October 1, 2020

Executive Summary
Inland Empire Comprehensive Multimodal Corridor Plan

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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San Bernardino County Transportation Authority

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Executive Summary

The Southern California Association of Governments (SCAG) was awarded a Caltrans grant in the "Strategic Partnerships/Transit" category to examine the multi-modal corridors of the Inland Empire as part of a Comprehensive Multimodal Corridor Plan (CMCP). The strategic partners with SCAG included Caltrans District 8, the Riverside County Transportation Commission (RCTC), the San Bernardino County Transportation Authority (SBCTA), and the Western Riverside Council of Governments (WRCOG).

The Inland Empire Comprehensive Multimodal Corridor Plan (IE CMCP) has multiple uses that will benefit local, regional, and state agencies as they deal with the balancing of infrastructure, livability, economic, and sustainability needs as they relate to the transportation system. The IE CMCP covers the urbanized portion of both Riverside and San Bernardino Counties, excluding the Coachella Valley. The original concept for the IE CMCP was to have two corridors, a north/south and an east/west corridor. However, as the study progressed, it was decided to create focused smaller "sub-corridors" to facilitate more detailed assessment of corridor conditions and to focus the recommended improvements and strategies. Five sub-corridors were identified for north/south travel and five for east/west travel, as listed in Table ES.1 and illustrated by Figures ES.1 and ES.2.

Table ES.1 | IE CMCP Sub-corridors

- North/South Sub-corridors:
  1. Victorville to San Bernardino
  2. San Bernardino to Riverside
  3. Cajon Pass to Eastvale
  4. Riverside to Temecula
  5. Beaumont to Temecula
- East/West Sub-corridors:
  1. Apple Valley to LA County Line
  2. Banning to Rialto
  3. Riverside/Rialto to LA County Line
  4. Riverside to Orange County Line
  5. Hemet to Corona

Figure ES.1 | IE CMCP North-South Oriented Sub-Corridors

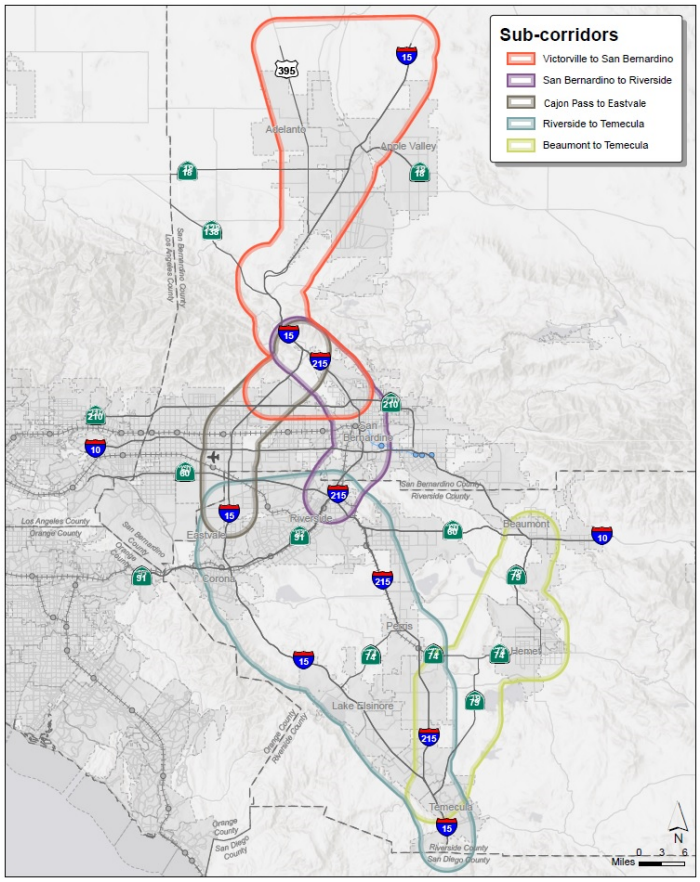
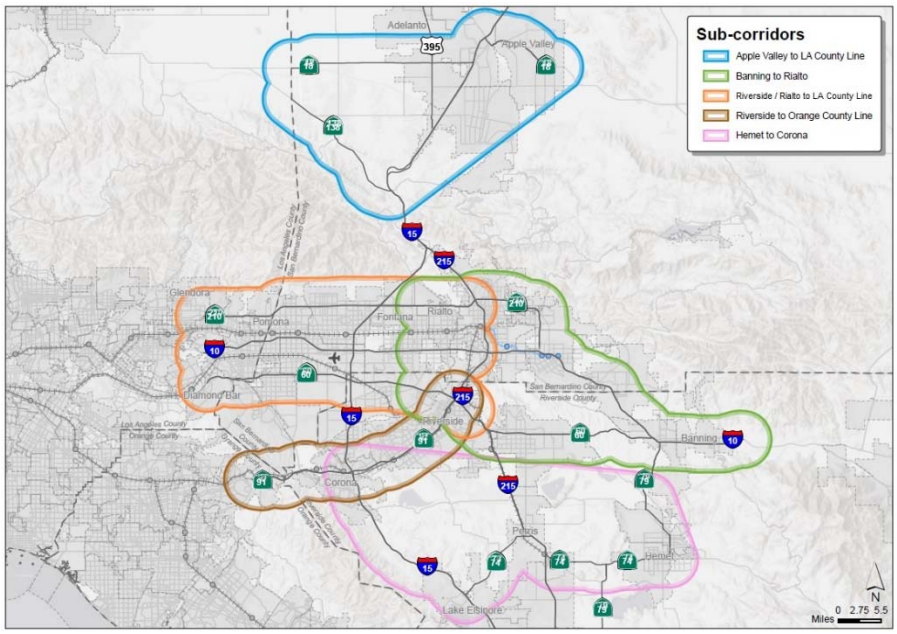


Figure ES.2 | IE CMCP East-West Oriented Sub-Corridors



A strategic approach to the development of the IE CMCP has been crafted for each sub-corridor. There also are some overarching strategic initiatives and programs which are countywide or Inland Empire-wide in nature that relate to the overall Study Area and related sub-corridors. Planning and decision-making within the sub-corridors would be influenced and/or enhanced through these larger-area strategies.

There are programs underway at the Inland Empire level or at the County level that are very much a part of the multimodal transportation strategy but do not fall neatly into the individual sub-corridors. As the sub-corridor strategies are presented in this document, it is important to remember that these programs serve as overlays to the lists of strategies or projects listed at the sub-corridor level. **So if a certain sub-corridor does not seem as multimodal as others, it is important to remember that these program-level activities are still at work to reduce GHGs and VMT, as well as to improve system safety, efficiency, and operations.** Many of these involve partnerships across state, regional, and local agencies.

