

-
- San Bernardino County Transportation Commission •San Bernardino County Transportation Authority
 - San Bernardino County Congestion Management Agency •Service Authority for Freeway Emergencies
-

Additional Support Material Agenda Item No. 17

Board of Directors

September 2, 2015

10:45 a.m.

Location:
SANBAG

First Floor Lobby

1170 W. 3rd Street, San Bernardino, California 92410

Consent Calendar

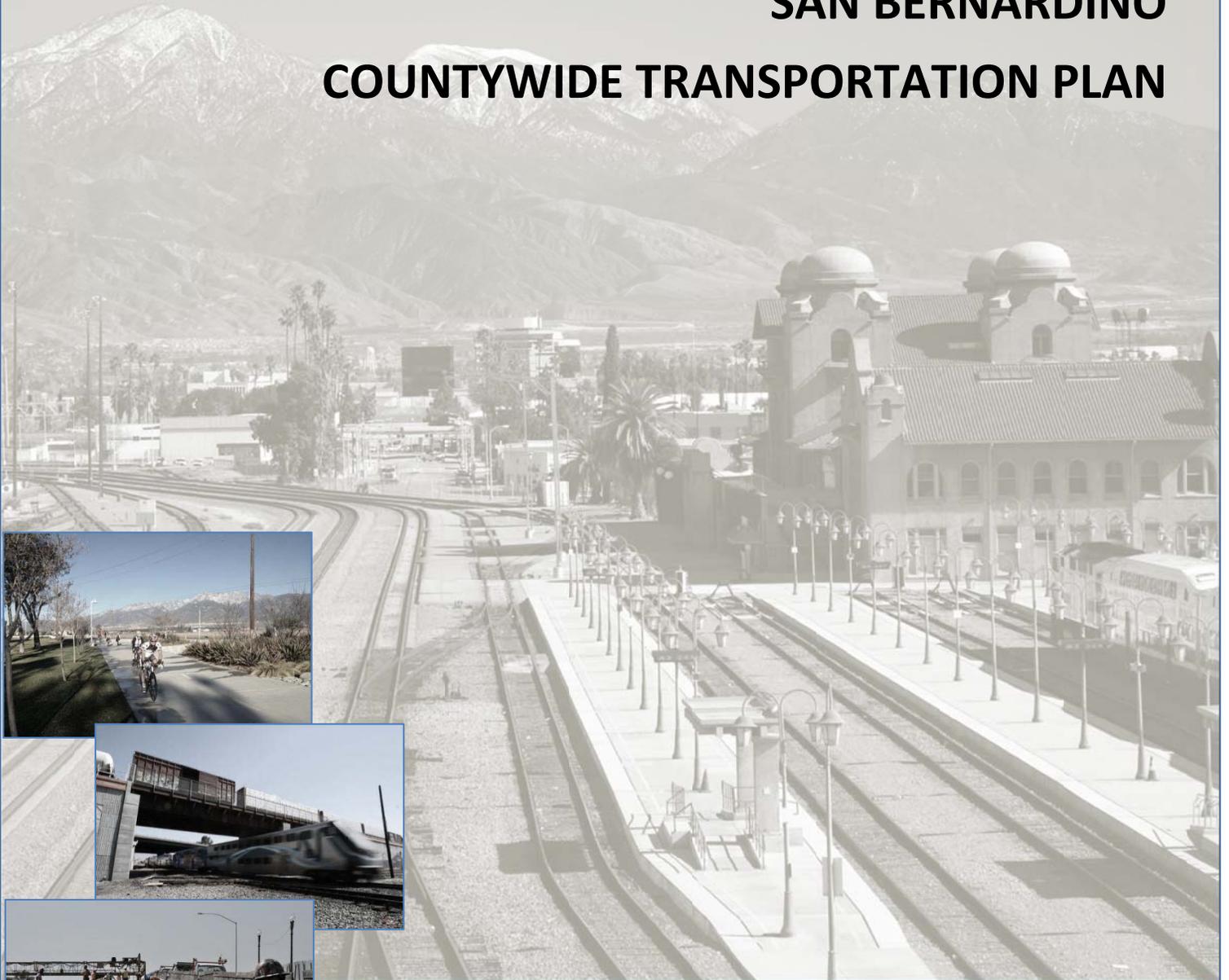
Regional/Subregional Planning

17. Recommendation:

Receive information on the Draft San Bernardino Countywide Transportation Plan.

