



North Desert Subarea Plan

San Bernardino County Long Range Multimodal
Transportation Plan

San Bernardino County, CA

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Contents

1	Subarea Overview	1
2	Unique Challenges	1
3	Strategic Priorities	2
4	Strategic Priorities Action Plan	4
5	Conclusion and Next Steps	11
6	References	12

Tables

Table I. North Desert Subarea - Major Local Highway Projects Program Through FY 33/34 (1,000s)	4
Table II. Mobility Action Plan for the North Desert Subarea	5
Table III. Good Movement Action Plan for the North Desert Subarea	7
Table IV. Climate Adaptation and Resiliency Action Plan for the North Desert Subarea	8
Table V. Disadvantaged Communities Action Plan for the North Desert Subarea	9
Table VI. Funding Action Plan for the North Desert Subarea	10

Figures

Figure 1-1. North Desert Subarea	1
Figure 3-1. CalEnviroscreen Percentile for the North Desert Subarea	3

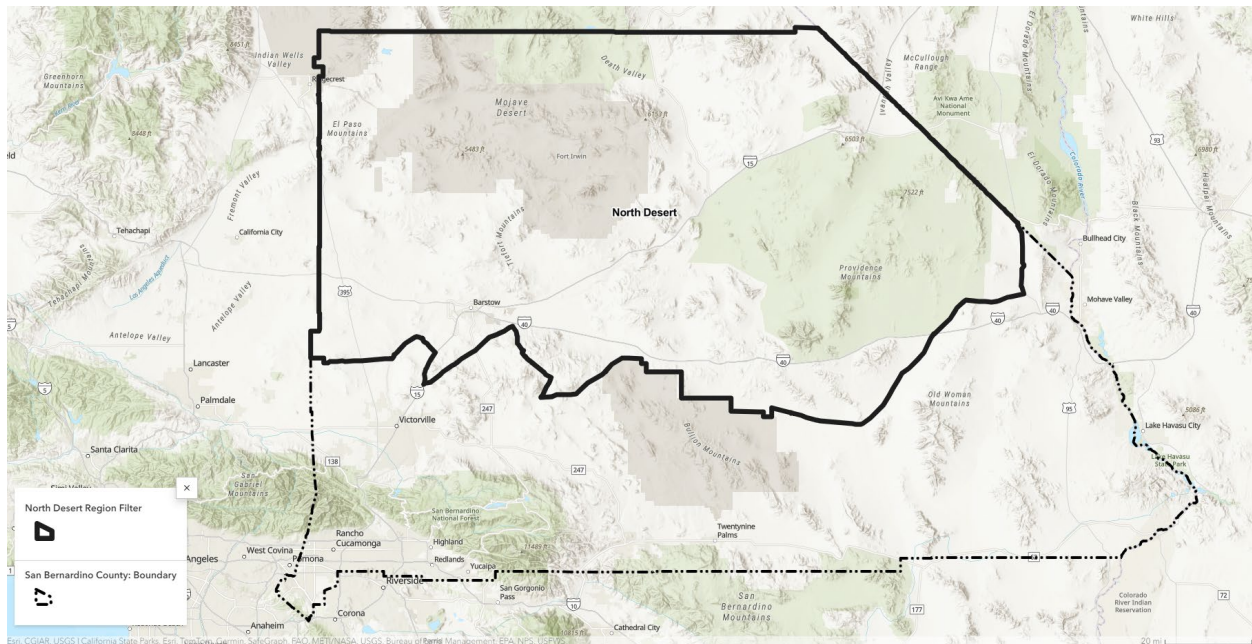
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1 Subarea Overview

As the largest county in the contiguous United States in land area, San Bernardino County is geographically diverse, and each subregion has unique needs. This is recognized in the county's half-cent sales tax for transportation improvements, Measure I, which allocates funding to six subareas. In developing the Long Range Multimodal Transportation Plan (LRMTP), the six subareas identified by Measure I were analyzed to ensure issues facing San Bernardino County's unique geographic areas are adequately addressed. This subarea plan focuses on the North Desert subarea (Figure 1-1).

