

MEMORANDUM

Date: Monday, November 21, 2016

To: Colin Drukker, Placeworks

From: Jason Pack, Fehr & Peers
Michael Sahimi, Fehr & Peers

Subject: Future Transportation Network Improvements, Opportunities, and Issues in San Bernardino County

OC15-0399

With the County of San Bernardino's General Plan Update underway, it is important to be cognizant of future transportation improvements, trends and the opportunities they present for the County as the Plan is developed. This memorandum highlights key future facilities and other issues that the County should be aware of. The information in this memorandum builds upon the *San Bernardino Countywide Plan Transportation Existing Conditions Report* (January 2016).

The remainder of this memorandum is organized into the following sections:

- Future Roadway Network
- Congestion Management Plan (CMP) Locations
- Scenic Routes and Trails
- Existing Bridges and Deficiencies
- Public Transit
- Airports
- Goods Movement
- Non-Motorized Facilities
- Commute Patterns
- Proposed Count Locations (For General Plan Update EIR)
- Summary and Conclusions

Since the *Existing Conditions Report* was prepared in late 2015 and early 2016, the County has modified its regional boundary extents. As such, the Desert Region has been divided into the North Desert Region and the East Desert Region. This report and accompanying maps reflect this update.



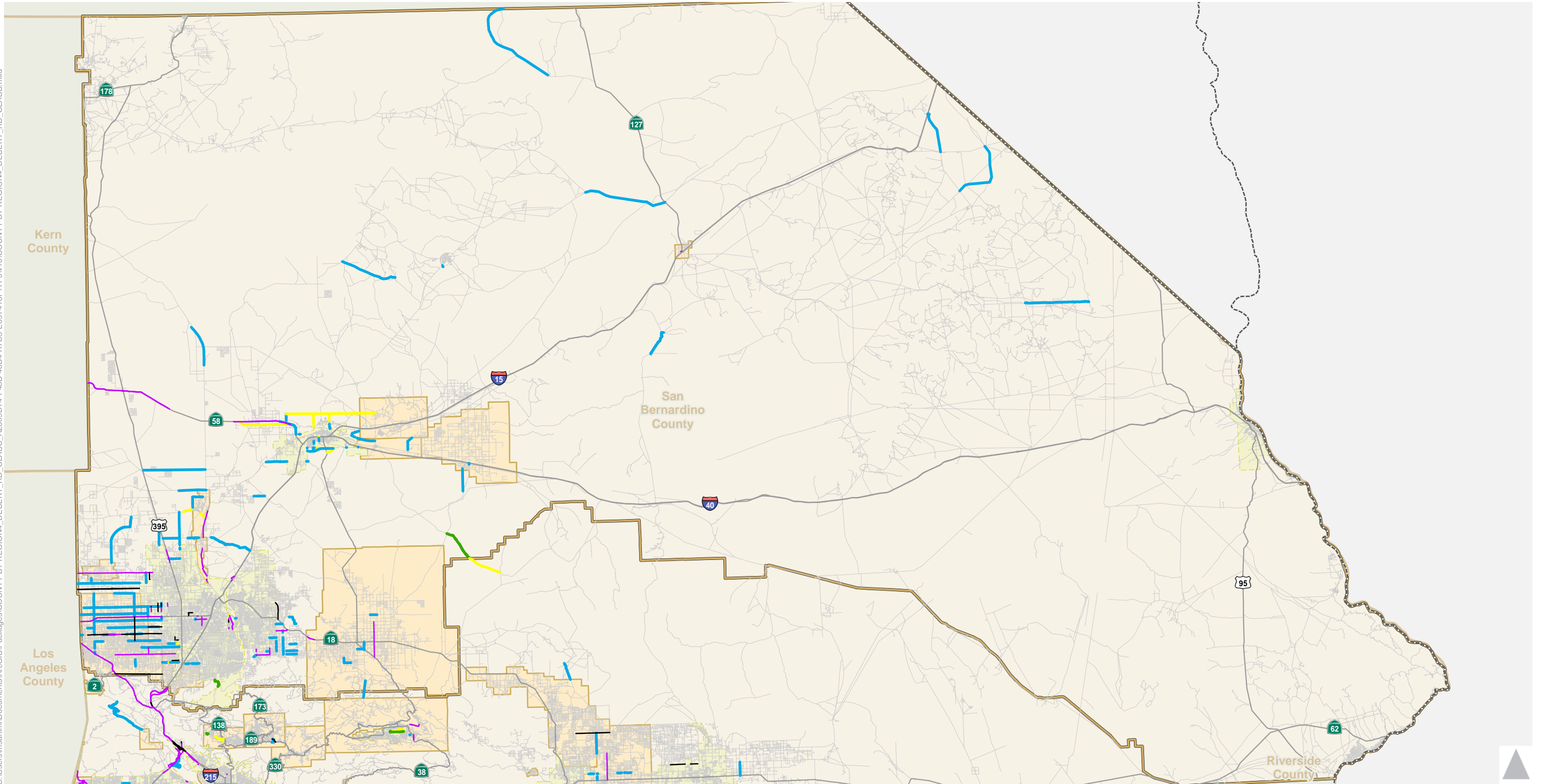
FUTURE ROADWAY NETWORK

Several roadway improvement programs are slated for County roadways in the coming decades, according to the Southern California Association of Governments (SCAG). The SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is the official transportation plan for six of the 10 counties in Southern California (Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County). The RTP includes a list of funded transportation projects in each of the counties. For projects within San Bernardino County, SCAG develops a list of funded projects with input from the San Bernardino Associated Governments (SANBAG). Figures 1A through 1D show RTP projects in the County, classified as either construction of new roadways or widening of existing roadways. Projects are shown only for unincorporated portions of the County for clarity.

The County's previous General Plan also identifies a roadway network that includes several proposed roadways. These consist of entirely new roadways and paving existing dirt roadways. Figures 1A through 1D display proposed roadways according to the County's previous General Plan. As shown on the figures, several proposed roadways do not overlap with or are not consistent with RTP improvements. The County should strive to develop a proposed roadway network consistent with the RTP and ensure proposed roadway improvements are funded.

Figures 1A through 1D also provide suggestions for deletions from the County's proposed roadway network. These include suggestions provided by County staff and by Fehr & Peers as the roadways are too local in nature to be identified in the Countywide Circulation Element, or are not needed to provide circulation in the County. Specific improvements and proposed deletions within each region are discussed below.

C:\Users\msahimi\Documents\ArcGIS\Projects\COUNTY BY REGION4_DESERT_RD.CLASS_A2809D74-F48B-46B4-A7D5-E097418F17F0v1\COUNTY BY REGION4_DESERT_RD.CLASS.mxd



- Current General Plan Proposed Roadway
- Proposed Deletion (F&P)
- Proposed Deletion (County)
- RTP: New Facilities
- RTP: New Lanes/Widening
- North Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

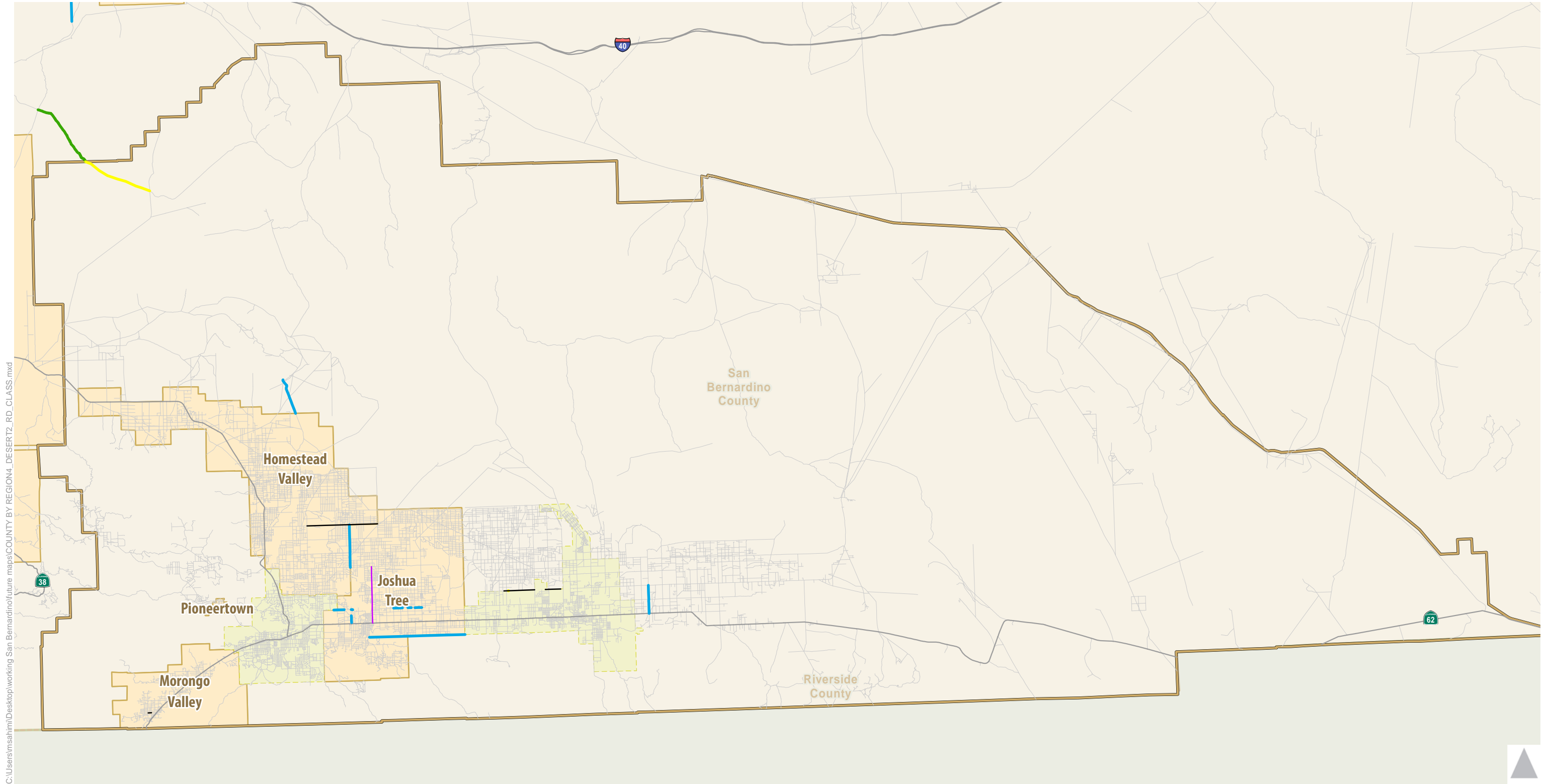
DRAFT

Figure 1A










North Desert Region - Future Roadways

*within Unincorporated County





C:\Users\msahimi\Desktop\working San Bernardino\Future maps\COUNTY BY REGION4_DESERT2_RD_CLASS.mxd

- | | | |
|--|---|---|
|  Current General Plan Proposed Roadway |  RTP: New Facilities |  City Boundaries |
|  Proposed Deletion (F&P) |  RTP: New Lanes/Widening |  Community Plan Boundaries |
|  Proposed Deletion (County) |  East Desert Region |  San Bernardino County |

DRAFT

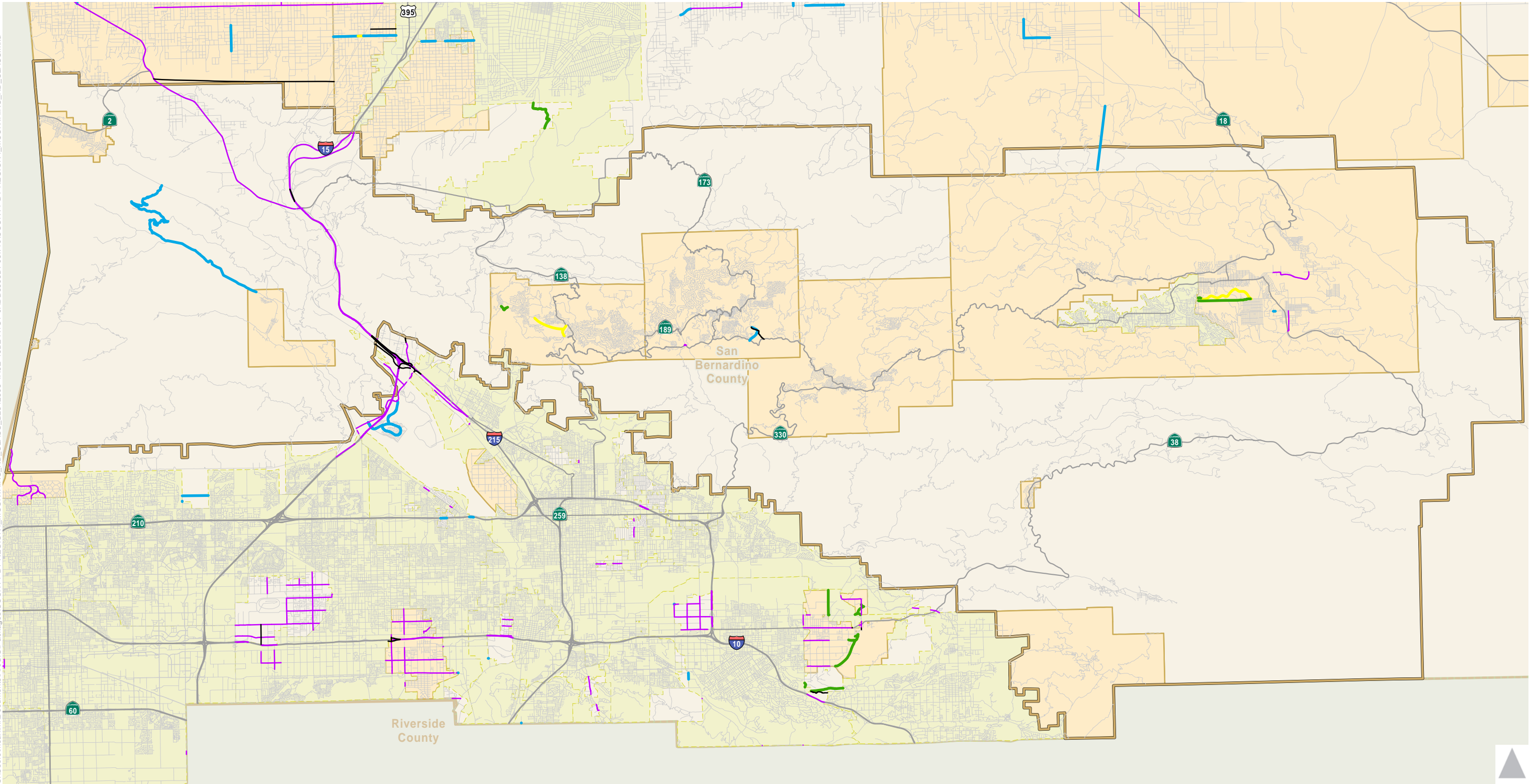
Figure 1B

East Desert Region - Future Roadways

*within Unincorporated County



C:\Users\msahimi\Documents\ArcGIS\Projects\COUNTY BY REGION4_MOUNTAINS_RD_CLASS.mxd



