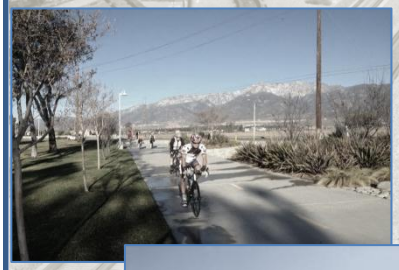
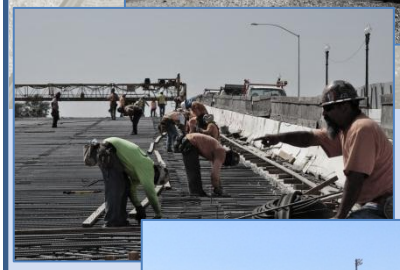
San Bernardino Countywide Transportation Plan: Interim 2021 Update (Draft)

Introduction and Executive Summary





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SBCTA Mission Statement

Our mission is to improve the quality of life and mobility in San Bernardino County. Safety is the cornerstone of all we do. We achieve this by:

- Making all transportation modes as efficient, economical, and environmentally responsible as possible.
- Envisioning the future, embracing emerging technology, and innovating to ensure our transportation options are successful and sustainable.
- Promoting collaboration among all levels of government.
- Optimizing our impact in regional, state, and federal policy and funding decisions.
- Using all revenue sources in the most responsible and transparent way.

SBCTA Member Jurisdictions

- City of Adelanto
- Town of Apple Valley
- City of Barstow
- City of Big Bear Lake
- City of Chino
- City of Chino Hills
- City of Colton
- City of Fontana
- City of Grand Terrace
- City of Hesperia
- City of Highland
- City of Loma Linda
- City of Montclair
- City of Needles
- City of Ontario
- City of Rancho Cucamonga
- City of Redlands
- City of Rialto
- City of San Bernardino
- County of San Bernardino
- City of Twentynine Palms
- City of Upland
- City of Victorville
- City of Yucaipa
- Town of Yucca Valley

Introduction and Executive Summary

The transportation landscape is changing. As we look back over the trends and accomplishments of the last 30 years, we see a gradual shift at the state and regional level from a principal focus on mobility and congestion relief to a principal focus on sustainability. Sustainability has certainly not been ignored in prior decades, and the need for congestion relief remains in the decades to come, but clearly the emphasis has shifted.

This shift is a significant consideration in how San Bernardino County plans its transportation system going forward. The purpose of this 2021 update of the Countywide Transportation Plan (CTP) is to lay out a strategy for long term investment in and management of San Bernardino County's regional transportation assets. It is an "interim update," to be followed with a major update in 2022. Before describing the strategy, however, it is important to understand some of the history of multimodal travel in San Bernardino County and how these changes in emphasis set the stage for a number of challenging issues that need to be addressed in the CTP. This combined Introduction and Executive Summary, tells a three-part story of San Bernardino County transportation: where we have been, where we are now, and where we are going.

Where We Have Been – A Brief Transportation History of San Bernardino County

The land we call San Bernardino County has served as an important gateway to America for almost 200 years. The Cajon Pass from the north and the San Gorgonio Pass (also known as the Banning Pass) from the east were logical locations for the establishment of transnational routes into and out of the Southern California region in the 1800s.

"This Introduction and Executive Summary tells a three-part story of San Bernardino County Transportation: where we have been, where we are now, and where we are going."

In 1829, traders opened a route between Los Angeles and Santa Fe via the Cajon Pass, providing a vital economic link between the two Mexican cities of that day. The trade route was later used by the American adventurer John C. Frémont and his guide, Kit Carson, who named the corridor the Old Spanish Trail and advertised it as a link between the coast and the interior of the new American West. This later became known as part of the National Old Trails Road, which was designated Route 66 in 1926. After coming down Cajon Pass, Route 66 generally followed the alignment of today's Interstate 215 to downtown San Bernardino and then turned due west toward Los Angeles and Santa Monica. Route 66 and U.S. 395 at one time merged in Hesperia and diverged in San Bernardino as U.S. 395 headed south toward San Diego. Interstate 15 (the Mojave Freeway) was built over the Cajon Summit in 1969 and together with Interstate 40 is now one of the primary freight corridors to and from the Midwest.

The California Southern Railroad, a subsidiary of the Atchison, Topeka and Santa Fe Railway (ATSF), built the first rail line to use the Cajon Pass as a route through the mountains. The line was built in the early 1880s as part of a connection between the present day cities of Barstow and San Diego. The Southern Pacific Railroad Company built its own track, known as the Palmdale-Colton Cutoff, through the pass in 1966/1967. The merger of Burlington Northern and ATSF in 1996 has come to be known today as BNSF. In terms of the eastern gateway, the first stagecoach line came through the Banning Pass in 1862. The pass is named for Phineas Banning, stagecoach line owner, founder of Wilmington, and known as the

"Father of Los Angeles Harbor." The east-west U.S. Route 99 was built in 1923, generally following the path of today's Interstate 10. A four-mile section of I-10 was built in Los Angeles in 1935, with construction extending easterly over the next 20 years, ultimately being designated as part of the Federal Interstate System in the late 1950s. The junction of the I-10 and I-15 freeways, located immediately north and east of Ontario International Airport, is now estimated to carry over 50% of the interstate trucking coming into and out of Southern California.

The Southern Pacific railroad was built through the Banning pass in the late 1870s, eventually purchased by the Union Pacific Corporation (UP) in 1998. The intersection of these two "Class 1" railroads (BNSF and UP) came to be affectionately known as "Colton Crossing," originally constructed in 1883 and grade separated through a public-private initiative in 2013.

These two crossroads of truck and rail traffic flows (I-10/I-15 junction and Colton Crossing) are among the busiest in the nation, continuing San Bernardino County's legacy as a gateway to America, even to this day. And together with our proximity to the Ports of Los Angeles and Long Beach, the largest port complex in the United States, this explains why transportation has been such a factor in San Bernardino County's population growth and business success.

Transit has been a part of this history as well. Electric trolleys first appeared in Los Angeles in 1887. In 1895 the Pasadena & Pacific Railway was created from a merger of the Pasadena and Los Angeles Railway and the Los Angeles Pacific Railway (to Santa Monica.) The Pasadena & Pacific Railway boosted Southern California tourism, living up to its motto "from the mountains to the sea."

The Pacific Electric Railway was created in 1901 by railroad executive Henry E. Huntington and banker Isaias W. Hellman. In May 1901, Hellman wrote Huntington that "the time is at hand when we should commence building suburban railroads out of the city." On June 6, 1903, Huntington created the Los Angeles Inter-Urban Railway, with plans to extend lines to Santa Ana, Newport Beach, the San Fernando Valley, Redlands, and Riverside, with branches to Colton and San Bernardino. In what was called the "Great Merger" of September 1, 1911, the Southern Pacific created a new Pacific Electric Railway Company, with all electrical operations under the Pacific Electric (PE) name. The constituent railroads were:

- The original "old" PE owned by Huntington
- The Los Angeles Inter-Urban Railway
- The Los Angeles Pacific Railway
- The Los Angeles and Redondo Railway
- The San Bernardino Valley Traction Company
- The San Bernardino Interurban
- The Redlands Central
- The Riverside and Arlington

Following these acquisitions, PE operated what were called "the Red Cars," and was the largest operator of interurban electric railway passenger service in the world, with 2,160 daily trains and over 1,000 miles of track. PE operated frequent freight trains under electric power throughout its service area (as far as 65 miles) to Redlands, including operating electrically powered Railway Post Office routes, one of the few U.S. interurbans to do so. The PE was also responsible for an innovation in grade crossing safety: the automatic electromechanical grade crossing signal, nicknamed "the wigwag." This device was quickly adopted by other railroads. A few wigwags continued in operation until 2006.

The nation's last interurban Railroad Post Office (RPO) service was operated by PE on its San Bernardino Line. This was inaugurated comparatively late, on September 2, 1947. It left LA's new Union Station interurban yard on the west side of the terminal, turned north onto Alameda Street at 12:45 pm and reached San Bernardino at 4:40 pm, taking three hours for the trip while making postal stops en route as required. This last RPO ceased operation on May 6, 1950. The Pacific Electric Trail, one of the premier Class I bicycle and pedestrian trails in southern California, implemented in segments over the last 20 years, now serves inland residents where the Red Cars once flowed. (Note: most of the Pacific Electric transit history was distilled from a Wikipedia article, which can be referenced at: Pacific Electric - Wikipedia.)

While AMTRAK has provided inter-regional passenger rail service since its formation in 1971, it was not until October, 1992 that urban passenger rail service was re-introduced in southern California. The San Bernardino Metrolink Line, from the Santa Fe Depot in San Bernardino to Union Station, was one of the first three lines to begin operation. Metrolink now boasts over 500 miles of passenger rail service throughout southern California.

