengers within the service area of FAT who currently choose to fly out of these alternative airports or drive to their final destinations, will continue to respond as the airlines offer increased flight destinations, frequencies and additional seats, all of which make other travel choices less convenient. In addition, ongoing education is necessary to inform residents within the six-county service area of the advantages FAT has to offer 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 Fresno to Yosemite Transit Shuttle service with strategic airport stops may dramatically improve options for travelers and increase interest in the city and the region.

Given the capital-intensive nature of airport maintenance, it is difficult to plan and prepare for future improvements. Air traffic system modernization technologies such as NextGen (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 region will join the nation's air transportation system's improvement to travel times, safety, fuel economy, environmental impact and economic contribution.

There is also an ongoing effort to quantify and promote the economic significance of FAT to Fresno and the entire San Joaquin Valley to better develop and sustain ongoing support. It is important that this marketing effort continue. Research on policy for long-term planning of economic development 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 a top two destination for foreign travel and export, ranking number 1 in domestic air travel.

Of increasing economic significance to FAT is the role and value of air cargo. 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 an opportunity for FAT. Short-term intermodal goods movement planning should focus on increased air cargo/distribution service, resulting in long-term increases associated with passenger demand.

Proposed Actions - Future Planning Activities

The airport land use policy plans for general aviation public use airports in Fresno County provide for orderly growth surrounding each airport. Future ongoing land use planning efforts of local governments will seek to assure that land use actions are consistent with these recommended policies. The 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. The COG 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 maintenance and ongoing improvements to airport facilities and the protection of clear zones to comply with safety standards. Emphasis will continue to be placed on airport land use compatibility.

Coalinga Airport Short-Range Improvement

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, and the extension of sewer and natural gas lines to the airport. Longer range improvements include a 4,000 foot long 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 Improvement

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

Fresno Chandler Executive Airport Short-Range Improvement

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 construct airport access road improvements, design and construct north airfield drainage improvements, and enhance the airport's Runway Safety Areas.

Fresno Yosemite International Airport (FAT) Short-Range Improvement

Planned short-range improvement projects at FAT include rehabilitation of the West Commercial Aviation Ramp, acquisition of a new aircraft rescue and firefighting vehicle and rehabilitation of 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, but does keep its maintenance and safety standards compliant with FAA and Caltrans Aeronautics regulations and recommendations, and therefore does not have any significant improvement projects planned. With close proximity to Interstate 5 the airport 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

The need to bring the airport runway lighting, taxiways and apron up to standard is of major concern, as the airport is currently permitted for day use only. Planned short-range improvements include cap and seal of the parking ramp, seal coat of the existing runway, widening the south 700 feet of the runway to the 60-foot width of the north end of the runway, reconstruction and extension of taxiways, apron expansion, provide hangars, improve access roads, major runway light replacement and electrical improvements. Development of an Airport Master Plan is also a high priority.

Reedley Airport Short-Range Improvement

Short-term development projects (5 year) include improvements to airport and airfield drainage, grading of 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 land acquisition 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 currently meets design standards in accordance with FAA (Federal Aviation Administration) FAR Part 77 safety requirements. These requirements were "grandfathered" to meet the original 1963 standards when the airport was

completed. The airport maintains an excellent record of maintenance and safety measures to the approved standards, 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 Master Plan would be instrumental in focusing attention to the need for improvement funding and support from the City of Selma.

Sierra Sky Park Airport Short-Range Improvement

The only short-range improvements planned are for regular maintenance in compliance with Caltrans Aeronautics safety and permitting regulations and recommendations. This is carried out by the homeowners association of the Sierra Sky Park community.

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 their ability to serve current and future demand. Ground Access Capital Improvement projects and funding are discussed in this section.

Highway Accessibility from the urban area

Highway access to the FAT and Fresno Chandler Executive Airport, two of the region's largest airports, has improved considerably. State Routes 168 and 180 provide much better access to FAT and connect the airport 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. All arterial streets offer a level-of-service (LOS) of C or better during peak hours.

The commercial passenger and parking facility access to FAT is on Clinton Avenue while McKinley Avenue provides commercial and military access. Clovis Avenue is a major arterial that offers direct access to commercial areas of the airport 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 the opening of State Route 168 and the the completion of the State Route 180 Braided Ramps Project, major traffic feeders to the airport, certain surface streets have been affected by increased traffic levels. Peach Avenue between Freeway 180 and McKinley Avenue 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). Currently, FAX Routes 39 and 26 provide interline service to the airport. Service is 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

Access and connectivity throughout Fresno County is provided by the Fresno County Rural Transit Agency (FCRTA). Its Coalinga Transit inter-city services provides direct end to end service to FAT once a day, Monday through Saturday.. Other rural inter-city 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 one hundred percent accessible for the 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. The service to Sequoia-Kings Canyon National Park was named Big Trees Transit and was managed by Fresno County Rural Transit Agency. This service ran for both the 2015 & 2016 summer seasons and provided 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 their five seasonal daily runs at FAT, transporting passengers north on State Route 41 to Chukchansi Casino, Coarsegold, Oakhurst, Bass Lake before eventually reaching Yosemite Valley.

High-Speed Rail

It is the position of local agencies and the COG that future high-speed rail through the Valley stop in downtown Fresno at a station located along the Union Pacific Railroad corridor 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)

Ridesharing service is available at FAT provided by TNCs operating under an agreement with the airport.

Hotel Shuttle Service

Hotel shuttle service is operated by several area hotels between these establishments.

Terminal Area

Curbside Access

Until recently, curb congestion was an issue at FAT. The Terminal Area Plan recommended terminal curbside area expansion and provision of an on-airport recirculation roadway, both of which have been completed. The plan also calls for the construction of 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 fiscal year 2030. Additional air cargo facilities have recently been completed, including development of the north side air cargo facilities between the existing US Marine Base, the Army National Guard facility, Taxiway B and Airways Drive. An air cargo ramp has been completed. The ramp and access road improvements have been designed to accommodate the needs of 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 located within the terminal access roadway loop to meet increased demand. Both the new terminal access roadway loop and new parking facilities have been completed. Further increases in the number of public and employee parking spaces will be addressed as the enplanement level rises at FAT.

Financing

Existing Financial Sources

Aeronautic projects are funded from federal, state and local sources. The Regional Transportation Plan anticipates that funding for airport projects within Fresno County will fall short of the amount needed over the next twenty years. In November 2006, Fresno County voters approved a twenty-year extension of Measure C Expenditure Plan, the half cent sales tax for transportation purposes. The The amount Measure C estimated would be available for airport projects was $17,000,000 (approximately one percent of the total amount estimated to be generated by the extension of Measure C), for use by Fresno Yosemite International Airport and Fresno Chandler Executive Airport. Since the implementation of the Measure C program, the current amount estimated available for airport projects is $14,474,820; an adjustment that reflects a reduction of $2.52 million in actual 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 has 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 by implementing 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 reevaluated its entire airport fee structure in a successful attempt to generate additional revenues. However, for the remaining publicly-owned and privately owned public use airports throughout the county, 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 at a time when airports within Fresno County have identified important and necessary development projects with a growing awareness of the importance of local airports to the entire transportation system and regional economy. The need for a stable and

reliable airport development and maintenance funding source is vital to the well-being of the region's economy.

5.7 Active Transportation

Overview

The Active Transportation Element of the RTP discusses human-powered travel such as walking and bicycling using regional, metropolitan, and community bikeway and pedestrian networks. The ability of a community 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 made 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. Bicycles do not consume expensive fuel, maintenance is low, and bicycling can be used for commuting as well as for recreational purposes while engaging riders in physical exercise.

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

Pedestrian and bicycle access also enhances the effectiveness and efficiency of transit service, as 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. As a result, walking and bicycling infrastructure improvements are often an effective way to support transit use. The Blueprint Planning Program outlined the importance of addressing this relationship through the usage of Blueprint Smart Growth Principles that emphasized the need to "create walkable neighborhoods, mix land uses, and provide a variety of transportation choices" among many others.

