2 Transportation Investments
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Introduction

This chapter sets forth the investments and strategies that constitute the 2040 MTP/SCS. Transportation investments should seek to both optimize the performance of the existing system as well as strategically expand the system. This includes improvements ranging from systems preservation, roadway, rail, bus, bicycle and pedestrian facilities, transportation demand management, and transportation systems management strategies. As a result, the region will have more travel choices via an efficient multimodal transportation system.

The existing regional network consists of 481 miles of highways, 1,060 miles of regional transit service, and more than 1,200 miles of regional arterials. When implemented, the improvements in the 2040 MTP/SCS will develop an improved multimodal network while maintaining the existing system.

Existing System

The existing Monterey Bay Area transportation system is comprised of roadways, transit, rail, bicycle and pedestrian networks, airports and aviation, goods movement, and management strategies. The following chapter discusses the existing system and the Plan’s investments for strategic expansion.

System Preservation

The Monterey Bay Area has invested billions of dollars into building and expanding the multimodal transportation system. This 2040 MTP/SCS places a high priority on protecting the region’s existing system and ensuring that the transportation system is being operated as safely, efficiently, and effectively as possible.

Safety

In 2012, Congress passed the Moving Ahead for Progress in the 21st Century Act (MAP-21), which requires states to develop safety performance targets. Congress then passed the Fixing America’s Surface Transportation Act (FAST Act) in 2015 which further expanded the role of performance measures. The California Department of Transportation (Caltrans) originally developed a Strategic Highway Safety Plan with an overarching goal to reduce the California roadway fatality rate to less than 1.0 fatality per 100 million vehicle miles traveled (VMT) by 2010. Caltrans updated the Strategic Highway Safety Plan in 2015 to incorporate these performance measures while setting various strategies that state agencies can implement to reduce fatalities and highlight complementary actions that can be performed by regional and local governments.
The projects and programs included in the 2040 MTP/SCS aim to reduce collisions and fatalities by improving the overall safety of the system. MAP-21 and the FAST Act require AMBAG to set and monitor safety performance metrics for the region. In addition, by reducing security vulnerabilities throughout the transportation infrastructure in the Monterey Bay area, the overall strength of the transportation system will be improved. General system upgrades will keep the system in a state of good repair and improve emergency preparedness.

AMBAG, the Regional Transportation Planning Agencies (RTPAs) - the Transportation Agency for Monterey County, the Santa Cruz County Regional Transportation Commission and the San Benito Council of Governments - and various local, state, and federal agencies continue to work together to improve the safety and security of the transportation system. Additionally, AMBAG will set and begin monitoring safety performance as federally required, refer to Chapter 5 for more detailed information on performance management.

**Strategic System Expansion**

One of the 2040 MTP/SCS’s primary goals is to reduce per capita greenhouse gas emissions over the next 25 years. However, the total demand to move people and goods will continue to grow due to population increases. A strategic expansion of the transportation system will provide the region with the mobility and accessibility its residents need. The 2040 MTP/SCS targets this expansion around bus transit, rail, key roadways and active transportation. These networks must be improved in order to provide the accessibility and connectivity needed for a diverse population. Included in this chapter are descriptions of these strategic improvements with example projects. For a complete list of funded projects see the Regional Transportation Plans for each of the three counties.

**Highways and Local Arterials**

The three counties and 18 incorporated cities in the region are responsible for an extensive network of county and city roads and streets. Some of these roadways are regionally significant freeways, expressways, arterials and collectors, which not only serve local traffic, but also provide access and mobility for long distance trips within the region as well as trips that start or end outside of the region.

A regionally significant project refers to a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside the region; major activity centers in the region; major planned developments such as new retail malls, sports complexes, or employment centers; or transportation terminals) and would normally be included in the modeling of the metropolitan area’s transportation network. At a minimum, this includes all principal arterial highways and all fixed guideway transit facilities that offer a significant alternative to regional highway travel. (23 CFR § 450.104)

Projects for these roadways are included within the 2040 MTP/SCS and are included in the Project List (Appendix C). The 2040 MTP/SCS provides over $3.0 billion for highway investments and almost $2.7 billion for local streets and roads.

**Highways**

The Monterey Bay Area includes many highways that connect people between the three counties as well as outside the region. All of these highways need ongoing upkeep and improvements to continue providing safe access to all areas of the region. Figure 2-1 illustrates the 2040 Highway Network. However, the region cannot afford to fund all needed highway projects or there would be no revenue remaining for other transportation modes. The following are examples of regionally significant highway projects included in the 2040 MTP/SCS.

- U.S. 101 corridor
- SR 1, SR 68 and SR 156 West improvements
- SR 25 improvements
- SR 156 widening
- SR 1 auxiliary lane improvements (Santa Cruz)
Figure 2-1: 2040 Regional Highway Network

June 2018 - Source: AMBAG

- 2 Lanes
- 3 Lanes
- 4 to 6 Lanes
Local Arterials
Local streets and roads – including the curbs and gutters, sidewalks, access ramps, bicycle paths, stop signs and traffic signals – are a critical component of the region’s transportation system. The majority of travel, whether by car, bicycle, bus or foot, is done on local streets and roads. Please refer to the respective RTPA Regional Transportation Plans for additional information on regionally and nationally important local streets and roads.

Some examples of regionally significant projects on local arterials include:

- Marina – Salinas Multimodal (bus/roadway) Corridor improvements
- U.S. 101/5th Street operations improvements

Transit

The region has three RTPAs which are responsible for long term transit planning for the Monterey Bay Area. This planning function is performed in partnership with the region’s three transit operators, Monterey-Salinas Transit (MST), Santa Cruz Metropolitan Transit District (METRO), San Benito Transit (County Express). Additional public transit providers include Amtrak and six paratransit operators.