The Draft Countywide Transportation Plan Executive Summary is attached.

DRAFT SAN BERNARDINO COUNTYWIDE TRANSPORTATION PLAN



Prepared by:



San Bernardino Associated Governments
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San Bernardino, CA 92410-1715

June 2015

SANBAG Mission Statement

To enhance the quality of life for all residents, SANBAG will:

- Improve cooperative regional planning
- Develop an accessible, efficient, multi-modal transportation system
- Strengthen development efforts
- Exert leadership in creative problem solving

To successfully accomplish this mission, SANBAG will foster enhanced relationships among all of its stakeholders while adding to the value of local governments.

SANBAG 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

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ES Executive Summary

The transportation landscape is changing. As we look back over the trends and accomplishments of the last 25 years, we see a gradual shift at the state level from a principal focus on mobility and congestion relief to a principal focus on sustainability. We see this even in the titles of key propositions and legislation. Sustainability has certainly not been ignored in prior decades, and 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 Countywide Transportation Plan (CTP) is to lay out a strategy for long term investment in and management of San Bernardino County's transportation assets. Before describing the strategy, however, it is important to understand some of the history behind these changes in emphasis to properly set the stage for a number of challenging issues that need to be addressed in the CTP.

Transportation 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 1991. 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. **Figure ES-1** shows the current extent of the regional rail network. San Bernardino County is a vital part of this growing network.

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."

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 was the first program in the country to take a comprehensive, long-term approach to addressing climate change, and does so in a way that aims to improve the environment and natural resources while maintaining a robust economy. AB 32 requires 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.”* Subsequent Executive Orders by Governors Schwarzenegger and Brown have stated the need for dramatic reductions of 80% in GHG emissions from the transportation sector by 2050 and 40% by 2030.

Senate Bill 375 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, SANBAG 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.

SANBAG 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 SANBAG 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. 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.

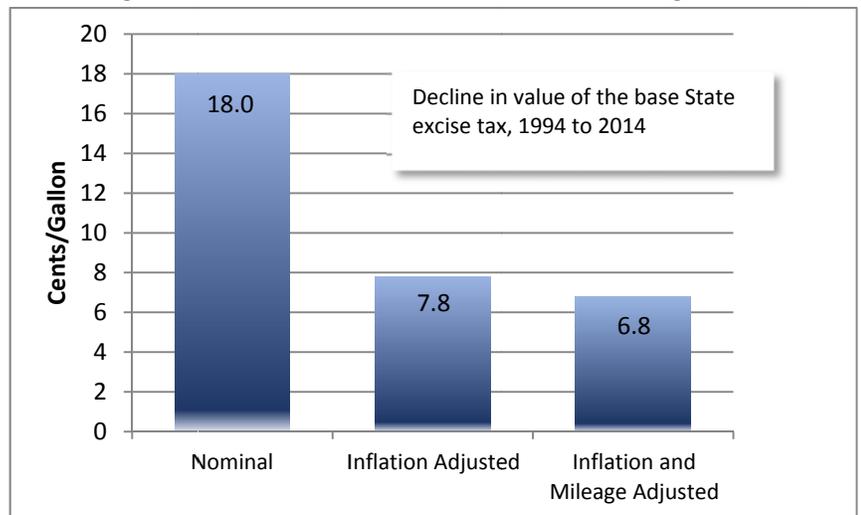
Framing the Issues

With the above as context, what types of issues will SANBAG 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 SANBAG should consider taking action or advocating positions.

1. **Transportation funding** – It is well known that State and federal funding levels are not keeping up with operations and maintenance needs and requirements for new or expanded infrastructure. **Figure ES-2** presents the decline in purchasing power of the state gas tax in cents per gallon. In the meantime, the population of the Inland Empire increased 63% in the 20 years from 1990 to 2010, a growth rate of 2.5% per year. Local funds now represent over 50% of transportation infrastructure revenue in San Bernardino County.