- Current General Plan Proposed Roadway
- Proposed Deletion (F&P)
- Proposed Deletion (County)
- RTP: New Facilities
- RTP: New Lanes/Widening
- Regions_151006
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

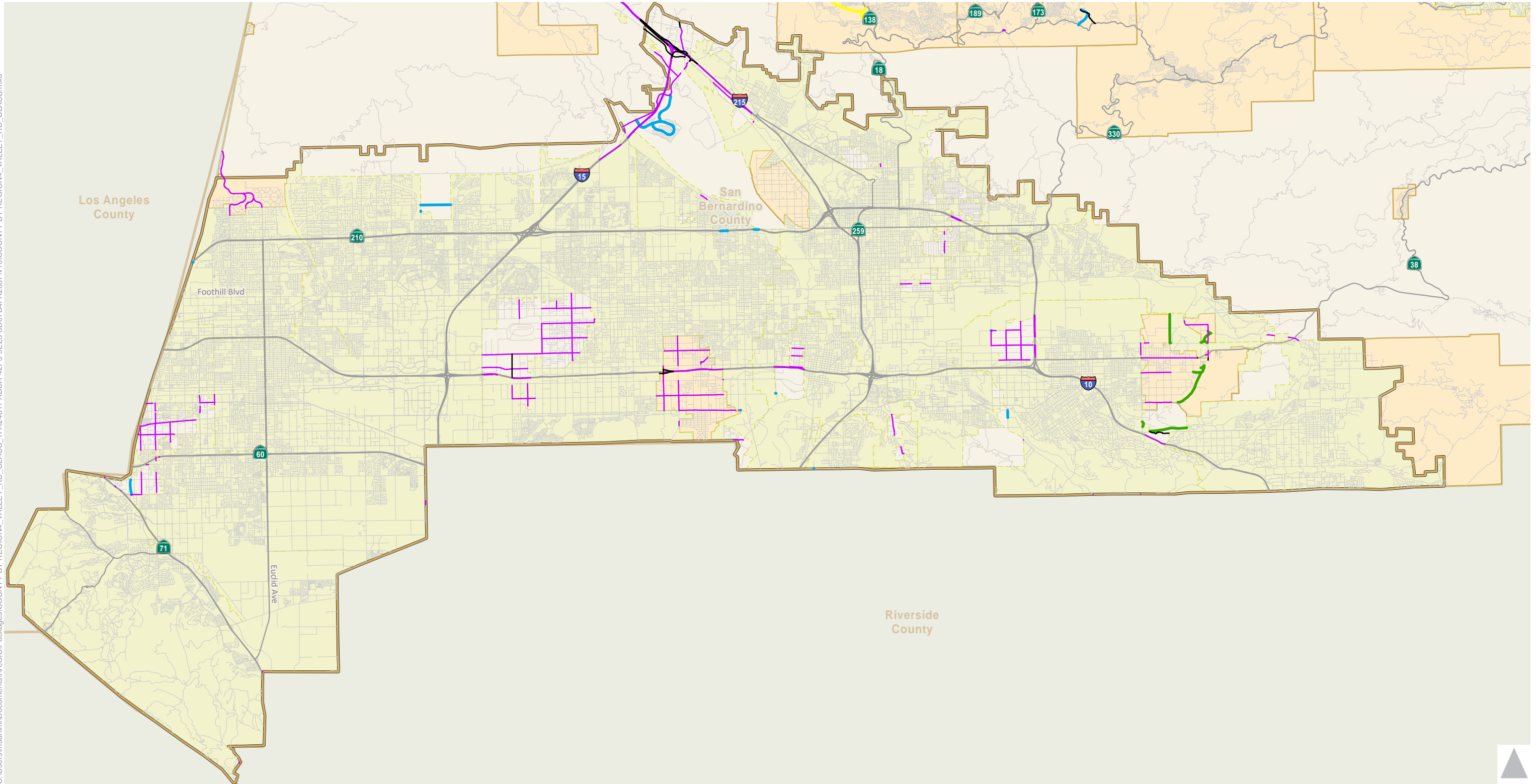
Figure 1C

Mountain Region - Future Roadways

*within Unincorporated County



C:\Users\msahimi\Documents\ArcGIS\Projects\COUNTY\BY REGION4\VALLEY_RD_CLASS_1FA24611-ABDA-42F3-9E23-8D07B4FA2037\10\COUNTY BY REGION4_VALLEY_RD_CLASS.mxd



- Current General Plan Proposed Roadway
- Proposed Deletion (F&P)
- Proposed Deletion (County)
- RTP: New Facilities
- RTP: New Lanes/Widening
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 1D

Valley Region - Future Roadways

*within Unincorporated County





NORTH DESERT REGION

According to the RTP, new roadways such as Ranchero Road, Duncan Road, Wilson Ranch Road, and La Mesa Road are planned in Phelan/Pinon Hills. In addition, the High Desert Corridor, discussed below, is planned near Phelan/Pinon Hills, El Mirage, and Oro Grande. A number of roadway widening improvements are also listed in the RTP. For example, portions of State Routes 58 and 138 will be widened from two to four lanes, which will accommodate higher volumes through the region and to various communities.

Previous General Plan roadway improvements in this region include the completion of the network and road extensions at locations such as Dos Palmas Road, Wilson Ranch Road, Mojave Drive, Smoke Tree Road in Phelan/Pinon Hills. The County has proposed deleting a few proposed segments due to rugged terrain and lack of a visible trail. Fehr & Peers has also proposed deleting two other locations (Los Flores Road and County Road 21017).

EAST DESERT REGION

There are a limited number of RTP improvements in the East Desert Region. These include new roads such as Winters Road and Amboy Road and some widening along Sunburst Avenue in Joshua Tree. The previous General Plan includes the completion of the network and extensions at locations such as Giant Rock Road near Homestead Valley and Baseline Road and Two Mile Road in Joshua Tree.

MOUNTAIN REGION

RTP improvements in the Mountain Region consist of widening or improving existing facilities. These include a truck climbing lane on State Route 138 and express lanes on Interstate 15, both of which will accommodate increased goods movement and passenger vehicles through the region. In addition, improvements include widening portions of Shay Road and Hatchery Drive in Bear Valley.

Previous General Plan roadway improvements in this region includes the completion of the network and extensions at locations such as Lytle Creek. The County has proposed deleting a few proposed segments due to rugged terrain and lack of a visible trail. Fehr & Peers has also proposed deleting two other locations (Devils Canyon Road and Juniper Drive).



SANBAG is currently undertaking the Mountain Area Transportation Study (MATS), which will identify and analyze roads and intersections that provide access to, from, and within the Mountain Region's communities. This plan's ultimate goal is a sub-regional transportation improvement plan that identifies key projects that address both existing and forecast deficiencies during both peak summer and winter seasons. Upon completion, the study's results will be incorporated into the General Plan Update. SANBAG has conducted outreach for this study including through an interactive web map. Feedback from stakeholders regarding existing issues along Mountain roadways has included:

- Lack of shoulder lanes or pullouts along some roadways, including near scenic vistas
- Visibility and sight distance issues
- Steep grade that is difficult to navigate in winter conditions
- Lack of turn pockets on some roads
- Lack of wide roads
- Conflicts between local and tourist traffic, especially during peak season
- Lack of alternative routes

VALLEY REGION

According to the RTP, proposed new facilities in the Valley Region include a new Interstate 10 interchange at Alder Avenue, truck bypass lanes on Interstate 15 and Interstate 215, and high-occupancy vehicle (HOV) lanes on Interstate 15. Local roads such as Mountain Avenue, Pipeline Avenue, San Bernardino Avenue, Valley Boulevard, Cherry Avenue, Arrow Route, Jurupa Avenue, Santa Ana Avenue, Locust Avenue, Mentone Boulevard, and Colton Avenue will also be widened. The previous General Plan includes the completion of the network and extensions at locations such as Wilson Avenue. Fehr & Peers has proposed deleting a number of segments from the County's network in and around Mentone to reduce duplicate or parallel roadways.

CMP LOCATIONS

To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, the CMP was enacted by Proposition 111, passed by



voters in 1990. The intent of the CMP is to provide the analytical basis for transportation decisions through the Statewide Transportation Improvement Program (STIP) process, a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources.

The Congestion Management Program for San Bernardino County, published and periodically updated by SANBAG, defines a network of state highways and arterials in the county and provides guidelines regarding level of service standards, impact criteria, and a process for mitigation of impacts on CMP facilities in the county. The minimum acceptable level of service (LOS) for CMP facilities is LOS E, with certain exceptions. The 2016 Congestion Management Program was updated in June 2016.

Within the County, there are 441 CMP monitored intersections along the County's major highways and arterials which also form the CMP Network, as shown on Figures 2A through 2D. Almost all CMP intersections are located within incorporated cities, with less than 15 intersections lying within the County's unincorporated communities. Nevertheless, the County should be aware of the CMP intersections within both incorporated and unincorporated communities and reduce impacts that can degrade performance along these facilities due to future development and growth.

NORTH DESERT REGION

There are 49 CMP intersections in the North Desert Region. Of those, one intersection (State Route 18 and Bear Valley Road) is outside any incorporated city. Several major roadways are part of the CMP network, including Interstate 40, Interstate 15, US Route 395, State Route 18, US Route 95, El Mirage Road, Phelan Road, Bear Valley Road, Arrowhead Lake Road, State Route 138, and State Route 247.

EAST DESERT REGION

There is one CMP intersection in the East Desert Region (State Route 247 and State Route 62), which does not fall into any unincorporated communities. The CMP network in this region consists of State Routes 62 and 247.



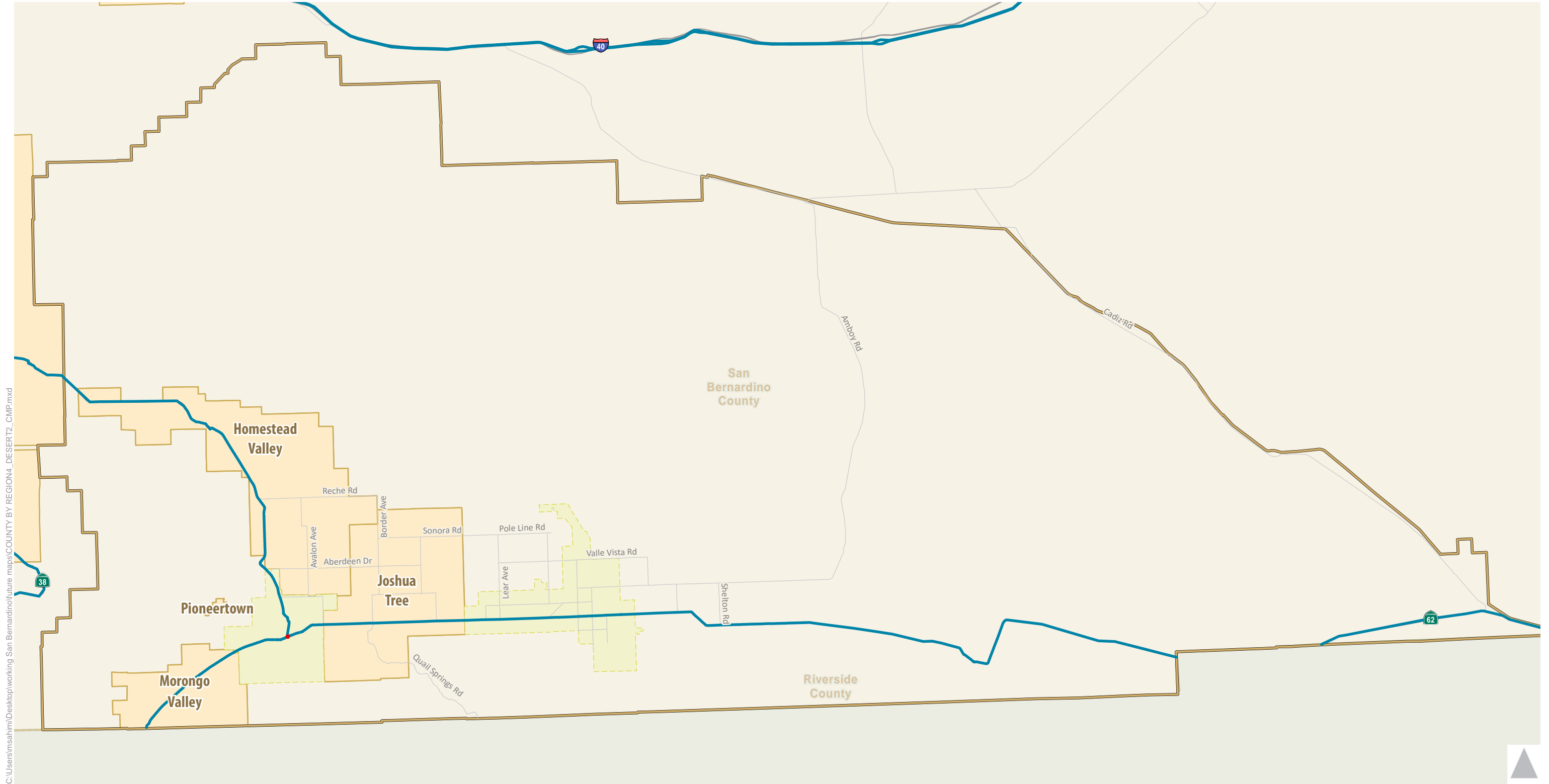
MOUNTAIN REGION

There are three CMP intersections in the Mountain Region, all of which fall within unincorporated communities. These intersections are Greenway Drive South and State Route 18 (in Lake Arrowhead), Greenway Drive North and State Route 38, and State Route 38 and State Route 18 (in Bear Valley). The CMP network in this region includes Interstate 15 and State Routes 18, 38, 138, 173, 189, and 330.