A key focus of this 2040 MTP/SCS was to invest in an ambitious transit network that significantly expands the role that transit plays in meeting the region’s mobility needs. The 2040 MTP/SCS has incorporated transportation and transit enhancement activities as required by the FAST Act.

The 2040 MTP/SCS provides $3.0 billion in transit capital and operating investments. Over half of this funding is consumed by the cost of operating and maintaining the transit system. The balance pays for capital expenses such as purchasing new vehicles, infrastructure associated with adding routes and stations to the bus and rail system, building new storage and maintenance facilities, and improvements to help buses move more quickly through traffic. Figure 2-2 illustrates the 2040
Figure 2-2: 2040 Regional Transit Network

June 2018 - Source: AMBAG

- Green: Bus Rapid Transit (BRT)
- Orange: Express Bus
- Yellow: Bus
- Blue: Rail
Bus Rapid Transit

Bus Rapid Transit (BRT) is a high-capacity, transit solution that can achieve some of the same performance benefits of rail modes without the same high cost capital and operating investments as rail. This integrated system uses buses or specialized vehicles on roadways or dedicated lanes to quickly and efficiently transport passengers to their destinations, while offering the flexibility to meet a variety of local conditions. BRT system elements can easily be customized to community needs and incorporate state-of-the-art, low-cost technologies that attract more passengers and ultimately help reduce overall traffic congestion.

There are many elements to a BRT system, some or all of which can be incorporated to make a BRT more attractive than congested roadways. These include, but are not limited to: dedicated or semi-dedicated lanes, enhanced stations with real time arrival information, innovative vehicles that improve passenger comfort, improved and quicker fare collection, intelligent transportation system technologies such as transit signal priority, quicker, more efficient service and distinctive branding and identity.

The benefits to BRT service include decreased travel time, increased reliability, improved accessibility, increased safety and security as well as increased capacity. The integration of these BRT system elements have shown to increase ridership. (TCRP Project A-23, 2003)


Bus Transit

Bus transit is provided by MST, METRO and County Express. This Plan not only provides operations funding for transit agencies to expand their service, but also includes a land use pattern that dramatically increases the number of jobs within a ½ mile of transit, thereby encouraging more people to use the system. In addition to public transit providers, Greyhound Bus Lines and Amtrak provide longer distance intercity service. Employee buses and airport shuttles are also part of the transportation system.

Bus Rapid Transit and Express Service

The 2040 MTP/SCS allocates additional funding to bus transit in the region. Fixed route bus lines in the region are continuously evaluated and adjusted. Additionally, new bus rapid transit (BRT) and express routes are planned in many key regional corridors, including:

- Marina – Salinas Multimodal Corridor
- Monterey BRT (MST study)
- Salinas BRT
- Monterey South County express bus transit enhancements
- Hollister to Salinas and Watsonville

Bus rapid transit is often designed for longer distance and higher speed service, usually on a dedicated facility, and may also include higher frequency service particularly during commuting hours. Many of the new BRT routes in the region have 15 minute peak service planned whereas express buses often have 30 minute or more peak service frequencies. Bus rapid transit also could serve as a precursor to future planned rail services. When a dedicated facility is not available, bus rapid transit lite or express service can still serve the same route with high speeds by utilizing transit priority infrastructure such as queue jumps. Bus rapid transit lite is bus rapid transit without the benefit of a dedicated lane. By utilizing any combination of the other features of BRT, the BRT lite still provides...
The Monterey-Salinas Transit Jazz Line is the first example of BRT in the region and serves the Monterey Peninsula.
time savings over regular express and local transit services. Features of BRT can include, but are not limited to: dedicated bus lanes, queue jumps, signal prioritization, off-board fare systems, level boarding stations and real-time arrival information systems.

Assembly Bill (AB) 946 (Stone, 2013) authorizes MST and Santa Cruz METRO legislative authority to evaluate bus-on-shoulder solutions to alleviate traffic congestion along state highways similar to other programs implemented throughout the country. Using bus on shoulders is a low cost strategy to improve bus running times and reliability for transit systems.

In 2016, MST and Santa Cruz METRO kicked-off a joint feasibility study for Bus on Shoulder Transit Operations on Highway 1 and the rail right-of-way in Monterey County. The study is expected to conclude in the Fall 2018.

**Expanded Local Service**
A system of high frequency local bus services on key corridors will provide both improved local service plus access to BRT and rail services. Some examples of regionally significant local transit service include:

- South County (Monterey) transit enhancements - including express or commuter based service
- UCSC & inter-city bus frequency improvements
- System wide operations funding
- Bus fleet replacement with alternative propulsion - specifically battery electric transit buses

Travel by transit offers many benefits to the performance of the regional transportation network in the Monterey Bay Area region. First, transit provides an opportunity for reducing VMT, through shifts from low occupancy modes such as driving alone to a very high occupancy mode of travel. Second, for commute trips, which tend to occur at peak periods of travel demand when congestion is highest, transit service can provide substantial congestion relief. High quality transit service also provides mobility for both transit dependent and choice riders, residents and employees in higher density, and mixed use areas where auto travel can be impractical.

Commuters are more likely to take transit if they can easily walk or bike from their home or job to a transit stop or station. As a result, walking and cycling infrastructure improvements are often an effective way to support transit use. Good intermodal connections, such as convenient park-and-ride locations, on-board bike racks, secure bicycle parking, safe and pleasant access routes, and shortcuts can enhance the appeal of both non-motorized and transit modes. Additional information on park-and-ride locations is included in the RTPA’s county-level Regional Transportation Plans.

**Demand Response Service**
In addition to the three fixed route bus operators, there are several small demand-responsive public bus and van transit systems operate in the region:

- San Benito County Express
- MST RIDES
- Greenfield Auto Lift
- King City Transit
- METRO ParaCruz
- Community Bridges Lift Line

A full list of providers is included in the Coordinated Plan.