Within the 2007/08 – 2026/27 Measure C Program, 4% of funding is allocated to pedestrian/trails/bicycle facilities subprograms. Measure C Extension 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 date of adoption of the Master Plan/Active Transportation Plan. Bicycle and pedestrian facilities built with earmarked or other Measure C Extension funds shall, at a minimum, be designed in accordance with the design criteria for bicycle and pedestrian facilities set forth in the California Highway Design Manual, Chapter 1000, Bikeway Planning and Design, with certain caveats as noted in the Final Measure C Extension Expenditure Plan.

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

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, the types of road users, and their needs. This requirement has resulted in streets, roads and highways that better meet the needs of pedestrians, bicyclists, and others in a manner that is suitable to the rural, suburban or urban context of the General Plan. Policy and funding are finally coming together to establish an achievable, not just theoretical, relationship between transit and bicycling/pedestrian infrastructure.

Goals for the development of bicycle and pedestrian transportation in Fresno County are as follows:

- **Planning** - The recognition and integration of 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
- **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 completion of bicycle, pedestrian and trail planning efforts.. In order to maintain this momentum, Fresno COG assisted its remaining member agencies in development of 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 in the region and highlights current and future needs and improvements. The existing and planned urban bikeways are shown in Figures 5-15(a) to 5-15(c). The existing and planned regional bikeways are shown in Figure 5-16.

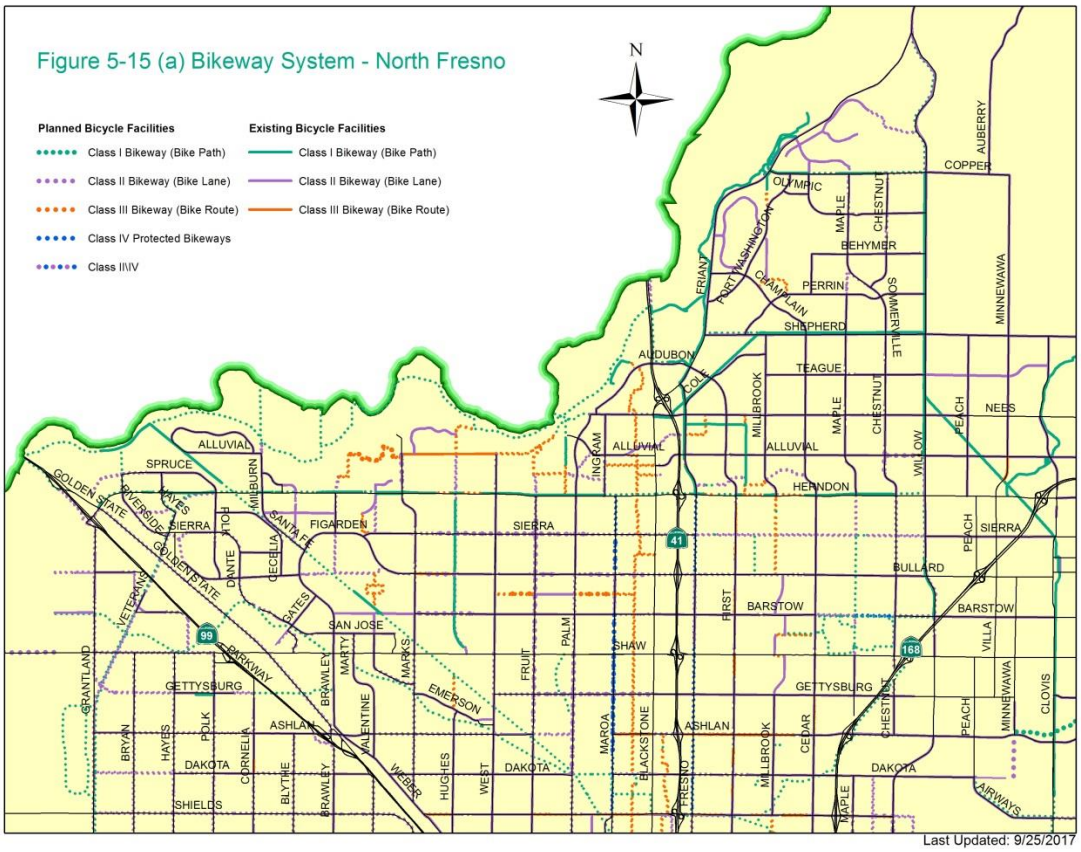


Figure 5-15 (a) Bikeway System - North Fresno
N
Planned Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
Class IV Protected Bikeways
Class I\IV
Existing Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
COPPER
AUBERRY
OLYMPIC
MAPLE
CHESTNUT
BEHYMER
FRIANT
PORT WASHINGTON
CLAMPLAIN
PERRIN
SOMERSET
MINNEWAWA
SHEPHERD
AUDUBON
TEAGUE
COLE
MILLBROOK
NEES
PEACH
WILLOW
ALLUVIAL
INGRAM
HERNDON
SPRUCE
GOLDEN STATE
RIVERSIDE
HAYES
SIERRA
HOLT
MILBURN
SANTA FE
FIGARDEN
DANTE
CECELIA
COLLEGE
VETERANS
BULLARD
FIRST
BARSTOW
VILLA
99
41
168
PARKWAY
BATES
SAN JOSE
MARTY
BRAWLEY
MARKS
EMERSON
FRUIT
PALM
SHAW
GETTYSGURG
GRANTLAND
BRYAN
POLK
ASHLAN
CORNELIA
VALENTINE
MAROA
BLACKSTONE
FRESNO
CEDAR
DAKOTA
BLYTHE
WEBER
HUGHES
WEST
SHIELDS
CLOVIS
AIRWAYS
Last Updated: 9/25/2017