Where We Are Now

Demographics and Travel Behavior

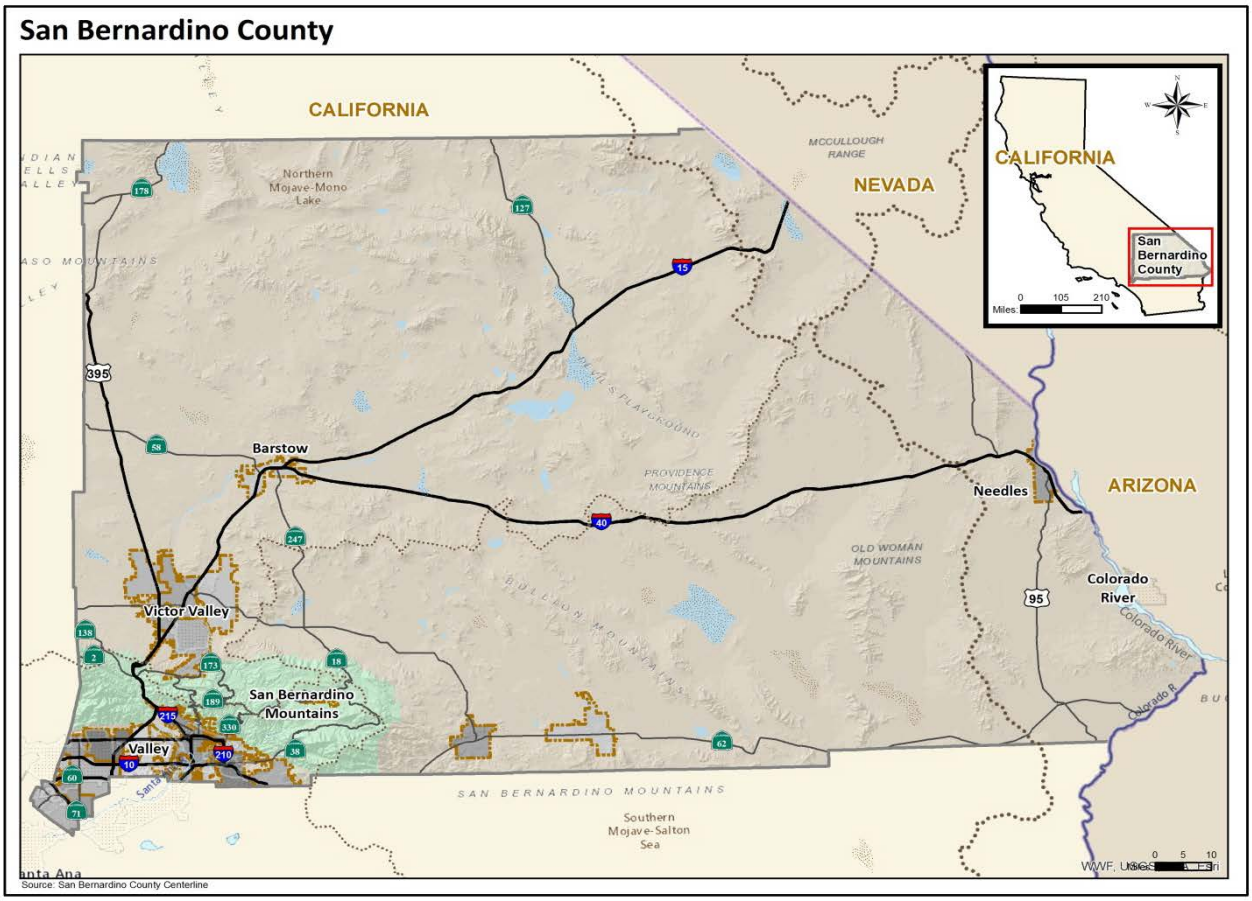
San Bernardino County is a large and diverse county, both geographically and demographically. It is the largest county by land area within the continental United States, and at 20,000 square miles, as large as the other five counties in the Southern California Association of Governments (SCAG) region combined (Imperial, Los Angeles, Orange, Riverside, and Ventura). See Figure ES-1. Some 2.2 million people live here, about 78 percent of whom reside in the San Bernardino Valley, immediately east of Los Angeles County and north of Riverside County. The San Gabriel and San Bernardino Mountains lie immediately north of the Valley, boasting ample recreational opportunities and active mountain communities. The Victor Valley and Morongo Valley are immediately north and east of the mountains, with their own unique living, business, and recreational opportunities. Employment in the county has grown steadily, from 540,000 jobs in 2000 to over 800,000 today. Although San Bernardino County is generally considered to be a mix of suburban and rural, the Valley is steadily densifying. And although the unfamiliar observer may see warehouses and logistics facilities dominating some of the landscape, significant activity centers and transit corridors have also emerged.

In terms of commuting characteristics, 20.4 percent of residents take a mode other than single occupant vehicle (SOV) to work. Data from the American Community Survey (ACS – 2015-2019 five-year sample) show the following commuting statistics for all of San Bernardino County:

- Drove alone – 79.6%
- Carpooled – 11.0%

- Public transportation (excluding taxi) – 1.4%
- Walked – 1.5%
- Other means – 1.3%
- Worked at home – 5.2%

Figure ES-1. Map of San Bernardino County



Most of the commute trips by San Bernardino County residents are internal to the county, but almost 16 percent are to LA County, as shown below (place of work for SB County residents):

- Los Angeles County – 15.8%
- Orange County – 4.4%
- Riverside County – 8.1%
- San Bernardino County – 71.1%
- San Diego County – 0.3%
- Ventura County – 0.1%

Almost 78 percent of the jobs in San Bernardino County are filled by San Bernardino County residents, but 12 percent are filled by Riverside County residents, as shown below (County of residence for SB County jobs):

- Los Angeles County – 7.8%
- Orange County – 1.7%
- Riverside County – 12.3%
- San Bernardino County – 77.8%
- San Diego County – 0.2%
- Ventura County – 0.1%

The Transit System

A well-known telecommunications company had as its tag line "it's the network." The same is true in the transportation world, and "building the network" is a cornerstone of our multimodal vision. While transit service is provided in all the incorporated areas of San Bernardino County, the primary concentration of transit activity is in the most densely populated area: the San Bernardino Valley, served by Omnitrans. The Victor Valley Transit Authority (VVTA) provides fixed-route and demand-responsive bus service for that area plus Barstow, and also has one of the most robust vanpool operations in the state. Other services include the Morongo Basin Transit Authority (MBTA), Mountain Area Regional Transit Authority (Mountain Transit), and Needles Area Transit (NAT). Each of these agencies is being creative in how they approach serving the respective needs of their communities, often with limited resources.

In the Valley subregion of San Bernardino County, multimodal transportation initiatives are coming together in an unprecedented way. SBCTA has been collaborating with our state and local partners on various aspects of this multimodal vision for several years. But progress has recently accelerated, even during the COVID-19 pandemic, and SBCTA envisions all of these initiatives being operational within the next 2-5 years, ready to serve industry and the traveling public as we emerge from the pandemic. While the focus of these activities is primarily in the West Valley, this overview explains how the initiatives also include the East Valley and connect to the Victor Valley as well, and describes how they will benefit the Southern California region as a whole. It is a multimodal vision in the sense that it incorporates strategies for increasing transit, shared-rides, and active transportation, as well as promoting the efficient movement of goods. This summary highlights some foundational transit improvements that have been at the planning and project development stage in recent years, as well as two ground-breaking advanced technology transit ventures that have been initiated just in 2020. While most of the data presented in the CTP are pre-pandemic, the significant impacts of the pandemic on transit ridership is acknowledged, and the next major update to the CTP will incorporate more analysis of those impacts and an assessment of what that means for transit services going forward.

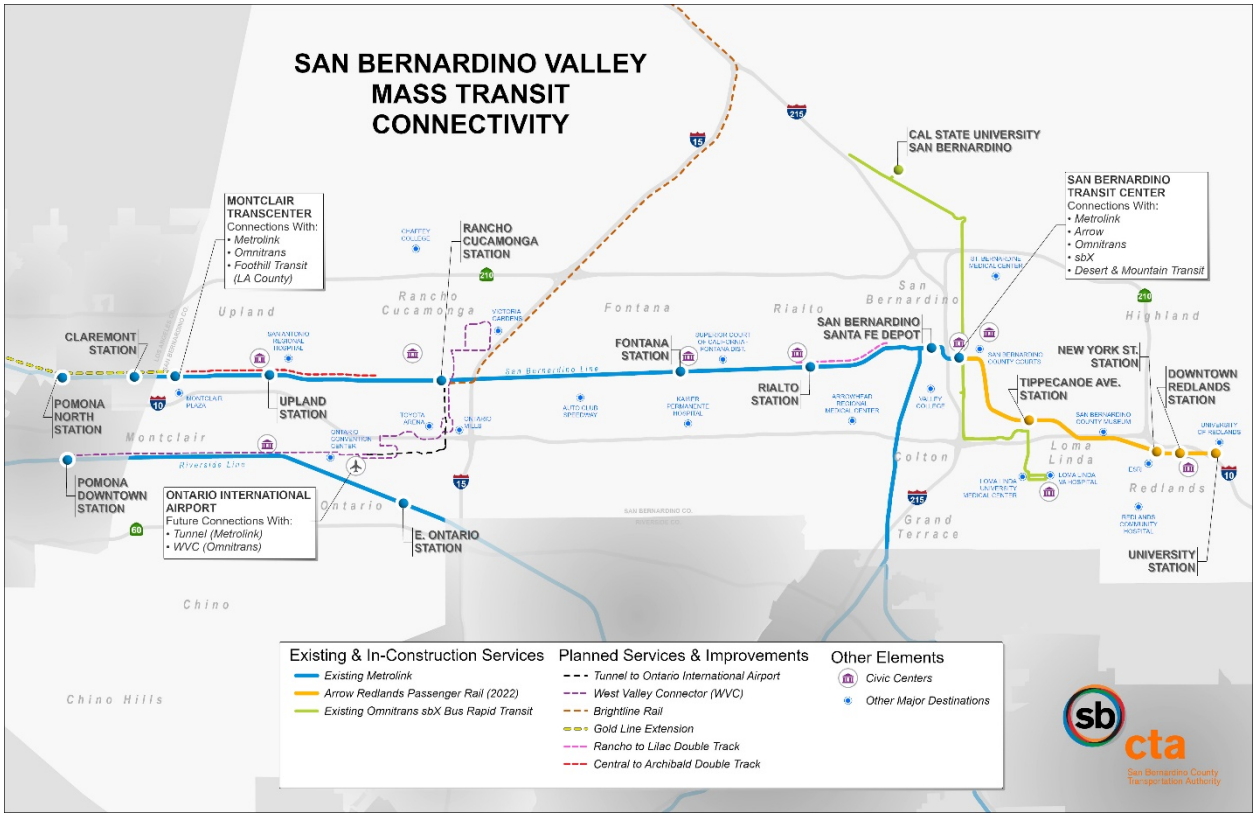
"Multimodal transportation initiatives are coming together in the Valley subregion of San Bernardino County in an unprecedented way."