VALLEY REGION

There are 388 CMP intersections in the Valley Region. Thirteen of those intersections are in unincorporated areas: four are in Mentone, seven are in Bloomington, and two do not fall within any community plan boundaries. The CMP network in the Valley Region includes several highways and major arterials such as Cedar Avenue, Bloomington Avenue, Alder Avenue, Cajon Road, Garnet, Foothill, Lugonia Avenue, Wabash Avenue, 5th Street, Interstate 15, Interstate 215, and State Route 210.

DRAFT



C:\Users\msahimi\Desktop\working San Bernardino\Future maps\COUNTY BY REGION4_DESERT2_CMP.mxd

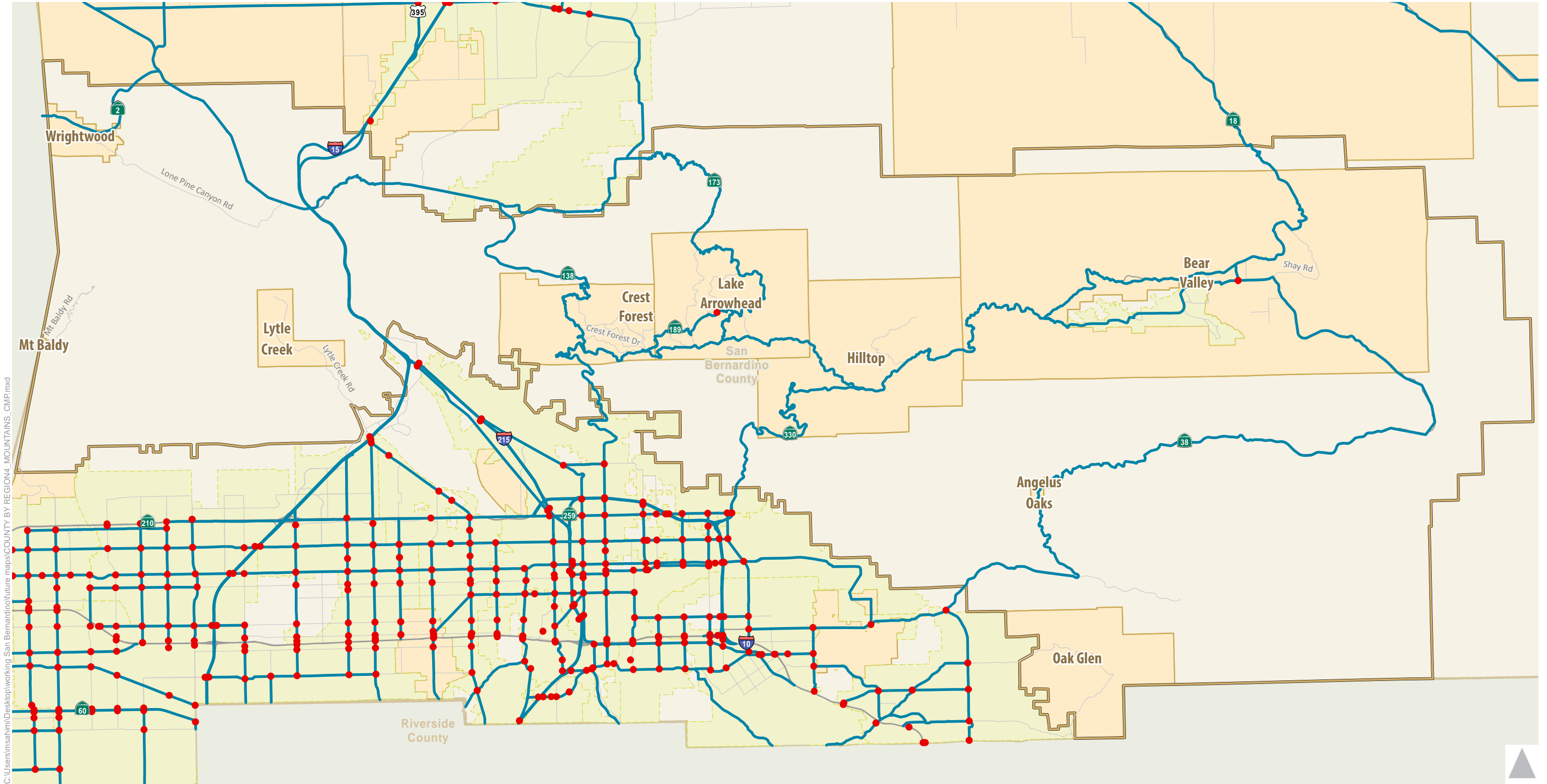
- CMP Monitored Intersection
- CMP Network
- East Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County

DRAFT

Figure 2B

East Desert Region - Existing CMP Network





C:\Users\msahimi\Desktop\working_San_Bernardino\Future_maps\COUNTY BY REGION4_MOUNTAINS_CMP.mxd

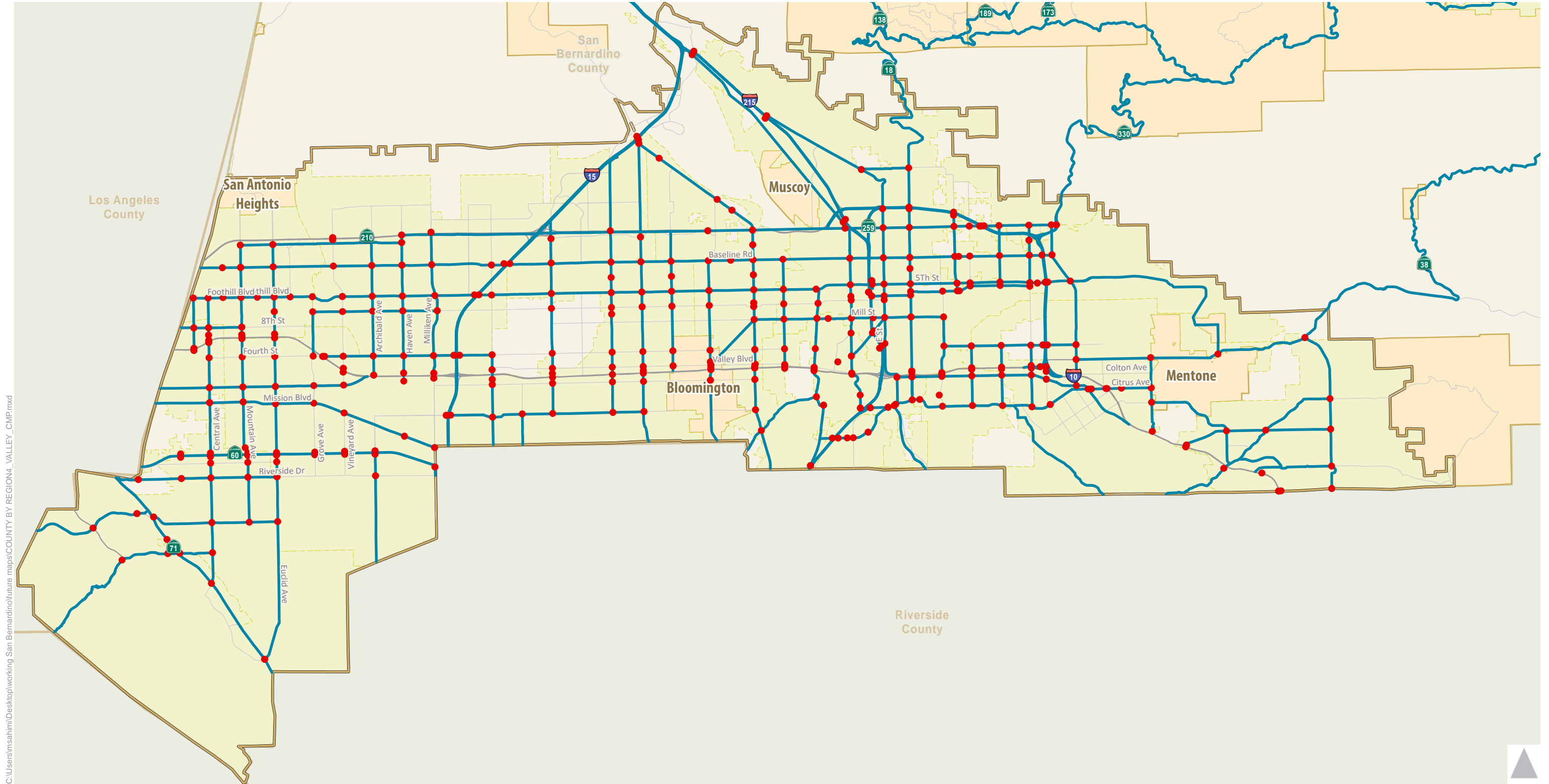
- CMP Monitored Intersection
- CMP Network
- ▭ Mountain Region
- ▭ City Boundaries
- ▭ Community Plan Boundaries
- ▭ San Bernardino County

DRAFT

Figure 2C

Mountain Region - Existing CMP Network





C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_CMP.mxd

- CMP Monitored Intersection
- CMP Network
- ▭ Valley Region
- ▭ City Boundaries
- ▭ Community Plan Boundaries
- ▭ San Bernardino County



DRAFT

Figure 2D

Valley Region - Existing CMP Network



SCENIC ROUTES AND TRAILS

Throughout San Bernardino County are vast undeveloped tracts of land that offer significant scenic vistas. However, future growth and development can increase pressure on these areas. Several scenic vistas are located along roadway facilities, especially throughout the North Desert, East Desert, and Mountain Regions. The County created the Scenic Highway Overlay to ensure the quality and character of these locations. Improvements under the overlay are subject to several land use and aesthetic controls. Under this overlay, several roads in the County are deemed Designated Scenic Routes. The County should ensure that these routes continue to be preserved and maintained and consider adding additional locations under this designation if deemed necessary.

In addition, the California Scenic Highway Program was created by the Legislature in 1963 as an attempt to preserve and protect scenic highway corridors from changes and development that would diminish the aesthetic value of lands adjacent to highways. It is important to note that no restrictions are placed on officially designated scenic highways in terms of improvements or further development. However, proposed projects are reviewed by Caltrans and the appropriate agencies to ensure the protection of the scenic corridors to the maximum extent feasible. The only existing state-designated Scenic Highway is State Route 38 (from east of the South Fork Campground to 2.9 miles south of State Route 18 at the state line).

The County recognizes that scenic regional trails are an important part of the transportation system that improves access to open spaces for pedestrians, bicyclists, and equestrians. As such, the County has proposed a system of regional trails consisting of County-designated multi-use trail facilities.

The proposed regional trails network and existing state-designated Scenic Highways and County Designated Scenic Routes are shown on Figures 3A through 3D. As the County continues to develop, it should ensure protection and expansion of these facilities as needed.

NORTH DESERT REGION

There are no existing state-designated Scenic Highways in the North Desert Region. Existing county-designated Scenic Routes include portions of Interstate 15, Interstate 40, Barstow Road, State Route 18, and State Route 138. The proposed regional trails network in the region includes the Death Valley Trail, Old Spanish Santa Fe, and the Mojave Trail.



EAST DESERT REGION

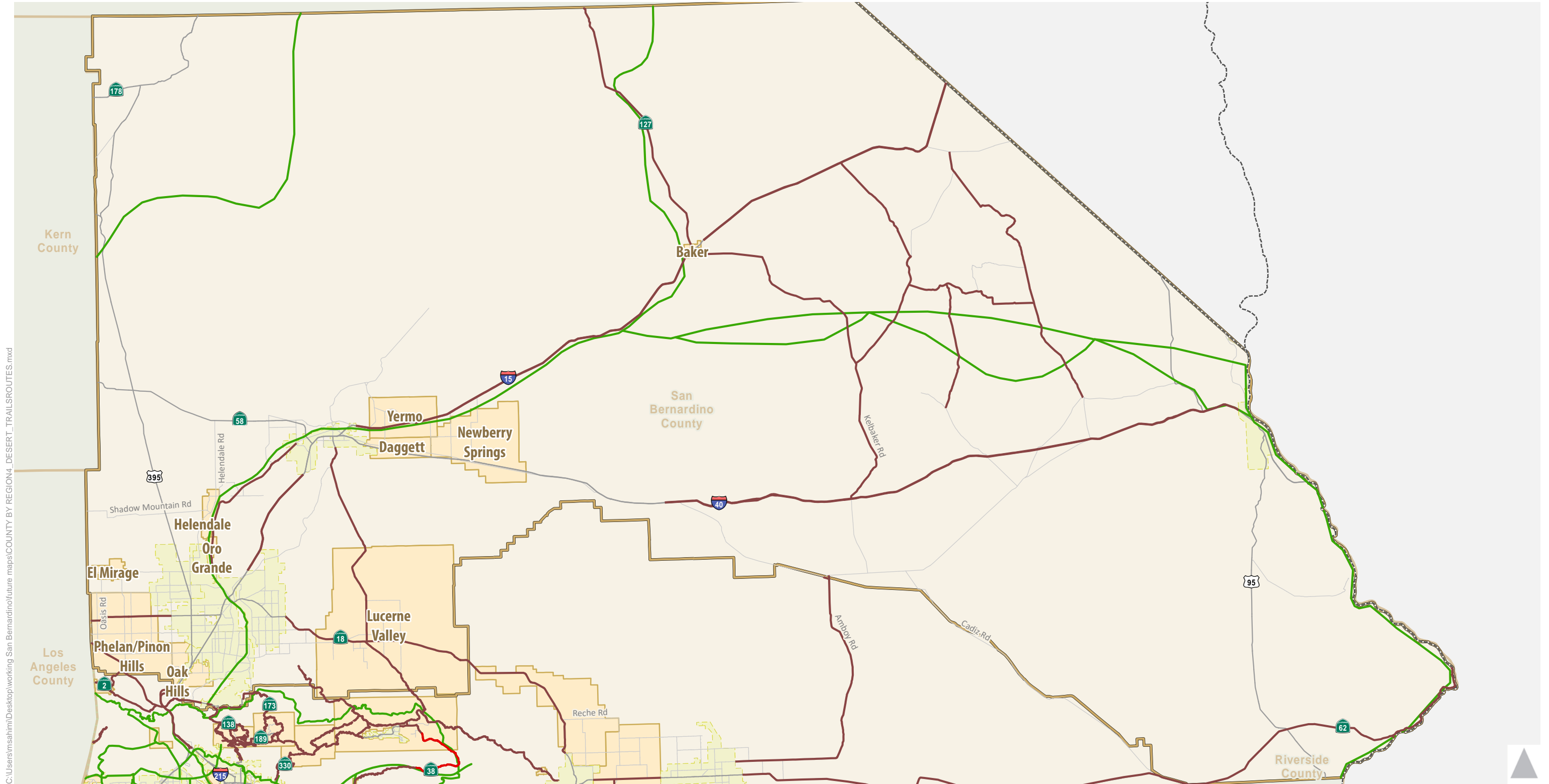
There are no existing state-designated Scenic Highways in the North Desert Region. Existing county-designated Scenic Routes include portions of Amboy Road, Twentynine Palms Highway, and Old Woman Springs Road. The proposed regional trails network in the region includes a portion of the Pacific Crest Trail.