**Coordinated Plan**
A Public Transit-Human Services Transportation Plan (Coordinated Plan) has been prepared by AMBAG for the tri-county region as required by federal statutes. The Coordinated Plan identifies local transit needs for the elderly, disabled, and low income, and facilitates applications for the FTA Section 5310 grant program. It also includes strategies and activities to address identified gaps in the transit network and achieve efficiencies in service delivery. The Coordinated Plan, last adopted by AMBAG in October 2013, is currently being updated and will be completed by Fall 2018.
Passenger Rail
Rail projects are an important component of the regional transportation network that will enhance mobility opportunities for the region’s diverse population and lead to economic vitality for the region. The planned rail services complement each other and result in reducing auto trips from regional highways.

California State Rail Plan
Federal law requires that states develop state rail plans no less frequently than every five years to be eligible for federal funding for high-speed rail and intercity passenger rail programs. The law also encourages states to develop strategies and policies for enhanced passenger and freight rail services that benefit the public. The 2013 California State Rail Plan makes the state compliant with 49 U.S.C. Sec. 22102 concerning state rail plans and state rail administration.

The California State Rail Plan establishes a statewide vision and objectives, sets priorities, and develops implementation strategies to enhance passenger and freight rail service in the public interest. It provides a comprehensive listing of long range investment needs for California’s passenger and freight infrastructure and supports the state’s goal of developing an integrated, multimodal transportation network.

Amtrak
The only regular rail passenger currently operating in the region is provided by Amtrak, the most popular long distance passenger train in the United States. The Coast Starlight, which connects Los Angeles to Seattle, stops in Salinas, the only Amtrak rail station in the region. This route operates one train in each direction daily. In the future, Amtrak will expand service by offering the Coast Starlight services which will stop at new additional stations in Soledad and King City.

Rail passengers can ride the Amtrak bus to connect to the Capitol Corridor route, which runs daily between San Jose and Sacramento. There are also three round trip connecting bus services between the state Capitol and Monterey County daily. Each major area of Monterey County – the Monterey Peninsula, Salinas, and the South Monterey County cities – is served by this connecting bus service. The Amtrak Capitol Corridor service provides four round trips between San Jose and Sacramento on weekdays and six round trips on weekends. The Capitol Corridor connecting bus service to Monterey County serves Watsonville, Salinas, California State University Monterey Bay (CSUMB) and four locations within the City of Monterey.

Commuter and Light Rail
The Transportation Agency for Monterey County (TAMC) and the Santa Cruz County Regional Transportation Commission (SCCRC) are working to bring rail service to Monterey and Santa Cruz Counties, so that residents can travel to jobs, education and entertainment.

Rail services planned for Monterey County are:

- Capitol Corridor Extension to Salinas – An extension of commuter rail service from Santa Clara County to Salinas

In 2012, the Santa Cruz County Regional Transportation Commission (SCCRC) purchased a rail line extending almost 32 miles from Davenport to Pajaro. The SCCRTC is currently evaluating the rail right-of-way for the most effective and efficient use as a transportation facility. In 2014, the SCCRTC conducted a passenger rail feasibility study which evaluated the feasibility of several passenger rail service scenarios. As a follow up, the SCCRTC is now conducting an Unified Corridor Study which will evaluate the transportation uses of the rail right-of-way along with improvements to the parallel corridors of Soquel Drive/Avenue and Highway 1. The goal of this effort is to determine the best combination of projects and improvements along each route so that they complement one another and enhance the mobility in the region. The study is scheduled to be completed in December 2018.

Active Transportation
For the purposes of the 2040 MTP/SCS, active transportation refers to bicycling and walking. Walking and bicycling are essential parts of the region’s transportation system, are low cost, do not emit greenhouse gases, can help reduce roadway
congestion, and increase health and quality of life of residents. Additionally these types of facilities can often be implemented as part of maintenance and operations projects making this kind of investment very cost effective.

As the region works toward reducing congestion and greenhouse gases, walking and bicycling will become more essential to meet the region’s future needs. To make active transportation a more attractive and feasible mode of travel for the different users in the region, additional infrastructure improvements need to be made. Given that all trips, including automobile trips, start with walking, it is important to ensure that the sidewalks and streets are accommodating to all users. In all, the 2040 MTP/SCS’s active transportation improvements nearly $640 million.

**Bicycle and Pedestrian Facilities**

When Caltrans and local jurisdictions provide bicycle and pedestrian amenities, they not only are encouraging recreational opportunities but are also providing an alternative to driving. In the region, the RTPAs administer the distribution and use of bicycle and pedestrian funds as provided for under the Transportation Development Act (TDA).

TAMC and SCCRTC provide ongoing bicycle programs covering facilities planning, policy development, education/promotion, and staffing of the respective county Bicycle Advisory Committees. Program efforts are focused on coordination and incorporation of bicycle planning and promotion into all planning activities including general plan development, capital improvement programming, development review, environmental review, and other transportation system management efforts. Some examples of bicycle and pedestrian projects around the region are:

- Monterey Bay Sanctuary Scenic Trail
- Carmel to Pebble Beach bicycle facility
- Bicycle sharing, lockers, bus shelters and wayfinding signs
- Sidewalk enhancements
- Bicycle and pedestrian plans

**Bicycle Network**

A considerable bicycle network exists, particularly in the urbanized portions of the region. Although there is a general lack of continuity in bike lanes striped on the region’s street network, progress has been made in planning and funding bikeway improvements as well as bicycle supportive facilities. TAMC and SCCRTC are developing a Monterey Bay Sanctuary Scenic Trail. Continued emphasis on improving bicycle routes that safely connect employment centers and residential locations will increase commuter bicycle use. A map of the regional bicycle network is shown in Figure 2-3.