These advances in transit are accompanied by progress in building a system of multimodal managed lanes and auxiliary lanes on Interstates 10 and 15 as part of a planned region-wide managed lane system launched in 2012 with the adoption of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) by SCAG. From the standpoint of the travelers, these are understood as "express lanes," but from the standpoint of the agencies, they represent a strategy of transportation facility

management that was not possible before. Highlights of these initiatives are provided in the bullet points below, followed by a section on the overall vision. Projects can be identified in Figure ES-2.

- **New "Arrow" Passenger Rail from Redlands to San Bernardino** - The Redlands Passenger Rail Project is an innovative nine-mile, 5-station, regional rail project that provides additional transportation choices through the introduction of a new rail service, known as The Arrow. This system uses self-powered, low-emission trainsets, with revenue service beginning in 2022. Then by 2024, a first-in-the-nation hydrogen-powered trainset will come on-line.
- The 19-mile **Zero-Emission West Valley Connector Bus Rapid Transit (BRT) project** is fully funded and will be operational by 2024. It connects four cities (Pomona, Montclair, Ontario, and Rancho Cucamonga), Ontario International Airport (ONT), and two different Metrolink lines (Riverside and San Bernardino lines), with dedicated lanes for BRT on Holt Boulevard in Ontario.
- **Upgrades in Metrolink Service on the San Bernardino Line** - Metrolink is evaluating scenarios to add significant train service on the Metrolink San Bernardino Line (SBL) within four to seven years, as part of a regional expansion plan. Not only would this facilitate improved access to ONT, but it will allow cities along the line in the San Bernardino and San Gabriel Valleys to better encourage transit-oriented development. This is an investment in the future of all these cities. This increase in Metrolink service will then match the frequencies of Arrow service from downtown San Bernardino to Redlands. All new Metrolink locomotives are also upgrading to a low-emission Tier 4 standard.

Figure ES-2. Overview Map of the Emerging Transit Connectivity "Vision" in the San Bernardino Valley



- **Tunnel for Autonomous Vehicles Connecting Metrolink to ONT** - A tunnel connection for zero-emission self-driving vehicles is in the project development stage, linking the Rancho Cucamonga Metrolink station and Ontario International Airport. This will open up new transit accessibility to ONT from LA and San Bernardino County by 2025. This innovative tunnel approach, similar to one initiating operation in Las Vegas, will allow the ONT connection to occur years in advance of and at a dramatically lower cost than would have been possible with conventional rail technology. A phase-in period using human drivers will likely be considered.
- **Brightline West from Rancho Cucamonga to Las Vegas** – A 100% privately-funded zero-emission high speed train service to and from Las Vegas is proceeding toward implementation. Brightline West (which currently runs passenger rail service between Fort Lauderdale and Miami) is planning to fund this multi-billion dollar project to initiate service between the Victor Valley and Las Vegas, and is negotiating with Caltrans and SBCTA to extend the line down the Cajon Pass to the Metrolink station in Rancho Cucamonga. This will reduce congestion on I-15 and open up a new opportunity for zero-emission transit travel to/from the LA Basin from/to Las Vegas.
- **San Bernardino County Components of the SCAG Regional Managed Lane System and Targeted Improvements to Freight Bottlenecks**
    - The first segment of SBCTA's **I-10 Multimodal Corridor** is under construction between the LA County Line and I-15. It includes new high-occupancy toll (HOT) lanes that will also give priority to transit, 3+ carpools, and clean air vehicles. New auxiliary lanes will improve truck and auto flows and enhance safety for merging and weaving movements. It is part of the emerging regional managed lane system that, enabled by advanced technology, also includes express lanes in Los Angeles, Orange, and Riverside Counties. It is part of what is becoming a truly managed system for both people and goods, with priority for transit and shared-ride modes.

    > ***"It is part of what is becoming a truly managed system for both people and goods, with priority for transit and shared-ride modes."***

    - **I-15 Freight Improvement Project (Auxiliary Lanes and Express Lanes) from SR-60 to Foothill Boulevard** – This project is now fully funded and will be operational by 2026. It adds auxiliary lanes in three strategic locations and extends the I-15 express lanes now being completed in Riverside County. Like I-10, this will improve flows for both trucks and cars, and give priority to HOVs in this highly congested segment. It will greatly improve merging to and from the I-10/I-15 interchange, now designated as the 10th most critical truck bottleneck in the U.S. by the American Transportation Research Institute.
- **Transportation Demand Management (TDM), Active Transportation, and First/Last Mile Initiatives** – An important part of the multimodal system SBCTA is building involves shared-ride options promoting carpool formation and vanpooling. Some 11 percent of San Bernardino County residents take shared rides to work. SBCTA is also making it easier to get to/from transit stations and stops through first/last mile solutions. Transit cannot be provided for every origin and destination combination , so it becomes important to provide easy access to transit lines as a way to extend transit's reach as well as to provide safer routes to neighborhood schools. SBCTA and our local partners are investing over $60 million over a five-year period to upgrade bicycle and pedestrian linkages to Metrolink stations, bus stops, schools, work centers, and other points of interest in the San Bernardino Valley.

These are unprecedented investments in multimodal transportation for our area. That these advances are occurring in San Bernardino County might seem surprising to some, but when one considers San Bernardino County's history, it should not be surprising at all. Our county has long served as a gateway to the nation from Southern California, driven by our geography as well as the pioneering spirit of our residents and businesses. It is also important to note that these investments are connected to the extensive regional Southern California transit network, as illustrated in Exhibit 3.1 of the SCAG 2020 RTP/SCS (access Connect SoCal at: Read the Plan Adopted Final Plan - Southern California Association of Governments).

The Highway System

The highway and rail network originally formed the backbone of San Bernardino County's transportation system and has accommodated the County's growth and development. Figure ES-1 illustrated the layout of the highway system. Due to geographic features – the county line with Riverside on the south and the San Bernardino Mountains to the north - much of the highway network in the San Bernardino Valley is oriented east-west, with some key north-south connectors (I-15, I-215, and SR-71). Interstates 10, 15, and 40 are the primary highway-related gateways to the nation, as previously discussed, passing through the critical Cajon Pass segment, through the Victor Valley, and North Desert subareas.

SBCTA is responsible for the programming of state and federal funds for the urbanized portions of San Bernardino County, with the state being responsible for programming outside those areas. The Measure I half-cent sales tax, approved by over 80% of the voters in 2004, is a primary source of transportation revenue for freeways, interchanges, and arterials throughout the County. The SBCTA 10-Year Delivery Plan highlights the primary projects moving forward in the near term (see http://www.gosbcta.com/plans-projects/funding/MeasureI/2019-10-year-All-final.pdf).

Even with significant emphasis on alternate modes of travel, continuing improvements to the highway network are needed for both local circulation and accommodating the major flows of commerce within and through San Bernardino County. Investments in environmental protection and improvements in quality of life are enabled by a thriving economy, and highway improvements are key to allowing business to thrive and create the jobs to give San Bernardino County individuals and families the opportunities they desire. This multimodal approach is a "win-win" for San Bernardino County residents and employers, as well as for the natural environment that both residents and visitors have come to enjoy.

Shared-Ride Systems

While SBCTA is building the transit network, it is recognized that origins and destinations in San Bernardino County are highly dispersed and that the default choice for the large majority of commuters is the single occupant auto. Shared-ride systems (carpools and vanpools) represent an ideal Transportation Demand Management (TDM) strategy for this type of environment – commuters organizing together to get themselves to specific geographic destinations on defined schedules. With the right strategy, carpools and vanpools can be fast, efficient, and cost-effective alternatives to single occupant vehicles (SOVs), particularly in areas where transit service is not available to make those connections.