MOUNTAIN REGION

State Route 38 (from east of the South Fork Campground to 2.9 miles south of State Route 18 at the state line) is the only existing state-designated Scenic Highway in San Bernardino County. County-designated Scenic Routes in the Mountain Region are extensive, including portions of Interstate 15, State Route 18, State Route 138, State Route 38, State Route 330, and several local roads. In addition, the proposed regional trails network in the region includes portions of the Pacific Crest Trail, Lytle Creek Trail, Cucamonga Creek Trail, and Santa Ana River Trail.

VALLEY REGION

There are no existing state-designated Scenic Highways in the Valley Region. Existing county-designated Scenic Routes include portions of State Route 38, State Route 71, Interstate 10, 5th Avenue, Citrus Avenue, Mentone Boulevard, Crafton Avenue, Highland Avenue, Sand Canyon Road, San Bernardino Avenue, and Colton Avenue. The proposed regional trails network in the region includes the Santa Ana River Trail, Cajon Creek Trail, San Timoteo Creek Trail, Day Creek Trail, Cucamonga Creek Trail, and Baseline Road Trail.



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_TRAILS\ROUTES.mxd

- Existing State Designated Scenic Highway
- Existing County Designated Scenic Routes
- Proposed Regional Trails
- North Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County

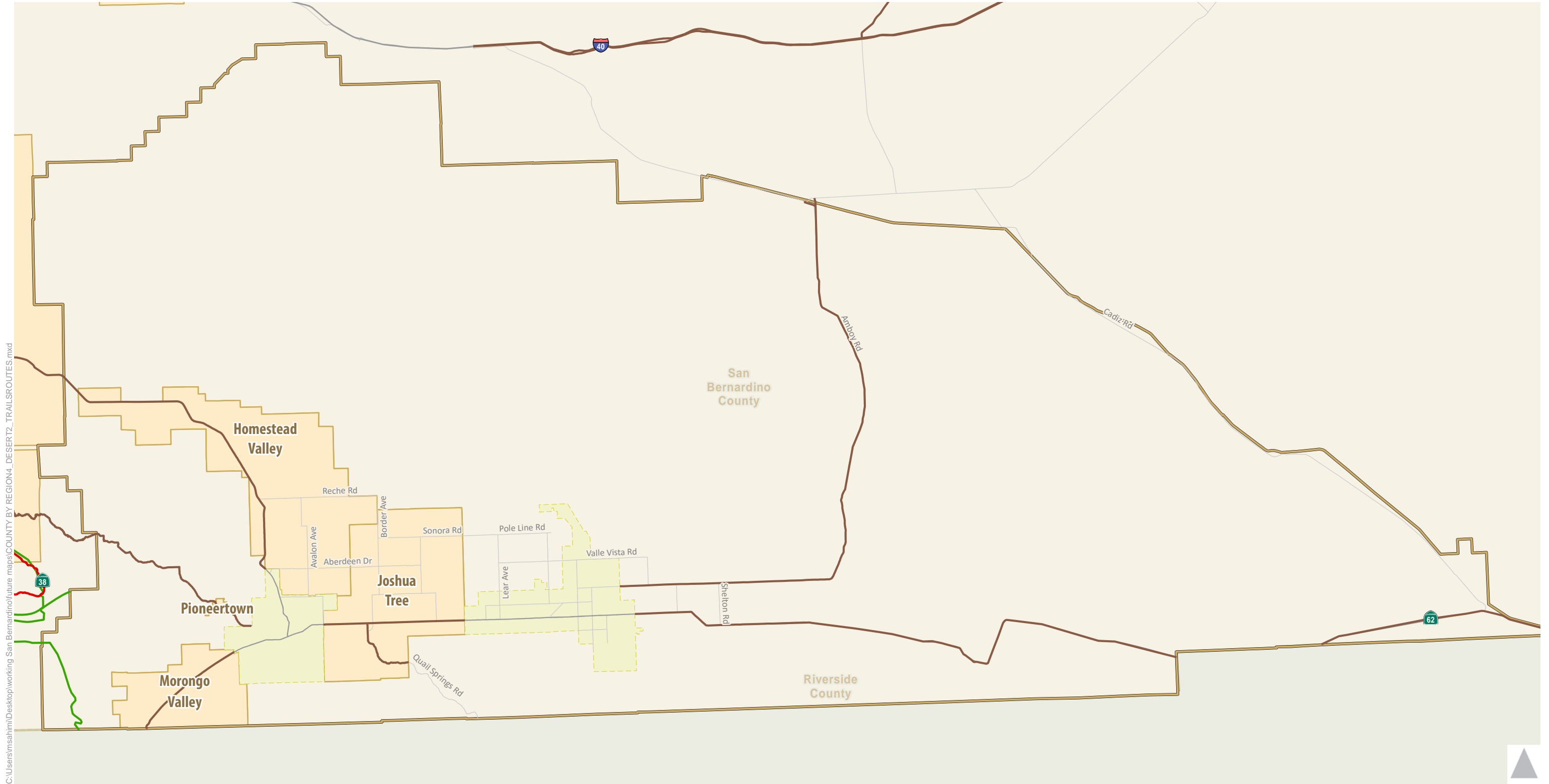
DRAFT

Figure 3A

North Desert Region - Scenic Routes and Trails



Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only.



C:\Users\msahimi\Desktop\working San Bernardino\Future maps\COUNTY BY REGION4_DESERT2_TRAILS.ROUTES.mxd

- Existing State Designated Scenic Highway
- Existing County Designated Scenic Routes
- Proposed Regional Trails
- East Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

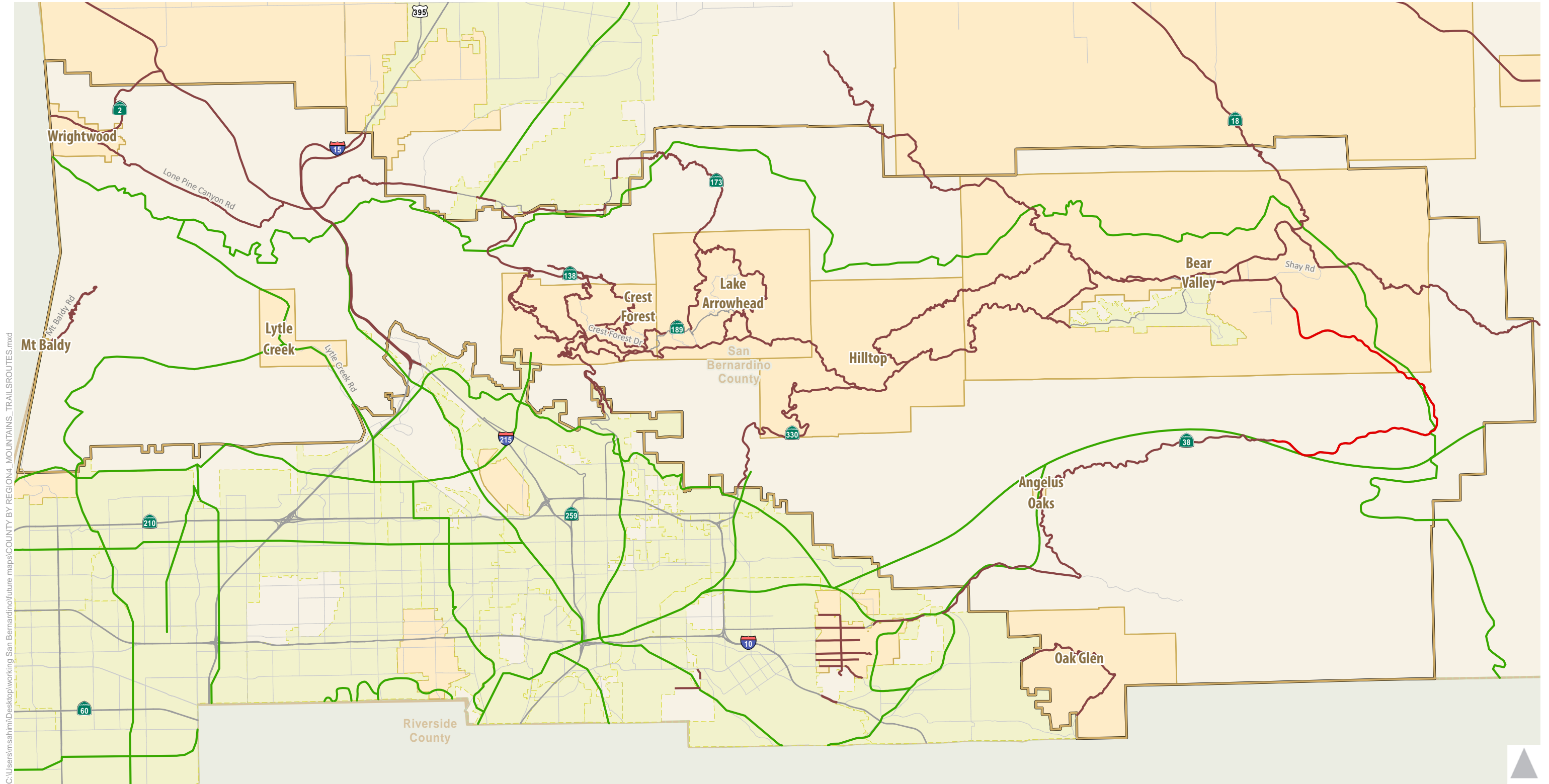
DRAFT

Figure 3B

East Desert Region - Scenic Routes and Trails



Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only.



- Existing State Designated Scenic Highway
 Mountain Region
 Community Plan Boundaries
- Existing County Designated Scenic Routes
 City Boundaries
 San Bernardino County
- Proposed Regional Trails

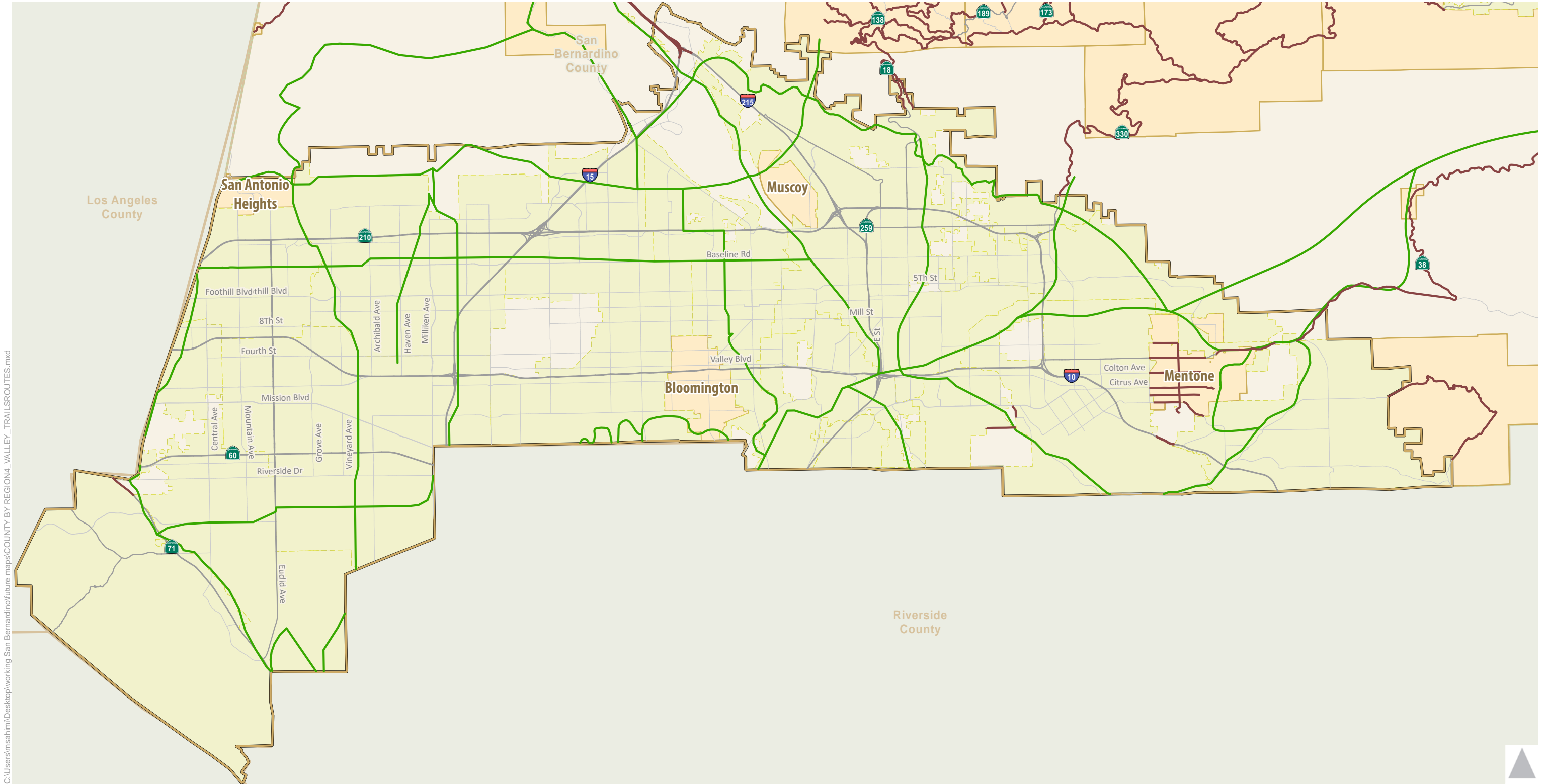
DRAFT

Figure 3C

Mountain Region - Scenic Routes and Trails



Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only.