The North Desert includes the City of Barstow and communities of Fort Irwin, Silver Lakes, Lenwood, and Baker. The North Desert is geographically the largest subarea in the county. The subarea had 19,346 households in 2019, which is projected to increase by 37 percent in 2050 (Southern California Association of Governments [SCAG] 2024). Additionally, the number of jobs in the North Desert is expected to increase by 32 percent between 2019 and 2050 (SCAG 2024). Household and job growth is projected to be concentrated in Barstow, as the surrounding areas consist mostly of open space, designated for solar farms and limited agricultural use.

Figure 1-1. North Desert Subarea



Source: Existing Conditions StoryMap

2 Unique Challenges

Long Commute Distances: Developed areas in the North Desert are mainly residential and focused in Barstow, with commercial and industrial land uses located in the northern part of the city. The number of jobs per household for the North Desert is 0.87 and projected to decrease in 2050. This is less than that of the county's (1.31) and the SCAG region's (1.42) jobs per household, suggesting limited local employment opportunities, forcing residents to commute to job centers in the Victor Valley

and beyond. This results in long commutes and high dependency on automobiles due to limited transit options.

Limited Transit Options: Victor Valley Transit Authority operates five local routes in Barstow and one commuter route, B-V Link. B-V Link connects the city of Barstow with Victorville and Apple Valley and then continues the Valley to medical centers and community facilities. B-V Link operates limited service on weekdays and Saturdays. Victor Valley Transit Authority (VVTA) also subsidizes vanpools, however availability for long-distance trips is dependent on volunteer drivers and their destinations. Although Brightline West will operate through Barstow, there will not be a station in the North Desert to connect the subarea to the high-speed passenger rail system.

Dependence on Key Arteries: Interstate 15 (I-15), Interstate 40 (I-40), and State Route 58 (SR-58) are the key arterials through the North Desert. Smaller arterials and local roads are primarily concentrated in Barstow. I-15 provides regional access between the San Bernardino, Los Angeles, and San Diego areas to the south and Las Vegas, Nevada and Utah to the north. I-40 provides regional access to the east through the Mojave Desert to Needles and northern Arizona, and SR-58 provides access to Bakersfield. I-15 and I-40 are also part of the National Network to support interstate commerce, which further impacts the capacity of key arterials in the North Desert.

Roadway Congestion: I-15 through the North Desert subarea experiences congestion from local and regional travel. Additionally, trips to Las Vegas during holidays and weekends significantly impact the traffic condition.

3 Strategic Priorities

In developing the LRMTTP, five areas of concern were identified throughout the county: mobility, goods movement, climate adaptation and resiliency, disadvantaged communities, and funding. The areas of concern are related to the goals and objectives of the LRMTTP. This section describes how these areas relate to the North Desert subarea.

Mobility: As mentioned above, I-15 and I-40 are the two key arterials in the subarea for local and regional travel. Paved local roads are very limited and concentrated in the developed areas of Barstow. The existing bicycle network is only on a segment of Main Street and connected sidewalks are focused near schools and parks in Barstow. There are no existing bike lanes and insufficient sidewalks to connect communities across I-15. However, VVTA has one of the more robust vanpool programs in the state, and continuation of that strategy, along with carpool formation, should continue to be a high priority.