The Inland Empire transportation programs are generally categorized as follows:

- **Active Transportation (AT).** While some AT activities are project-specific, others are programmatic, such as Safe Routes to School or local/regional funding programs, like the Transportation Development Act (TDA) that funds local active transportation projects through a competitive call for projects every odd numbered year.
- **Intelligent Transportation System/Incident Management (ITS/IM).** Examples include signal coordination and freeway service patrols.
- **Rail.** Regional improvements and funding programs are in place that benefit upgrades in the Metrolink commuter rail system and new passenger rail initiatives are underway.
- **Safety.** Caltrans sponsors ongoing transportation funding initiatives to maintain and provide safety upgrades to local and state highways.
- **Transit (other than rail).** Each transit agency has its own investment plan for improving the customer experience and customer/driver safety.
- **Transportation Demand Management (TDM).** A wide array of TDM strategies is promoted through IE Commuter, from ridesharing to vanpooling to alternative work schedules.
- **Zero Emission Vehicles and Alternative Fuel Programs (ZEV/AF).** There are numerous statewide and regional programs for funding and incentivizing more rapid turnover of auto and truck fleets to benefit air quality and GHG reduction. Both Riverside and San Bernardino County transit agencies are pursuing funding to address the state's zero-emission bus objectives.

Multimodal Corridor Planning Guidelines

The California Transportation Commission (CTC) developed and published their CMCP guidelines and Caltrans developed their Corridor Planning Guidebook. These corridor planning guides provide the framework for assessing

transportation improvement projects as part of the Road Repair and Accountability Act of 2017, or Senate Bill (SB) 1. SB 1 requires that funding shall be available for projects that make specific performance improvements and are part of a comprehensive corridor plan designed to reduce congestion in highly traveled corridors by providing more transportation choices for residents, commuters, and visitors to the area of the corridor while preserving the character of the local community and creating opportunities for neighborhood enhancement projects. The Inland Empire CMCP closely follows both the CTC and Caltrans corridor planning guides, and Caltrans was a partner agency in the development of the IE CMCP.

Key tasks completed as part of the IE CMCP:

- Developed IE CMCP goals, objectives, and performance measures.
- Defined the study area by organizing it into 10 key sub-corridors based upon technical and policy considerations, including input from key stakeholders.
- Conducted regular meetings with a core Project Development Team (PDT) of partner agencies including SCAG, Caltrans, RCTC, SBCTA, and WRCOG.
- Developed and implemented a stakeholder engagement strategy which included leveraging recent stakeholder outreach in Riverside County with a new online survey instrument that was implemented for San Bernardino County. Multiple meetings were also held with local agency transportation and planning staff through each county's Technical Advisory Committee structure.
- Conducted detailed data collection and analysis as part of current conditions and future baseline conditions assessment including socioeconomic data, travel demand and travel patterns, safety analysis, congestion analysis, and transit demand analysis.
- Identified planned investments and recommended projects as part of the CMCP to address known deficiencies, pivoting off of state, regional, and local plans and programs.
- Developed an evaluation framework to assess the current conditions and future baseline conditions, and to evaluate the potential improvements.
- Conducted qualitative assessment of the sub-corridor improvement projects based on project type and measured against metrics such as VMT reduction, accessibility, person delay, air quality, safety, reliability, mode shift, person throughput, and congestion.
- Determined the funding need and available transportation financing resources to support corridor investments.

Goals, Objectives and Performance Metrics

As discussed, the CTC and Caltrans guiding documents contain recommended corridor planning goals, objectives, performance metrics, and evaluation criteria for assessing transportation improvement projects at the corridor level. In addition, many other state, regional, and local transportation plans include transportation system improvement goals, objectives, and performance metrics, such as the Caltrans Smart Mobility Framework, the Regional Transportation Plan, the San Bernardino County Countywide Plan, Transportation and Mobility Element, and the Riverside County Long Range Transportation Study.

The CTC Solutions for Congested Corridors Program (SCCP) guidelines also state that "the primary objective of the Congested Corridors Program is to fund projects designed to reduce congestion in highly traveled and highly congested corridors through performance improvements that balance transportation improvements, community impacts, and that provide environmental benefits."

Based on the CTC and Caltrans guidance, objectives of the comprehensive multimodal corridor planning process may include but are not necessarily limited to:

- Define multimodal transportation deficiencies and opportunities for optimizing system operations.
- Identify the types of projects necessary to reduce congestion, improve mobility, and optimize multimodal system operations along highly traveled corridors.
- Identify funding needs.
- Further state and Federal ambient air standards and greenhouse gas emissions reduction standards pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5, commencing with Section 38550, of the Health and Safety Code) and Senate Bill 375 (Chapter 728, Statutes of 2008).
- Preserve the character of local communities and create opportunities for neighborhood enhancement.
- Identify projects that achieve a balanced set of transportation, environmental, and community access improvements.

A key element of the CMCP is to reduce congestion in highly traveled and highly congested corridors through performance improvements. To measure projects or groups of projects which result in performance improvements in the study area and sub-corridors, a set of transportation performance metrics is applied. Some of these metrics can be assessed using quantitative data such as transportation model output, while others are qualitatively evaluated based on project type, project location, and other factors. This is consistent with the CTC guidelines which state "in recognition that data availability and modeling capabilities vary by agency based on available resources, the Commission expects agencies to address plan and project performance qualitatively and quantitatively to the degree reasonable given technical and financial resources available during the planning process. As part of the comprehensive multimodal corridor planning process, a plan-level corridor performance

assessment must be conducted and documented to clearly outline system performance and trends." The evaluations provided in this plan clearly document the conditions, including congestion levels, in the overall study area and the ten sub-corridors.

Per the CTC and Caltrans CMCP guidelines, it is critical to create multimodal corridor plans that closely match the local and regional goals and objectives for transportation planning. With that in mind, a summary of the goals and objectives of Riverside County and San Bernardino County from the latest transportation plans include:

Riverside County:[1]

- Provide a first class transportation system that supports a vibrant, dynamic and livable county;
- A multimodal system that will promote sustainability, access, safety, economic opportunities, public health, environmental stewardship, and balanced job/housing ratio.
- Utilize best available technology.
- Provide reliable and efficient mobility for people, goods, and services.
- Preserve values of Riversides County's communities.