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_TRAILSRoutes.mxd

- Existing County Designated Scenic Routes
- Proposed Regional Trails
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 3D

Valley Region - Scenic Routes and Trails



Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only.



EXISTING BRIDGES AND DEFICIENCIES

Bridges form an important component of the transportation network in San Bernardino County. However, aging infrastructure can present issues related to safety and evacuation routes in times of natural disasters or other emergencies. Existing deficiencies and future degradation will require repair and investment. Furthermore, bridge health can be affected by future growth and vehicle travel patterns.

The Federal Highway Administration (FHWA) considers bridges deficient if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81 (out of 100). There are currently 1,434 bridges in San Bernardino County. Of those, 899 are state highway bridges and 535 are local agency bridges. The FHWA considers 257 of these bridges deficient. At this time, deficiencies on state highway bridges have not been provided by Caltrans; this memorandum can be updated once this data is provided. State highway and local agency bridges are shown on Figures 4A through 4D.

NORTH DESERT REGION

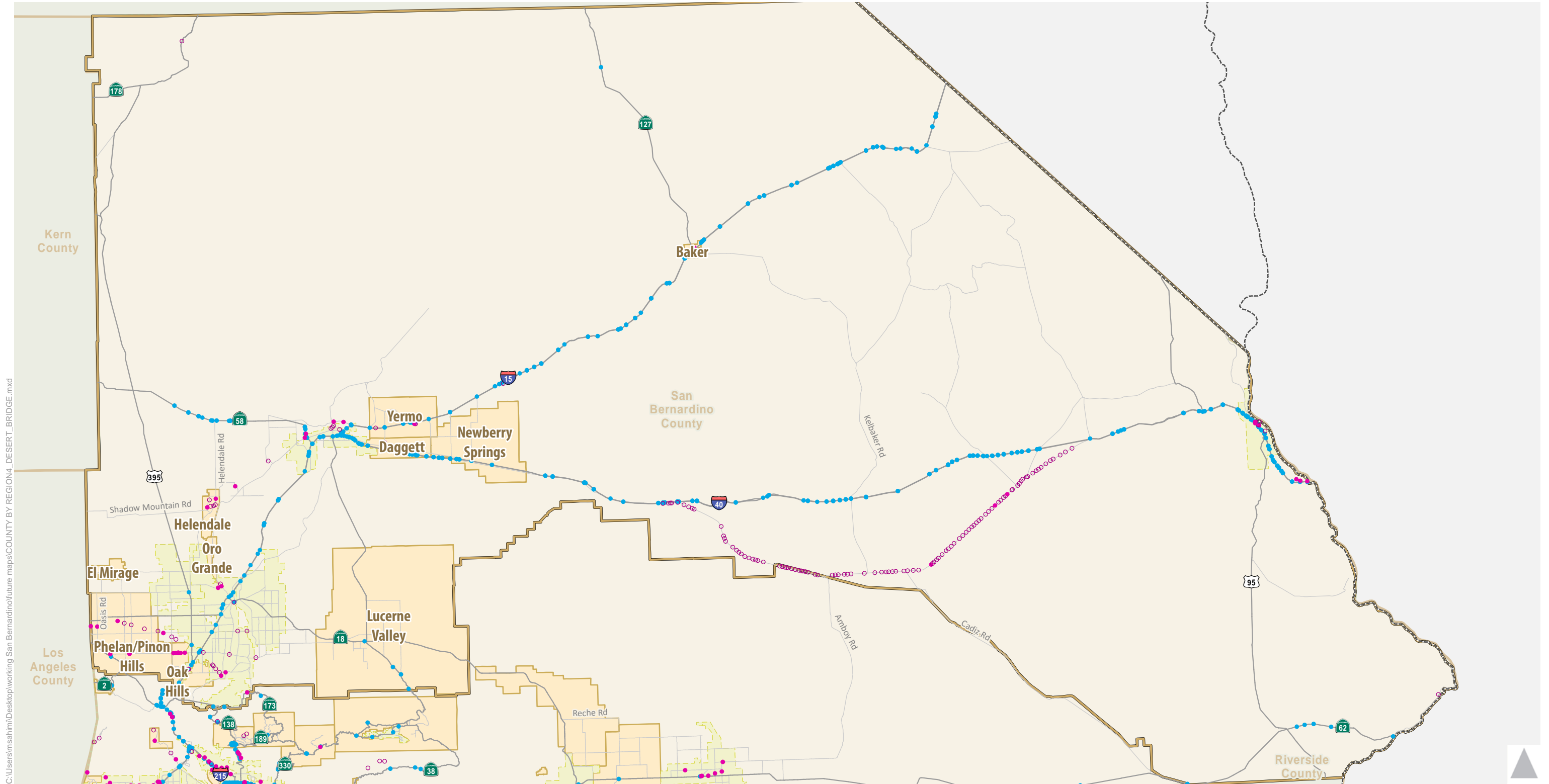
There are 401 state highway bridges in the North Desert Region, along highways such as Interstate 40, Interstate 15, and State Route 58. There are also 161 local agency bridges, of which 122 are deficient. These include several in Phelan/Pinon Hills, Helendale, Yermo, Daggett, and Baker. A significant number of deficient bridges run along National Trails Highway.

EAST DESERT REGION

There are seven state highway bridges in the East Desert Region along Twentynine Palms Highway. There are also 22 local agency bridges, of which 14 are deficient – all on the National Trails Highway along the region's northern boundary.

MOUNTAIN REGION

There are 60 state highway bridges in the Mountain Region, along highways such as State Routes 138, 173 and 330. There are also 22 local agency bridges, of which 12 are deficient, in locations such as Lytle Creek and Crest Forest.



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_BRIDGE.mxd

- Local Agency Bridges
- State Highway Bridges
- Local Agency Bridges (Deficient)
- North Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

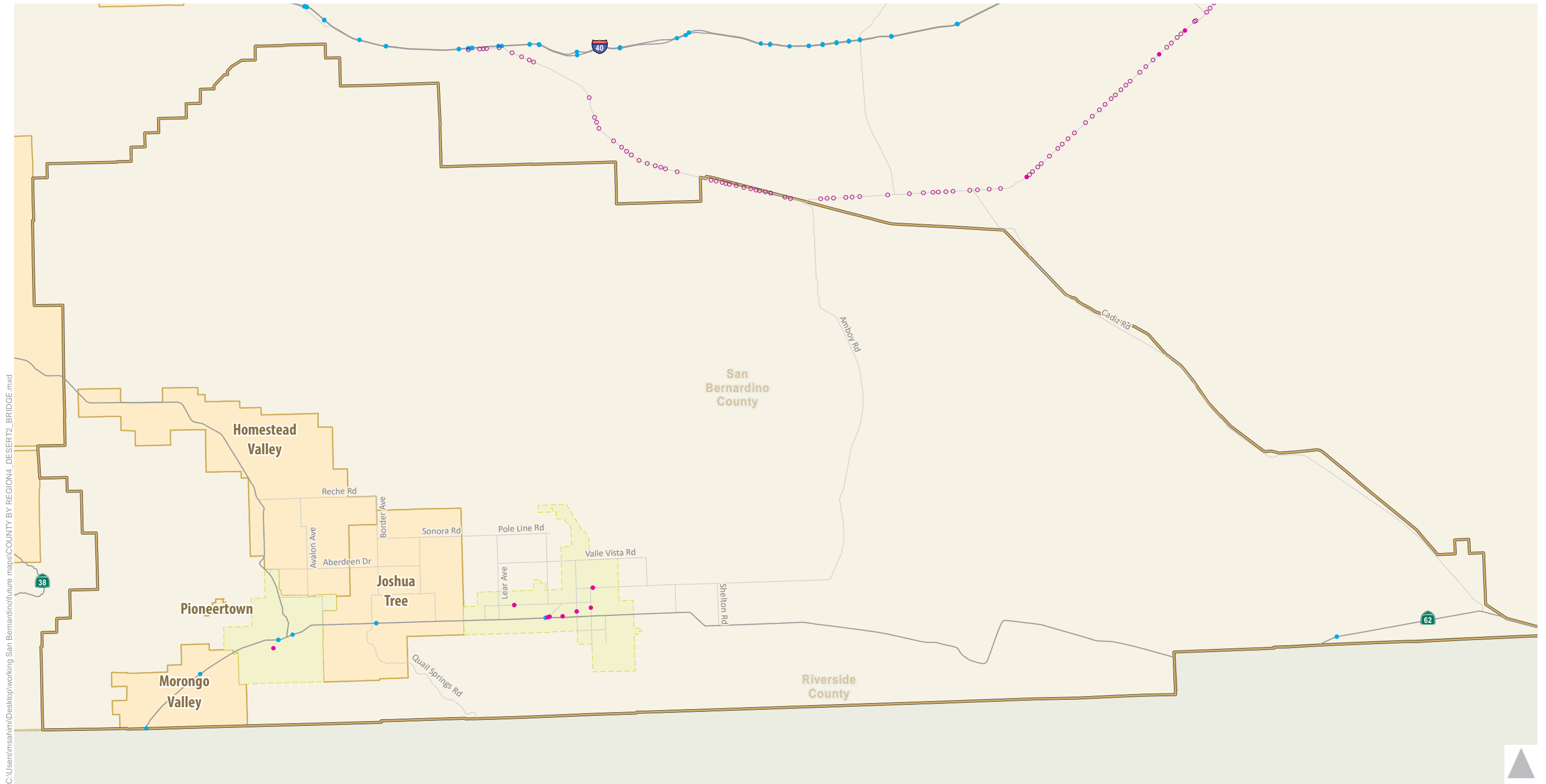
DRAFT

Figure 4A

North Desert Region - Existing Bridges

Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81.





C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT2_BRIDGE.mxd

- Local Agency Bridges
- State Highway Bridges
- Local Agency Bridges (Deficient)
- ▭ East Desert Region
- ▭ City Boundaries
- ▭ Community Plan Boundaries
- ▭ San Bernardino County

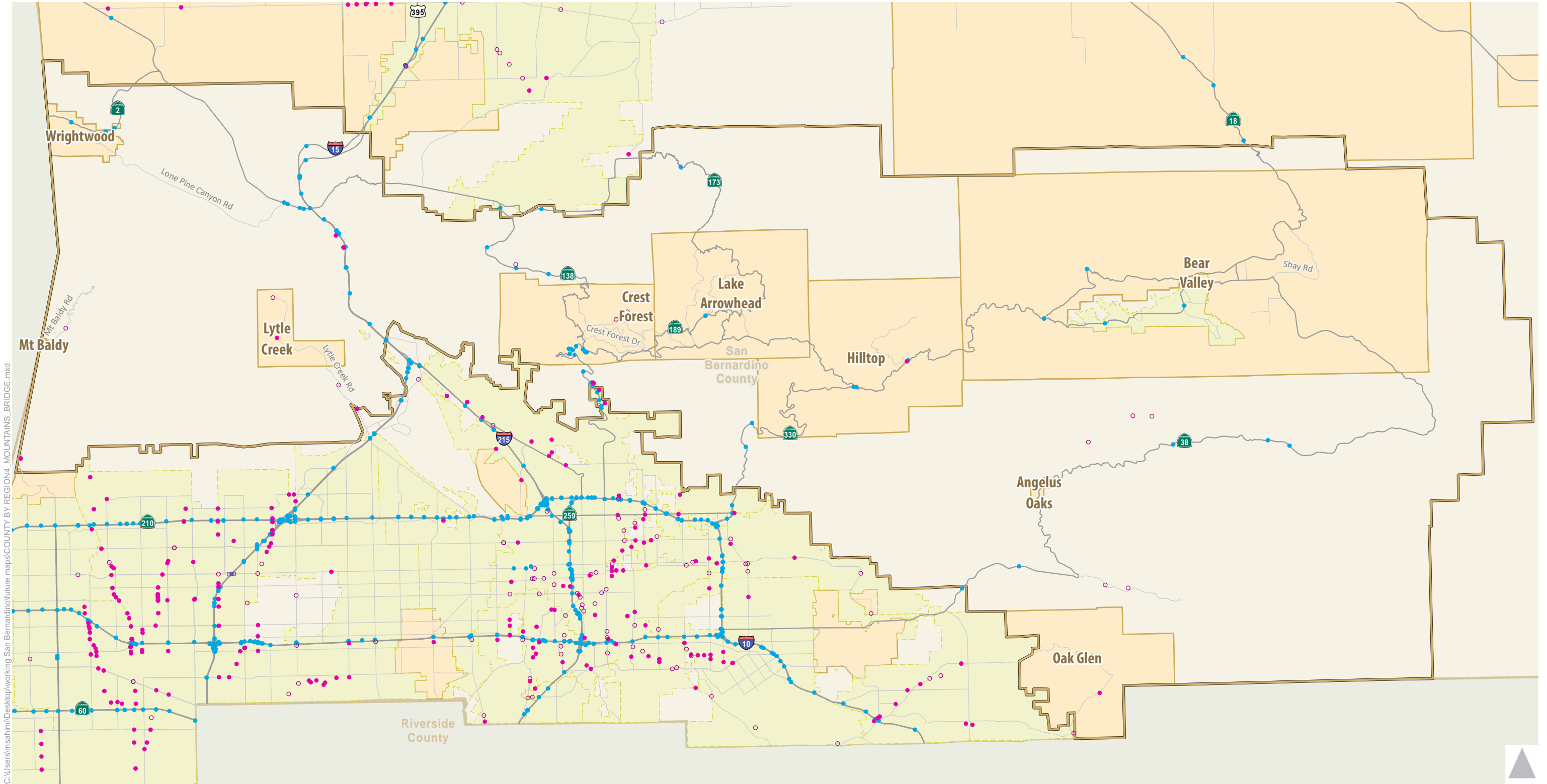
DRAFT

Figure 4B

East Desert Region - Existing Bridges



Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81.