2. **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. Some 20% of our jobs are now related to logistics, and logistics hubs will continue to play a major role in bringing business and employment to our area.

Figure ES-2: Decline in State Gas Tax Purchasing Power



Source: Caltrans

3. **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, SANBAG can be a partner with them to ensure that these roadways and structures are maintained and that the operations are optimized. Routine maintenance can avoid the much larger expenditures that will be incurred from neglect. Likewise, the need for operating funds for transit is a major emerging issue and will limit transit network expansion if it is not addressed.
4. **Land use** – SANBAG and local jurisdictions are aggressively promoting transit oriented development (TOD) 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 is exploring 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.
5. **Transit system interconnectivity** – The transit network is growing, both regionally and in the Inland Empire and in terms of both rail and bus. Improved coordination is needed across transit (rail, fixed route bus, and demand responsive) and ridesharing modes (carpool and vanpool) to provide 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 and ridesharing system, and we need to think in terms of interconnectivity, not independent systems.



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 and GHG reduction** – SANBAG and our local agency partners have been leaders in regional planning for GHG reduction. The lofty goals of AB 32 and GHG-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. Recent analysis in the California Transportation Plan has indicated that land use change and expansion of transit services will produce a relatively small portion of the GHG reductions needed. The analysis 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. As with attainment for criteria pollutants, GHG reductions need to be approached in a balanced way.

CTP Key Issues

- Transportation funding
- Congestion relief and economic competitiveness
- System preservation and operations
- Land use
- Transit system interconnectivity
- Attainment of air quality standards
- Sustainability and GHG reduction

CTP Goals and Objectives

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

- Improve safety and mobility for all modes of travel in San Bernardino County by residents, businesses, employees, students and visitors.
- Integrate countywide transportation plans and initiatives, to better serve the needs of the county, and to coordinate transportation systems with other counties through the Regional Transportation Plan/Sustainable Communities Strategy.
- 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 SANBAG and other transportation agencies in the County through analysis and application of the most cost-effective approaches to delivering transportation projects and programs.
- Promote the funding of transportation needs through collaboration with local, state, federal, and 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 measurable means to achieve the goals. Objectives include:

- Reduce travel times for both highway and transit travel

- Maximize the efficiency and reliability of the transportation system
- Reduce vehicle hours traveled
- Reduce vehicle emissions, both criteria pollutants and GHG emissions
- Increase the share of people carpooling, bicycling, walking and taking transit
- Reduce accidents
- 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 SANBAG.

- 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.sanbag.ca.gov/planning2/plan_measure-i.html.
- The Measure I 2010-2040 Strategic Plan, approved by the SANBAG 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 was updated in early 2014. The Delivery Plan can be found under Publications at the SANBAG home page at <http://www.sanbag.ca.gov/>. **Table ES-1** presents the projects included in the Delivery Plan.
- The Development Mitigation Nexus Study, approved by the SANBAG 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.sanbag.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. SANBAG 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 <http://ftip.scag.ca.gov/Pages/2015/adopted.aspx>.
- The Regional Transportation Plan/Sustainable Communities Strategy 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 was prepared for the 2012-2035 timeframe. An update for 2016 through 2040 is scheduled for adoption by SCAG in April 2016. See <http://rtpscs.scag.ca.gov/Pages/default.aspx>.