San Bernardino County:[2]

- Consolidate and integrate countywide transportation and land use planning to provide consistent input to the RTP/SCS.
- Improve safety and mobility for all modes of travel.
- Deliver transportation projects and services to promote economic competitiveness, affordable housing, environmental quality, and overall sustainability.
- Promote stewardship of public resources through cost effective delivery, maintenance and operations of projects.
- Promote the planning and funding of sustainable transportation systems via collaboration with local, regional, state, federal, and private stakeholders.

Sub-corridor Focus

The results of the IE CMCP as summarized in this report include a detailed assessment of the corridor conditions, a list of recommended projects and programs to improve corridor conditions in each of the 10 sub-corridors, and a framework for evaluating the potential improvements. To understand the transportation issues facing the corridors

[1] Riverside County Long Range Transportation Study, December 2019.

[2] San Bernardino County Countywide Plan, Transportation and Mobility Element, May 2019.

and to inform the recommendations of the study, the IE CMCP included detailed assessments of both current and projected transportation future conditions. This included an analysis of all modes (roadway, transit, active transportation, and freight) as well as cross-cutting themes such as safety. The Corridor Characteristics assessment presents an assessment of land use, demographics, and multimodal transportation conditions in the corridors and provides a baseline assessment upon which future projected conditions will be compared.

Sub-corridor Problems and Strategic Approach

In developing the strategic approach for each sub-corridor, the classes of strategies considered are highly multimodal in nature, and they also consider the types of "customers" that will be served: 1) passenger travel and freight; 2) trips by purpose: for work, school, business, shopping, recreation, social interaction; and 3) specific activity centers: airports, downtowns, hospitals, educational institutions, commercial clusters, mixed-use clusters, and transit hubs.

The transportation modes reflect an emphasis on public transportation, non-motorized travel, shared-ride (carpool/vanpool), and virtual travel (i.e., work-at-home, web-based business, teleconferencing, etc.); a highway network focused on effective management and operations (e.g., through HOV/managed lanes, traveler information, and signal coordination); as well as accommodation of freight and logistics through strategic access improvements.

There is a large pool of existing and emerging multimodal options to draw from and build on in the Inland Empire: **commuter rail (Metrolink IEOC, 91/Perris Valley, Riverside, and San Bernardino lines), light rail (with the Gold Line extension to Pomona by 2025), regional "hybrid rail" initially using Tier 4 Diesel Multiple Unit (DMU) self-powered trainsets (migrating to zero-emission trainsets in the near term), and the privately-funded Brightline West high-speed train from the San Bernardino Valley, through the Victor Valley to Las Vegas)**. Efficient and frequent **local bus, express bus, and BRT** options also exist and are being expanded with the forthcoming **West Valley Connector BRT**. Lyft is now providing an important **connection to Ontario International Airport** from the Riverside and San Bernardino Metrolink lines, and **first/last mile connections** are being advanced linking transit and key destinations. **Regional bike networks** are creating a backbone that provides the regional connectivity needed to service those who can take these modes for daily commutes. **Land use and housing** are intertwined with the regional transportation network in a way that, because of much higher costs in coastal counties, has historically produced longer commutes and travel times for inland residents. The challenge before us now is to encourage better balance in jobs and housing regionally for the sake of livability, cost, and VMT/GHG reduction, and to continue pursuing the Inland Empire's proactive sustainability initiatives on local climate action plans (CAPs) for GHG reduction, habitat conservation plans, climate adaptation plans, low-income housing initiatives, and transportation-efficient land use planning implemented through local General Plans and Specific Plans.

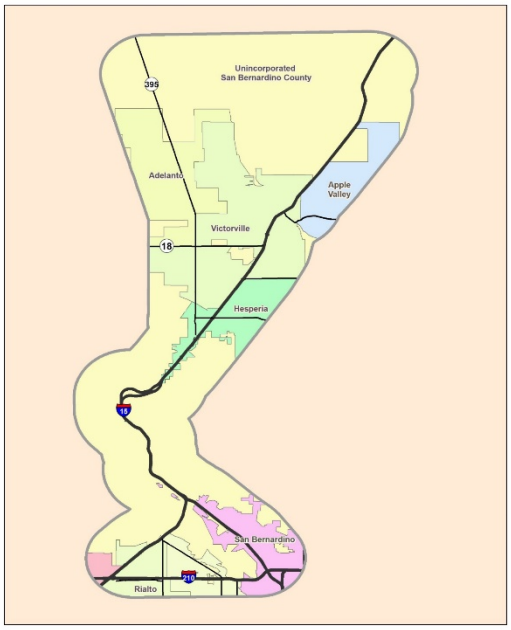
The discussion of problems and recommended strategies for each of the 10 sub-corridors follows. The intent of these one-page summaries is to highlight the key issues and challenges in each sub-corridor and to articulate the

key strategies, projects, and programs that are being emphasized in the near term for each. These strategies are anchored in the data developed through the analysis documented later in this CMCP.

Strategic Approach for Victorville to San Bernardino Sub-Corridor

Problems to Be Addressed

- Substantial “down-the-hill” commuting from the Victor Valley to San Bernardino, Riverside, and LA, with residents motivated to endure the commutes as a result of more affordable housing in the High Desert.
- I-15 is a nationally significant freight corridor, but travel through the Cajon Pass is congested and unreliable.
- High number of serious traffic accidents and incidents on State Routes: I-15 in Cajon Pass, U.S.-395, and SR-138.
- Significant weekend congestion, not just weekday.



Victorville to San Bernardino Sub-Corridor

- Lack of adequate alternate routes when the regionally significant corridor shuts down as a result of incidents.

Strategies

1. Enhance the ease and reliability of freight and passenger travel in the Cajon Pass and High Desert through the addition of express lanes on I-15, consistent with the SCAG Regional Express Lane Network in the RTP/SCS, with toll discounts/exemptions for transit, vanpools, and 3+ carpools.
2. Conduct operational studies on I-15 in the Cajon Pass geared toward improving safety and reducing the frequency and severity of traffic incidents. Also conduct operational studies on alternate routes to I-15 for use in the event of extended I-15 closures. Program operational improvements into the Caltrans SHOPP. If crashes are associated to the long routes, weather, and fatigue, perhaps rest areas could also be added to allow drivers to take a break before continuing their destination.
3. Pursue multimodal solutions. Continue growth of vanpool and carpool formation from the High Desert to employment centers in the Valley and greater LA Basin and monitor express bus operation from Victorville to San Bernardino for evidence of expansion opportunity. Pursue the extension of Brightline West down the Cajon Pass to Rancho Cucamonga to provide an additional privately funded solution to peak hour and weekend congestion.