While SBCTA has had a robust ridesharing program over the years, via the IE Commuter partnership with RCTC, much more is now possible in terms of ride-matching technology and shared-ride support systems. In addition, SBCTA and the Victor Valley Transit Authority operate vanpool programs, providing monthly incentives for almost 250 active vanpools each day. Shared-ride strategies have allowed San Bernardino County to have one of the highest carpooling rates in the region, at 11 percent for commute trips to work, and there is significant upside potential. While there are limits to the percentage of commuters that may have the flexibility to carpool or vanpool, aggressively pursuing this potential market is key to the county's multimodal future. SBCTA is looking at how technology and innovation might be leveraged to capture more of this market.

Work At Home and Virtual Travel Services

As indicated earlier, over 5% of working county residents were able to work at home, pre-pandemic. This has no doubt increased as a result of COVID-19 and the much more widespread use of virtual meeting technology. While working at home is not possible in substantial numbers for many jobs (e.g. logistics, agricultural, retail/food industry, construction, and medical), it represents a potential that cannot be ignored. Added to this is the possibility of remote services, with broad potential in many fields: banking, virtual service desks for public agencies, virtual doctor visits, etc. These could be some of the most powerful VMT reduction strategies in our transportation tool box. SBCTA and RCTC launched a new telework initiative in July 2020 as part of IE Commuter as a way to capitalize on the changing views on telework and the new technology tools. One might say that telework is the ultimate in working close to home, whether on a part-time or full-time basis, and in a sense it has improved the job/housing balance of the Inland Empire almost overnight. While the pandemic has been a tragic event, it has spurred more innovations in transportation that are directly germane and beneficial to San Bernardino County. And it has opened up new opportunities for outlying mountain/desert communities to attract additional workers who are able to invest in their local areas.

Active Transportation and "Other Modes"

While the walking and cycling percentage of work trips hovers in the 2 percent range, active transportation can be an important first/last mile linkage for both transit and shared-ride systems. The market for walk/bike-to-work as a primary mode may be limited, but in effect, every transit trip has a walk or bike connection at one or both ends. This is why active transportation facilities near transit stations and stops are an important part of building "the network." That said, SBCTA and our partner agencies have secured over $60 million in State Active Transportation Program (ATP) grants to continue building core bicycle/pedestrian and Safe-Routes-to-School (SRTS) facilities. These serve not only commuters and students, but utilitarian and recreational cyclists as well. "Other modes" could include taxis and Transportation Network Companies (TNCs, such as Uber/Lyft) or electric scooters. All of these options can serve as an overall strategy for encouraging the use of transit (through first/last mile connections) or for making short trips.

Where We Are Going – A Summary of the Transportation Vision

The combination of geographic location, relationship to the ports, and world-class transportation infrastructure continue to provide San Bernardino County with economic opportunities into the future. But these opportunities must be managed well and transportation challenges must be addressed if the county is to continue to benefit from its ongoing strategic locational advantages. SBCTA's vision for the

future is multimodal in nature, and integrated with the development opportunities and sustainability initiatives of the 25 jurisdictions we serve. We envision an increasingly connected system for both people and goods, recognizing our role as a regional player in a large Southern California economy.

This vision and the strategies behind it are consistent with the goals of the SCAG 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS – branded "Connect SoCal") as well as the goals of the California Transportation Plan 2050, which include:

- SAFETY: Provide a safe and secure transportation system
- CLIMATE: Achieve statewide GHG emission reduction targets and increase resilience to climate change
- EQUITY: Eliminate transportation burdens for low-income communities, communities of color, people with disabilities, and other disadvantaged groups
- ACCESSIBILITY: Improve multimodal mobility and access to destinations for all users
- QUALITY OF LIFE & PUBLIC HEALTH: Enable vibrant, healthy communities
- ENVIRONMENT: Enhance environmental health and reduce negative transportation impacts
- ECONOMY: Support a vibrant, resilient economy
- INFRASTRUCTURE: Maintain a high-quality, resilient transportation system
- PARTNERSHIPS: Support partnerships with and connections to small businesses and non-profit organiations

As we move forward, we are incorporating sustainability into virtually every aspect of our transportation programs. We will describe our sustainability initiatives in greater detail later, but they include specific approaches to reducing greenhouse gases, criteria pollutants, and vehicle miles travelled (VMT). Our initiatives cover climate resilience, air quality, health, habitat conservation, land use, the transit network, and transportation demand management.

"As we move forward, we are incorporating sustainability into virtually every aspect of our transportation program."

The purpose of this 2021 Countywide Transportation Plan is to lay out a strategy for long term investment in and management of San Bernardino County's regional transportation assets, integrated with our county's sustainability initiatives that respond to federal, state, and regional goals. Although our focus is on San Bernardino County, we do not operate in a vacuum, and are committed to working with all levels of government to implement an efficient and cost-effective transportation system in an environmentally and socially responsible manner.

The vision not only addresses multimodal mobility, but in so doing, also addresses the overall state goals of trip and VMT reduction, emissions and GHG reduction, and moving toward more transit-oriented land use, directly supporting the goals of the AB 32 Scoping Plan, SB 32 GHG reduction goals, SB 743 VMT reduction goals, and Caltrans' Climate Action Plan for Transportation Infrastructure (CAPTI). "The network" that SBCTA and its partners are building is not an isolated one, but one that is connected to the greater regional network and sister counties of Los Angeles, Orange, and Riverside. In so doing, these investments will benefit the region, not just San Bernardino County.

The strategies, services and programs in which SBCTA and our local and state partners are already heavily investing are representative of an overall vision for where we are going, together with our transit agency and local partners. Core elements of this vision can be summarized in the following bullet points:

- **Build on "the network."** Continue building and improving "the network," focusing on origin-to-destination connectivity with efficient first/last mile connections. This is the core of a customer-focused and technology enabled vision for the future.
- **Focus on the traveling customer.** Tailor the modes, support strategies, and marketing to the needs of the customers being served. Where investments have been made in passenger rail and high-capacity bus transit, focus marketing and operational improvements on those corridors, avoiding competing services where possible. The local bus and first/last mile investments should feed these core transit lines, where practical.
- **Encourage transit-oriented development (TOD).** Work with local agencies and the private sector to encourage transit-oriented development in transit station areas, and incentivize TOD development where practical, in partnership with local governments. To the extent that TOD can be stimulated, this will be a win-win for the locality, in terms of trip reduction, and for the transit provider in terms of maximizing the return on the transit investment.
- **Invest in technology.** Invest thoughtfully and carefully in technology, with an ultimate goal of a fully integrated system in which customers can assess trip options for transit, shared-ride, and active transportation modes, including first/last mile connections. This would include customer-focused information on mode, schedule, fare, and origin-destination connectivity, as well as options for "virtual travel," as discussed earlier. Progress on this may come in stages, but should be guided by a master plan for San Bernardino County that is compatible with or interfaces with technology being adopted at the regional level.
- **Coordinate and collaborate.** Coordinate activities and initiatives across SBCTA departments and with transit and mobility partners to achieve this vision. A Mobility Manager has been appointed within SBCTA to encourage progress along all these fronts, both internally and with our transit and mobility partners. The Mobility Manager will serve as a clearinghouse for information, coordinate activities, and monitor progress toward our goals, recognizing the autonomy of each agency to implement its own vision, consistent with its mission and with the overall multimodal vision for San Bernardino County. Project planning, grant applications, project development, capital project implementation, marketing, evaluation, and operational actions will be coordinated across agencies to take advantage of economies of scale and to encourage the agencies to speak with consistent voices as we seek to serve our customers and acquire resources for implementation and operations. The traveling customer is not so concerned with who provides the service as they are with how the service addresses their needs.
- **Support quality of life, health, sustainability, and equity.** Work with San Bernardino County residents and businesses to ensure that the transportation investments are paying dividends in terms of quality of life, air quality, health, environmental sustainability, and equitable access to services. Though the County is very different from Los Angeles in terms of the market for TOD and the potential for transit use, a transportation strategy that is tailored to the characteristics and needs of San Bernardino County can contribute to achieving statewide goals in proportion to our ability. This includes investments in zero and near-zero emission vehicle and fuels technology, which is likely to represent the most direct and cost-effective path to the county's contribution toward the reduction of GHGs and NOx emissions. Future quiet zones along Metrolink corridors are envisioned, but are not fundable with existing revenue sources.

- **Evaluate programs and services** – Some programs and services may prove to be effective, while others may not. Periodic evaluation and re-thinking of transit and shared-ride investments is warranted to find out what is working, what should be improved or expanded, and what should possibly be eliminated. The Short Range Transit Plans are opportunities to do this for transit modes, but the assessment must go beyond that, to cover shared-ride, active transportation, and virtual travel options.

But before we get too carried away on the vision, let's do a reality check. Our customers are smart and pragmatic – making a trip using something other than the car must provide them with a tangible benefit, and the automobile remains the convenient mode of choice for most trips. They will not ride a train or bus just because we announce that new service has arrived.

As with any customer in the commercial market, small things matter, and loyalty must be earned. Competing with the auto in the marketplace of trip-making will require strategic and customer-focused thinking for how to get them from specific origins to specific destinations, not merely how to ride a route. This might require diverging from the strategies of the past. On top of that, the resources available for transit and shared-ride services are limited, and must be invested carefully and wisely to compete effectively in this market.