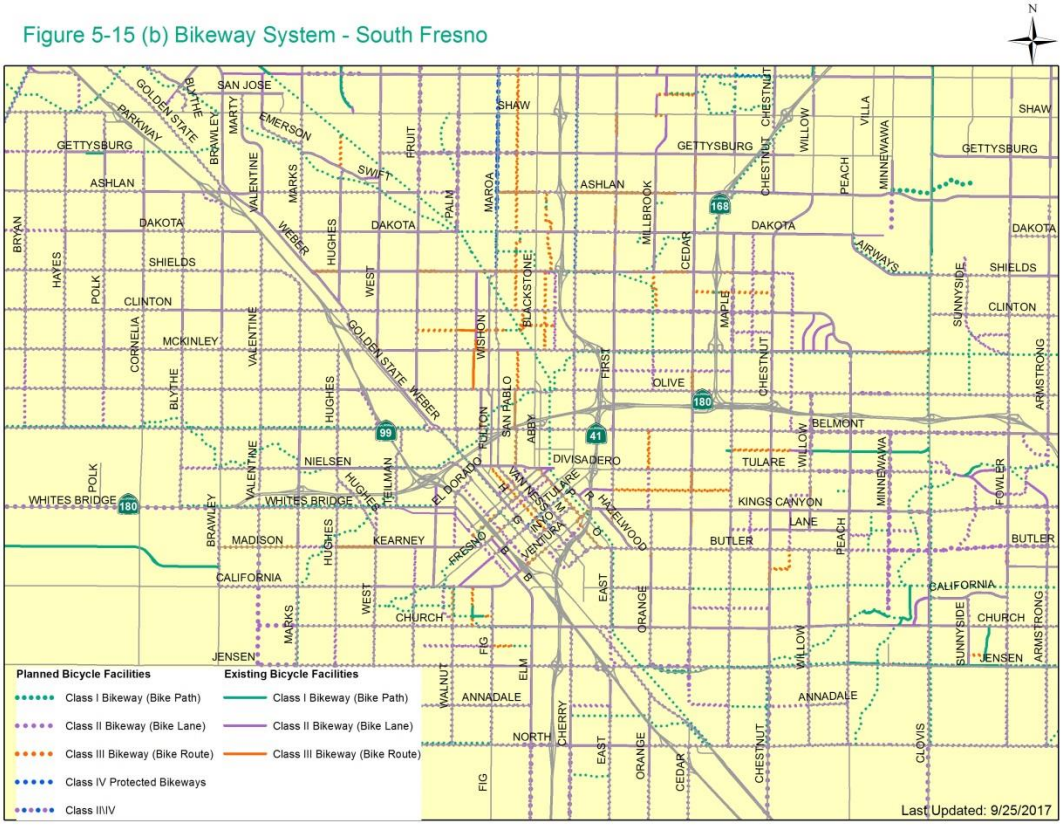


Figure 5-15 (b) Bikeway System - South Fresno
N
SAN JOSE
GOLDEN STATE
PARKWAY
BLYTHE
BRAWLEY
MARTY
EMERSON
FRUIT
SHAW
GETTYSBURG
ASHLAN
VALENTINE
MARKS
SWIFT
PALM
MAROA
DAKOTA
WEBER
HUGHES
WEST
MILLBROOK
CEDAR
CHESTNUT
WILLOW
VILLA
PEACH
MINNEWAWA
AIRWAYS
SHIELDS
CLINTON
MCKINLEY
BRYAN
HAYES
POLK
CORNELIA
BLACKSTONE
WISHON
MAPLE
SUNNYSIDE
ARMSTRONG
FIRST
OLIVE
SAN PABLO
FULTON
ABBY
DIVISADERO
TULARE
BELMONT
FOWLER
NIELSEN
ELMAN
EL DORADO
VAN NESS
R STREET
WHITES BRIDGE
KINGS CANYON
LANE
MADISON
KEARNEY
FRESNO
BUTLER
CALIFORNIA
CHURCH
JENSEN
EAST
ORANGE
WALNUT
FIG
ELM
ANNADALE
NORTH
CHERRY
CLOVIS
99
41
168
180
Planned Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
Class IV Protected Bikeways
Class I\IV
Existing Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
Last Updated: 9/25/2017

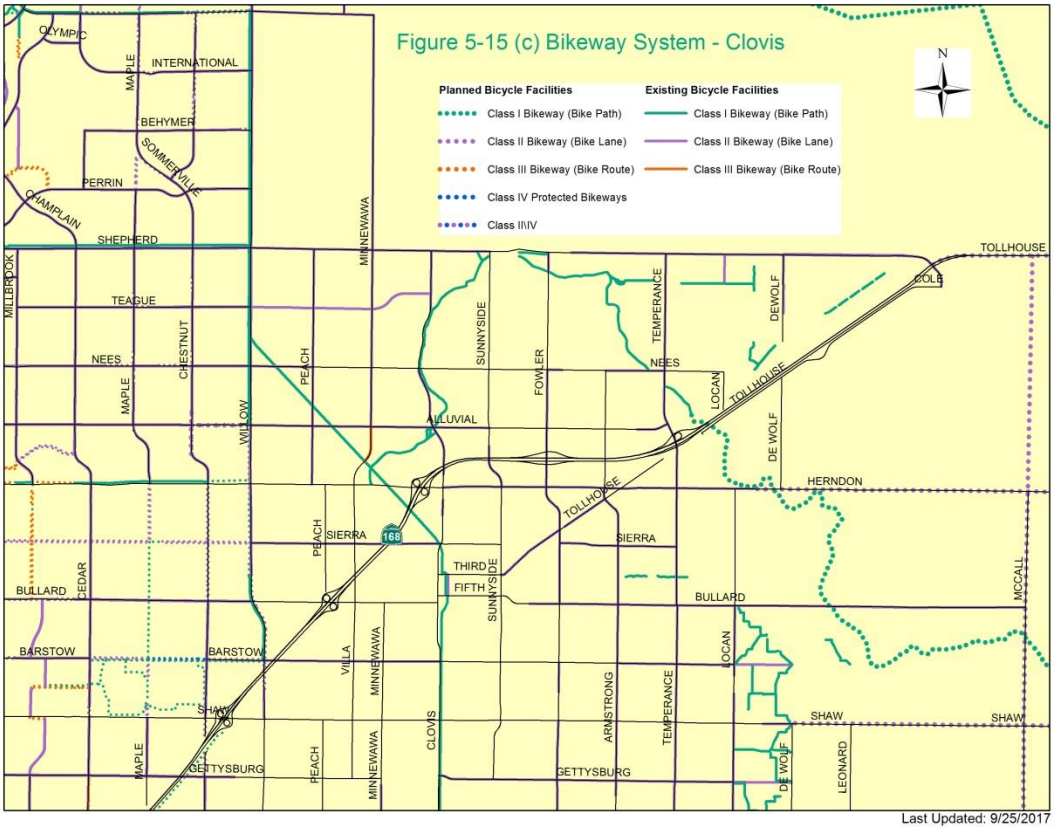


Figure 5-15 (c) Bikeway System - Clovis
N
Planned Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
Class IV Protected Bikeways
Class II\IV
Existing Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
OLYMPIC
INTERNATIONAL
MAPLE
BEHYMER
SOMMERVILLE
PERRIN
CHAMPLAIN
SHEPHERD
MINNEWAWA
TOLLHOUSE
COLE
MILLBROOK
TEAGUE
NEES
CHESTNUT
MAPLE
WILLOW
PEACH
SUNNYSIDE
FOWLER
TEMPERANCE
DEWOLF
LOCAN
ALLUVIAL
DE WOLF
HERNDON
SIERRA
168
THIRD
FIFTH
BULLARD
CEDAR
MCCALL
BARSTOW
VILLA
SHAW
ARMSTRONG
CLOVIS
GETTYSBURG
LEONARD
Last Updated: 9/25/2017

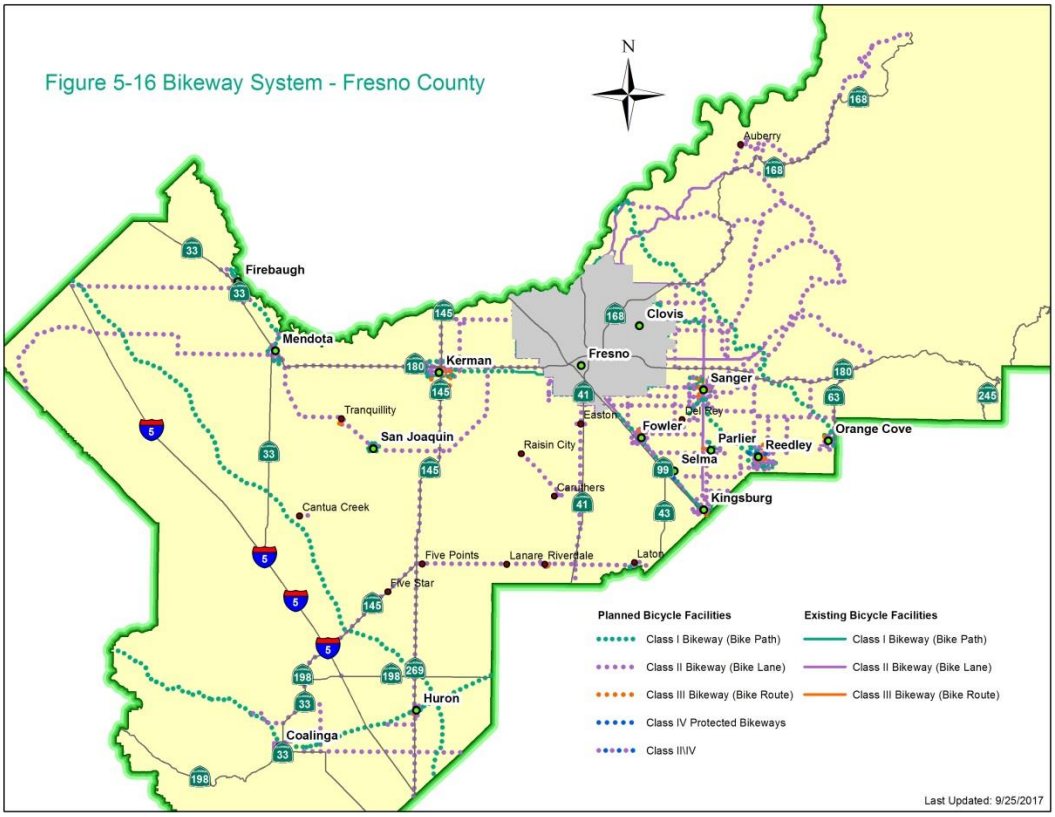


Figure 5-16 Bikeway System - Fresno County
N
Auberry
168
Firebaugh
33
Mendota
145
Clovis
Fresno
Kerman
180
Sanger
63
245
Tranquillity
41
Easton
Del Rey
Fowler
Orange Cove
San Joaquin
Raisin City
Parlier
Reedley
Selma
99
Canthers
Kingsburg
43
Cantua Creek
5
Five Points
Lanare
Riverdale
Laton
Five Star
269
198
Huron
Coalinga
Planned Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
Class IV Protected Bikeways
Class II\IV
Existing Bicycle Facilities
Class I Bikeway (Bike Path)
Class II Bikeway (Bike Lane)
Class III Bikeway (Bike Route)
Last Updated: 9/25/2017