Bikeways in the region are classified in four categories:

- **Class I Bikeway** – Typically called a “bike path” or “multiiuse path,” a Class I bikeway provides bicycle travel on a right-of-way completely separated from any street or highway. Class I bikeways are not for the exclusive use of bicyclists, and can be used by pedestrians, joggers, and other non-motorized users.

- **Class II Bikeway** – Often referred to as a “bike lane,” a Class II bikeway provides a striped lane for one-way travel on a street or highway.

- **Class III Bikeway** – Generally referred to as a “bike route,” a Class III bikeway may include signage or sharrows and provides for shared use with vehicles.

- **Class IV Bikeway** – Often referred to as a “Cycle Track,” a Class IV bikeway provides bicycle travel in designated lanes on roadways which are also separated from traffic by barricades, such as bollards or curbs.

**Pedestrian Facilities**

Pedestrian travel is a vital part of the transportation, economic and social life of the Monterey Bay Area, and pedestrian amenities — such as appropriately sized sidewalks, crosswalks, curb cuts, landscaping, and benches — are seen as beneficial additions that make communities walkable, friendly, and
Figure 2-3: 2040 Regional Bicycle Network

Figure 2-3
2040 Regional Bicycle Network
June 2018 - Source: AMBAG

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route

Santa Cruz
Monterey
Salinas
King City
Pedestrian facilities including sidewalks, streets, and trails are fundamental to the functioning of Monterey Bay Area neighborhoods. Cities that promote walking in all its forms are promoting healthy neighborhoods and communities. Local jurisdictions are working to achieve an effective pedestrian network by implementing pedestrian infrastructure improvements in conjunction with new and redeveloped streets, and working closely with the public to identify where existing gaps in pedestrian facilities exist. In some areas, local jurisdictions are implementing traffic calming projects to slow vehicular traffic and create more attractive pedestrian environments.

More emphasis is being placed on walking as a viable, inexpensive, nonpolluting, and healthy way to travel. Most pedestrian infrastructure is in the form of sidewalks; however, there are many significant trails in the region. Multipurpose trails are separated from roadways and are usually shared by more than one user type including rollerbladers, bicyclists, skateboarders, pedestrians, horses, and joggers.

Opportunities for additional shared use facilities may be present in the region. For example, Pacific Gas and Electric (PG&E) owns and operates pipelines that distribute natural gas to most communities throughout the region via 12” and 20” pipelines. Many of these pipelines have 25 to 100 foot easements that could be utilized for pedestrian and bicycle paths. Additionally, PG&E has easements throughout the state for electrical transmission lines, some of which have been made into linear greenbelts with bicycle and pedestrian paths.

**Complete Streets**

The Complete Streets Act of 2008 (AB 1358) requires cities and counties to incorporate the concept of complete streets in their general plan updates to ensure that transportation plans meet the needs of all users of the roadway system. AMBAG supports and encourages implementation of complete streets policies in the 2040 MTP/SCS. The Regional Complete Streets Guidebook, included as Appendix H, was developed by staff from the Transportation Agency for Monterey County, the San Benito County Council of Governments and the Santa Cruz County Regional Transportation Commission. Regional agencies will work with local jurisdictions as they implement complete streets strategies within their jurisdiction by providing information and resources to support local planning activities. Complete streets must be context sensitive to adjacent land uses in order to function well for diverse roadway users. Recognizing that roadways have primarily been designed to serve the automobile, regional complete streets efforts highlight bicycle and pedestrian access as an essential design objective. Additionally, the California State Pedestrian and Bicycle Plan, *Toward an Active California*, lays out foundational policies and actions that Caltrans and its partner agencies will take to achieve the department’s ambitious statewide goals to double walking and bicycling trips by 2020.

**Safe Routes to School**

SAFETEA-LU established the Safe Routes to School program to “enable and encourage primary and secondary school children to walk and bicycle to school” and to support infrastructure related and educational projects that are geared toward providing a safe, appealing environment for walking and bicycling. Safe Route to School programs can play a critical role in eliminating some of the vehicle trips that occur during peak periods to drop off or pick up students by ensuring safe routes to bike or walk to school.

Under MAP-21, and continued in the FAST Act, Safe Routes to School has been combined with other bicycling and walking programs into a new program called Transportation Alternatives. There is less funding available for Transportation Alternatives than for the programs that were consolidated and there is no longer dedicated funding for Safe Routes to School.

**Trails**

The Monterey Bay Sanctuary Scenic Trail (MBSST) is planned to be a multiuse recreation and interpretive pathway that links existing and newly established
Complete Streets - Streets for All Users

Complete streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from bus stops and train stations.

Making these travel choices more convenient, attractive, and safe means people do not need to rely solely on automobiles. They can replace frustrating trips in their cars with bus rides or heart healthy bicycle and walking trips. Complete streets improves the efficiency and capacity of existing roads too, by moving people in the same amount of space – think of all the people who can fit on a bus or streetcar versus the same amount of people each driving their own car. Getting more productivity out of the existing road and public transportation systems is vital to reducing congestion.

Complete streets are particularly prudent as more communities are tightening their budgets and looking to ensure long term benefits from investments. An existing transportation budget can incorporate Complete streets projects with little to no additional funding, accomplished through re-prioritizing projects and allocating funds to projects that improve overall mobility. Many of the ways to create more complete roadways are low cost, fast to implement and high impact.

Source: Smart Growth America, http://www.smartgrowthamerica.org/
Wide sidewalks with amenities not only makes the street more usable for all modes it also improves the attractiveness of the street.

Active transportation includes walking. Pedestrian crossings with textured pavers and short crossing distances improves safety.

Complete streets does not exclude planning for automobiles, rather it incorporates improvements that make it easier for all modes to coexist.

Active transportation includes bicycling. Separated facilities increase safety and therefore increase the possibility that people of all ages will use alternate modes of transportation.

Complete streets attract more people to get out of their cars. As people walk to their destination they are more likely to patronize other businesses along the way.