Transportation Legislation and Funding in the Last 30 Years – A Brief History

The emphasis on mobility and congestion relief in California can be seen in legislation dating back to the mid-1980s, when the state legislature began authorizing sales taxes for transportation projects in individual counties. Under this legislation, counties and cities could cooperatively establish new "transportation authorities" to administer the tax proceeds in keeping with voter-approved expenditure programs. In 1984, voters in Santa Clara County approved the first such sales tax in California. The legislature soon gave all counties the power to adopt these taxes, prompting 17 counties, including San Bernardino County, to adopt these voter-approved taxes by 1990.

The voter-approved San Bernardino County half-cent sales tax began generating funds in April, 1990. Some of the cornerstone projects in the first Measure I Expenditure Plan included construction of the SR-71 and SR-210 freeways and initiation of service for the regional Metrolink commuter rail system in 1992. The SR-60 and I-10 freeways underwent major upgrades to 4 mixed flow lanes plus 1 High-Occupancy Vehicle (HOV) lane in the West Valley, and a truck climbing lane was added on eastbound I-10 through Redlands.

At the regional level, the sales tax measures have enabled Southern California to go from virtually no passenger rail service in 1990 to over 500 miles of commuter rail and over 100 miles of heavy rail and light rail today. This has been an important element in transforming downtown Los Angeles into a much more vibrant center of activity than it was 20 years ago, with greatly increased transit connectivity region wide.

Mobility needs were further highlighted in Proposition 111, titled The Traffic Congestion Relief and Spending Limitation Act Of 1990, passed by the voters of California in June 1990. The official proposition summary stated, in part:

"This measure would enact a statewide traffic congestion relief program and update the spending limit on state and local government to better reflect the needs of a growing California population. It would provide new revenues to be used to reduce traffic congestion by building state highways, local streets and roads, and public mass transit facilities. This measure would enact a 55% increase in truck weight fees and a five-cent-per-gallon increase in the fuel tax on August 1, 1990, and an additional one cent on January 1 of each of the next four years."

Senate Bill 45 (Kopp - 1997) made major changes to the process by which state and federal funds are allocated to individual projects statewide, with a greater focus on local control. County Transportation Commissions such as SBCTA were given the ability to program 75 percent of these funds, with the state programming the remainder for inter-regional projects and for state highway operations and maintenance. The programming is managed regionally through the Federal Transportation Improvement Program (FTIP), maintained by SCAG through its legal designation as the Metropolitan Planning Organization (MPO).

A 30-year extension of Measure I was passed by the voters in 2004 with an unprecedented 80 percent of the vote in favor. Much of the success of that Measure could be attributed to the continued focus on congestion relief and safety, but with a greater emphasis on fixing more localized problems, such as freeway interchanges and arterial streets. The Measure also increased the county's emphasis on transit, with commitments to initiating passenger rail service to Redlands, extension of the Gold Line to Montclair, and improvements to Metrolink service. It also set in motion the approval of a development mitigation program that all the cities in the Valley and Victor Valley implemented through development impact fees (DIFs) for partial funding of interchanges, arterials, and rail/highway grade separations.

Assembly Bill 32 (AB 32), passed in 2006, introduced a new focus on growing California in a sustainable way. As indicated on the California Air Resources Board website, "*The passage of AB 32, the California Global Warming Solutions Act of 2006, marked a watershed moment in California's history. By requiring in law a sharp reduction of greenhouse gas (GHG) emissions, California set the stage for its transition to a sustainable, low-carbon future."* AB 32 required California to reduce its GHG emissions to 1990 levels by 2020 — a reduction of approximately 15 percent below emissions expected under a 'business as usual' scenario." Subsequently, via SB 32, the legislature required that CARB ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.

Senate Bill 375, which became effective in January, 2009, further increased the focus on sustainability for regions as they grow, requiring that each region, including SCAG, prepare a Sustainable Communities Strategy. As part of the six-county SCAG region, SBCTA and its local jurisdictions were partners with SCAG in crafting the first SCS, incorporated into the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy or RTP/SCS. Two updates of the SCAG RTP/SCS have been produced since that time, the 2016 and 2020 RTP/SCSs.

The passage of California's Senate Bill 1 (SB 1) created a significant source of ongoing state transportation funding. SB 1 increased the gas excise tax from 18 cents per gallon to 47.3 cents per gallon (as of July 1, 2019), and further indexed the gas tax to inflation going forward. Prior to passage of SB 1, the effective state gas excise tax rate of 18 cents per gallon remained unadjusted for more than 20 years. SB 1 additionally instituted per vehicle fees pegged to vehicle value to raise revenue for various transportation system improvements. It also enacted an annual fee on zero-emission vehicles (ZEVs). Most of these fees are indexed to the CPI. However, these fees do not completely address the erosion of purchasing power as construction costs are rising faster than the general inflation rate. Gas tax revenues

remain the primary source of funding for the State Highway Operation and Protection Program (SHOPP), which funds projects to maintain the state highway system. SB 1 includes several discretionary funding programs that can be used for multimodal transportation infrastructure, among which include the Solutions for Congested Corridors Program (SCCP), the Trade Corridor Enhancement Program (TCEP), and the Local Partnership Program (LPP).

More recently, on March 10, 2021, the California State Transportation Agency (CalSTA) unveiled the draft Climate Action Plan for Transportation Infrastructure (CAPTI). The plan details how the state recommends investing billions of discretionary transportation dollars annually to aggressively combat and adapt to climate change while supporting public health, safety and equity. CAPTI builds on executive orders signed by Governor Gavin Newsom in 2019 and 2020 targeted at reducing greenhouse gas (GHG) emissions in transportation, which account for more than 40 percent of all emissions, to reach the state's ambitious climate goals. A particular focus of CAPTI is to reduce vehicle miles traveled (VMT) as part of the overall strategy to reduce GHGs. CalSTA adopted CAPTI in July, 2021.

SBCTA is also a partner with two Air Quality Management Districts (South Coast and Mojave Desert) to attain air quality standards set by the Environmental Protection Agency. Both air basins are designated as non-attainment and the South Coast air basin is designated an “extreme” non-attainment area. Although tremendous progress has been made in cleaning the air over the last several decades, the South Coast air basin is still well short of what is needed to attain federal ozone standards by 2023 and a subsequent stricter attainment goal by 2032. This is of concern to San Bernardino County, because the path to attainment falls heavily on the transportation sector.

The County of San Bernardino and SBCTA adopted the Countywide Vision in 2011, setting in motion initiatives spanning across 10 Vision elements as described later in the CTP: Education, Environment, Housing, Image, Infrastructure, Jobs/Economy, Public Safety, Quality of Life, Water, and Wellness. An Equity Element was added in 2020. This has established San Bernardino County as a sustainability leader in the region and helps guide county and city agencies in establishing and attaining sustainability goals.

Framing the Issues and Opportunities

With the above as context, what types of issues will SBCTA and our partner agencies face over the horizon of this Countywide Transportation Plan, through 2040? This section highlights several of the core transportation-related issues that will need to be addressed as we move forward. These are not the only ones, but represent key areas where SBCTA should consider taking action or advocating positions.

1. **Transit, TDM, Technology, and Traffic Management (the “Four T’s” of multimodal transportation)** – The transit network is growing, both regionally and in the Inland Empire. Improved coordination is needed across transit (rail, fixed route bus, demand responsive, and first/last mile), TDM modes (shared-ride, vanpool, active transportation, etc.), technology (virtual travel, telework, electronic payment, etc.) and management of all traffic flows), focusing on system efficiency in a way that provides a high level of customer service at an affordable cost. The telecommunications industry reminds us that successful communications is all about the network. The same is true in building the transit, share-ride, and management systems: we need to think in terms of interconnectivity and system integration, not independent systems. We are in a new era of managing the movement of people and goods, not just building infrastructure.

2. **Importance of funding for transit operations -** Transportation agencies across the state are having to adapt to multiple changes and challenges. Transit funding and farebox recovery have been particularly hard hit during the COVID-19 pandemic, but there were also transit funding and operational issues prior to COVID. Paramount among them was the challenge of adequate funding for transit operations. Most of the new funding from SB 1, discussed earlier, is focused on capital projects, and there is a particular emphasis on transit and other multimodal projects. While great strides are being made in building the transit network, we do not want to be building systems that we cannot also operate. San Bernardino County is at its limit for what state and federal sources of transit operating funds enable us to provide for transit services. We even have 5% of our local sales tax funding in our Valley subarea that we can use for express bus/bus rapid transit services (capital and operating) and 8% of our Metrolink/rail program, but we are maxed out on those commitments through 2040. This will be the primary limiting factor in keeping the momentum going on building a robust multimodal network into the future for not only San Bernardino County, but the region as well.

> ***We are in a new era of managing the movement of people and goods, not just building infrastructure.***

3. **Congestion relief and economic competitiveness** – Although the statewide emphasis has shifted to sustainability, the need for congestion relief cannot be ignored. We live in a globally competitive environment, in which the speed and cost of doing business still matters a great deal. It is essential that San Bernardino County maintain the transportation advantages that we currently enjoy with our robust freeway and interchange network to support the logistics industry. About one third of our jobs are now related to logistics in one way or another, and logistics hubs will continue to play a major role in bringing business, employment, and tax revenue to our area. A robust economy is needed to make progress on multiple fronts: sustainability, air quality, health, equity, and quality of life issues among them. And because several of our major highway facilities are also nationally significant freight corridors (e.g. I-10, I-15, and SR-60), with significant existing freight bottlenecks, state and federal funding participation is particularly warranted for those corridors.