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_MOUNTAINS_BRIDGE.mxd

- Local Agency Bridges
- State Highway Bridges
- Local Agency Bridges (Deficient)
- Mountain Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

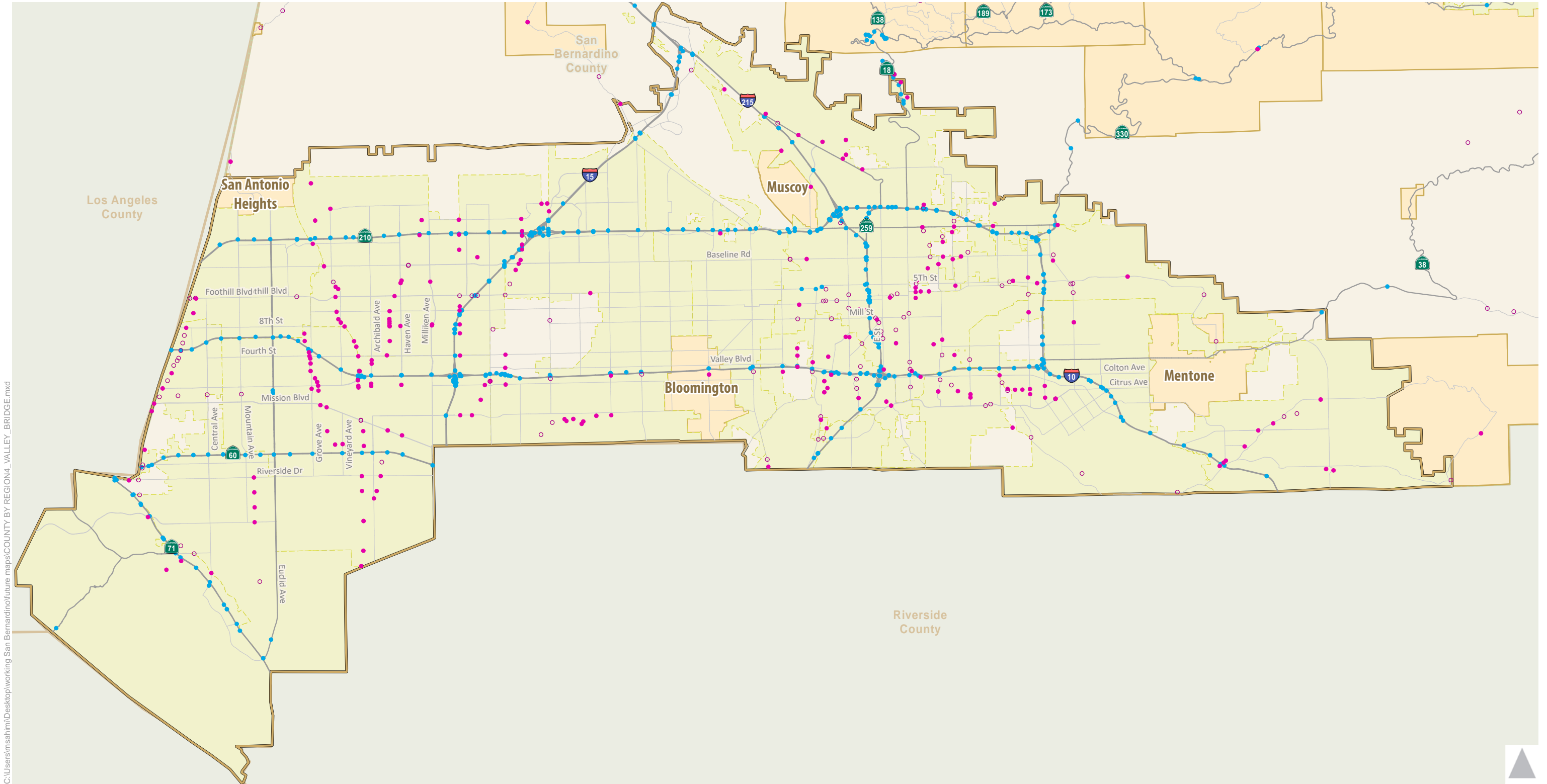
DRAFT

Figure 4C

Mountain Region - Existing Bridges

Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81.





C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_BRIDGE.mxd

- Local Agency Bridges
- State Highway Bridges
- Local Agency Bridges (Deficient)
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 4D



Valley Region - Existing Bridges

Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81.



VALLEY REGION

There are 431 state highway bridges in the Valley Region, along highways such as Interstate 10, Interstate 215, and State Route 60. There are also 330 local agency bridges, of which 109 are deficient. These include a number of bridges in Mentone.

PUBLIC TRANSIT

As documented in the *Existing Conditions Report*, residents in the County's unincorporated communities have access to transit services provided by OmniTrans, Barstow Area Transport, Morongo Basin Transit Authority, Mountain Area Regional Transit Authority, and Victor Valley Transit Authority. In addition, the Metrolink Inland Empire-Orange County Line, San Bernardino Line, and Riverside Line provide service to and from locations in the Valley Region and in Orange County, Riverside County, and Los Angeles County. Several planned transit projects in the County will substantially improve public transit access and quality in the coming years. These projects can increase residents' and workers' transit options, provide opportunities to move away from the automobile, and drive growth in the region. Proposed transit service is shown on Figures 5A through 5D.

One important project is the California High Speed Rail. Phase 1, which is currently under construction, will connect San Francisco to Downtown Los Angeles and the Anaheim Regional Transportation Intermodal Center (ARTIC). High Speed Rail Phase 2 includes an extension to San Diego International Airport via the Inland Empire, with two proposed stops in San Bernardino County. When complete, High Speed Rail Phase 2 will provide connectivity for San Bernardino County residents to San Diego, the Central Valley, San Francisco, and Sacramento. Another planned high speed rail project is XpressWest, a high speed passenger train connecting Las Vegas to the planned High Speed Rail Phase 1 station in Palmdale, primarily within or adjacent to Interstate 15. The train includes a proposed stop in Victorville.

In the next four years, Metrolink service will undergo a planned extension. The San Bernardino Line is planned to extend one additional mile past the current terminus to the San Bernardino Transit Center. A second extension to Redlands will operate as an independent system but also accommodate San Bernardino Line express limited-stop trains.



Currently, OmniTrans operates the sbX bus rapid transit line. This agency has proposed a significant BRT expansion in the Valley Region. Several new BRT routes have been proposed, such as the West Valley Connector. Implementation of these BRT routes would result in a substantial increase in transit quality for the region.

In the 2040 SCAG RTP/SCS, SCAG defined High Quality Transit Areas (HQTAs) and Transit Priority Areas (TPAs) throughout the SCAG region, including San Bernardino County, based on planned transit service in 2040. HQTAs reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes, while TPAs are areas within one-half mile of major transit stop. In other words, these are areas with high quality and accessible transit. These areas present opportunities for agencies to coordinate service and increase connectivity, in addition to focusing development efforts and growth near future transit service. This data can also be used by agencies to find projected gaps in transit coverage and improve future service as needed. SCAG's 2040 HQTAs and TPAs are shown on Figures 5A through 5D.

NORTH DESERT REGION

Proposed transit service in the North Desert Region consists of the XpressWest high speed passenger rail, with a station in Victorville. Upon completion, this rail service will provide a direct connection between Victorville, Las Vegas, and Palmdale. In addition, the western extent to Palmdale along the future High Desert Corridor will provide a connection to Metrolink service to Los Angeles, increasing transit commuting opportunities.

SCAG projects a limited number of HQTAs and TPAs in the North Desert Region. There are two isolated HQTAs and TPAs near Barstow Station and the proposed Victorville Station.

EAST DESERT REGION

As shown on Figure 5B, SCAG does not project HQTAs or TPAs in the East Desert Region. At this time, there is no transit service proposed beyond existing bus service.

MOUNTAIN REGION

As shown on Figure 5C, SCAG does not project HQTAs or TPAs in the Mountain Region. At this time, there is no transit service proposed beyond existing bus service. However, existing transit service does provide connectivity to planned BRT and other improvements in the Valley Region.



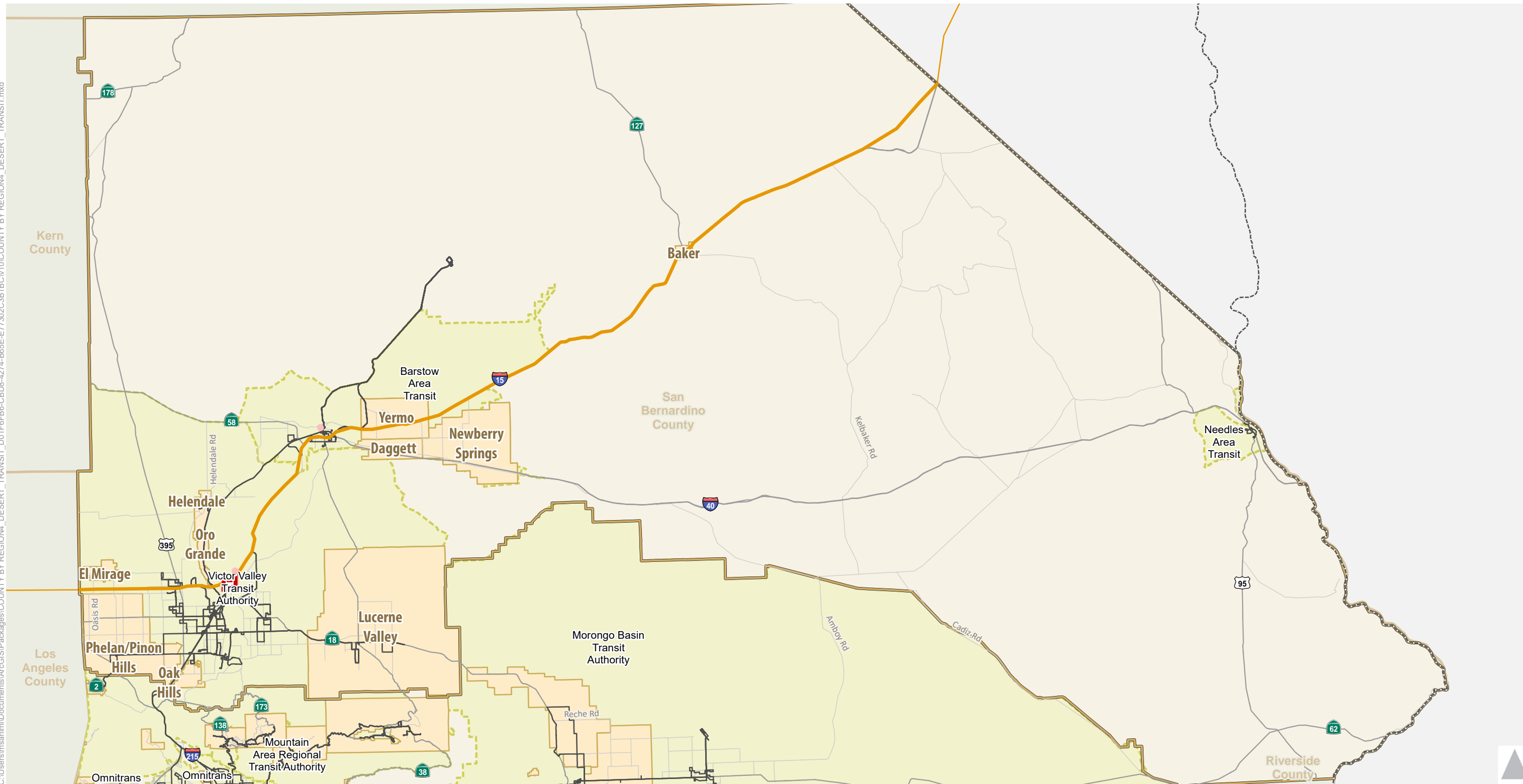
VALLEY REGION










The Valley Region will benefit from several planned transit projects. Upon completion, High Speed Rail Phase 2 will provide service to the region with two proposed stations (Ontario International Airport and San Bernardino Transit Center). In addition, the Redlands Extension will provide service to San Bernardino Transit Center, Waterman Station, Tippecanoe Station, Esri Headquarters, Downtown Redlands, and the University of Redlands.

The Valley Region will also benefit from substantial increases in BRT service. OmniTrans is planning an expansion of BRT service along Foothill Boulevard, San Bernardino Avenue, Sierra Avenue, Riverside Avenue, E Street, and several other arterials throughout the Region. Proposed BRT service can be accessed in Bloomington with stops along San Bernardino Avenue; other unincorporated communities in the region will not have direct access to these BRT routes.

As shown on Figure 5D, SCAG defines extensive HQTAs and TPAs in the Valley Region, due in part to the rail transit and BRT improvements planned for the area. The northern portion of Bloomington falls within an HQTA along San Bernardino Avenue.