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 available 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 California Streets and Highways Code was amended to include Class IV Separated Bikeways. 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 are bicycle 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. Separated bikeways can improve safety by reducing conflicts between people biking and driving and they appeal to less confident or experienced 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 adopted local and regional planning documents by promoting the use of bicycles for transportation.

The Separated Bikeways Feasibility Study presents 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 provide the foundation for developing the evaluation criteria that was used to assess the feasibility and priority of separated bikeways in the Fresno-Clovis Metro area.

The current 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 that arise when the loss of on-street parking becomes 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 8 miles of Class III Bike Routes (one direction) which bring 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 throughout the City. In recognition of this ongoing effort, the City of Fresno was designated a *Bicycle Friendly Community* by the League of American Bicyclists, earning 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 throughout the City by adding 13 miles of Class I Bike Paths, 127 miles of Class II Bike Lanes, bringing their city's totals to 27 miles of Class I Bike Paths, and 169 miles of Class II Bike Lanes throughout the City.

The cities of Fresno and Clovis require the installation of bike racks in new commercial development to encourage increased use of 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 proceeded with efforts to incorporate 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.
(Add verbage about bike & ped projects in the smaller cities that have been recently completed or are funded.

Needs Assessment

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

- Developed databases for existing and future bike and pedestrian facilities in the region
- Developed an inventory of existing bike lanes and sidewalks in the region
- Provided mapping of health data and bike, pedestrian and transit facilities in combination with disadvantaged communities as defined by the study
- Development of a regional gap analysis for bike and trail facilities that focused on the inter-city/community connectivity of the bike/trail facilities
    - 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 then 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 was recommended.
- Development of a transportation connectivity/accessibility analysis for 10 major regional and sub-regional facilities that provide basic services for the residents in the Fresno Region
    - Connectivity and accessibility analysis conducted for 10 hot-spots identified by the Needs Assessment Committee as the regional/sub-regional facilities that provide basic services to the residents
    - Connectivity and accessibility analysis based on user needs focused on the access to such facilities in disadvantaged communities.
    - Analysis covered all modes including bike, pedestrian, transit and auto.
    - Improvement recommendations made 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)

The Transportation Development Act requires that 2% of the Local Transportation Fund be set aside each year for bicycle and pedestrian purposes. The 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. However, with growing emphasis on air quality and Transportation Demand Management objectives and funding available through the Measure C Extension 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 implement planned 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 Extension Program 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 C Extension Expenditure Program includes other provisions as well, including a listing 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 is 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. In providing this funding, the Legislature has provided additional funding for transportation infrastructure for existing programs which include the Active Transportation Program. SB 1 appropriated $100M 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 funding to the planning and development of these active transportation facilities. However, unfinanced needs remain. The 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.

5.8 Rail

Overview

At the regional level, the Regional Transportation Plan can provide a general framework to ensure coordination and the interface of 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.

The movement of inter-city freight by rail provides an alternative mode of transport for the wide variety of agricultural commodities and manufactured goods produced within the region. Freight rail results in significantly reduces the number of trucks using major inter-regional roads such as State Route (SR) 99 and Interstate 5, thereby reducing traffic congestion, air pollution, and maintenance costs.

Existing System Inventory

The rail network in Fresno County consists of approximately 280 miles of operating main and branchline right-of-way (Figures 5-17 and 5-18). Union Pacific Railroad (UP) and the Burlington Northern Santa Fe Railroad (BNSF) each operates 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.

Figure 5-17: Rail Network - Metro Area

Figure 5-18: Rail Network - Rural Areas

The Amtrak San Joaquins service continues to play an important role in the balanced transportation system of the San Joaquin Valley, filling a service level void that exists in mass transit between inter-city bus and airline services. San Joaquin Joint Powers Authority (SJJPA) manages the Amtrak San Joaquins service, and Amtrak operates five trains per day between Bakersfield and Oakland and two trains per day between Bakersfield and Sacramento with each train making daily one-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 the performance of the service, providing connections at Sacramento, Lodi, Stockton, Oakland, Emeryville, Martinez, Merced, Fresno, Hanford and Bakersfield Stations.

The Fresno station plays a strong role in the success of the San Joaquins service. 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 from the standpoint of long-range planning to identify and preserve rail corridors that may be needed in the future, given our growth potential. Evaluation of a countywide fixed guideway rail transit system should consider future air quality constraints in the Valley 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.

Existing rail trackage within the county has been inventoried and analyzed for its future benefit as mass transportation corridors. The existing 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 thirteen-mile long Clovis Branchline/Pinedale Spurline Railroad Corridor was acquired by the cities of Fresno and Clovis in December 1997 for alternative transportation purposes, including potential future light rail.

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

Current criteria utilized by state and federal agencies 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 the availability of private vehicles may also increase the attractiveness of fixed guideway rail transit to local agencies and the general public. Both planning and contingency studies on the feasibility and routing of fixed guideway rail transit should continue.

Amtrak San Joaquins

An Interagency Transfer Agreement (ITA) between the San Joaquin Joint Powers Authority (SJJPA) and the State was signed on June 29, 2015, transferring administrative responsibilities of the San Joaquins from the State to SJJPA, formed in 2012. 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 Fiscal Year 2017/18 and Fiscal Year 2018/19 Operating Plans, two of these seven daily round-trips 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 am.

SJJPA is also currently implementing a number of strategies to improve the San Joaquins service, which has great potential for increasing ridership, revenue, service coordination, and performance. Strategies currently being implemented that 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 implementing High-Speed Rail (HSR), conventional rail services are particularly critical to the success of HSR initial operating segments. 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. The Joint Policy Statement assures that SJJPA, the California High-Speed Rail Authority, and Caltrans 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), formerly the Steering Committee of Caltrans' Rail Task Force, 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 structure of the Committee. Elected officials no longer serve on the Committee and it 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's (Authority) purpose is to plan, design, build and operate the HSR system. The Authority produced a 2016 Business Plan proposing the integration of high-speed rail into an expanded and improved statewide rail network. The plan proposes to build an Initial Operating Section (IOS) by 2025 that will connect San Jose to a temporary station 20 miles north of Bakersfield. This is a change from the IOS described in the 2012 and 2014 Business Plans that proposed an IOS connecting Merced with the Los Angeles Basin. This change reflects the high cost of construction though the Tehachapi Mountains south of Bakersfield. By 2029, the Phase 1 system will be completed and run from San Francisco to the Los Angeles Basin. The Business Plan also provides for the integration, or blending, of the HSR project by upgrading existing rail systems to provide near-term benefits to passengers, while connecting to and laying the foundation for the future HSR system.

HSR Groundbreaking occurred at the future HSR station in downtown Fresno in January 2015. Construction is currently well underway on the backbone of the system in the Central Valley. The Merced to Fresno Project Section is part of the first phase of the system. 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 in the process of working together to develop 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 enhance multimodal connectivity to the station.