4. **System preservation and operations** – The tens of billions of dollars in street and highway infrastructure investment must be preserved. Although Caltrans and local jurisdictions are the owners and operators of our freeways and arterial streets, SBCTA can be a partner with them to ensure that these roadways and freeways are maintained and that the operations are optimized. The arterial system is dependent upon the freeway system and vice versa, therefore, routine maintenance of the entire transportation system can avoid the much larger expenditures that will be incurred from neglect. Real-time information and technology both play a key role in maximizing system operations and efficiency.

5. **Land use** – SBCTA and local jurisdictions are aggressively promoting transit oriented development as part of a strategy for economic growth and for achieving the regional SB 375 targets. An example is the study for the ARRIVE Corridor along the San Bernardino Metrolink line, which explored achievable strategies for TOD for each of the six stations along this line in San Bernardino County. The challenge with TOD in San Bernardino County has to do with market readiness. Jurisdictions cannot impose development types and densities that the market cannot yet afford. The strategy must be one of preparing for TOD, while also being patient and demonstrating commitment to rail/transit infrastructure that will attract TOD developers. Most jurisdictions with rail station assets are ready to support TOD, and some have had recent success, but they may need assistance with infrastructure investment, which was dealt a serious blow with the state's dissolution of redevelopment agencies.

6. **Attainment of air quality standards** – Ozone attainment in the South Coast Air Basin is at a critical juncture. As the Basin gets closer to background ozone concentrations (estimated by SCAQMD at 48 ppb), the path to attainment will require adoption of technologies and fleet turnover rates that are acknowledged by many as not feasible within the timelines prescribed by EPA. We need to push forward on air quality improvements, but at a rate that our local economy and industry can absorb, based on technologies that can be cost-effectively incorporated into the marketplace. A balanced approach is needed.
7. **Sustainability, GHG reduction, and VMT reduction** – SBCTA and our local agency partners have been leaders in regional planning for GHG and VMT reduction. The lofty goals of AB 32, SB 32, SB 743, and related Executive Orders now need to be translated into an approach that can achieve those goals without damaging the economy or our region's competitiveness. Prior analysis in the California Transportation Plan has indicated that radical transformation in vehicle and fuels technology will need to be the primary mechanism to produce the 80% reduction in GHGs from the transportation fleet targeted for 2050 and 40% by 2030. At the same time, strategies for VMT reduction are also important, but need to be feasible and realistic, with a focus on how to assist our "transportation customers." As with attainment for criteria pollutants, GHG and VMT reductions need to be approached in a balanced way.

CTP Key Issues

- **The "Four T's" – Transit, TDM, Technology, Traffic Management**
- **Funding for transit operations**
- **Congestion relief, freight bottlenecks, and economic competitiveness**
- **System preservation and operations**
- **Land use**
- **Attainment of air quality standards**
- **Sustainability, GHG/VMT reduction**

CTP Goals and Objectives

The CTP is San Bernardino County's long-term plan for transportation. It is focused on several over-arching goals that build on the SBCTA Mission Statement. The goals of the CTP are to:

- Focus on our transportation "customers" by building an integrated, multimodal network and managing that network to improve safety, mobility, and accessibility for the residents and businesses within San Bernardino County and the region.
- Plan and deliver transportation projects and services in a manner that promotes the County's economic competitiveness, affordable housing, environmental quality, overall sustainability, and access by the full spectrum of system users.
- Promote stewardship of the public resources entrusted to SBCTA and other transportation agencies in the County through analysis and application of cost-effective, customer-focused, and technology-enabled approaches to the multimodal movement of people and goods.
- Promote the funding of transportation needs and efficient operation of transportation systems through collaboration with local, regional, state, and federal transportation agencies, together with private stakeholders.
- Support state, regional, and local environmental and sustainability goals.

The CTP goals are supported by an underlying set of objectives which represent the measureable means to achieve the goals. Objectives include:

- Maximize the accessibility, efficiency and reliability of the transportation system for all users
- Maintain an awareness of how SBCTA's programs of transportation investments impact and benefit the spectrum of communities and system users, and take these into consideration in making transportation decisions
- Reduce vehicle miles traveled and travel times for both highway and transit travel (for both people and goods)
- Reduce vehicle emissions, both criteria pollutants and GHG emissions
- Increase the proportion of people sharing rides, bicycling, walking, taking transit, and replacing trips with "virtual travel"
- Reduce collision rates
- Preserve existing infrastructure in a cost-effective manner
- Encourage development around existing and planned transit stations and hubs

The CTP and Its Relationship to Other Plans

The CTP needs to be understood in the context of several other plans and programs managed by SBCTA.

- The Measure I 2010-2040 Ordinance and Expenditure Plan extended the half-cent sales tax for transportation for an additional 30 years to 2040. The Expenditure Plan identifies how the Measure I revenue is to be allocated by subarea and program. The Expenditure Plan is provided in Appendix A of the Measure I Strategic Plan at http://www.SBCTA.ca.gov/planning2/plan_measure-i.html.
- The Measure I 2010-2040 Strategic Plan, approved by the SBCTA Board in April 2009, specifies the policies by which the funds are to be managed. It also provides an overall funding and management strategy for Measure I. The Plan can be reviewed at the link above.
- The Measure I Strategic Plan required the development of a Ten-Year Delivery Plan. The purpose of the Delivery Plan is to define the scope, schedule and budget for projects to be developed

and delivered in the early years of Measure I 2010-2040. The Delivery Plan was first approved by the Board in early 2012 and since then has been updated three times, with the most recent update being 2019. The Delivery Plan can be found at 2019 10 yr - draft - with page numbers (gosbcta.com). **Table ES-1** presents the projects included in the Delivery Plan.

- The Development Mitigation Nexus Study, approved by the SBCTA Board in 2005, identifies funding forecast to be generated from new development over the course of Measure I 2010-2040. These funds, generated primarily from transportation fees on new development, are used as part of the funding package for three types of projects in the Valley and Victor Valley: freeway interchanges, arterials, and rail/highway grade separations. The Nexus Study identifies the shares of funding for which local jurisdictions are responsible. The Nexus Study (Appendix K of the CMP) can be accessed at http://www.SBCTA.ca.gov/planning2/congestion-mgmt.html.
- The Federal Transportation Improvement Program (FTIP) is a short-term listing of all transportation projects proposed over a six-year period for the SCAG region. SBCTA submits the San Bernardino County portion of the FTIP to SCAG, with major updates scheduled every even year. See the link to the FTIP at: 2021 Adopted FTIP - Southern California Association of Governments.
- The Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is prepared by SCAG every four years, with substantial input from County Transportation Commissions and local governments. The San Bernardino CTP is one of the primary sources of input to the RTP/SCS. The current RTP/SCS (termed *Connect SoCal*) was prepared for the 2020-2045 timeframe and is accessible at: Connect SoCal - Southern California Association of Governments.

Table ES-1: 2019 Ten-Year Delivery Plan Projects

Measure I Programs	
San Bernardino Valley Freeway Program	
I-215 Bi-County Landscaping	
I-215/Barton Road Interchange (complete)	
SR-210 Widening from Highland Avenue to San Bernardino Avenue	
I-10 Contract 1: Two Express Lanes in Each Direction from LA County Line to East of I-15	
I-15 Contract 1: Express Lanes from Riverside County Line to Foothill Boulevard	
I-10 Contract 2A: Express Lanes from East of I-15 to Sierra Avenue	
I-10 East Bound Truck Climbing Lane from West of 16th Street Bridge to East of Riverside County Line	
I-215/Mount Vernon Avenue/Washington Street Bridge	
San Bernardino Valley Freeway Interchange Program	
I-10/Cedar Avenue	I-10/Riverside Avenue (Phase 2)
SR-210/Base Line Road	I-15/Base Line Road (complete)
SR-60/Central Avenue	SR-60/Euclid Avenue (complete)
I-10/University Street	I-15/Sierra Avenue (complete)
I-215/University Parkway	I-10/Euclid Avenue
I-10/Alabama Street	I-10/Monte Vista Avenue
SR-60/Archibald Avenue	I-10/Vineyard Avenue
I-10/Mount Vernon Avenue	
San Bernardino Valley Major Street Program	
Monte Vista Avenue Grade Separation (Union Pacific - complete)	