Table ES-1: Ten-Year Delivery Plan Projects

Measure I Programs	
Cajon Pass Subarea Program	
I-15/I-215 (Devore) Interchange	
San Bernardino Valley Freeway Program	
I-10 Widening (HOV or Express Lanes) from LA County Line to Ford Street	
I-15 Express Lanes from Riverside County Line to I-215	
I-215 Widening from Riverside County Line to I-10	
I-10 Truck Climbing Lane from Live Oak to Riverside County Line	
SR-210 Widening from Highland Avenue to I-10	
San Bernardino Valley Freeway Interchange Program	
I-10/Cherry Avenue	I-10/Alabama Street
I-10/Citrus Avenue	I-15/Baseline Road
I-10/Tippecanoe Avenue Phase 1 & 2	I-10/Mount Vernon Avenue
I-10/Cedar Avenue	SR-60/Archibald Avenue
SR-210/Baseline Road	I-10/Monte Vista Avenue
SR-60/Central Avenue	I-10/Pepper Avenue Phase 2
I-10/University Avenue	I-10/Riverside Avenue Phase 2
I-215/University Parkway	
San Bernardino Valley Major Street Program	
North Vineyard Avenue Grade Separation (Union Pacific)	
South Milliken Avenue Grade Separation (Union Pacific)	
Glen Helen Parkway Grade Separation (Burlington Northern-Santa Fe)	
Palm Avenue Grade Separation (Burlington Northern-Santa Fe)	
Laurel Avenue Grade Separation (Burlington Northern-Santa Fe)	
San Bernardino Valley Metrolink/Passenger Rail Program	
Downtown San Bernardino Rail	
Redlands Passenger Rail	
San Bernardino Line Double Track (Preliminary Engineering)	
Gold Line to Montclair (Environmental Documentation/Preliminary Engineering)	
Valley Express Bus & Bus Rapid Transit Program	
E Street Bus Rapid Transit	
Victor Valley Major Local Highway Program	
Yucca Loma Corridor – Yucca Loma Bridge and Yates Road	
I-15/Ranchero Road Interchange	
Yucca Loma Corridor – Green Tree Boulevard Extension	
US-395 Widening from SR-18 to Chamberlaine Way	
Ranchero Road Corridor	
North Desert Major Local Highway Program	
Lenwood Road Grade Separation	

Source: SANBAG Measure I 2010-2040 Ten-Year Delivery Plan, March 2014

Summary of the CTP Analysis of Future Transportation Needs and Funding

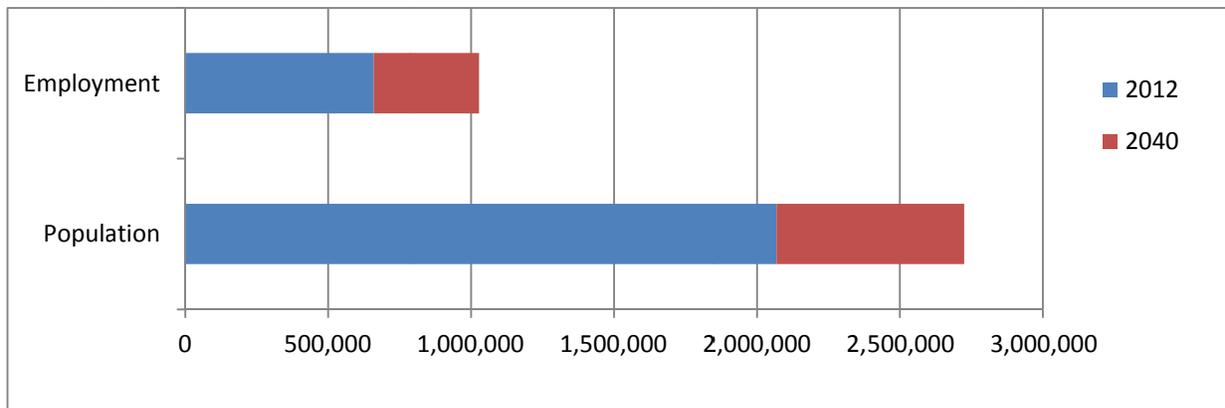
San Bernardino County is home to a world class network of freeways, arterials, freight rail lines, airports, and transit routes. This network, together with our proximity to the Ports of Los Angeles and Long Beach, is one of the primary reasons that the County has become a strategic location for logistics.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

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 full 28-year period.

Approximately \$5.4 billion (in 2015 dollars) is forecast to be collected through the life of Measure I 2010-2040

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 2012-2035 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.