Fresno COG will continue to work with the Authority and its consultants to provide Fresno County consensus positions regarding the many HSR issues, including aheavy maintenance facility location in Fresno County.

Fresno Works Committee

The Fresno Works Committee was formed initially to guide the development of Fresno County's proposal for the HSR heavy maintenance facility but now focuses on other aspects as well. This executive level committee includes highly experienced individuals and appears well-established to

remain effective. Committee members include officials from the County of Fresno, City of Fresno, and the Fresno Council of Governments, working together with education, labor and business sectors to ensure success of the California High-Speed Rail initiative and its heavy maintenance facility in Fresno County.

The Fresno Works Business Plan was updated in April of 2015 as a proposal demonstrating Fresno County's readiness to ensure the success of the HSRl Heavy Maintenance Facility in Fresno County.

Rail Abandonment

Abandonment of railroad branch lines within Fresno County is detrimental to users relying solely on rail freight service and can result in the loss of 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 to require that 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 lie 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 for 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, 24feet for two additional median lanes is reserved for High Occupancy Vehicle, Dedicated Bus or regular traffic lanes, for a total right-of-way in the median 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 viewed by many as an alternative that would reduce the amount of truck traffic in the region by diverting goods between the Valley and the Port from truck dray operations to rail. Furthermore, the Fresno area location for the rail alternative appears favorable because it has both

a large market and a relatively low cost differential between the CIRIS service and the current truck-only drayage operations. Public benefits from CIRIS service would 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 in order to improve and reestablish freight rail service. The two-year project was completed in 2003.

Tulare County Association of Governments commissioned an Existing Conditions Report for the Cross Valley Corridor Plan in 2017 for a possible passenger rail line or transit system utilizing the existing freight rail corridor. The existing railroad branch line from Huron to Porterville connects the downtowns of eight San Joaquin Valley cities in Tulare, Kings, and Fresno counties, and provides a unique opportunity for transfer connection at the Kings/Tulare high-speed rail station.

Completed Improvements
Several rail-related construction projects in Fresno County have been completed since 2005.These include the 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; the construction of an underpass at Weldon Avenue and the Burlington Northern Santa Fe; and, the implementation of Quiet Zones. Since the high-speed rail groundbreaking in Fresno in 2015, construction of the initial operating section is well underway.

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

The following rail transportation needs for Fresno County have long been identified:

- Additional inter-city train service for the Amtrak San Joaquins route.
- Construction of 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.
- Development of 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, approved by the voters in November 2006, requires progress be made on rail consolidation/rail realignment. An evaluation of its feasibility and the likelihood of securing the additional funding are to be included in the biennial update of the Expenditure Plan. A more thorough review will take place at ten years. If rail consolidation/rail realignment is not programmed with construction imminent within fifteen years after the Measure passed, 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. The amendment to the Measure C Rail Consolidation Program to utilize $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 the establishment of "quiet zone communities" within Fresno County. A community desiring to become a Quiet Zone must install Supplemental Safety Measures (SSM's) or additional warning device/traffic control apparatus that can effectively compensate for the absence of the locomotive horn or whistle.

Rail planning activity will continue to center around high-speed rail in an effort to maximize its benefits for Fresno County. This will include the ongoing development of Fresno County proposals on the many aspects of high-speed rail, including the location of the heavy maintenance facility in Fresno County and the new passenger station located along the UP corridor in downtown Fresno, and the effective communication of those positions to the High-Speed Rail Authority. COG in conjunction with its member agencies will continue to work closely with the Authority and its staff and consultants 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 rehabilitation of the historic Santa Fe Depot for use as the new rail passenger station in downtown Fresno on the Burlington Northern Santa Fe tracks was completed 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 to work together to progress the construction of 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 work together with a goal of securing the location of the High-Speed Rail Heavy Maintenance Facility in Fresno.

Amtrak San Joaquins
SJJPA is planning to add an 8th Daily Round Trip in Fiscal Year 2018-2019 between Fresno and Sacramento. Improvements necessary to implement the 8th Daily 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 8th Daily 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 by early 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 to under 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 increase utilization of 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 in the process of updating the ten-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 implementation and 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 initial HSR 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 of Phase 1 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 includes 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 previously identified by Caltrans include construction of a double-track at Figarden, construction of a new maintenance facility to accommodate additional daily round trips, and additional trainsets to accommodate several additional daily round

trips. These improvements will require additional review by SJJPA and approval from the State, Union Pacific, BNSF, local and regional agencies.

Financing

Existing federal financial sources include:

- ***Federal Transit Administration*** programs have been available in the past 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 ***Congestion Mitigation and Air Quality Improvement (CMAQ) Program***, administered by the Federal Highways Administration (FHWA), provides funding for transportation projects that contribute to the attainment of national ambient air quality standards. The capital costs of some new rail systems that initiate 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 for implementation in the near future.
- 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:

- ***The Railroad Highway Grade Crossing Program (RHGCP)*** is jointly administered by the California Public Utilities Commission (CPUC) and the Caltrans Division of Rail and Mass Transportation. The program is authorized by Title 23, United States Code, Section 130 (23 U.S.C. 130) and provides for development of highway safety improvement projects at railroad/highway at-grade crossings. Grade crossings and railroad grade separations are implemented through the California Public Utilities Commission (CPUC).

  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 program funding level is approximately $16 million per year. The purpose of the program is to reduce 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. The Section 190 Grade Separation Program is jointly administered by the CPUC and Caltrans. The program is authorized by Section 190 of the Streets and Highways Code with the intent of improving safety and expediting the movement of vehicles by eliminating highway-rail

crossings at grade with grade separations. A grade separation is a structure which actually separates 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 the construction of grade separation projects. Local agencies submit project applications to the CPUC who develops a priority list of projects. Local agencies whose projects are included on the list submit requests for an allocation of funds to Caltrans. Caltrans enters into funding agreements with local agencies for reimbursement of the cost to construct the grade separation.

Projects selected by the CPUC are funded 80 percent by State grade separation assistance funds with a 10 percent match from the affected railroad and a 10 percent 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.

- ***State Proposition 1B*****,** approved by the voters November 7, 2006, provides $400 million for Caltrans intercity rail projects. Of this amount, $125 million shall be used for the procurement of intercity rail cars and locomotives. Other provisions of Proposition 1B include funding for commuter rail and freight rail.
- ***State Proposition 1A*****,** approved by the voters November 4, 2008, provides $9 billion for high-speed rail and $950 million for capital projects on other passenger rail lines (including a minimum of $47.5 million for the Amtrak San Joaquin Corridor), to provide high-speed train system connectivity , capacity enhancements and safety improvements.
- ***Transit and Intercity Rail Capital Program (TIRCP)*** was created by Senate Bill 862 and modified by Senate Bill 9 to provide grants from the Greenhouse Gas Reduction Fund for transformative capital improvements that will modernize California's intercity, commuter and urban rail systems, for bus and ferry transit systems, to significantly reduce greenhouse gas emissions, vehicle miles traveled and congestion. Senate Bill 9 requires this grant cycle approve a five-year program of projects beginning with the 2018-19 fiscal year. Funding for this five-year cycle could significantly increase due to Senate Bill 1, which may direct $1.4 billion to TIRCP, and to the extension of the Cap and Trade Program through Assembly Bill 398 which may allocate an additional $1 billion between 2018 and 2023.
- ***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:

- City and County TDA funds and general funds may be utilized for the purchase of 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 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 percent of the 4 percent Diesel Sales Tax funds for rail ($40.8 M in Fiscal Year 2018-2019). Fifty percent will be allocated to three intercity rail agencies (minimum

of 25 percent each) and 50 percent to five commuter rail agencies (equal share for first 2 years).

Anticipated Revenues & Expenditures
Valley passenger rail services are supported by state funding. Aside from possible Measure C funds for grade separation and the High-Speed Rail Heavy Maintenance Facility, there is no local budget expended for these services.