Mount Vernon Viaduct
I-10/Fourth Street Bridge Undercrossing
San Bernardino Valley Metrolink/Passenger Rail Program
Redlands Passenger Rail from the San Bernardino Transit Center to University of Redlands ("Arrow")
San Bernardino Line Double Track from Control Point (CP) Lilac to CP Rancho (Not Fully Funded)
Gold Line to Montclair
Diesel Multiple Unit (DMU) to Zero or Low Emission (ZEMU) Vehicle on Arrow Service Line
Valley Express Bus & Bus Rapid Transit Program
West Valley Connector from Pomona to Rancho Cucamonga (Phase 1)
Victor Valley Major Local Highway Program
US-395 Widening from SR-18 to Chamberlaine Way (Phase 1 - Complete)
Apple Valley Road and SR-18 Realignment
Bear Valley Bridge over Mojave River
Yucca Loma Road Widening from Apple Valley Road to Rincon Road
Main Street Widening from US-395 to 11th Avenue (Phases 1 & 2)
Yucca Loma Corridor – Green Tree Boulevard Extension
Rock Springs Road Bridge over Mojave River
Phelan Road Widening from SR-138 to Hesperia City Limits
North Desert Major Local Highway Program
Rimrock Road Rehabilitation
North First Avenue Bridge over Burlington Northern Santa Fe Corporation Rail Line
North First Avenue Bridges over Mojave River and Overflow
Irwin Road Rehabilitation
National Trails Highway Resurfacing
National Trails Highway Bridges <20' Replacement
Mountains Major Local Highway Projects Program
Arrowbear Drive Bridge at Arrowbear Spillway
Moonridge Road Realignment and Roundabouts
Morongo Basin Major Local Highway Projects Program
SR-62 from Encelia Avenue to Larrea Avenue
Split Rock Avenue Flood Channel Crossing
Indio Avenue Realignment from Yucca Trail to Business Center
Onaga Trail Extension from Camino Del Ceilo to Kickapoo Trail
Santa Fe Trail Extension from Apache Trail to Acoma Trail
SR-62 Widening from Sage Avenue to Airway Avenue
Park Boulevard Resurfacing from SR-62 to Alta Loma Drive
Amboy Road Resurfacing from Bullion Mountain Road to Ironage Road
Colorado River Major Local Highway Projects Program
Needles Highway Resurfacing from "N" Street to North of Balboa Place (Segment N)

Source: SBCTA Measure I 2010-2040 Ten-Year Delivery Plan, 2019

Summary of the CTP Analysis of Future Transportation Needs and Funding

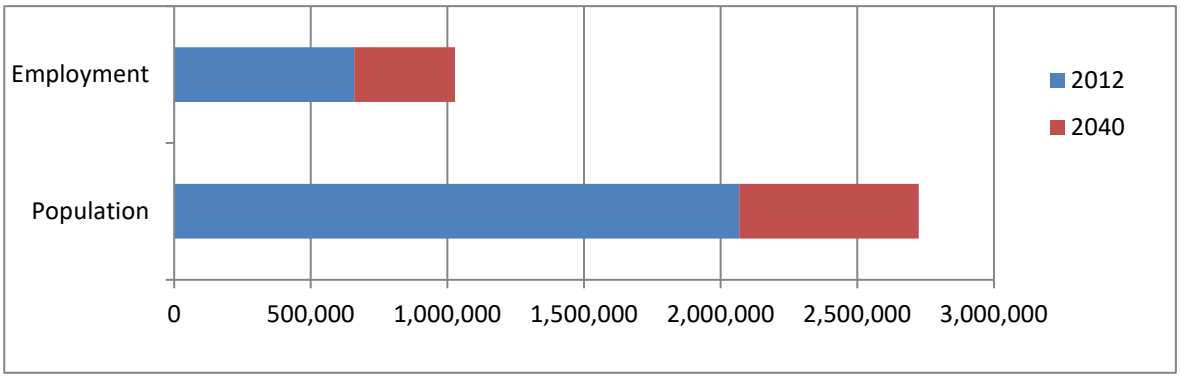
As described earlier, San Bernardino County is home to a world class network of freeways, arterials, freight rail lines, airports, and transit routes. This network, together with our proximity to the Ports of Los Angeles and Long Beach, is one of the primary reasons that the County has become a strategic location for logistics. However, this network must be maintained and built upon to satisfy the needs of both existing operations and future growth.

Approximately $6.5 billion (in escalated dollars) is forecast to be collected through the life of Measure I 2010-2040

As indicated in **Figure ES-3.** significant growth is anticipated in San Bernardino County through 2040. Annualized growth rates from 2012 to 2040 are 1.0 percent for population and 1.6 percent for employment, or total growth rates of 32 percent and 56 percent, respectively, over the planning period. It should be noted that the growth forecasts for the 2012-2040 RTP/SCS were used for this interim update of the CTP. More recent forecasts will be used in the major update coming in 2022, and initial indications from SCAG are that the new growth forecasts will likely be more moderate, based on changes brought about by the pandemic and other factors.

The CTP tested two scenarios based on different levels of transportation service and forecast funding. The Baseline Scenario includes projects that can be funded with traditionally available local, Measure I, state, and federal revenue sources through 2040. The Aggressive Scenario is a needs-based scenario assuming additional sources of revenue. However, the Aggressive Scenario is also consistent with the RTP/SCS "financially constrained" plan. This includes SCAG's "innovative revenue sources" contained in the 2012-2040 RTP/SCS, a substantial increase over traditionally available funding streams. This CTP does not recommend one scenario over the other, but delineates both to illustrate the transportation projects that could be implemented and maintained in each case. The Aggressive Scenario includes all projects in the Baseline Scenario plus the additional projects listed. The funding assumptions include

Figure ES-3: San Bernardino County Forecast Population and Employment Growth



some of the major "innovative sources" included in the SCAG RTP/SCS, such as a regional VMT fee. The Aggressive Scenario excludes certain projects that are included in the SCAG RTP/SCS that are regional in nature, such as the SCAG dedicated truck lanes on SR-60. **Table ES-2** presents a summary of the projects included in the Baseline and Aggressive Scenarios. The Baseline Scenario includes projects contained in the 10-Year Delivery Plan plus those additional projects viewed to be affordable in the forecast of traditionally available funding levels. The funding assumptions are listed on the right side of the table.

Table ES-2: CTP Scenarios (Baseline and Aggressive)

		Projects	Funding
CTP Scenarios	Baseline	**10-Year Delivery Plan Plus Constrained Projects through 2040:** • Tunnel Loop (Transit Connector from Rancho Cucamonga to Ontario International Airport) • High Speed Rail from Rancho Cucamonga to Las Vegas (private funding) • I-10 Managed Lanes from Sierra Avenue to Ford Street • I-15 Managed Lanes from Foothill Boulevard to US-395 • I-215 North HOV lane (SR-210 to I-15) • Valley Interchange Phasing Program (constrained to revenue) • Valley Arterial Program and Mountain/Desert Major Local Highway Programs (constrained to revenue) • No additional grade separations • Metrolink expansion (68 daily trains with 30-minute headways) on the San Bernardino Line • Active Transportation Projects supportable by grants and Transportation Development Act funds	**Core Revenues, Financially Constrained Traditional sources:** • Measure I Forecast revenue in 10-YDP • State revenues constrained to gas tax collections • Federal revenues constrained to gas tax collections • State SB 1 and federal competitive programs • Tolls for managed lane projects • Transit revenue adequate to cover current operations held at 3% • Development Mitigation fees
	Aggressive	**Baseline Projects Plus the Following:** • Freeway Improvements o Full Buildout of I-215 from I-10 to SR-60. o I-215 mixed flow lane from SR-210 to I-15 o SR-210 HOV lane from I-215 to I-10 o I-15 Express Lanes from US-395 to Mojave River o I-10/I-15 Express Lane Connectors • Interchange Program Buildout (see Measure I Strategic Plan for full buildout) • Arterial Program Buildout • All Nexus Study Grade Separations • Additional Alameda Corridor East Grade Separations • Additional rail projects (i.e. Redlands Rail Phase 2) • Additional Metrolink double track segments • Quiet zones along Metrolink lines in SB County • Express Bus in remaining key transit corridors • Non-Motorized Transportation Plan buildout (Secondary Active Transportation Projects) • East-West Freight Corridor (regional project)	**Match Funding to Infrastructure Need Potential options:** • Tolls for managed lane scenario • Supplemental Measure I • State and Federal gas taxes indexed to be on par with current authorizations with inflation • Regional/State/Federal VMT fee (or equivalent) • Aggressive assumptions for State Bonds/Federal Stimulus • Federal freight dollars

The performance of the transportation system is presented in **Table ES-3**. This analysis was generated using the San Bernardino Transportation Analysis Model (SBTAM), which is a focused sub-model derived from the SCAG regional model. SBTAM includes the same network as in the 6-county SCAG region, but with additional detail in San Bernardino County. The results show a substantial reduction in vehicle hours of travel and savings in delay within San Bernardino County for the Baseline Scenario. A savings of 100,000 vehicle hours per weekday would equate to over $400 million in delay savings per year, based on the value of time alone (typically in the range of $15 per hour).

Table ES-3: Forecast 2040 San Bernardino County Daily Performance Statistics

Measure of Effectiveness	2012	2040 No Build	2040 Baseline	Percent Change from 2040 No Build	2040 Aggressive	Percent Change from 2040 No Build
Vehicle Miles Traveled	56,462,829	81,122,010	82,662,578	1.9%	82,945,126	2.2%
Vehicle Hours Traveled	1,203,423	2,029,243	1,907,230	-6.0%	1,886,904	-7.0%
Vehicle Hours of Delay	140,982	476,229	349,896	-26.5%	274,436	-42.4%
Average Speed (mph)	46.9	40.0	43.3	8.4%	44.0	9.9%

Source: SBTAM

Summary of the CTP Transportation Strategy

There are two parts to SBCTA's transportation strategy: a set of goals and objectives, coupled with individual strategies by geographic area, mode, and function. The goals and objectives were discussed earlier in the Executive Summary. Individual strategies are focused more on "how we get there," and can be grouped into three primary categories:

- Geographic
- Modal
- Functional

Table ES-4 presents proposed SBCTA strategies for the modal, functional and geographic categories referenced above. Modal categories have been nested into the primary geographic subareas of the Measure I Strategic Plan. The primary challenge or challenges associated with each component are identified, along with corresponding strategies that address the challenges.