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



The Aggressive Scenario includes all projects in the Baseline Scenario plus the additional projects listed. The funding assumptions include some of the major “innovative sources” included in the SCAG RTP/SCS. 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

		Projects	Funding
CTP Scenarios	Baseline	<p>10-Year Delivery Plan Plus Constrained Projects through 2040:</p> <ul style="list-style-type: none"> • Freeway/Interchange Program (10-YDP Projects only) • I-15 Express Lanes to US-395 • I-215 North HOV lane (SR-210 to I-15) • Valley Interchange Phasing Program (constrained to revenue) or Priority 11-18 interchanges (note that priorities are being re-evaluated in 2015) • Arterial Program (constrained to revenue) • No additional grade separations • Redlands Passenger Rail Project • Gold Line to Montclair • Metrolink double track (CP Lilac to CP Rancho) • Metrolink expansion (50 daily trains) • Active Transportation Projects supportable by grants and Transportation Development Act funds • West Valley Connector Express Bus • Foothill/5th Express Bus 	<p>Core Revenues, Financially Constrained Traditional sources:</p> <ul style="list-style-type: none"> • Measure I Forecast revenue in 10-YDP • State revenues constrained to gas tax collections • Federal revenues constrained to gas tax collections • Tolls for express lane scenario • Transit revenue adequate to cover current operations held at 3% • Mitigation fees
	Aggressive	<p>Baseline Projects Plus the Following:</p> <ul style="list-style-type: none"> • Freeway Improvements <ul style="list-style-type: none"> ○ Full Buildout of I-215 from I-10 to SR-60 (including I-215/Washington-Mt Vernon interchange) ○ I-215 mixed flow lane from SR-210 to I-15 ○ Completion of I-10 to Riverside Co. Line with HOV or Express Lanes ○ SR-210 HOV lane from I-215 to I-10 ○ I-10/I-15 Express Lane Connectors • Interchange Program 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 • BRT (West Valley Connector, Foothill-5th) • Express Bus (Remaining key transit corridors) • Non-Motorized Transportation Plan buildout (Secondary Active Transportation Projects) • Goods movement projects (truck climbing lanes, Intermodal access improvements) • East-West Freight Corridor (regional project) • High Desert Corridor (public and/or private funding) • Passenger Rail to Ontario Airport 	<p>Match Funding to Infrastructure Need Potential options:</p> <ul style="list-style-type: none"> • Tolls for express 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 • Prop 1B-type infusion every 10 years • 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	82,051,483	1.1%	82,945,126	2.2%
Vehicle Hours Traveled	1,203,423	2,029,243	1,884,948	-7.1%	1,886,904	-7.0%
Vehicle Hours of Delay	140,982	476,229	342,267	-28.1%	274,436	-42.4%
Average Speed (mph)	46.9	40.0	43.5	8.8%	44.0	9.9%

Source: SBTAM

Summary of the CTP Transportation Strategy

There are two parts to SANBAG's transportation strategy: a set of overarching principles, coupled with individual strategies by geographic area, mode, and function.

Overarching Principles

- **Customer focus** – SANBAG and other public agencies exist to serve their traveling “customers.” Customers extend across all auto, transit, truck, and non-motorized modes.
- **Partnership-building** – SANBAG is part of a multi-agency team to deliver mobility and safety improvements to our customers. Other important parts of the team include Caltrans, transit agencies, local jurisdictions, SCAG, air quality management districts, and the private sector. Good communication and collaboration is essential for each agency to accomplish its part of the overall mission.
- **Stewardship** – The public has entrusted resources to SANBAG and other transportation-related agencies. We must be good stewards of both the limited financial resources available and the environmental resources we need to preserve as the system is built.
- **Cost-effectiveness** – Investments should be made in a way that maximizes the benefits derived from the available resources, with due attention given to geographic equity.
- **Economic competitiveness** – The transportation system exists to enable the businesses and residents of San Bernardino County to thrive. Our continued investment in transportation efficiency will enhance San Bernardino County as a business location.
- **Delivering on commitments** – Commitments are made at multiple levels, but major ones include: delivering the range of projects reflected in the Measure I Expenditure Plan; equitably distributing State, federal, and Measure I funding to the county's transit agencies and local jurisdictions; supporting implementation of the San Bernardino Countywide Vision; fulfilling commitments in the Sustainability MOU with SCAG; and supporting other statewide sustainability goals while fostering economic growth.
- **System preservation** – SANBAG and its agency partners need to work together to estimate maintenance needs and seek the funding needed to preserve/operate capital investment in highways and transit systems.