Active transportation includes bicycling to get to the bus. Accommodations on buses for bicycles is important so that people have more options to get to and from bus stops.
trail segments into a continuous coastal trail around the Monterey Bay. The MBSST Final Master Plan and Environmental Impact Report was adopted by SCCRTC in November 2013. The TAMC MBSST Final Master Plan was adopted in January 2008.

In addition to providing bicycle and pedestrian facilities, interpretive features educate users of the trail about the natural and cultural resources of the Monterey Bay National Marine Sanctuary and its environs. The trail is located and designed so visitors can explore and enjoy the coastal communities of Santa Cruz and Monterey Counties, while respecting residential, agricultural, and environmentally sensitive surroundings along the trail.

The approximately 110 mile coastal trail corridor provides public access along Monterey Bay from Santa Cruz to Monterey. The trail is envisioned for pedestrians and bicyclists, with each trail section dictated by natural landforms and features, existing land uses, and desired destinations. The project links existing local trails, bridging the gaps between them. Sections of the MBST network will be included in the California Coastal Trail, a 1,200 mile hiking trail which will eventually extend the entire length of the California Coast.

The development of the trail has been and will continue to be coordinated with appropriate agencies such as the State Coastal Conservancy, the California Coastal Commission, resource agencies and local jurisdictions. Refer to the MBSST Master Plans for more information.

Aviation

Airports within the region function for movement into and out of the region for both people and goods. The major passenger airport in the region is the Monterey Regional Airport.

California Aviation System Plan
The California Aviation System Plan is a multi-element plan prepared by the Department of Transportation (Caltrans), Division of Aeronautics, with the goal of developing and preserving of airports responsive to the needs of the state. There are 14 public use airports in the Central Coast Region, the planning region for the California Aviation System Plan. This Plan considers the following Monterey Bay Area airports to be the region’s highest priority facilities for enhancement:

- Hollister Municipal
- Watsonville Municipal
- Mesa Del Rey Municipal
- Salinas Municipal
- Marina Municipal

Enhancements to these airports would improve regional and state system capacity and safety.

Monterey Bay Area Airports
The region has six publicly owned civil aviation airports:

- Monterey Regional
- Salinas Municipal
- King City Municipal (Mesa del Rey)
- Marina Municipal
- Watsonville Municipal
- Hollister Municipal

Of these six, only the Monterey Regional Airport has scheduled air carrier service.

In addition to the publicly owned airports, several private airports operate in the region. Of these, the Frazier Lake Airpark is the only one that allows public use. The remainder of the privately owned airports are used for agricultural, business, and private purposes.

In addition, there are currently two operational military airfields in the Monterey Bay Area:

- Camp Roberts Army Airfield and Heliport
- Fort Hunter-Liggett Army Heliport.
Most of the local airports are small and do not have scheduled air carrier service (Watsonville Municipal Airport).

Much of the region’s agricultural goods are currently transported by truck, though the MTP/SCS looks towards converting these trips to rail in the long term.
Monterey Regional Airport
Monterey Regional Airport (MRY) has two parallel runways with the longest at 7,598 feet. There is a control tower and instrument landing capability. This airport is the major regional airport, with commercial freight, passenger traffic, military traffic, and general aviation needs. The facility is located north of SR 68 (Monterey-Salinas Highway) and east of the City of Monterey. The 498 acre airport is the only airport in California operated as a self-governing district, the Monterey Peninsula Airport District. In 2016, five commercial airlines served the airport for a total of 191,480 enplanements.

Primary air-carrier airports with annual enplanements over 10,000 are required to have an Airport Ground Access Improvement Program. State Routes 1 and 68 provide the primary ground access to the airport for both people and freight. MST provides public transit service from Monterey and Salinas to the airport, during daytime hours on Mondays through Saturdays, only. An airport limousine service and taxicabs also serve the airport. Many local hospitality industries provide their own shuttle services for guests. A new Master Plan and Airport Layout Plan were initiated in 2014 and completed in 2016. The Master Plan is currently in environmental review, which is expected to be completed in 2018. Additional information on airport access can be found in the TAMC Regional Transportation Plan.

Salinas Municipal Airport
Salinas Municipal Airport is located three miles southeast of the City of Salinas on a 763 acre site. It has four runways with the longest at 6,004 feet. There is a control tower and instrument landing capability. Operated for general aviation purposes by the City of Salinas, 77,896 general aviation operations took place in 2016, with 223 based aircraft.

Mesa Del Rey Municipal Airport in King City
King City Municipal (Mesa del Rey) Airport is located north of King City on 214 acres. In 2015, it handled 7,862 general aviation operations with one 4,500 foot runway. There is neither a control tower nor instrument landing capability at this airport. A publicly owned airport, it is operated by the City of King for general aviation purposes and has 19 based aircraft. The airport is home to the Sean D. Tucker Academy that provides in-depth study of aircraft control. This is an advantage for the Mesa Del Rey Airport, which could prove to be beneficial to the patronage of the airport if widely promoted.

Marina Municipal
Marina Municipal Airport is located north of Reservation Road in the City of Marina on 845.5 acres of the former Fritzsche Army Airfield. This general aviation airport had an estimated 40,000 operations in 2016 on its one, 3,485 foot runway. The regional Airport Surveillance Radar is located northwest of this airport.

Watsonville Municipal
Watsonville Municipal Airport is located on a 330 acre site to the northwest of Watsonville. In 2015, there were an estimated 55,000 general aviation operations on two runways, the longest at 4,500 feet. There is no control tower but the airport has instrument landing capability. Operated by the City of Watsonville, this is the sole public use airport in Santa Cruz County, and is classified as a general transport airport serving general aviation and business jets.