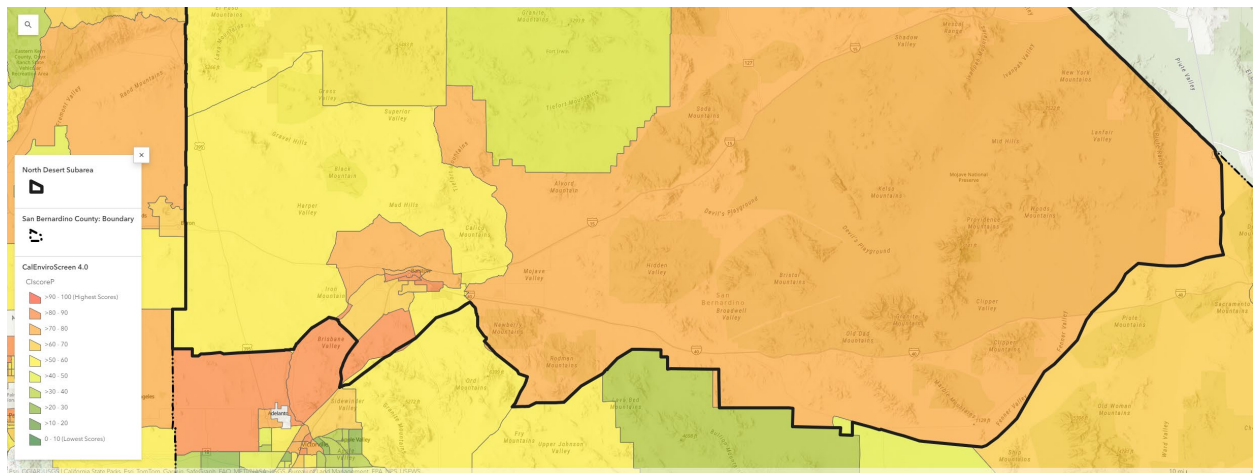
Goods Movement: The Barstow International Gateway (BIG) project, being developed by BNSF, will be the largest railway hub in the western United States. This will include a rail yard, intermodal facility, and warehouses for transloading freight. The intent of the BIG facility is to transport freight from the ports of Los Angeles and Long Beach by rail, sorting and transloading in Barstow before continuing on its eastbound journey by rail. This strategy would help to reduce the number of truck movements on I-15 and through the Cajon Pass by transferring a portion of the truck trips to rail. At the same time, this new facility could adversely impact air quality and pavement conditions because of the increase in local freight activity. It also has high potential to bring more jobs to the area and boost the local economy. In addition, San Bernardino County Transportation Authority (SBCTA) and its private partners are working to place zero-emission (ZE) truck charging and hydrogen fueling stations at strategic locations along I-15 to help accelerate the transition to clean trucks.

Climate Adaption and Resiliency: The North Desert subarea is vulnerable to flash floods following heavy participation, affecting the transportation network, particularly rural roadways. In the summertime, the average daily temperature reaches 102 degrees, with peaks in the 110s, and some VVTA bus stops lack adequate shade and amenities to ensure rider comfort.

Disadvantaged Communities: Most census tracts in the North Desert subarea have lower CalEnviroScreen scores compared to other subareas (Figure 3-1), suggesting a lower pollution burden and reduced vulnerability to pollution. However, census tracts in Barstow and Mojave National Preserve are in the highest 25 percent of overall scores in CalEnviroScreen 4.0 and are classified as disadvantaged by senate Bill 535. Diesel particulate matter is higher in Barstow, near the Marine Corps Logistics Base, and sensitive populations in the area are at risk for asthma, low birth weight, and cardiovascular disease.

Funding: Funding issues are not restricted to one geographic area, however, securing funding to expand bus service between Barstow and the Victor Valley and addressing gaps in the bike lanes and sidewalks are priorities for the North Desert subarea.

Figure 3-1. CalEnviroScreen Percentile for the North Desert Subarea



Source: CalEnviroScreen 4.0

4 Strategic Priorities Action Plan

The final LRMTTP report identifies the projects being considered for the forthcoming SBCTA 2025 10-Year Delivery Plan, and presents projects listed for the “Baseline Level” of investment and additional projects at the “Aggressive Level” that can be considered with additional revenue for all subareas. Table I lists highway projects being pursued by local jurisdictions in the North Desert Subarea over the next 10 years. Additional details are available in the SBCTA 2025 10-Year Delivery Plan.