5.9 Specific Transportation Strategies and Management Systems

Overview

Given the rural and agricultural nature of Fresno County motor vehicle use on the street and highway system continues to be the primary travel mode within and through the region, Under Fixing America's Surface Transportation Act (FAST Act) and with the influence of the Clean Air Act, more emphasis is being placed on the efficient use of existing systems. Maintenance of existing roadways, reduction of congestion, maintenance of existing capacity or improving capacity at a low cost are all important. Capacity is also important to modal alternatives such as transit and cycling which use existing streets and trails. The efficient functioning of the street and highway system and the reduction of congestion on streets and highways also contribute to improved air quality, as vehicles generally produce more air pollution in congested traffic while idling.

In addition to the planning agencies, 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 that have been designated as non-attainment for the National Ambient Air Quality Standards (depending on their classification or the severity of the air pollution) 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 vehicle miles traveled, vehicle idling and/or traffic congestion in order to reduce motor vehicle emissions. Transportation Control Measures generally focus on the reduction of motor vehicle emissions by reducing single occupancy vehicle use, changing traffic flow or reducing congestion. Typically, vehicle technology based, fuel-based and maintenance-based measures which 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

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

Applicable Implementation Plan for Ozone

The 2007 Ozone Plan (as revised in 2015) was approved by EPA 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

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

The amended 2003 PM-10 Plan was approved by EPA on May 26, 2004 (effective June 25, 2004). A local government control measure assessment was completed for this plan. 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, the commitments were approved by EPA as TCMs.

Applicable Implementation Plan for PM 2.5

The 2012 PM2.5 Plan was approved by EPA on August 16, 2016 (effective September 30, 2016). The 2008 PM2.5 Plan (as revised in 2011) was approved by EPA 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 work force, which generates the majority of peak hour traffic. Education is an essential feature of demand management, attempting to persuade people to consider their transportation choices in an effort to reduce single occupancy vehicle usage. Transportation alternatives that provide a choice of transportation modes help reduce single occupancy vehicle usage. 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 the use of 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 the formation of carpools within the region. An increase in carpool usage is highly beneficial to the region in various ways. It can have dramatically

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.

The Measure C 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 submit carpool logs through the valleyrides.com website. Each log is entered into a monthly drawing for cash prizes and also qualifies as entries 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 connect with potential carpool partners has also been a key element of the overall ridesharing program. Valleyrides.com is a website that combines all relevant ridesharing information for Fresno County. Most recently, COG staff is researching technology appropriate for extensive upgrades from the design of the website itself, to the programming technology used to match carpoolers with oneother. This upgrade and advancement of the valleyrides.com website 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 regions through over 600 active commuter and farmworker vanpools. Between July 2015 and June 2016, CalVans provided 2.4 million passengers who travelled over 10.4 million miles that reduced single-occupancy vehicles miles traveled by 109 million. CalVans received $3 million funding in 2015/2016 from the Strategic Growth Council's Affordable Housing & Sustainable Communities program for a vanpool expansion project, 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 which improve the operating efficiency of existing transportation infrastructure. TSM, in coordination with the programs listed above, improves air quality and the level-of-service of existing roadways, 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

Transportation System Management strategies are implemented by cities, the county, transit operators and Caltrans.

Land Use Strategies

Land use pattern plays 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, design of residential neighborhoods still assumes reliance upon the automobile. Land use decisions made to the year 2042 will have an important impact upon 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 created for reduced congestion, 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 was conducted in each county, ultimately integrated to form a preferred vision for future development throughout the Valley to the year 2050. On April 1, 2009 the San Joaquin Valley Regional Policy Council adopted a preferred growth scenario for the Valley along with 12 Smart Growth Principles to guide development and promote the livable and sustainable communities mentioned above. In addition, Fresno COG incorporated the Smart Growth Principles in the first Sustainable Communities Strategy (SCS) developed while updating the 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 allocation of 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 the 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 transportation conformity requirements of the Clean Air Act as set forth in the transportation conformity regulation [40 CFR 93 Subpart A]. The regulation requires that the RTP and Transportation Implementation Plan (TIP) be demonstrated to conform to the State Implementation Plan (SIP) before approval by the MPO's Governing Board or acceptance by 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 Transportation Control Measures (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 Metropolitan Planning Organizations (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 the signing of an updated Memorandum of Understanding (MOU) to enhance the Valley's coordinated transportation/air quality planning activities.

The regulation of emissions sources, while effective, is not the only means to reduce pollution from transportation. Public information and education campaigns certainly play a role in promoting the behavior changes necessary to reduce vehicle miles traveled. Under the current Surface Transportation Reauthorization Act, FAST Act, public participation is an integral component of the transportation planning process. Fresno COG continues to bring transportation-related air quality issues to our 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

The foregoing is descriptive of transportation strategies aimed at reducing congestion, improving transportation system operational efficiencies, reducing vehicle miles traveled, and providing alternative travel choices which enable commuters to evaluate travel mode options and to reduce dependence on single occupancy vehicle (SOV) use. Fresno County agencies, particularly within the metropolitan area, have been involved in implementing many of these strategies since the late 1970's. Recent years have seen improvements in our ability to monitor and to model the effectiveness of various strategies. 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. The standardization of modeling practice in the Valley makes collaboration and information sharing among the MPOs more effective. Collaboration and information sharing will allow 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 the ongoing adoption of 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 over 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 over 100 employees to participate in the eTRIP program, Fresno COG supports the Air District's Healthy Air Living Program (HAL) by offering a flexible work schedule, reducing the number of trips taken to the work site, encouraging carpooling, and 15% of the employees, in the past year, have purchased or leased battery electric plug-in vehicles. Fresno COG's rideshare staff also assists the air district and eTRIP employers with carpool incentives, vanpool subsidies and implementation of internal ridesharing programs.

A major landmark accomplishment is the attainment of the National Ambient Air Quality Standard for PM10. This took the coordinated effort of the entire San Joaquin Valley, residents, businesses, agriculture management, as well as focused funding to reduce sources of particulate matter in the Valley.

Needs Assessment

Fresno COG works with the San Joaquin Valley Air Pollution Control District on development of the local control measure section of each State Implementation Plan. This needs assessment is part of every State Implementation Plan (SIP). The SIP identifies where emissions can be reduced in order to meet attainment deadlines. Fresno COG continues to review and improve the programs that impact air quality, such as the Congestion Mitigation and Air Quality (CMAQ) Improvement program. All of the San Joaquin Valley Metropolitan Planning Organizations have adopted policies for distributing at least 20% of the CMAQ funds to projects that meet a cost-effectiveness threshold for emission reductions. In the 2012 CMAQ funding cycle, (reported as part of the 2013 FTIP) Fresno COG awarded approximately 52% of the available funding to cost-effective projects. Fresno COG's commitment to reducing motor vehicle emissions remains strong.

Proposed Actions

Short-Range Plan

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

Long-Range Plan

Long-range strategies will be dependent on the effectiveness of short-range programs and upon available funding. Potential programs include land use planning strategies that increase densities,, job intensity along transportation corridors, implementation of high-speed rail, light rail or other alternative fixed route facilities, further implementation of bus rapid transit, HOV lanes and other multimodal corridor alternatives.

Unfinanced Needs

Unfinanced transportation needs, documented in other modal sections of the RTP, address transportation needs in ways that do not expand the number of SOV trips. These unfinanced needs include the following:

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

Congestion Management Process

The FAST Act requires Transportation Management Areas (TMAs), urbanized areas with a population over 200,000, to address congestion management through a process that provides for safe and effective integrated management and operation of the transportation system. Fresno is considered a TMA, and as such is required to include congestion management in the development of performance measures and strategies for transportation plans.