4. Through economic development and other strategies, increase employment opportunities in the High Desert for High Desert residents to reduce jobs-to-housing imbalance and reduce long commutes from the High Desert to San Bernardino / Los Angeles / Riverside.
5. Complete Mojave Riverwalk, the principal north/south Class I trail in the High Desert.
6. Consider developing a comprehensive signal synchronization network for the High Desert and prioritize arterial corridors for early implementation.
7. Complete the widening of 2-lane segments on SR-138 west of I-15 for safety purposes.
8. Complete widening of U.S. 395 for safety and operational purposes and as a significant north/south freight and recreational route connecting to the Tehachapi Mountains via SR-58 and to the eastern Sierra Mountains.
9. Implement policies and methods to increase work at home to decrease commute trips.

Strategic Approach for San Bernardino to Riverside Sub-Corridor

Problems to Be Addressed

- Large off-campus university student and employee populations that make daily commutes to and from schools, creating congestion at entry points to universities.
- Specific bottleneck locations: (southbound I-215 at Orange Show Road, southbound I-215 at SR-60 junction, northbound I-215 at merge with SR-60 on-ramps).
- Nationally significant freight corridor and large concentration of warehousing and logistics centers.
- Antiquated interchange designs.
- Large concentration of bike and pedestrian collisions in the Riverside and San Bernardino urban centers.
- Generally difficult environment for walking and cycling.
- Truck congestion and air quality challenges in San Bernardino and Riverside with convergence of rail lines and intermodal freight facilities.

San Bernardino to Riverside Sub-Corridor

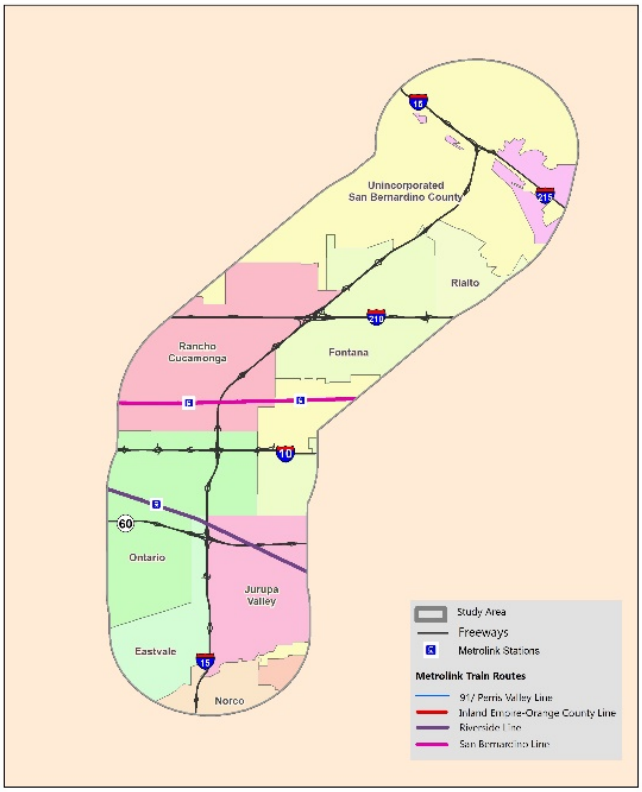
Strategies

1. Build on existing multimodal strategy to enhance rail, transit and shared-ride access to and from California State University San Bernardino (CSUSB) and UCR.
2. Coordinate express transit/rail service between San Bernardino and Riverside County cities.
3. Focus on north/south arterial operations and safety improvements for parallel facilities such as Riverside Avenue, Mt. Vernon Avenue, and Reche Canyon Road.
4. Complete Divergent Diamond Interchange (DDI) at the I-215/University Avenue interchange to accommodate continued CSUSB growth.
5. Make strategic operational improvements to and/or reconstruct interchanges on I-215 between SR-60 and Orange Show Road to address bottlenecks.
6. Implement managed-lane system on SR-91 in downtown Riverside.
7. Build on substantial existing transit assets (e.g., move forward with SCORE program on multiple Metrolink lines—increasing frequency and improving service).
8. Implement first/last mile transit connections (particularly from major destinations to Metrolink stations).
9. Work with South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (CARB) to provide incentives for accelerating turnover of the truck fleets.
10. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Cajon Pass to Eastvale Sub-Corridor

Problems to Be Addressed

- I-10/I-15 interchange is 12th on American Transportation Research Institute (ATRI)'s national list of the top 100 truck bottlenecks.
- Nationally significant freight corridor, with heavy congestion on I-15 between SR-60 and SR-210.
- Southern end of the corridor houses some of the largest and most intense logistics activities in the Nation, with attendant local traffic and environmental impacts.
- Lack of north/south transit service and need for improved transit service to Ontario International Airport.
- Large population and housing growth with a large number of master planned communities.



Cajon Pass to Eastvale Sub-Corridor

Strategies

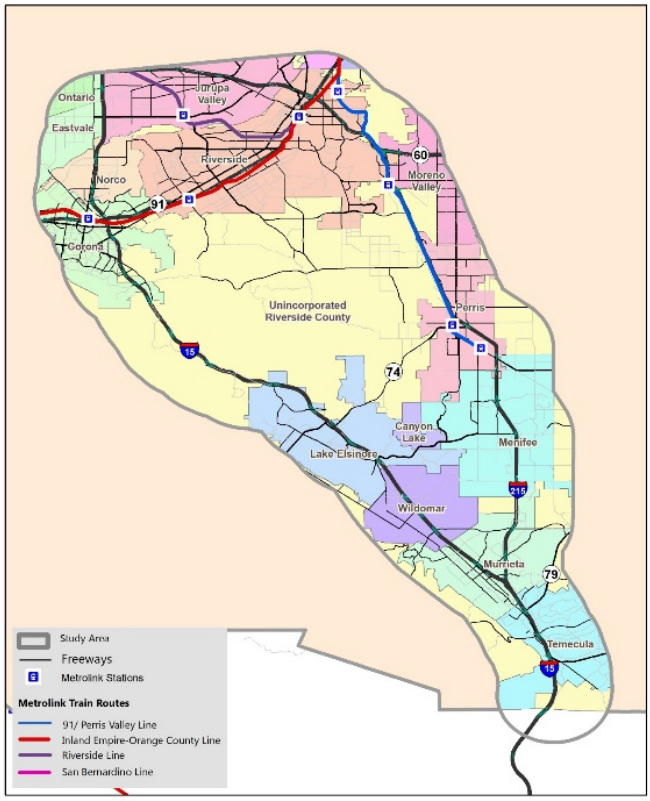
1. Implement managed-lane system on I-15, with toll discounts or exemptions for transit, vanpools, and 3+ carpools.
2. Complete the West Valley Connector BRT, Phase 1. The north/south portion parallels I-15 from Victoria Gardens to Rancho Cucamonga Metrolink Station, through Ontario employment centers, to Ontario International Airport (ONT). Integrate with potential new zero-emission tunnel connection from Metrolink San Bernardino Line to ONT.
3. Pursue the extension of Brightline West down the Cajon Pass to Rancho Cucamonga to provide an additional privately funded solution to peak hour and weekend congestion.
4. Coordinate operational strategies for managed lanes between Riverside and San Bernardino counties.
5. Grow vanpool and carpool formation from the High Desert to employment centers in the Valley, Riverside County, and greater LA Basin.