Table I. North Desert Subarea - Major Local Highway Projects Program Through FY 33/34 (1,000s)

PROJECT		COST
1	North First Avenue Bridges over Mojave River & Overflow*	\$89,895
2	Rimrock Road Rehabilitation from Barstow Road to Avenue J	\$1,244
3	Baker Boulevard Bridge Replacement over Mojave River*	\$29,872
4	National Trails Highway Bridges Replacements*	\$111,631
TOTAL:		\$232,642

* Project is not fully funded.

In addition, VVTA has conducted a similar long-range planning effort, to include its Barstow service area. VVTA's 2024 Comprehensive Operational Analysis (COA) presents a “Vision Plan” that sets forth route level and program level improvements that will represent a 156 percent increase in annual revenue hours and doubling the number of vehicles (VVTA 20024). Part of the plan in the COA includes a restructuring of routes that will feed the new Brightline West high-speed rail stations in Apple Valley and Hesperia. This 218-mile passenger rail service will operate from Las Vegas to Rancho Cucamonga, with 96% of its alignment within the median of Interstate 15. Construction is expected to take about 4 years with service beginning in 2028. It will provide a new means for making the commute from the Victor Valley, down the Cajon Pass, with transit connections to other destinations in the San Bernardino Valley and to Los Angeles. Barstow is only about 20 miles from the Apple Valley station. The COA can be found at: [VVTA Comprehensive Operations Analysis - June 2021](#).

Table II through Table VI summarize the strategic priority and key actions for each of the issues described in the previous section.

Table II. Mobility Action Plan for the North Desert Subarea

Strategic Priority	Key Actions
Further develop the rural transit network	Existing VVTA service represents the backbone of transit mobility. Their ability to deliver these services needs to be maintained.
	Continue to manage and improve other alternate mode initiatives, including vanpool, carpool, and active transportation modes.
	Invest in VVTA transit system based on priorities in the Comprehensive Operational Analysis
	Pursue operating funds for increased service using strategies described in key issue 5
Incremental transit enhancements in rural areas	Identify unmet or underserved needs in rural communities
	Secure funding to implement new/enhanced service to meet rural travel needs
Develop coordinated program of first/last mile improvements	Build on the Non-Motorized Transportation Plan to define an active transportation priority list and advance project development to position for funding
	Deliver priority improvements in the 10-Year Delivery Plan
	Build on current efforts by SCAG to develop design guidelines for a tiered mobility hub network that co-locates transit and active transportation amenities such as bike sharing
Invest in multimodal connectivity and customer experience	Continue to coordinate service planning between transit providers to schedule convenient connections between modes
	Actively promote fare integration and adoption of interoperable fare payment and trip planning technology across San Bernardino County and regional public transportation services and modes
	Invest in physical improvements at bus stops to improve rider safety and comfort, such as shelters, benches, and lighting
Manage congestion on freeways and arterials	Coordinate I-15/access improvements associated with the BIG Project with BNSF and Caltrans
	Define and deliver priority highway/rail grade separations
	Continue and expand partnerships with large and medium-sized employers to promote multimodal alternatives to single-occupancy vehicle commutes, including telecommuting

Promote strong vanpool, carpool, and transportation demand management (TDM) initiatives

Continue partnering with regional agencies such as Riverside County Transportation Commission and LA Metro to share data and technology tools to support shared-ride opportunities for long-distance commuters

Review transit fare structures and carpool/vanpool programs to provide flexibility that encourages hybrid workers to use alternative modes on days they must travel to an office

Promote awareness of mobility alternatives and communicate the quality-of-life benefits of bus and rail transit, vanpool, and carpool as alternatives to driving alone

Develop vehicle miles traveled (VMT) mitigation bank

Leverage existing plans and work on strategic priorities to identify multimodal projects that can reduce VMT

Implement the proposed “mode-choice based VMT mitigation bank” to incentivize commuters to reduce their VMT and make VMT credits available for purchase by proponents of highway and development projects.