Hollister Municipal
Hollister Municipal Airport is located northwest of the City of Hollister on 343 acres. It services 168 aircraft and there were an estimated 73,000 operations in 2016. In addition to the 6,350 foot runway, Hollister Municipal also has a 3,150 foot runway. There are no control tower or instrument landing capabilities at this airport. A publicly owned airport, it is operated by the City of Hollister for general aviation purposes.

Frazier Lake Airpark
Frazier Lake Airpark is the only privately owned airport in the region that is open to the general public. It is located 4 miles northwest of Hollister Municipal Airport. Frazier Lake Airpark has a 2,500 foot grass turf runway and a 3,000 foot water runway for sea planes. In 2015, there were 7,821 general aviation operations, and 95 based aircraft.
Airports Economic Impact Study

The Airports Economic Impact Study prepared by AMBAG in 2003, was designed to evaluate the economic impacts of each of the Monterey Bay region’s six public airports on the local vicinity served by the airport and to provide a regional picture of the combined airports importance to the three county economy. The total direct, indirect and induced economic benefit of the six regional airports was estimated to be $1.38 billion annually. The Monterey Bay Area’s airports play an important role in the total regional economy, providing service to agriculture, tourism, government, emergency services and other business interests throughout the region.

Regional Airport System Plan

The Regional Airport System Plan (RASP) was completed by AMBAG in 2006. The RASP projects a moderate growth rate in aircraft operations as a result of increased activity in general aviation and a continuation of growth by air taxi services. Additionally, projections recently prepared by Monterey Peninsula Airport District (MPAD) for the Monterey Regional Airport Master Plan forecasted continued increasing passenger enplanements over the next 20 years. With availability for increased operations, the existing general public airports in the region could absorb aircraft from other regions.

Table 2-1: Top Regional Agricultural Crops (Millions/Year)

<table>
<thead>
<tr>
<th>County</th>
<th>Top Crops (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monterey</td>
<td>Berries, Strawberries, Fresh Market ($746.1)</td>
</tr>
<tr>
<td></td>
<td>Lettuce, Romaine ($483.3)</td>
</tr>
<tr>
<td></td>
<td>Lettuce, Head ($436.0)</td>
</tr>
<tr>
<td>San Benito</td>
<td>Vegetables, Unspecified ($39.9)</td>
</tr>
<tr>
<td></td>
<td>Lettuce, Bulk Salad Products ($21.1)</td>
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<tr>
<td></td>
<td>Nursery Products, Misc ($20.4)</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>Berries, Strawberries, Fresh Market ($172.6)</td>
</tr>
<tr>
<td></td>
<td>Berries, Raspberries ($104.3)</td>
</tr>
<tr>
<td></td>
<td>Flowers Cut, Unspecified ($60.0)</td>
</tr>
</tbody>
</table>

Source: AMBAG, Central Coast California Commercial Flows Study, 2012

Goods Movement

The Central Coast is well known for the variety of agricultural products grown here. The Salinas Valley is commonly referred to as “America’s Salad Bowl” due to the sheer amount of produce grown and exported to markets in other parts of the country and elsewhere.

Strawberries and other berries are key crops throughout the region, and are the number one crops by value in Monterey and Santa Cruz Counties. See Table 2-1 for a list of the region’s top agricultural products by county. Lettuce, wine grapes, broccoli, and nursery products also are important agricultural products for the Central Coast. The region is a key producer of wine. Monterey County, for example, produced grapes for wine valued at $238 million in 2008. Both Monterey and San Benito Counties are major producers of field crops, fruits and nuts, vegetable/row crops and livestock.

The agricultural industry is critical to the success of the regional economy and its health partly depends on the ability to move goods not just throughout the region but outside of the region. Agriculture relies on the connectivity and condition of railways and local roads that connect crop production with buyer markets via major state routes and U.S. 101. Therefore, it is necessary for the health of the region that all the major roads, highways and railways carrying goods to and from crop production locations (such as U.S. 101, SR 46, SR 129, SR 152, SR 156 and SR 183) are maintained to support efficient delivery and shipment of goods. Figure 2-4 illustrates the Goods Movement Network. A summary of the various plans and studies that document the importance of goods movement to the region and the efforts to improve the delivery of agricultural products to consumer markets is discussed in this section.

The majority of the goods in the region are delivered to buyer markets via the highway and road network rather than railways. However, there is a recognized need for transitioning the Central Coast’s truck freight to rail freight in order to alleviate pressure on the region’s highways and
Figure 2-4: Goods Movement System
Central Coast Coalition
The purpose of the Central Coast Coalition is to increase the awareness of the US 101 corridor along the central coast as a major economic asset to the regions, the state and the nation, and to secure investments for its improvement. The Central Coast Coalition is comprised of the Santa Barbara Association of Governments, Council of San Benito County Governments, Transportation Agency of Monterey, San Luis Obispo Council of Governments, Santa Cruz County Regional Transportation Commission, and AMBAG. The group has been meeting since 2010 and has worked together to develop and distribute information about the corridor including but not limited to improvement needs, funding options and strategies, as well as economic impacts and benefits. Additionally, the group seeks out funding for improvements within the corridor, coordinates with Caltrans District 5 to develop projects, and seeks support from public and private partners to raise awareness about the importance of the corridor.

California Freight Mobility Plan
Caltrans is currently developing the California Freight Mobility Plan, an update to the Goods Movement Action Plan, issued in two phases in 2005 and 2007. Similar to the Goods Movement Action Plan, the California Freight Mobility Plan will address current freight conditions, identify important trends, and respond to major issues in goods movement across all modes and regions of California. In addition, the updated plan will respond to a number of contemporary issues in terms of community impacts, trucking, new legislation, regional differences and linkages, and greenhouse gas emissions reduction strategies. The California Freight Mobility Plan was completed in December 2014.

Commercial Flows Study
Over the next several decades, the Central Coast region can expect to see significant increases in freight movement due to both population increases and a continued expansion of the region’s agricultural and industrial production. As a result of this demand for freight by both the local population and industries, a focus on enhancing the efficiency...
and safety of the region’s goods movement system is critical to supporting the economic health of the region and the quality of life for its residents.