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 performance of the multimodal transportation system
- definition of congestion management objectives and appropriate performance measures to assess the extent of congestion
- establishment of a coordinated program for data collection
- identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies
- identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy
- implementation of a process for periodic assessment of the effectiveness of implemented strategies

Fresno COG's Congestion Management Process was updated in 2017 and is defined in Work Element 172 of Fresno COG's Overall Work Program (OWP). The 2017 CMP established travel-time based performance measures and redefined the CMP network as the urban freeways. A Congestion Monitoring Dashboard has been developed to provide live 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 most feasible and appropriate alternative strategies was identified for the Fresno region to manage existing and future congestion. A process/methodology has also been developed to analyze Single Occupancy Vehicle (SOV) projects in order 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?

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. So cities and counties would take the legislation seriously, a portion of the new gasoline tax money was to go directly to cities and counties that complied with a locally adopted Congestion Management Program.

With the passage of AB 2419 (Bowler) in 1996 the Congestion Management Program allowed the county and cities, representing a majority of the incorporated population, 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 fifteen cities.

5.10 Air Quality

Overview

As discussed in Appendix B, Valley-wide Information, the San Joaquin Valley faces the serious environmental problem of poor air quality during the majority of the year. Air quality is a self-defining term: the quality of the air that we breathe. National Ambient Air Quality Standards (NAAQS) are established for criteria air pollutants in order to protect human health and welfare. Criteria pollutants are pollutants proven to be able to harm your health and the environment, and 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. The San Joaquin Valley is designated as attainment/maintenance for PM10 and carbon monoxide (CO). In addition, the State of California also has set "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 air pollutants that are of major concern in the San Joaquin Valley.

Ozone

Ground level ozone is the major component of Fresno County's summertime "smog" and it affects 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; the summertime weather conditions in the San Joaquin Valley Air Basin are ideal for

this reaction. Since the formation of ozone occurs during warmer weather, it is mostly a problem in summer and early fall. Ozone does not form immediately, but occurs over time and distance; therefore, ozone is a regional pollutant and 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 1-hour averaging periods, and for 8-hour averaging periods. The 1-hour Ozone National Ambient Air Quality Standard was revoked by EPA on June 15, 2005 and replaced with the more stringent 8-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 (PM that is 10 microns or less in diameter) and PM2.5 (PM that is 2.5 microns or less in diameter). The chemical composition of PM 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.

Much of the ambient particulate matter is formed from atmospheric reactions of NOx (nitrogen oxides). NOx is also a precursor for ozone. Mobile sources are the major contributor to NOx.

In addition to the ozone problem in summer and early fall, the San Joaquin Valley exceeds the standards for particulate matter at other times of the year. The highest levels of particulate matter in Fresno County and 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. This produces an additional concern for human health in our Valley in that we do not have a "clean" season that would allow for respiratory system recovery. The primary sources of particulate matter include farming operations, paved road dust, fugitive dust, unpaved road dust, and waste burning. In addition, residential wood combustion has been identified as a significant contributor in urban areas during the winter months The impact of residential wood burning is being reduced due to innovative regulations by the San Joaquin Valley Air Pollution Control District. Particulate matter is categorized by size: diameters larger than 2.5 microns and smaller than 10 microns is referred to as PM10, smaller particles with diameters 2.5 microns or less are referred to as PM2.5. (As a reference: the diameter/cross-section of a human hair is anywhere from about 50 to 100 microns.)

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. 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 the incomplete combustion of fuels. 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 Fresno/Clovis Metropolitan Area was redesignated to a "maintenance area" when EPA proposed direct, final approval for the 1996 Carbon Monoxide Redesignation Request and Maintenance Plan. Currently the San Joaquin Valley is designated as attainment for CO and has an adopted maintenance plan to ensure continued control. On April 26, 1996 ARB approved the Carbon Monoxide Redesignation Request and Maintenance Plan, EPA approved and redesignated on June 1, 1998; on October 22, 1998 ARB revised the State Implementation Plan (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 the update to the SIP 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, and that contingency emission reductions from adopted ARB measures that generate progressively more benefits over time, effectively decreasing CO emissions during the remainder of the maintenance period well below the levels that resulted in attainment will continue; emissions forecast that demonstrate attainment for the full 20-year period of maintenance through 2018 will be met.

Regional Air Quality Planning

Based upon the geographical shape of the San Joaquin Valley Air Basin, a regional approach to air quality planning is utilized. Currently, the eight Valley Metropolitan Planning Organizations (MPOs) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) have a Memorandum of Understanding (MOU) to ensure a coordinated transportation/air quality planning approach. The MOU defines a cooperative process aimed at maximum effectiveness and compatibility of both air quality and transportation plans. It also facilitates compliance with the air-quality conformity provisions of the federal Clean Air Act. The MOU was updated and adopted by all eight of the Valley RPAs and the SJVAPCD on September 9, 2009.

A close relationship exists between Transportation Systems Management, Transportation Demand Management, air quality, and energy planning. Transportation Systems Management is the efficient management of existing transportation systems so as to improve upon the level of performance (i.e. traffic flow improvements), while Transportation Demand Management involves planning strategies for managing human behavior regarding how, when, and where people travel. Because Transportation System and Demand Management efforts have secondary benefits, (the associated reduction of vehicle miles traveled and fuel use), they prove to be effective strategies in reducing sources of air pollution from transportation sources.

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 contribute to the attainment state and federal air quality standards.

Federal Regulations

In September of 1975, the Urban Mass Transportation Administration (now named the Federal Transit Agency) and the Federal Highway Administration issued joint regulations for the development of 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)

which mandated the preparation of a separate Transportation Systems Management element for regional transportation planning areas over 50,000 in population.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 redefined the joint regulations and created a new framework for 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 and the current Surface Transportation Reauthorization Act: Moving Ahead for Progress in the 21st Century, (MAP-21), and Fixing America's Surface Transportation Act (FAST Act) delegates major planning decisions to the states and MPOs. They also reinforce the goals of the Federal Clean Air Act by making air pollution a central concern of transportation planning and spending decisions.

ISTEA created, and TEA-21, SAFETEA-LU, MAP-21 and FAST Act continue the Congestion Mitigation and Air Quality (CMAQ) Improvement Program, which funds transportation projects and related programs that contribute to air quality improvements and provide congestion relief. The goal of the CMAQ Program is to reduce emissions in nonattainment and maintenance areas. The CMAQ program supports two important goals of the U.S. Department of Transportation: improving air quality and relieving congestion.

Air Quality Planning

Federal and state legislation requires an integrated transportation/air quality planning process. The Federal Clean Air Act Amendments of 1990 reaffirmed that all areas are required to attain the National Ambient Air Quality Standards. Numerous specific reductions of emissions 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, the Metropolitan Planning Organizations (MPOs) are responsible for the development and implementation of transportation control measures and compliance with the transportation conformity regulation.

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

Offset Sanctions: Establishment of a 2 to 1 emission offset ratio requirement for new stationary sources.

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 sanction could delay needed highway improvements and jeopardize economic growth and jobs.
If the above 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 levels of criteria air pollutants (designated as non-attainment) to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that detail how an area will attain National Ambient Air Quality Standards (NAAQS). SIPs 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 Fresno Council of Governments is located in the federally designated San Joaquin Valley Air Basin. The borders of the basin are defined by mountain and foothill ranges to the east and west. The northern border is consistent with the county line between San Joaquin and Sacramento Counties. The southern border is less defined, but is roughly bounded by the Tehachapi Mountains and, to some extent, the Sierra Nevada range. The Conformity Analyses for the 2018 RTP includes analyses of existing and future air quality impacts for each applicable pollutant.

The San Joaquin Valley is currently 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).

- The 2007 Ozone Plan (1997 Standard), as revised in 2015, was approved by EPA on July 8, 2016 (effective September 30, 2016).

- The 2016 Ozone Plan (2008 standard) was adopted by the Air District on June 16, 2016 and subsequently adopted by ARB on July 21, 2016. Since the new ozone budget have not yet been approved by EPA, the 2007 Ozone Plan budgets will continue to be used for this conformity analysis.

- The 2007 PM-10 Maintenance Plan (as revised in 2015) was approved by EPA on July 8, 2016 (effective September 30, 2016).

- The 2008 PM2.5 Plan (1997 Standard), as revised in 2011, was approved by EPA on November 9, 2011 (effective January 9, 2012).