C:\Users\msahimi\Documents\GIS\GISPackages\COUNTY BY REGION4_DESERT_TRANSIT_D01F6FB6-CBDB-4274-B65E-E77302C3B1BC\10\COUNTY BY REGION4_DESERT_TRANSIT.mxd



-  Proposed XpressWest Station
-  Proposed XpressWest
-  Existing Metrolink
-  Existing Bus Routes
-  HQTAs/TPAs (2040 SCAG RTP/SCS)
-  North Desert Region
-  Community Plan Boundaries
-  Transit Service Areas
-  San Bernardino County

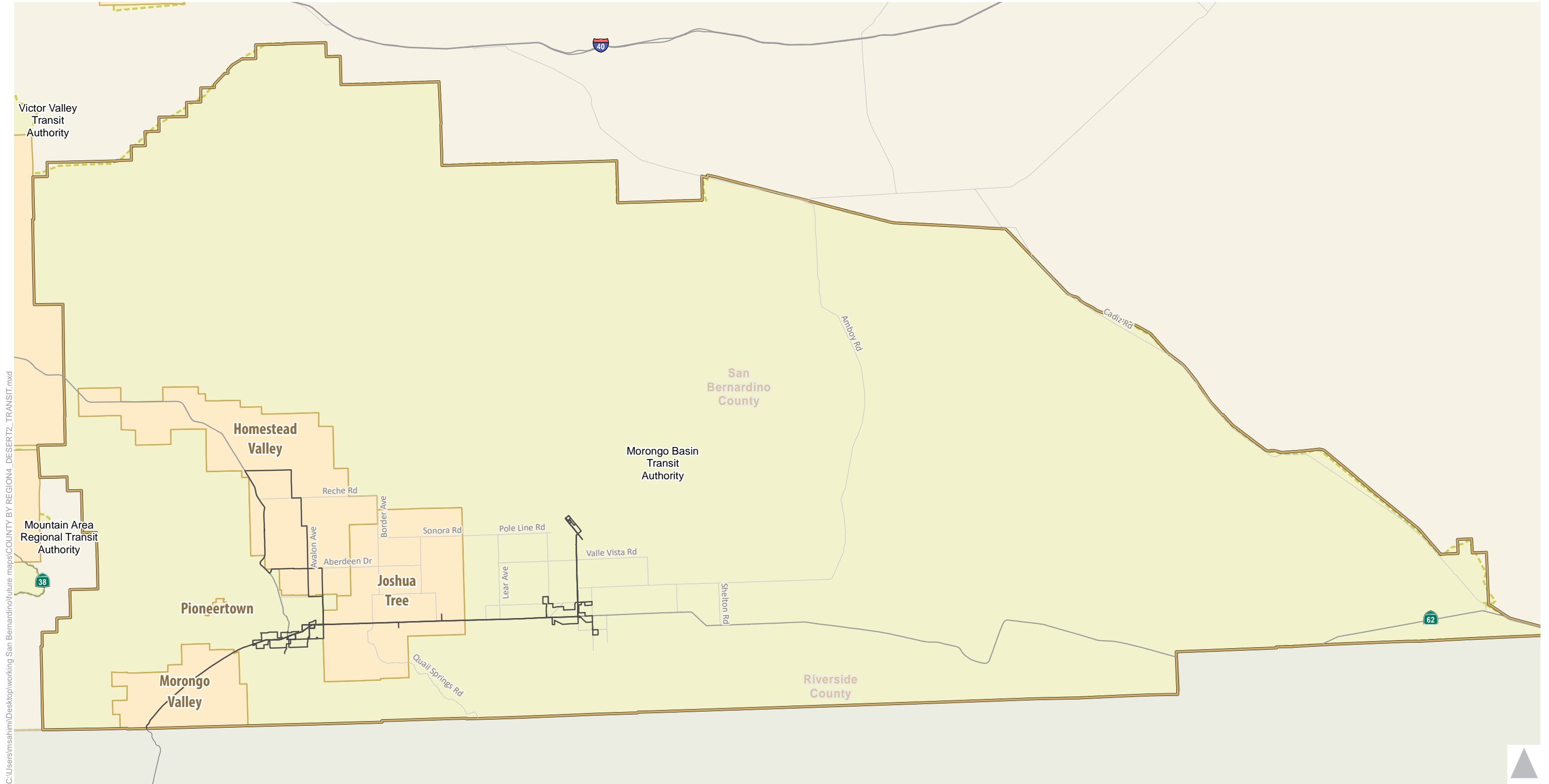
DRAFT

Figure 5A

North Desert Region - Future Transit Routes



Note: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes. Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop.

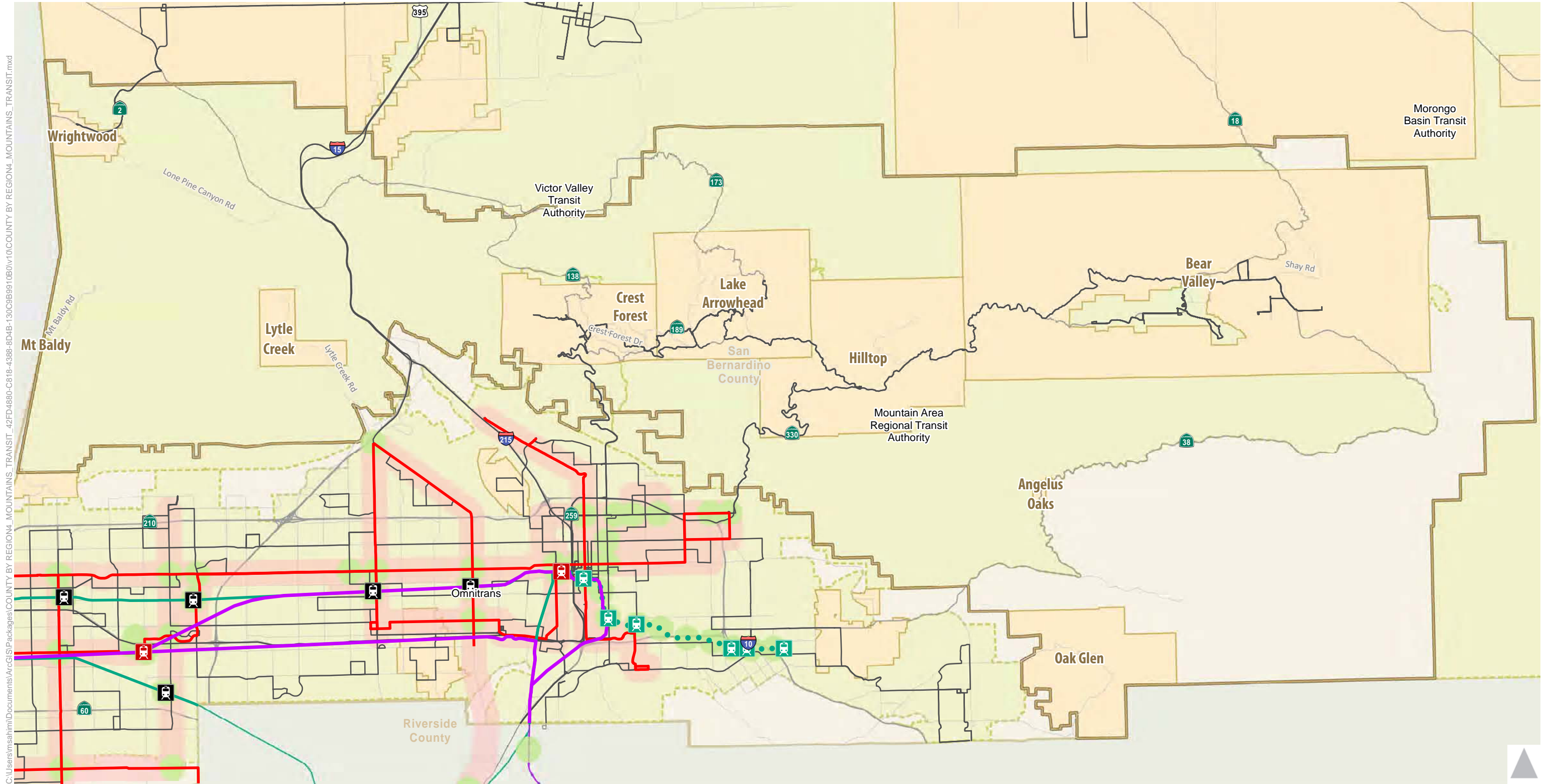


C:\Users\msahimi\Desktop\working San Bernardino\Future maps\COUNTY BY REGION4_DESERT2_TRANSIT.mxd

DRAFT

Figure 5B





C:\Users\msahimi\Documents\ArcGIS\Projects\COUNTY_BY_REGION4_MOUNTAINS_TRANSIT_42FD4880-C818-4388-8D4B-130C9B8910B0\10\COUNTY_BY_REGION4_MOUNTAINS_TRANSIT.mxd

- | | | | | |
|----------------------------------|-------------------------|--------------------------|---------------------------|-----------------------|
| Future Metrolink Station | High Speed Rail Phase 2 | Proposed BRT | HQTAs (2040 SCAG RTP/SCS) | Transit Service Areas |
| Proposed High Speed Rail Station | Existing Metrolink | Existing Bus Routes | Mountain Region | San Bernardino County |
| Metrolink Station | Metrolink Extension | TPAs (2040 SCAG RTP/SCS) | Community Plan Boundaries | |

DRAFT

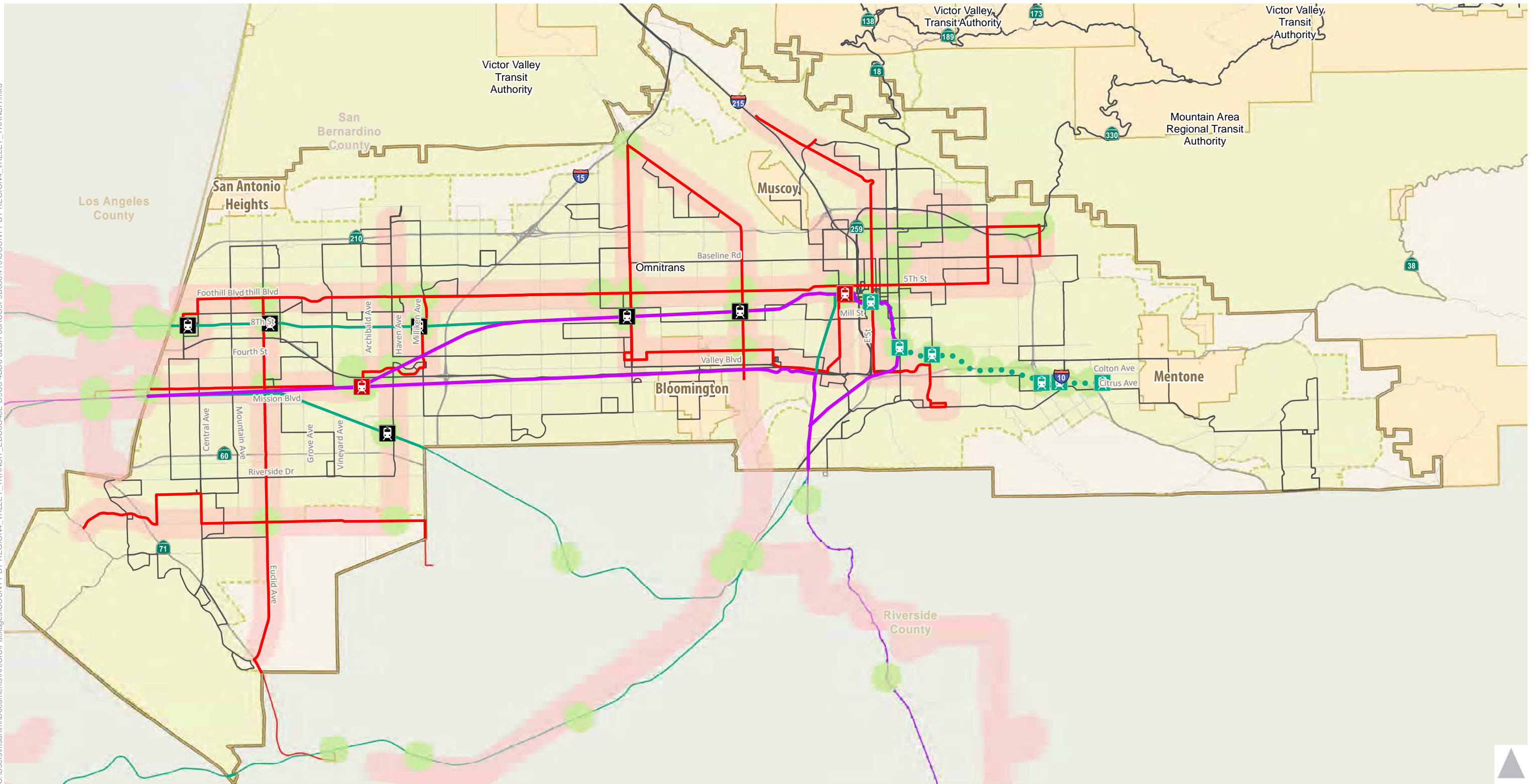
Figure 5C

Mountain Region - Future Transit Routes

Notes: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes. Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop. High Speed Rail Phase 2 alignment is being developed and has not been finalized.



C:\Users\msahimi\Documents\ArcGIS\Projects\COUNTY BY REGION4_VALLEY_TRANSIT_VALLEY_TRANSIT.mxd



- | | | | | |
|----------------------------------|-------------------------|-------------------------|---------------------------|-----------------------|
| Future Metrolink Station | High Speed Rail Phase 2 | Proposed BRT | HQTA (2040 SCAG RTP/SCS) | Transit Service Areas |
| Proposed High Speed Rail Station | Metrolink Extension | Existing Bus Routes | Valley Region | San Bernardino County |
| Metrolink Station | Existing Metrolink | TPA (2040 SCAG RTP/SCS) | Community Plan Boundaries | |

DRAFT

Figure 5D

Valley Region - Future Transit Routes

Notes: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes. Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop. High Speed Rail Phase 2 alignment is being developed and has not been finalized.





AIRPORTS

There are currently 53 airports and airfields operating in San Bernardino County; these include landing strips, commuter airports, passenger airports, and cargo airports. SCAG has projected cargo and passenger air traffic growth in the County, especially at the three major airports in the County: Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport. Due to the increased passenger vehicle and goods movement traffic that can result from cargo and passenger travel, the County should be cognizant of trends in air travel and impacts on local and regional roadways. Figures 6A through 6D show airports in the County and call out Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport.

NORTH DESERT REGION

There are 38 airports located across the North Desert Region. Among these is the Southern California Logistics Airport, also known as Victorville Airport and formerly the George Air Force Base. This airport serves cargo flights and accommodates freight, which is then carried along Interstate 15. SCAG has projected higher volumes of freight moving through this airport, which is transported to and from the airport on local rail and roadway such as Interstate 15, US Route 395, and Palmdale Road.

The main driver of growth at the Southern California Logistics Airport is warehousing in the North Desert Region, which SCAG projects to grow substantially in the area around the airport. This would translate to increased air cargo through the airport. Besides the High Desert Corridor, warehousing in the North Desert Region will be driven by the fact that the SCAG region will need much more warehousing by 2040 but most existing industrial areas (such as in the Valley Region) are close to built out. On the other hand, the North Desert Region holds 23% (or 43 million square feet) of the SCAG region's warehousing capacity, predominantly around the Southern California Logistics Airport. Even though much of the increased freight will be moved by rail and the upcoming High Desert Corridor, increase truck traffic to and from this airport could affect Interstate 15, US Route 395, Palmdale Road, and other local roads connected to these regional roads.



EAST DESERT REGION

There are 10 airports in the East Desert Region, including Yucca Valley Airport, Twentynine Palms Airport, Cones Field Airport, and Hi Desert Airport. Existing and future traffic to and from these airports depend primarily on Twentynine Palms Highway.