6. Implement “Healthy Communities and Healthy Economies Toolkit for Goods Movement” (given continued warehouse/distribution facility development).
7. Work with SCAQMD and CARB to provide incentives for accelerating turnover of truck fleets.
8. Implement San Sevaine Class I Trail System, running north/south along I-15.
9. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Riverside to Temecula Sub-Corridor

Problems to Be Addressed

- Significant and growing congestion in both directions at the I-215/SR-60 junction in Riverside.
- Significant and growing congestion at the I-15/I-215 merge/diverge in Temecula and on I-15 northbound and southbound in Corona.
- Congestion at critical interchanges on I-15 and I-215 (e.g., Newport Road, Railroad Canyon Road, SR-74, etc.).
- Lack of parallel facilities to I-15 and I-215 throughout the corridor (due largely to topography).
- Nationally significant freight corridor and large concentration of warehousing and logistics centers.



Riverside to Temecula Sub-Corridor

- Large amount of housing development concentrated along the corridor; exacerbating the job-housing imbalance.

Strategies

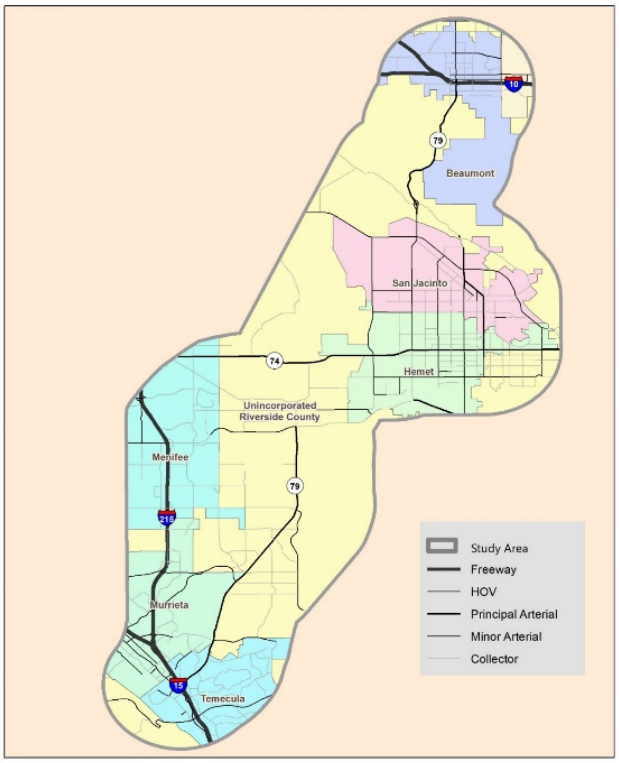
1. Extend the managed-lane system on I-15 southerly from Cajalco Road in Corona to SR-74 (Central Avenue) in Lake Elsinore (underway), with toll discounts for transit, vanpools, and 3+ carpools.
2. Continue commuter bus operations on I-15 and I-215 to Metrolink stations and continue express bus service utilizing managed lanes.
3. Make strategic operational improvements to and/or reconstruct interchanges on I-15 and I-215, such as Franklin Street and French Valley Parkway.
4. Improve the north/south arterial network along I-15 and I-215, where possible, to better accommodate local short-distance trips that are now occurring on the freeway system, such as Temescal Canyon Road.
5. Enhance marketing and incentives for ridership on the Perris Valley Line to Riverside.

6. Grow vanpool and carpool formation from southwest Riverside County to employment centers in Riverside, Corona, and San Bernardino County.
7. Deploy new technologies to proactively manage traffic and improve roadway conditions.
8. Build on substantial transit assets. Invest in Metrolink rail expansion for the 91/Perris Valley Line, construct accessibility improvements to existing 91/Perris Valley Metrolink stations.
9. Work with SCAQMD and CARB to provide incentives for accelerating turnover of truck fleets.
10. Invest in grade separation projects to improve goods movement efficiency and passenger rail movement.
11. Provide an additional east west regional arterial extending east from the City of Perris that will run parallel to SR-74, serving as an alternative route to better connect the cities within the region.
12. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Beaumont to Temecula Sub-corridor

Problems to Be Addressed

- Overall lack of north/south mobility, particularly in the Hemet/San Jacinto Area. Local traffic gets mixed with regional traffic.
- Major bottlenecks at the I-10/SR-79 interchange and the northbound I-15/SR-79 interchange.
- Lack of north/south transit service.
- Major tourism destinations result in travel at all times and on all days.