To respond to this challenge, six major agencies across the five counties – comprising the California Central Coast region, from Santa Cruz County in the north to Santa Barbara County in the south – partnered with Caltrans District 5 to prepare this study of freight flows, issues, needs, and deficiencies in the region. The recommendations that came out of the 2012 Commercial Flows Study were the result of engaging private and public sector stakeholders in the Freight Actions Strategy Taskforce. The recommendations include operational improvements and capacity increases to the major corridors that move freight traffic.

**Salinas Valley Truck-to-Rail Intermodal Facility Feasibility Study**

One of the key factors in maintaining the competitiveness of the Salinas Valley agricultural industry is to provide additional methods of shipping products to important markets. The main markets are primarily located in the eastern United States. Given upward pricing pressure on the trucking industry due to rising fuel costs, as well as safety concerns, and problems with truck traffic congestion, freight and transportation stakeholders are looking for alternatives for transporting goods. The rail system is one of the main options available.

The purpose of the Truck-to-Rail Study, prepared by AMBAG in 2011, was to analyze the potential for building and operating a truck-to-rail intermodal facility to support the movement of perishable agricultural products from this region. This study builds off a previous study commissioned by the Grower-Shipper Association of Central California in Fall 2008 which showed there was both a desire on the part of the growers/shippers in the Salinas Valley to expand methods of shipping from truck only and that rail would be a cost competitive option for shippers.

This study also analyzed the impact of the significant number of trucks leaving the Salinas Valley has on air quality, roadway congestion, safety and quality of life in this region. Using modeling software, this study determined that greenhouse gas emissions could be reduced by as much as 59 percent by switching from truck to rail freight and that other pollutants could be reduced by an average of 35 percent. The study identified two potential locations in Chualar and Gonzales for a truck-to-rail intermodal facility based on operations logistics and cost feasibility. A preliminary environmental assessment of the two sites was also prepared.

**U.S. 101 Corridor Freight Study**

The primary freight corridor in the Monterey Bay Area is U.S. 101. It is the main north-south route between Los Angeles and San Francisco. The U.S. 101 corridor supports the economic vitality of the Central Coast area as a major goods movement corridor and is a key commute route.

AMBAG was awarded a Caltrans Partnership Planning grant in 2013 to identify short term and long term strategies to improve freight mobility and transportation operations along U.S. 101 from San Benito County through Santa Barbara County. The U.S. 101 Freight Study will assess opportunities for improved freight operations, safety, and efficiency, and will identify funds for recommended improvements. It will build off of the aforementioned studies which identify the commodities, goods movement patterns, and intermodal station feasibility to analyze opportunities for freight.

Final recommended improvements provide better connectivity between adjacent communities. The study was completed in 2016.

**Transportation Management Programs**

Transportation Demand Management (TDM) and Traffic Systems Management (TSM) are two types of techniques used to improve the efficiency and effectiveness of the transportation system. In TDM, the focus is on changing peoples’ travel behavior; in TSM, system operational and/or service
Improvements are implemented to facilitate traffic flow. When successfully employed, these techniques decrease travel demand and improve operations and/or services prior to committing to significant investment for new supply or new capacity. Planning for TDM and TSM strategies requires looking at the transportation system as an interconnected whole in order to reduce GHG emissions.

**Demand Management**

TDM strategies reduce vehicular demand and thereby congestion, particularly during peak periods. In total, the 2040 MTP/SCS allocates nearly $42 million to TDM strategies.

**Ridesharing**

Ridesharing strategies include vanpool services for larger employers and rideshare matching services. The implementation of ridesharing programs and projects, such as providing vanpool services to commuters, is an effective strategy leading to reduction of the number of vehicle trips which helps to meet the GHG targets.

**Vanpools**

Over the years, AMBAG has recognized that there is a limited set of transportation options for individuals who would like to use sustainable modes of transportation, or cannot afford the cost of driving a car. Since 2009, the Monterey Bay region has benefited from the regional vanpool program operated by AMBAG. The program provides a viable and cost efficient rideshare opportunity to employees and students who live, work, or attend college in Monterey, Santa Cruz, and San Benito Counties. The program also provides a sustainable transportation solution for the region’s unique land use, demographic and employment characteristics. Moreover, the regional vanpool program fills an important market niche by helping traditionally underserved population groups (including but not limited to low income and minority population, rural communities, agriculture workers, etc.).

The agricultural industry is a major employer in the region, currently comprising over 18 percent of all employment. Agricultural workers

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**AMBAG’s Vanpool Program**

AMBAG subsidizes and manages the Regional Vanpool Program. The funding provides a monthly subsidy of $350 per vanpool for the first 12 months of operation. The subsidy encourages more workers to join a vanpool because of the reduced cost, thereby reducing emission and providing employment opportunities to individuals who cannot afford to own and operate a vehicle or do not have a driver’s license.

As of June 30, 2017, the program had started 189 new vanpools, reducing an estimated of 57.5 million vehicle miles traveled and removing 1,808 vehicles from the roads in the region. 148 vanpools serve the agricultural industry. Under this Plan, AMBAG will continue to expand vanpool service - specifically to agricultural workers - to provide a safe, flexible, and affordable means of transportation.
represent a unique sector that is particularly well suited to vanpools. They often work irregular hours, at multiple worksites, and/or for multiple employers. The seasonal and remote nature of work destinations makes fixed route transit service impractical because average one-way commute distances exceed 20 miles and farm workers often need to travel to multiple work locations within one work day. The regional vanpool program provides agricultural employees with a safe and affordable form of transportation, thus providing flexibility and increased employment opportunities.