Table III. Good Movement Action Plan for the North Desert Subarea

Strategic Priority	Key Actions
<p>Develop plan for designated freight corridors</p>	<p>Identify potential routes within and between major logistics hubs such as BNSF’s future Barstow International Gateway</p> <p>Assist jurisdictions with guidelines for implementation of AB 98, to include identification of corridors that may be designated as truck routes</p> <p>Identify improvements to improve safety and operational efficiency along these corridors</p> <p>Work with Caltrans and California Highway Patrol to enhance current incident management and monitoring systems to actively manage traffic along key freight corridors</p> <p>Coordinate with local jurisdictions on a set of guidelines and plans to incorporate proposed truck routes into their circulation elements as required by AB98</p>
<p>Collaborate with logistics industry to shift freight from truck to rail, where practical and cost-effective</p>	<p>Prioritize connections to intermodal facilities such as the BIG Project</p> <p>Collaborate with BNSF and Union Pacific to address key bottlenecks in the freight rail network to increase rail capacity</p>
<p>Accelerate transition to clean trucks</p>	<p>Partner with logistics and zero-emission charging/fueling companies to accelerate the transition to ZE truck operations and supporting infrastructure needs consistent with the California Transportation Commission’s Senate Bill 671 designated zero-emission corridors</p> <p>Partner with the private sector to seek grant funding for ZE trucks and charging/fueling stations</p> <p>Continue to coordinate with local jurisdictions and regional partners to build on goods movement decarbonization efforts such as the Riverside-San Bernardino-Ontario MSA Priority Climate Action Plan</p>
<p>Prioritize investments in high-volume highway freight corridors</p>	<p>Deliver key highway improvements in the Measure I 10-Year Delivery Plan</p> <p>Strategically invest in improvements to key highway freight bottlenecks and that minimize conflict between trucks and other road users</p>

Table IV. Climate Adaptation and Resiliency Action Plan for the North Desert Subarea

Strategic Priority	Key Actions
Encourage redundancy across the transportation network and improve operational resiliency on major arterials	Implement recommendations from the forthcoming Emergency Evacuation Network Study (EENR) as well as the SR-247/62 Emergency Bypass Study. The north end of SR-247 terminates in Barstow.
Accelerate transition to clean trucks	<p>Partner with trucking and zero-emission fueling/charging companies to accelerate the transition to zero-emission in the Senate Bill 671 corridors and for local logistics operations.</p> <p>Seek grant funding for ZE trucking and transit</p>
Transition transit operations to zero-emissions	Implement transit zero-emission plans, taking advantage of lessons learned as agencies deploy new technologies, in particular regarding operating zero emission vehicles long distances and in hot conditions
Support development of hydrogen hubs and fueling	Partner with the state and utility industry to site green hydrogen production in accessible Inland Empire and High Desert locations
Prioritize state-of-good-repair on highways and arterials	<p>Replace key rural bridges to restore and maintain access, such as those on the National Trails Highway and in Baker</p> <p>Collaborate with Caltrans and local jurisdictions on criteria such as pavement condition index for prioritizing maintenance of alternate routes and need for incident traffic management and emergency evacuation</p>
Establish emergency procedures	<p>Complete the Emergency Evacuation Network Resilience Study in cooperation with Western Riverside Council of Governments and partner to implement key recommendations of the study</p> <p>Aid transit agencies, where possible, during periods of emergencies due to extreme events such as fire and flooding, as they support evacuation of local residents (and their pets) to safe centers and evacuation shelters.</p> <p>Collaborate with local and state emergency service agencies to establish and maintain strong and clear communication pathways so that in times of emergency, San Bernardino County residents are knowledgeable about where to turn for immediate transportation-related information</p>