Beaumont to Temecula Sub-Corridor

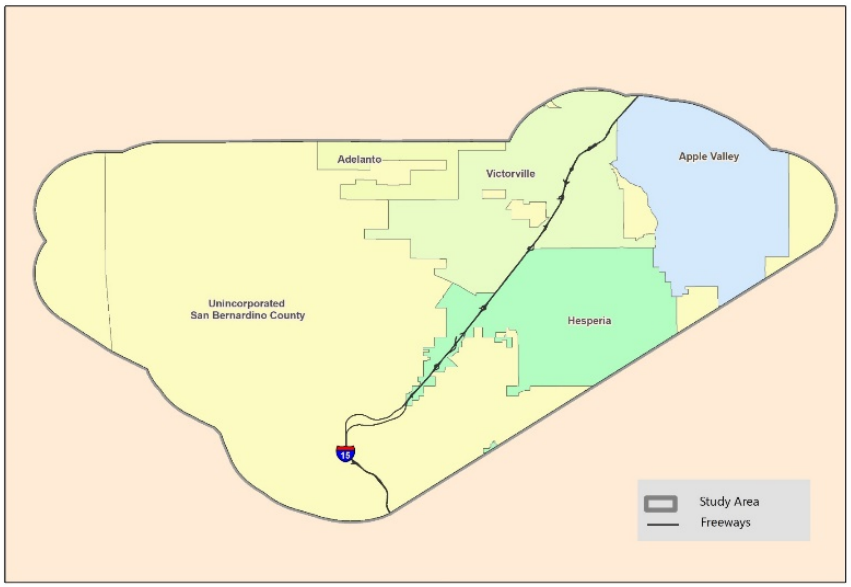
Strategies

1. Fund and implement the SR-79 realignment project.
2. Make operational improvements on existing north/south arterials from San Jacinto to Temecula.
3. Grow vanpool and carpool formation to reduce vehicle flows connecting Beaumont, San Jacinto, Hemet, and Temecula.
4. Examine ways to improve north/south transit connectivity.
5. Deploy new technologies to proactively manage traffic and improve roadway conditions.
6. Make strategic operational improvements to and/or reconstruct interchanges on the I-10/Highland Springs, I-215/Keller Road, and Garbani Road interchanges.
7. Investment in grade separation projects to improve goods movement efficiency.
8. Work with Tribal governments to facilitate employee commute options and explore funding opportunities for regional improvements.
9. Build on substantial transit assets. Invest in Metrolink rail expansion for the 91/Perris Valley Line, and construct accessibility improvements and station improvements at existing Metrolink stations. Additionally, support rapid bus services between Hemet to San Jacinto and Perris to Moreno Valley/Riverside.
10. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Apple Valley to LA County Line Sub-corridor

Problems to Be Addressed

- Lack of east/west connectivity between the High Desert and Antelope Valley.
- Lack of east/west connectivity within the High Desert, constrained by limited crossings of the Mojave River and the BNSF Railway rights-of-way.
- Congestion at arterial junctions with I-15 interchanges.



Apple Valley to LA County Line Sub-Corridor

0 2.5 5 10 Miles

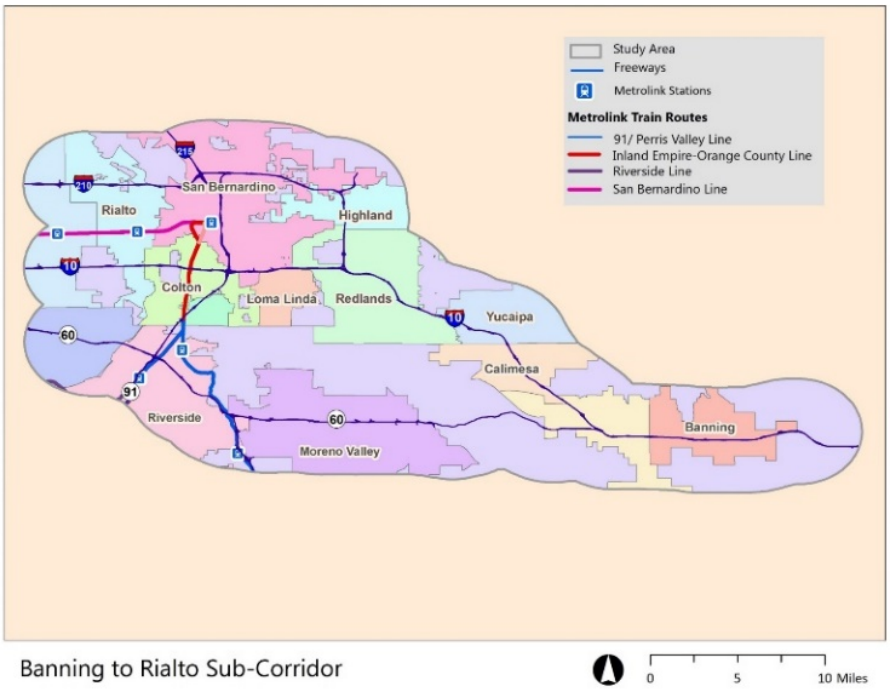
Strategies

1. Enhance east/west access by completing improvements in the Greentree Corridor, linking Apple Valley, Victorville, and I-15.
2. Work with Brightline West and the State to facilitate future High Speed Rail connection to the Antelope Valley Metrolink line.
3. Conduct necessary studies to improve the operations and safety of SR-18 from U.S.-395 to SR-138 and potentially program its widening.
4. Look for opportunities to fund the High Desert Corridor but recognize SR-18 widening as a partial solution to improve east/west mobility between the Antelope Valley and High Desert.
5. Fund and implement strategic I-15 interchange improvements as identified in the Measure I Strategic Plan.
6. Fund and implement other improvements identified in the Victor Valley portion of the SBCTA 10-Year Delivery Plan.
7. Continue growth of vanpool and carpool formation from the High Desert to employment centers in the San Bernardino Valley and Antelope Valley. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Banning to Rialto Sub-Corridor

Problems to Be Addressed

- Several significant bottlenecks on I-10: eastbound and westbound merge/diverge with I-215, eastbound merge with SR-210, eastbound upgrade in Yucaipa, and I-10/SR-60 junction.
- Significant and growing congestion in both directions at the I-215/SR-60 junction in Riverside and I-10/SR-60 junction in Beaumont due to population and housing increases.



Banning to Rialto Sub-Corridor

- Multiple congested interchanges: I-10/SR-79 interchange in Beaumont and interchanges on I-10 at Mountain View Avenue, California Street, Alabama Street, and University Avenue.
- Ongoing congestion on SR-210 westbound north of I-10 and eastbound at Highland Avenue.
- Nationally significant freight corridor and large concentration of warehousing and logistics centers.
- Metrolink San Bernardino line and Riverside line are well-used, but capacity limitations limit substantial additional growth.
- Cities with Metrolink stations would like to take advantage of those locations for transit-oriented development (TOD), but parcel assembly/development costs are high and train frequencies are not always conducive to the mid-day and bi-directional mobility needed to support TOD type uses.

Strategies

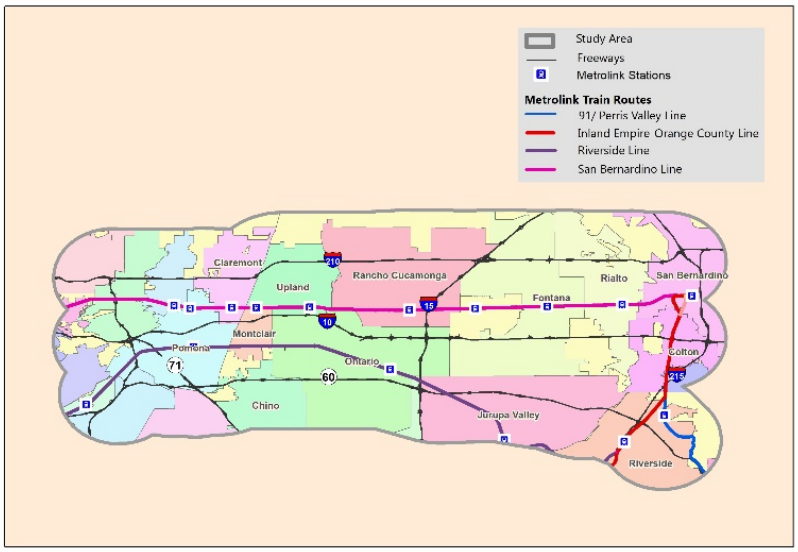
1. Construct Redlands Passenger Rail Project from University of Redlands to downtown San Bernardino, including use of zero-emission multiple unit (ZEMU) trainsets.
2. Implement managed lane systems on SR-60 from downtown Riverside to Moreno Valley and on I-10 from Redlands westerly.