Telecommuting
TDM investments aim to reduce peak hour congestion by promoting flexible work schedules and telecommuting. Flexible work schedules allow employees to work fewer days in exchange for longer hours on the days they do work. Telecommuting has increased dramatically over the past decade and nearly six percent of all workers in the Monterey Bay Area telecommute most of the time, and an even greater number telecommute at least one day per month.

Systems Management
TSM increases the productivity of the existing multimodal transportation system, thereby reducing the need for expensive system expansion. TSM relies in part on intelligent transportation system (ITS) technologies to increase traffic flow and reduce congestion. This 2040 MTP/SCS dedicates more than $26 million to TSM projects and programs.

Regional ITS Architecture
The Central Coast Intelligent Transportation Systems Architecture and Implementation Plan, prepared by Caltrans in 2010, establishes a framework for the regional integration of transportation systems. It not only looks within the MPO boundaries, but strategically addresses integration between MPO’s and with Caltrans from the broader Central Coast perspective.

AMBAG continues to maintain, revise, and validate, as needed, the Central Coast Regional ITS Architecture in consultation with all regional agencies including but not limited to the three RTPAs and Caltrans. ITS projects to be implemented over next 25 years are described in the project lists contained in Appendix C.

Transportation System Management Strategies
In the Monterey Bay region, TSM efforts will help improve the efficiency of the existing transportation system and help the region meet its GHG reduction targets. See Table 2-2 for a summary of regional TSM strategies and associated benefits.

Future Transportation Technologies
Transportation plans must also be responsive to emerging technologies that make existing modes more efficient and to new transportation modes that better address the needs of a changing society. Technological innovations have the potential to make existing transportation choices more widely available and easier to use throughout the region. By providing more options for local and regional trips, technological innovations have the potential to shift travel to less environmentally damaging

<table>
<thead>
<tr>
<th>Table 2-2: TSM Strategies</th>
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<tbody>
<tr>
<td>Strategy</td>
</tr>
<tr>
<td>Incident Management</td>
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<tr>
<td>Ramp Metering</td>
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<tr>
<td>Traffic Signal Synchronization</td>
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<tr>
<td>Traffic Signal Preemption</td>
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<tr>
<td>Advanced Traveler Information</td>
</tr>
<tr>
<td>Improved Data Collection</td>
</tr>
<tr>
<td>Transit Automatic Vehicle Location (AVL)</td>
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</table>
modes, lessen the negative environmental impacts associated with current vehicle use, increase system efficiency, improve safety and reduce auto-related collisions and fatalities. Although they may have limited applicability in many parts of our region today, there is little doubt that certain technological innovations in transportation will grow significantly during the time frame of the 2040 MTP/SCS and beyond. Changing demographics and broad economic trends have led to a demand for more flexible transportation options, the expansion of the sharing economy and calls for communities where people can live, work and play within a small area.

**Autonomous Vehicles**

New emerging technologies are developing that have the potential to fundamentally alter travel patterns and how goods and services are delivered. Automated vehicles are those in which at least some aspect of a safety-critical control function (e.g., steering, throttle, or braking) occurs without direct driver input. Automated vehicles may be autonomous (i.e., use only vehicle sensors) or may be connected (i.e., use communications systems such as connected vehicle technology, in which cars and roadside infrastructure communicate wirelessly). These emerging technologies have the potential to make the transportation system safer, more efficient and reliable, and to reduce criteria pollutant and greenhouse gas emissions. Google’s autonomous car project, known as Waymo, began in 2009 and now has over three million miles of driverless operation in four cities across the nation.

Other private technology companies have also began testing driverless cars with success. The 2040 MTP/SCS recognizes these advancements and AMBAG will be monitoring this technology to potentially incorporate autonomous car operations in future horizon years.

**Shared Mobility**

Shared Mobility refers to new mobility paradigms as well as old models that are finding new markets and methods of delivery, thanks to new technology platforms. Shared Mobility encompasses a wide range of services including:

- Carsharing
- Ridesourcing (also known as Transportation Network Companies)
- Vanpool and Private Employer Charters

For all these services, mobile computing and payment systems are reducing transaction costs and opening up traditional mobility services to a wider population of producers and consumers. The net effect of these services on transportation mode choices and VMT is still to be determined. However, preliminary research shows that the availability and use of these services correlates with a reduction in individual vehicle ownership. Ridesourcing is a term coined by researchers to refer to mobile phone-based applications that put riders in touch with drivers for a fee. Some drivers on one platform are professionals, while many other drivers are non-professionals earning income from giving rides.

In recent years, several technology companies have leveraged this mobile technology to create platforms for on demand ridesharing. These companies, such as Uber and Lyft, have become known as Transportation Network Companies (TNCs). AMBAG has studied the impact of these TNCs and found that they have the potential to complement current and planned transit services, particularly in more rural areas, suburban communities and urban mixed use environments within the region. Several transit agencies across the state have begun partnering with these TNC’s as a way to augment non urban corridor services.

**Alternative Fuels and Electric Vehicles**

AMBAG has taken steps to assess what regional infrastructure is needed to accommodate more alternative fuel choices across the region. In 2013, AMBAG and other regional organizations completed the Monterey Bay Plug-In Electric Vehicle Readiness Plan. The goal of this plan is to encourage the mass adoption of plug-in electric vehicles in the region and reduce greenhouse gas emissions by providing a toolbox of recommended approaches for public, private and non-profit organizations. These tools range from innovative approaches to plug-in electric vehicle marketing.
and streamlining electric vehicle supply equipment permitting, to guidelines on establishing an electric vehicle fleet. For more information on EV readiness and alternative fuels, please refer to Chapter 4.

While this Plan does not include technologies such as autonomous cars or Transportation Network Company partnerships, it recognizes that these technologies are emerging. As projects that incorporate new emerging technologies are proposed by local jurisdictions to the transportation planning agencies and start to become more widely adopted, AMBAG will consider and potentially incorporate them in the future.
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