Individual Strategies

Individual strategies can be grouped into three primary categories:

- Geographic
- Modal
- Functional

Table ES-4 presents proposed SANBAG strategies for the modal, functional and geographic categories incorporated into the Strategic Plan. 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	Forecasts show that the system will be highly congested by 2040. Funding for capacity and operational enhancements to the system is expected to be constrained.	Position the freeway system to adapt to future demands by using a managed lane approach and improved traffic management and information systems across all freeways.
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.
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. SANBAG will identify arterial improvements that are particularly important to route continuity.
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, and Metrolink costs are increasing faster than available funding.	To encourage investment, jurisdictions along these corridors need assurances from SANBAG/Metrolink that service can be maintained and, ideally, expanded. Develop a sustainable funding plan, and integrate operations for these corridors wherever possible. Position Metrolink capacity-enhancement projects for future implementation funding.
Gold Line	Timing of extension of Gold Line to Montclair and beyond is uncertain, and issue of overlapping Metrolink/Gold Line/ONT corridors needs to be resolved.	Develop an integrated operational/funding solution for Gold Line and Metrolink in coordination with LA Metro, Metrolink, and local jurisdictions.

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

Category	Challenge	Strategy
Valley Categories by Mode, Continued		
Transit Connection to ONT	The City of Ontario is negotiating for the transfer of control of Ontario International Airport to the City. The region would benefit from improved transit access for passengers and employees.	Take a phased approach to transit access to ONT, beginning with shuttle service from the Metrolink Rancho Cucamonga station, with a possible longer term solution emerging from corridor-level analysis.
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.	Develop an 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/Arterial funding split by 2020.
Fixed-route bus service	Sustainable funding for operations is the biggest challenge.	Study the challenges of the trajectory of transit operations funding, and jointly develop solutions between SANBAG and Omnitrans.
Airports	Passenger service has declined significantly at ONT over the past decade, attributed in part to current management policies.	Support Ontario and the region in the effort to regain local control of ONT, and make ONT, SBIA, and SCLA more competitive as destinations for passengers and freight.
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). <ul style="list-style-type: none"> • 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.	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. Continue to advocate the High Desert Corridor as a P3 project.
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 SANBAG and the Mountain/Desert transit agencies.

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

Category	Challenge	Strategy
Mountain/Desert Strategies, Continued		
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.	Conduct a study of bottleneck locations and lower-cost improvements that could reduce weekend congestion levels and prioritize funding for those projects.
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	Highways are facing serious future maintenance funding shortfalls. Local jurisdictions are responsible for arterial maintenance while Caltrans is responsible for freeway and state highway maintenance.	Conduct a strategic planning study with Caltrans and regional agencies to assess maintenance/operations funding needs and approaches to managing costs.
Transit System Maintenance and Operations	Existing transit systems are facing potentially serious future operations funding shortfalls.	Optimize transit operations and identify mechanisms to fund future system operations and expansion.
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 impossible 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.
Habitat Conservation	Habitat conservation currently occurs on a project-by-project basis, generally without a comprehensive approach.	Continue with development of the Habitat Preservation/Conservation Framework as a win-win approach for selected geographic areas.

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

Category	Challenge	Strategy
Functional Categories, Continued		
Freight	Forecasts show freight volume through the ports tripling by 2040, placing extreme demands on the transportation system.	Continue building out the freeway system, interchanges, and grade separations. Work closely with the private sector to understand changes in technology and freight operations and how the transportation system can best accommodate those changes. Construct all the freight projects in the California Freight Mobility Plan, to the extent funding allows.
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	The federal Highway Trust Fund and state gasoline/diesel taxes continue to lose purchasing power, resulting in lower revenues for transportation agencies and local jurisdictions.	Provide input to regional and statewide discussions and pilot projects on the generation of additional revenue for transportation. Construct a set of revenue generation options that can be evaluated by the SANBAG Board, with input from a wide range of stakeholders.

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.