Table ES-4: Summary of Long-Term Transportation and Sustainability Strategies

Category	Challenge	Strategy
Valley Categories by Mode		
Freeway system	Freeway system needs to become more multimodal and include traffic management strategies.	Position the freeway system to adapt to future demands through improved traffic management and information systems, with a focus on I-10 and I-15. Provide incentives for transit, HOVs, and clean-air vehicles. Also address truck bottlenecks.
Freeway interchanges	Projected Measure I, state, and federal funds will be insufficient to meet all the interchange improvement needs.	Spread Measure I funds across interchange hot-spots using both a phased approach and right-sizing of full interchange improvements. Look to a future Measure I, state, and federal funds to complete the freeway interchange program on a strategic basis.
Rail/highway grade separations	Projected Measure I, state, and federal funds will be insufficient to build all the grade separations identified.	Prioritize additional grade separations and proceed with project development on at least two projects, to take advantage of potential future freight funding opportunities.
Arterials	Arterial project construction has lagged original expectations.	Encourage jurisdictions to accelerate arterial improvement projects and continue policy flexibility for funding development shares. Identify "complete streets" opportunities and arterial improvements that are particularly important to route continuity and safety.
Passenger Rail	Stations along the Metrolink San Bernardino Line and the Redlands Rail corridor are our most significant opportunities for transit oriented development and transit-related economic growth. Funds for rail services are limited.	Work with SCRRA to upgrade Metrolink service on the San Bernardino Line to support Tunnel to ONT and Brightline connectivity. Provide first/last mile connections to Metrolink stations on a strategic basis. Position Metrolink capacity-enhancement projects for future implementation funding.
Transit Connection to ONT	With ONT now under local control, there is an opportunity to better connect to the transit system. The region would benefit from improved transit access for passengers and employees.	The West Valley Connector BRT will provide new transit connections to ONT from the west and north, with new connections to the Metrolink system. But the Tunnel Loop project, currently in development, will provide the quickest trip directly to terminals 2 and 4.
Bus Rapid Transit (BRT)	The cost of building all the BRT corridors in the Long Range Transit Plan far exceeds available funding. The proper technology solution to carry across future express bus/BRT corridors also needs to be resolved.	Reevaluate the Express Bus/BRT strategic plan, to determine how premium transit should be staged and funded across the Valley. The plan should address corridor priorities, phasing, technology, and funding options, providing information for the Board to decide on the appropriate BRT strategy, to be incorporated into the next major CTP update.

Table ES-4: Summary of Long-Term Transportation and Sustainability Strategies, Continued

Category	Challenge	Strategy
Valley Categories by Mode, Continued		
Fixed-route bus service	Sustainable funding for operations is the biggest challenge.	Evaluate the challenges of the trajectory of transit operations funding, and jointly identify solutions between SBCTA and transit operators.
Airports	Primary challenge from a transportation perspective is how best to provide multimodal access for passengers, employees, and other users, recognizing the post-pandemic uncertainties.	Move forward with improved transit access to ONT on two fronts: West Valley Connector BRT, which will provide access from the west and north and via the new Tunnel Loop project, with rapid connections to Metrolink at Rancho Cucamonga.
Active Transportation	Large funding needs for building out the cycling/walking network	Continue to submit competitive grant applications to support implementation of the Non-motorized Transportation Plan (NMTP). • Maintain and update the NMTP • Identify and pursue grant funding opportunities to expand cycling and walking infrastructure
Demand-responsive bus service	Demand-responsive service is the highest cost form of transit, but important in serving certain senior and disabled transit riders. Under the Americans with Disabilities Act, transit operators are required to provide paratransit service within ¾-mile of fixed routes for passengers with disabilities who cannot ride fixed-route service.	Continue assistance programs, such as helping demand-responsive riders use fixed-route systems and coordination with non-profit entities while also maintaining demand-responsive service.
Transit integration and inter-connectivity	Transit services could be better coordinated across systems in terms of ease of transfers, fare media, and first/last mile connections. This will be even more important as the system grows.	Take a more integrated, customer-focused approach to the provision of transit services. Facilitate seamless ticketing and better connection at existing transit centers and connection points.
Mountain/Desert Strategies		
Victor Valley highway projects	Growth forecasts show a near doubling in traffic volume by 2040.	Prioritize projects that will provide the most cost-effective congestion reduction benefit, designating projects for Major Local Highway funding through the subarea process.

Table ES-4: Summary of Long-Term Transportation and Sustainability Strategies, Continued

Category	Challenge	Strategy
Mountain/Desert Strategies, Continued		
Mountain/Desert fixed route transit	Funds are limited for route expansion and adjustment as the Victor Valley grows.	Study the challenges of the trajectory of transit operations funding, and jointly develop solutions between SBCTA and the Mountain/Desert transit agencies.
Mountain/Desert demand-responsive bus service	Demand-responsive service is the highest cost form of transit, but important in serving certain senior and disabled transit riders.	Continue assistance programs, such as helping demand-responsive riders use fixed-route systems and coordination with non-profit entities while also maintaining demand-responsive service.
Mountain Subarea	Though baseline population is small, major congestion occurs on weekends, particularly winter weekends, limiting economic growth.	Implement the recommendations of the Mountain Area Transportation Study.
Morongo Basin	The Basin is steadily growing, and SR-62 is the only viable transportation route through Yucca Valley and Twentynine Palms.	Implement improvement projects identified through the Morongo Basin Area Transportation Study (MBATS).
North Desert	The North Desert has major highway needs, but limited funding.	Evaluate long-term priorities for project investments in the subarea.
Colorado River	Funds are extremely limited for improvements in this subarea.	Smaller-scale, affordable improvements should be investigated and prioritized by the subarea.
Functional Categories		
Highway Maintenance and Operations	Local jurisdictions are responsible for arterial maintenance while Caltrans is responsible for freeway and state highway maintenance. While SB 1 provided additional maintenance funding, the highway systems continue to age.	Continue to assess maintenance/operations funding needs and approaches to managing costs through local and state asset management systems.
Rural Highway Needs	Rural areas require unique maint./safety/funding consideration.	Work with Caltrans to identify and implement strategic rural highway improvements.
Transit System Maintenance and Operations	Existing transit systems are facing potentially serious future operations funding shortfalls, while at the same needing to migrate fleets to zero-emission buses.	Optimize transit operations and work with the state on mechanisms to fund future system operations and expansion. Particular funding assistance is needed for bus electrification for all operators.
Air Quality	Although air quality has dramatically improved over the last several decades, attainment of the next set of ozone standards will be extraordinarily challenging and costly.	Work with regional and state agencies and the private sector to meet attainment standards on an achievable timeline that does not adversely impact the economy. Advocate for state/federal investment that facilitates this progress. Focus on market-based mobile source technology improvements and fleet turnover as a win-win approach.
Sustainable Growth	The state's GHG reduction goal of 80% by 2050 is an enormous challenge. If not done carefully, it may undermine the economy to the point where it will be difficult to afford the technology improvements needed to achieve this goal.	Assist state/regional agencies and the private sector in technology research and implementation strategies that are technologically feasible and cost-effective (per AB 32) for San Bernardino County. Implementation should follow the natural course of vehicle life cycles and fleet turnover, to the extent possible.

Table ES-4: Summary of Long-Term Transportation and Sustainability Strategies, Continued

Category	Challenge	Strategy
Functional Categories, Continued		
Habitat Conservation	Habitat conservation currently occurs on a project-by-project basis, generally without a comprehensive approach.	Continue with development of the Regional Conservation Investment Strategy as a win-win approach for selected geographic areas.
Freight	Forecasts show freight volume through the ports growing dramatically through 2040, placing extreme demands on the transportation system.	Work closely with the private sector to understand changes in technology and freight operations and how the transportation system can best accommodate those changes. Make strategic improvements to freight bottlenecks along the county's primary freight corridors: Interstates 10 and 15 and State Route 60. Increased state and federal funds are warranted for projects on these national freight gateways.
Health	Public health is being integrated into policy frameworks throughout state, regional, and local governments. The challenge in the transportation arena is to determine how to incorporate health considerations into decision-making frameworks.	Continue to build on health partnerships already established. Continue focus on transit mobility and developing the active transportation network to promote cycling and walking.
Transportation revenue	SB 1 provided a significant boost to transportation revenue for both strategic highway investment and transit. The challenge now is to optimize those investments and ensure that transit operating funds are available to accompany capital investment and to secure state/federal funding to address growth in freight on national gateways such as I-10 and 1-15.	Work with state and regional partners to ensure that revenue streams for highway maintenance and transit operations continue as an increasing portion of the vehicle fleet is electrified. Construct a set of revenue generation options that can be evaluated by the SBCTA Board, with input from a wide range of stakeholders, with anticipated action prior to the sunset of Measure I 2010-2040. Work with state and federal partners to secure funding for national freight corridors.

The CTP is a living document that will be updated in concert with future RTP/SCS updates. Future versions of the CTP will monitor the performance of the various strategies and refine the financial outlook, projects lists and future actions necessary to ensure safe and efficient of people and goods throughout San Bernardino County.