3. Make strategic operational improvements to and/or reconstruct interchanges on SR-60/Potrero Blvd, SR-60/Gilman Springs Road, and I-10 interchanges at SR-79, County Line Road, University Avenue, Alabama Street, and California Street.
4. Implement I-10 Eastbound Truck Climbing Lane in Yuciapa, addressing one of the most serious freight bottlenecks in the Inland Empire.
5. Invest in grade separation projects to improve goods movement efficiency and passenger rail movement.
6. Accelerate truck fleet turnover for air quality improvement.
7. Implement “Healthy Communities and Healthy Economies Toolkit for Goods Movement” (given continued warehouse/distribution development).
8. Extend Sun Lakes Boulevard from Highland Home Road to Westward Avenue and Sunset avenue.
9. Build on substantial transit assets. Invest in Metrolink rail expansion for the IE/OC, San Bernardino, and Riverside lines as described in the SCRRA SCORE Program; construct accessibility improvements and station improvements to existing Metrolink stations.
10. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Riverside/Rialto to LA County Line Sub-Corridor

Problems to be Addressed

- I-10 and SR-60 are nationally significant freight corridors, with heavy congestion on I-10 between the LA County Line and Sierra Interchange and throughout SR-60.
- I-10/I-15 interchange is 12th on ATRI's national list of the top 100 truck bottlenecks.
- Metrolink stations represent some of the Inland Empire's best opportunities for TOD, but need to increase train frequency over time and make it easier for jurisdictions/developers to build on infill sites (limited capabilities since loss of redevelopment funding).



Riverside/Rialto to LA County Line Sub-Corridor

- Lack of good transit connection to Ontario International Airport.
- Major housing and population increases, especially in parts of the corridor south of SR-60 and north of SR-210.

Strategies

1. Build on substantial existing transit assets (e.g., move forward with SCORE program on the multiple Metrolink lines—increasing frequency and improving service on Riverside, San Bernardino, 91/Perris, and IE/OC lines).

   Build West Valley Connector BRT connecting Pomona, Montclair, Ontario, and Rancho Cucamonga, with significant destinations in each jurisdiction, including Ontario International Airport. Integrate with potential new zero-emission tunnel connection from Metrolink San Bernardino Line to ONT.

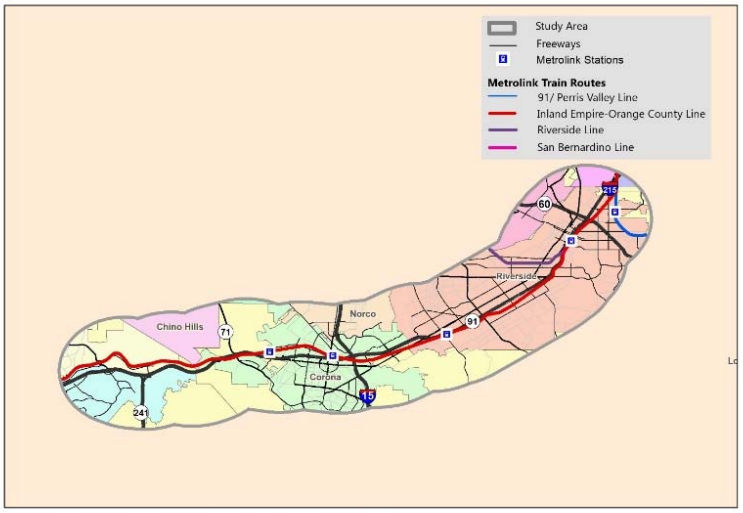
2. Implement first/last mile transit connections (particularly from major destinations to Metrolink stations).
3. Enhance freight access at freeway interchanges to improve first/last mile efficiency (list key interchanges for freight access).
4. Implement managed lane system on I-10 from LA County line to Ford Street; and SR-60 from I-15 to Moreno Valley.
5. Accelerate truck fleet turnover for air quality improvement.

6. Implement “Healthy Communities and Healthy Economies Toolkit for Goods Movement” (given continued warehouse/distribution development).
7. Encourage TOD and affordable housing at transit stations.
8. Implement “next-generation” shared-ride and virtual travel systems.
9. Build out regional active transportation network.
10. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Riverside to Orange County Line Sub-Corridor

Problems to Be Addressed

- SR-91 connects Riverside County to Orange and San Bernardino counties and results in one of the most congested freeways in Southern California. SR-91 is a nationally significant freight corridor that connects the Ports of Los Angeles and Long Beach to the vast array of warehousing and distribution centers in the Inland Empire. However, with heavy congestion along the corridor goods movement is significantly impacted.



Riverside to Orange County Line Sub-Corridor

- Lack of adequate alternate routes into Orange County; largely due to topography. SR-91 is the only route into Orange County from Riverside County and San Bernardino County. SR-60/57 is the highest capacity alternate, but is also highly congested. SR-74 provides a low-capacity highway alternative which is available to south Orange County.
- Job-housing imbalance; Riverside County provides more affordable housing options compared to Orange County and Los Angeles County, but less job opportunities.