Table V. Disadvantaged Communities Action Plan for the North Desert Subarea

Strategic Priority	Key Actions
Continue to operate the local bus and demand-responsive transit systems that particularly serve residents without access to cars	<p>Analyze potential impacts of major transit investments on transit service to disadvantaged communities.</p> <p>Provide adequate maintenance, security, schedule information and cleanliness at local bus stops.</p> <p>Consider needs of all users as electronic fare payment systems are further developed.</p>
Take advantage of available funding focused on disadvantaged communities	<p>Deliver transit priorities identified in the LRMTTP that particularly benefit disadvantaged communities</p> <p>Ensure that transit and TDM programs are highlighted at employment sites where lower-wage workers tend to be employed</p> <p>Take advantage of equity-oriented programs like the Reconnecting Communities Pilot</p> <p>Continue to leverage state greenhouse gas reduction fund sources such as Transit and Intercity Rail Capital Program (TIRCP) and Senate Bill 1 funds such as Trade Corridor Enhancement Program (TCEP) to accelerate the ZE transition</p>
Free and reduced fare programs	<p>Expand targeted programs to improve transit affordability for students, seniors, and low-income individuals</p> <p>Promote electronic fare payment options, particularly to support fare-capping, including for low-income individuals who otherwise pay more for successive trips than the cost of a monthly pass</p> <p>Communicate fare incentives to the public</p>
Prioritize multimodal improvements to improve mobility in disadvantaged communities	<p>Prioritize transit corridors that connect disadvantaged communities to key destinations</p> <p>Invest in high-comfort off-street active transportation corridors where feasible</p> <p>Build on the Non-Motorized Transportation plan to deliver improvements in disadvantaged communities</p>
Prioritize inclusive communications	<p>Translate promotional materials, trip planning information, and other information on SBCTA programs into the most common languages for the targeted audience</p> <p>Develop target-group focused communications strategies – such as to seniors, to rideshare commuters, to potential transit users – that can promote mobility choices.</p> <p>Use the Public & Specialized Transportation Advisory and Coordination Council (PASTACC) to coordinate delivery of services to disadvantaged communities.</p>

Table VI. Funding Action Plan for the North Desert Subarea

Strategic Priority	Key Actions
Secure additional state and regional funding for transit operations	<p>Increase availability and flexibility of future Measure I funding for use in transit operations</p> <p>Lobby for greater predictability of state and federal transportation revenue streams and flexibility to use new and existing state and federal transportation funding sources for operating expenses</p>
Align future funding sales tax measures with the priorities of the LRMTF	<p>Ensure that a potential Measure I renewal or additional tax measure would allow the key actions for the strategic priorities as eligible expenditures, including capital investments for all modes and ongoing operating costs for transit</p> <p>Ensure that a potential Measure I renewal provides flexibility in future allocations to allow SBCTA and its partners to adapt to the uncertain future and changing investment needs</p>
Partner with community-based organizations (CBOs) and the business sector to build support for projects and promote alternatives	<p>Maintain relationships with CBO leaders and business sector partners</p> <p>Leverage CBO and private sector contact networks to disseminate information in a targeted manner and collect feedback from communities and businesses affected by projects</p> <p>Leverage CBO and business sector networks to disseminate information about new and existing multimodal services and incentives available to the public</p>
Support local agency grant pursuits	<p>Monitor grant funding opportunities at federal, state, and regional levels and connect collaborate with local partners on grant pursuits</p> <p>Provide technical support for local grant applications</p>

5 Conclusion and Next Steps

Priority projects to improve operations of the transportation network are identified in the 10-Year Delivery Plan. Projects to improve active transportation facilities included in the Non-Motorized Transportation Plan, Points of Interest Pedestrian Plan, and the Regional Safe Routes to School Plan are focused in Barstow.

VVTA recently revised their bus routes to improve service performance and to address the evolving needs of the Barstow region. Future transit investments for Barstow are laid out in VVTA's COA.

6 References

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