- The 2015 PM2.5 Plan (1997 Standards) was approved by ARB 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 for use and the 2008 PM2.5 Plan conformity budgets are the only budgets applicable to the 1997 and 2012 PM2.5 standards at this time.

- The 2012 PM2.5 Plan (as revised in 2015) was approved by EPA on August 16, 2016 (effective September 30, 2016).

EPA designated the San Joaquin Valley nonattainment area for the 2008 Ozone Standard, effective July 20, 2012. Transportation conformity applies one year after the effective date (July 20, 2013). Federal approval for the eight SJV MPO's 2008 Ozone standard conformity demonstrations was received 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. Nonattainment areas are required to meet the standard by 2014; transportation conformity began to apply on December 14, 2010. 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. It is important to note that 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). It is important to note that 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, areas designated as nonattainment for the 1997 PM 2.5 standards, must continue to demonstrate conformity to these standards 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)

The 2016 Ozone Plan (2008 standard) was adopted by ARB on July 21, 2016 and subsequently submitted 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 (as set by EPA in2008) for all areas of the SJVAB no later than 2031. . EPA published transportation conformity budget adequacy determination on July 19, 2017 (effective July 13, 2017. Full plan approval is still pending at this time.

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 $\mu g/m^3$, 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 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

The major accomplishments made toward improving local air quality since adoption of the 2014 RTP include the following:

Regional Transportation / Air Quality Planning

The eight Valley Metropolitan Planning Organizations (MPOs) continue through a Memorandum of Understanding (MOU) to ensure coordinated transportation/air quality planning activities. The MOU defines a cooperative process aimed at maximum effectiveness in meeting state and federal air quality standards. This MOU, between and among the eight Valley MPO's, was revised and adopted by all eight RPAs on September 21, 2006.

These coordinated and cooperative efforts were further strengthened in September 9, 2009 with the signing of the Memorandum of Understanding (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 Agency's Director's Association Interagency Consultation Group (IAC) This was formerly called the San

Joaquin Valley Model Coordinating Committee (MCC). The MCC was formally revised in 2009 incorporating quarterly workshops, MPO staff conference calls, and interagency conference calls. The IAC has been established by the Regional Planning Agency's Director's Association (all eight Valley MPOs) to provide a coordinated approach to valley air quality, conformity and transportation modeling issues. The committee's goal is to ensure Valley-wide coordination, communication and compliance with Federal and state Clean Air Act requirements. Each of the eight Valley Metropolitan Planning Organizations (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 members of the committee. Since the 2014RTP process this committee has coordinated the unified approach among all the agencies to successfully adopt a new State Implementation Plan-the 2012 PM2.5 Plan, completed three separate Transportation Conformity Determinations, has played a major role in the coordination of work on the 2018 RTP between and among the eight counties in the San Joaquin Valley Air Basin. This interagency communication consultation also was used extensively in the green-house gas target setting process for the Sustainable Communities Strategies for the 2018 RTP.

Valley-wide Air Quality Coordination

In November 1995, the eight Valley RTPAs jointly contracted for the services of an air quality consultant to assist and advise them regarding air quality and modeling regulations. This contract has been renewed since then, and continues today.

Regional Transportation/Air Quality Plans and Programs

The Valley RPAs have continued their involvement and contribution to the San Joaquin Valley Air Pollution Control District's State Implementation Plans. The Valley RPAs continue to work in concert with SJVAPCD providing updates and information.

Transportation Modeling for Air Quality Conformity-Model Steering Committee

The Valley Metropolitan Planning Organizations have developed a coordinated effort for transportation modeling for air quality conformity purposes. The objective of the Model Steering Committee is to satisfy air-quality conformity requirements from a Valley-wide perspective, and as well as from individual county data. A staff level committee of the Valley RPA Directors, Interagency Coordination Group and the Statewide Transportation Conformity Working Group meets regularly (three to four times per year) to discuss issues of concern regarding transportation and air quality planning in the Valley. Since the 2011 RTP the Fresno COG model and the other seven MPO models have all been upgraded to a much higher standard. They are both more advanced and have more in common with one another than before. The standardization of modeling practice in the Valley makes collaboration and sharing of information among the MPOs more effective. Collaboration and information sharing in turn allows for greater compatibility between models in neighboring jurisdictions, and 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 recently. For more detail on transportation modeling please see the section 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 the identification of congested facilities by providing current and future years' traffic forecasts from the traffic model. Numerous traffic flow improvements

resulting in air-pollution emission reductions have been funded under the Congestion Mitigation and Air Quality Improvement Program.

Rideshare Program

Trip reduction services provided by 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 commuters in order to encourage them 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 participated in the San Joaquin Valley Regional Plug-in Electric Vehicle Coordinating Council (PEVCC) which began in 2012 and in May of 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 the work on the Plug-in Electric Vehicle Coordinating Council, the subsequent committee, the Valley takes Charge, was formed to further the acceptance and use of zero and near-zero emission vehicles in the region.

San Joaquin Valley Clean Transportation Center

An additional advancement in clean energy education and incorporation into both residential and business fleets was the opening in January 2016 of the San Joaquin Valley Clean Transportation Center. This Center provides a new regional resource that will play an important role in helping to improve air quality and reduce emissions from vehicles. The center has strong connections and relations with a national network of manufacturers, suppliers, and fleets that will be able to utilize to improve our transportation system. Funding for this Center is provided by a California Energy Commission grant through CALSTART.

Needs Assessment

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

Previous efforts have been regional or generalized in terms of analysis and recommendations. This focus will likely shift to more specific local corridor analyses. This is especially true with regard to 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 5.3) 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 increases in the percent growth in vehicle miles traveled will continue to challenge our 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 Metropolitan Planning Organizations and the San Joaquin Valley Air Pollution Control District (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
- Identified Transportation Demand Measures and Transportation Control Measures shall be considered during State Implementation Plan (SIP) development and carried out where appropriate by designated responsible governments and agencies.
- 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 monitoring of the streets and road system. This evaluation will be accomplished through focused corridor analysis, using those corridors as 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 established programs to incentivize participation.
- Fresno COG will continue to support the efforts of the SJVAPCD 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 fifteen cities will encourage land use patterns which reduce dependency on the automobile, reduce energy consumption, and support the use of 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 flexibility from funding sources for bus purchases in order to promote selection of the most energy-efficient models.

Fresno COG, in cooperation with Caltrans, works to promote the development of park-and-ride lots and parking management strategies where appropriate.

Fresno COG, Caltrans, cities, and the county support utilization of alternate fuel strategies to reduce the impacts of petroleum fuels. The introduction of alternative fuel technology into the consumer market can have a significant impact on reducing petroleum based fuel consumption.

Long-Range Improvement Plan

Long-range actions are those that will be implemented to 2042-the horizon year of this RTP. The policies of the 2018 RTP work to protect the air quality in the region. They build upon the effectiveness and successes of the short-range programs, upon both federal and California air quality policies and mandates, and upon 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 the use of new and alternate transportation systems and fuels, alternative means of commuting to work, as well as land use changes over time. The goals, objectives, and policies for air quality attainment and energy conservation stress concerted efforts toward supporting alternative transportation modes including improvement of 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 utilizing existing transportation and energy resources more efficiently. Nationwide, transportation planners have come to realize that increasing the “supply” of the transportation system (i.e. building and widening highways and roads) does not alone solve complex transportation problems. With increasingly scarce resources and growing environmental concerns, it will become necessary that we use our existing transportation network more efficiently. This entails changing the “demand” for the transportation system: 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 places much importance on increasing the efficiency and maintenance of existing facilities. 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.

The “key” to acceptance of long-range strategies involves a commitment to public education by local, regional, state, and federal governments. Even the best transportation alternatives will have a difficult time competing with the perceived benefits of the private automobile. Incentives are necessary to overcome these built-in advantages and to make other types of travel just as economically appealing as driving alone. Examples include subsidized bus and rail passes; preferential, free, or subsidized 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.