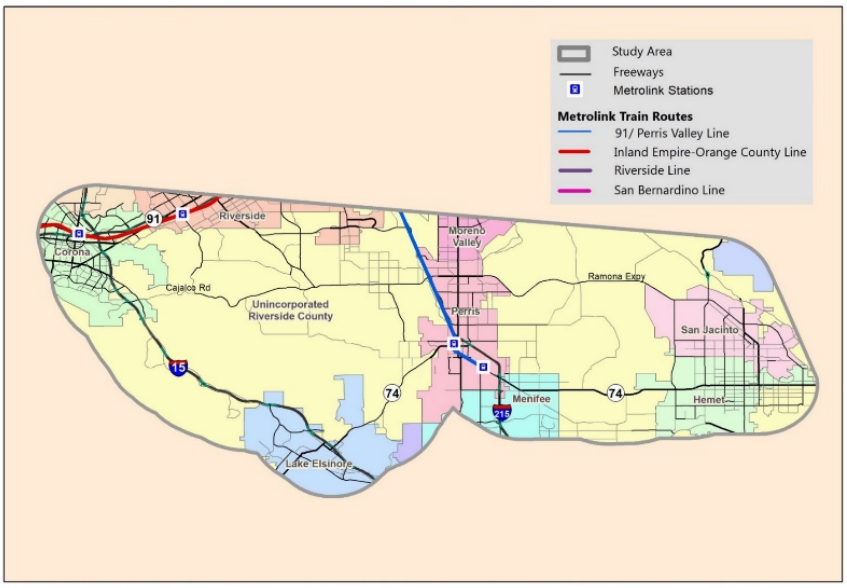
Strategies

1. Complete Santa Ana River trail.
2. Complete the SR-71/91 connector and SR-241/91 connector to facilitate commute and goods movement from Orange County to Riverside and San Bernardino counties.
3. Build on substantial transit assets. Invest in Metrolink rail expansion for the IE/OC line and construct accessibility improvements and station improvements to existing Metrolink stations.
4. Implement first/last mile transit connections (particularly from major destinations to Metrolink stations).
5. Continue multimodal investment into the managed lane system on SR-91; continue collaborating with OCTA on 91 Express Lanes.
6. Continue express bus service utilizing managed lanes for time and cost savings on shared rides.
7. Explore policies and methods to increase work at home to decrease commute trips.

Strategic Approach for Hemet to Corona Sub-Corridor

Problems to Be Addressed

- Lack of good east/west routes. No adequate east/west routes to connect communities.
- Need to preserve environmentally sensitive areas and habitats.
- SR-74 is an east-west principal arterial that transects the cities of Perris and Hemet. It functions as the cities' main street with a large concentration of local businesses and retailers but lacks adequate driveway access control, safe sidewalks and bike lanes, and traffic signals.
- High number of traffic incidents on east/west roadways.



Hemet to Corona Sub-Corridor

Strategies

1. Complete regional Salt Creek Trail
2. Complete Mid-County Parkway to provide an additional regional east/west corridor, minimize use of local roads, and shift traffic away from SR-74.
3. Build on substantial transit assets. Invest in Metrolink rail expansion for the 91/Perris Valley Line and construct accessibility improvements and station improvements at existing Metrolink stations.
4. Implement first/last mile transit connections, particularly from major destinations to Metrolink stations.
5. Complete SR-79 realignment; improve access to SR-74.
6. Extend I-15 Express Lanes to SR-74 with new express lanes to improve trip relaibility for commuters and transit riders and provide additional incentives for carpool and vanpoolers.
7. Explore policies and methods to increase work at home to decrease commute trips.

Recommended Project List

A total of 386 highway, arterial, transit, and goods movement projects are identified, plus an additional 936 bikeway projects were identified for inclusion in the IE CMCP. These projects were identified through review of existing plans and studies from Caltrans, SCAG, SBCTA, RCTC, WRCOG, and corridor cities. The project lists were compiled and shared with the Project Development Team to ensure projects were consistent with current local priorities and plans. The projects were then evaluated based on the evaluation framework and the goals and objectives of the IE CMCP developed by the Project Development Team and input from stakeholders early in the process. Projects included in the IE CMCP were qualitatively evaluated based on project type and how they would fulfill the objectives of the study and address the identified deficiencies in the transportation system based on key performance metrics, such as: decreasing VMT, reducing person delay, shifting mode share from single occupant auto, improving safety, increasing person throughput, improving accessibility, and improving air quality.

The recommended projects include the following modal categories and projects by type:

- Highway
  - HOV/HOT/Express Lanes - 42 projects
  - ITS/Operational Improvements – 13 projects
  - Auxiliary Lane – 5 projects
  - Capacity Enhancement – 21 projects
  - Interchange Enhancement – 74 projects
  - New Interchange – 17 projects
  - Rehabilitation and Safety Improvement – 64 projects
- Arterial
  - Corridor Improvements – 3 projects
  - Capacity Enhancement – 8 projects
  - Intersection Improvement – 1 project
  - Bridge and Grade Separation – 36 projects
- Goods Movement
  - Truck Climbing Lane – 8 projects
  - Bridge and Grade Separation – 2 projects

- Transit
  - New Bus – 28 projects
  - Bus Rapid Transit (BRT) – 11 projects
  - New Rail – 7 projects
  - New Rapid Transit – 4 projects
  - Bus Replacement/Transit Maintenance/Transit Operations – 17 projects
  - Transit Centers/Park and Ride/Bus Stations/Bus Stops – 12 projects
- Active Transportation
  - Bikeways Class I, II, II and IV – 935 projects

COVID-19 Considerations

The development of the IE CMCP began well before COVID-19 began to affect transportation and mobility in the Inland Empire, but the final report is published while the impacts of the pandemic are still unfolding The Project Development Team discussed this issue and determined that it was not feasible to change the analysis or findings of the report, but it is important to acknowledge that many elements of the Inland Empire transportation system have changed, including reduced automobile travel (fewer trips, lower VMT, less congestion), decreased transit ridership, increased local truck movements for deliveries, decreased use of ride-booking services, worsened safety, and other affects.

The long term changes to the transportation system are unknown, including when or if the level of auto travel or transit demand will return to pre-COVID conditions. The potential longer term effects could change the forecasted transportation system conditions and result in different priorities in the future for improvement projects. However, it is still too soon to determine what long term effects will occur, if any. Thus, this report is submitted based on our understanding of pre-COVID travel demand patterns with the understanding that future updates may need to account for changes to roadway travel demand, transit ridership, work at home, and other factors.

Next Steps

The IE CMCP identified opportunities to improve the mobility and sustainability of the five north/south and five east/west corridors. It established a framework and process for evaluating the current conditions and potential improvements to the corridor from a multimodal perspective. Local agencies and Caltrans can leverage this report, in collaboration with surrounding jurisdictions, to help identify and acquire funding for projects that will benefit the mobility for a wide variety of corridor users. The final report and supporting research results can also be used by the jurisdictions in the sub-region to support future transportation plans and to guide implementation of mobility improvements that are both multi-jurisdictional as well as multimodal. Finally, more detailed and focused analysis

of the recommended projects in the 10 sub-corridors can be conducted as part of the project development process and environmental review including technical studies and analysis that were not feasible for such a large study area. The resulting information would be used in future SB 1 SCCP applications as well as for other planning purposes.