MOUNTAIN REGION

Big Bear City Airport is the only airport in the Mountain Region, accessible by State Routes 18 and 38.

VALLEY REGION

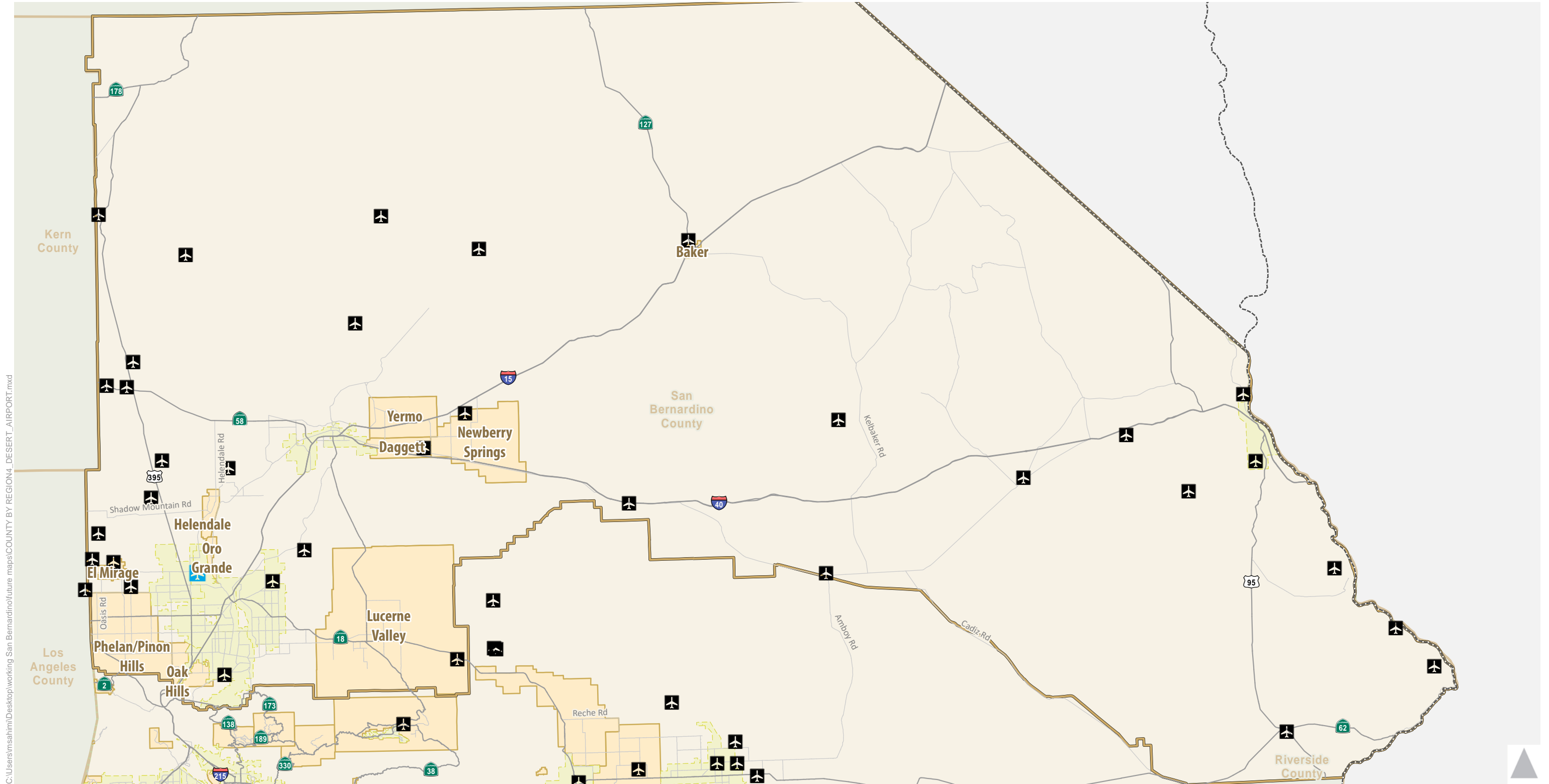
There are six airports in the Valley Region: San Bernardino International Airport, Ontario International Airport, Rialto Airport, Cable Airport, Redlands Airport, and Chino Airport. Access to these airports is provided by Interstate 10, State Route 210, and other regional highways.

Previously the Norton Air Force Base, San Bernardino International Airport served cargo carriers. The airport has domestic and passenger terminals but currently does not have scheduled passenger service. SCAG forecasts between 0.2 and 1.5 million annual passengers using this airport by 2040. Cargo use of this airport could increase as warehousing increases in the Valley Region since it is closer to the Los Angeles and Long Beach Ports than more inland airports. However, since most industrial areas in the Valley Region will quickly build out, most warehousing and cargo growth will take place in the North Desert Region through 2040. Regional access is provided by Interstate 10, Interstate 215, and State Route 210, which would need to absorb increases in passenger and truck traffic to and from this airport. Currently, the only public transit facility is an OmniTrans Route 8 bus stop a quarter mile away, although the Redlands Passenger Rail Project will have a station on Tippecanoe Avenue.









Ontario International Airport, owned and operated under a joint powers agreement with the City of Ontario and San Bernardino County, is a major gateway hub for passengers and cargo. Other major passenger airports in the SCAG region (Burbank Bob Hope Airport, LAX, Long Beach Airport, and John Wayne Airport) face growth constraints due to a number of reasons. These include airfields (Burbank, LAX), noise compatibility ordinances (Long Beach), and settlement agreements (John Wayne). Therefore Ontario Airport is expected to absorb a significant amount of future passenger demand. SCAG forecasts 11 to 19 million annual passengers at this airport by 2040. Regional access to the airport is provided by Interstate 10, Interstate 15, and State Route 60, all of which could experience higher traffic volumes with increased air passenger demand. Currently, public transit to the airport consists of OmniTrans routes 81 and 82 and the Ontario Metrolink Station to the west. Future High Speed Rail service is also planned. One of the alternatives studied in the Ontario Airport Rail Access Study was the Metro Gold Line Foothill Extension Phase 2C to the airport, which is currently unfunded.

DRAFT



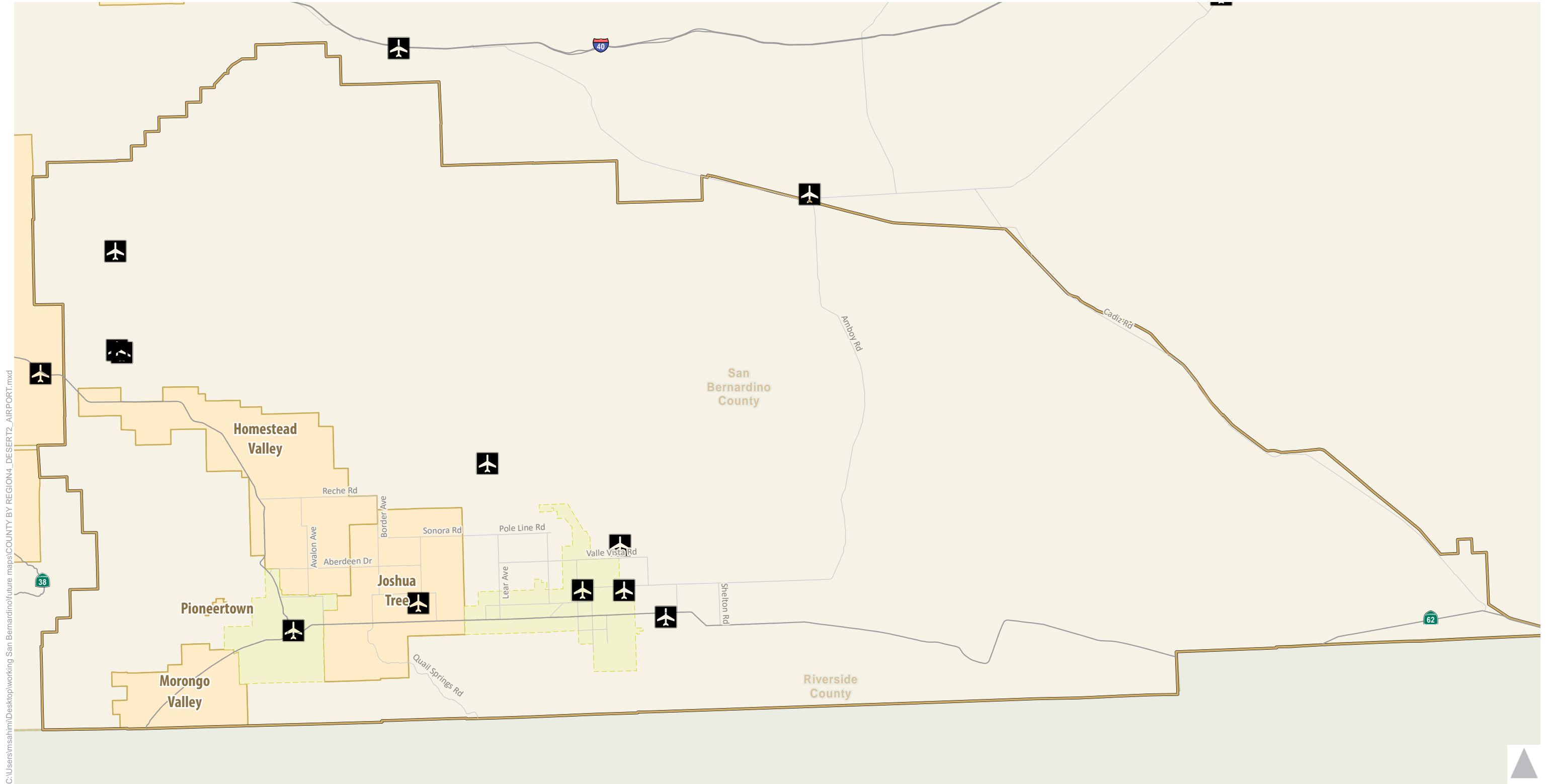
C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_AIRPORT.mxd

-  Southern Calif. Logistics Airport
-  Other Airports
-  North Desert Region
-  City Boundaries
-  Community Plan Boundaries
-  San Bernardino County






DRAFT

Figure 6A





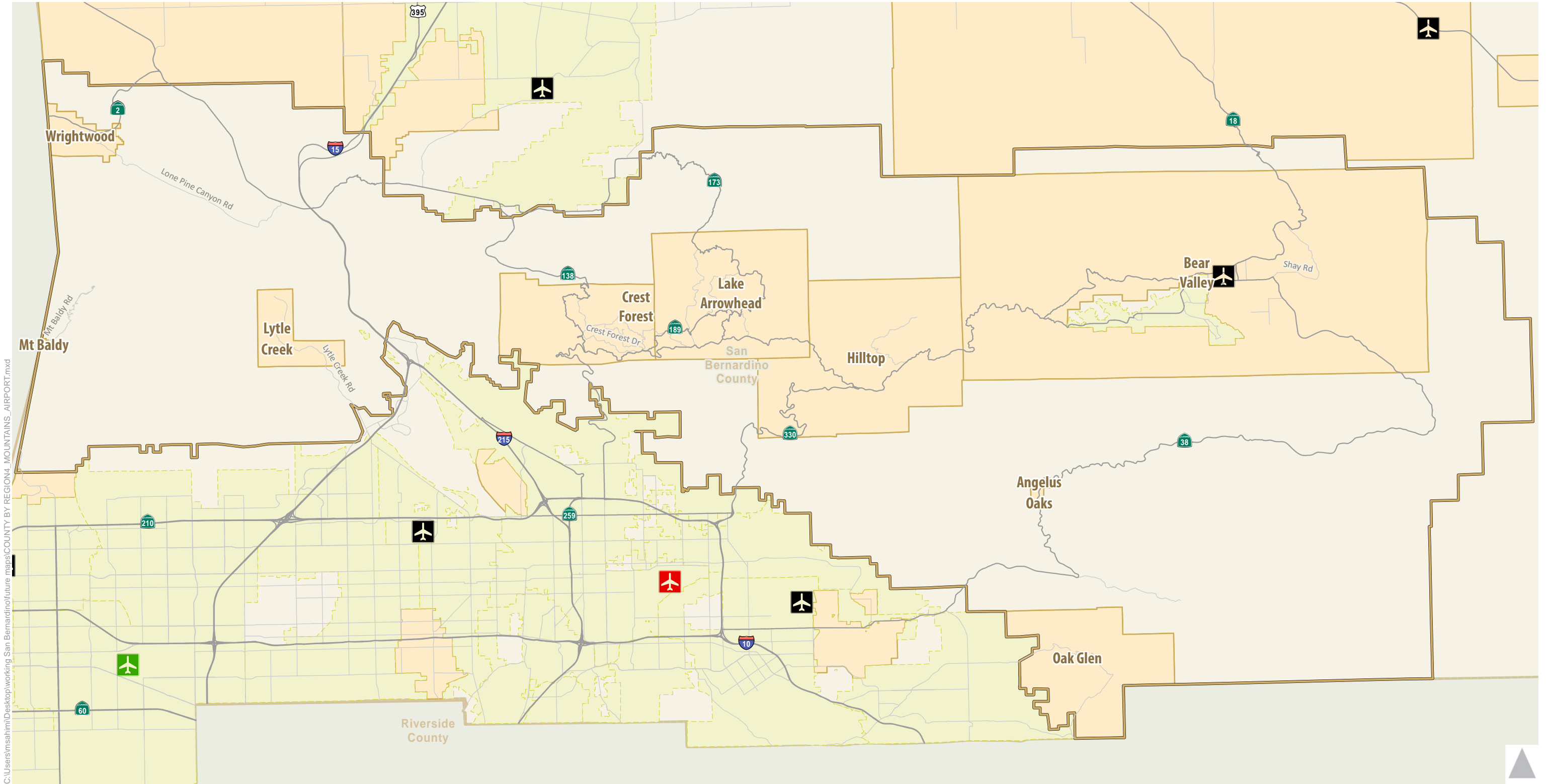
C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT2_AIRPORT.mxd

-  Airports
-  City Boundaries
-  San Bernardino County
-  East Desert Region
-  Community Plan Boundaries








DRAFT

Figure 6B





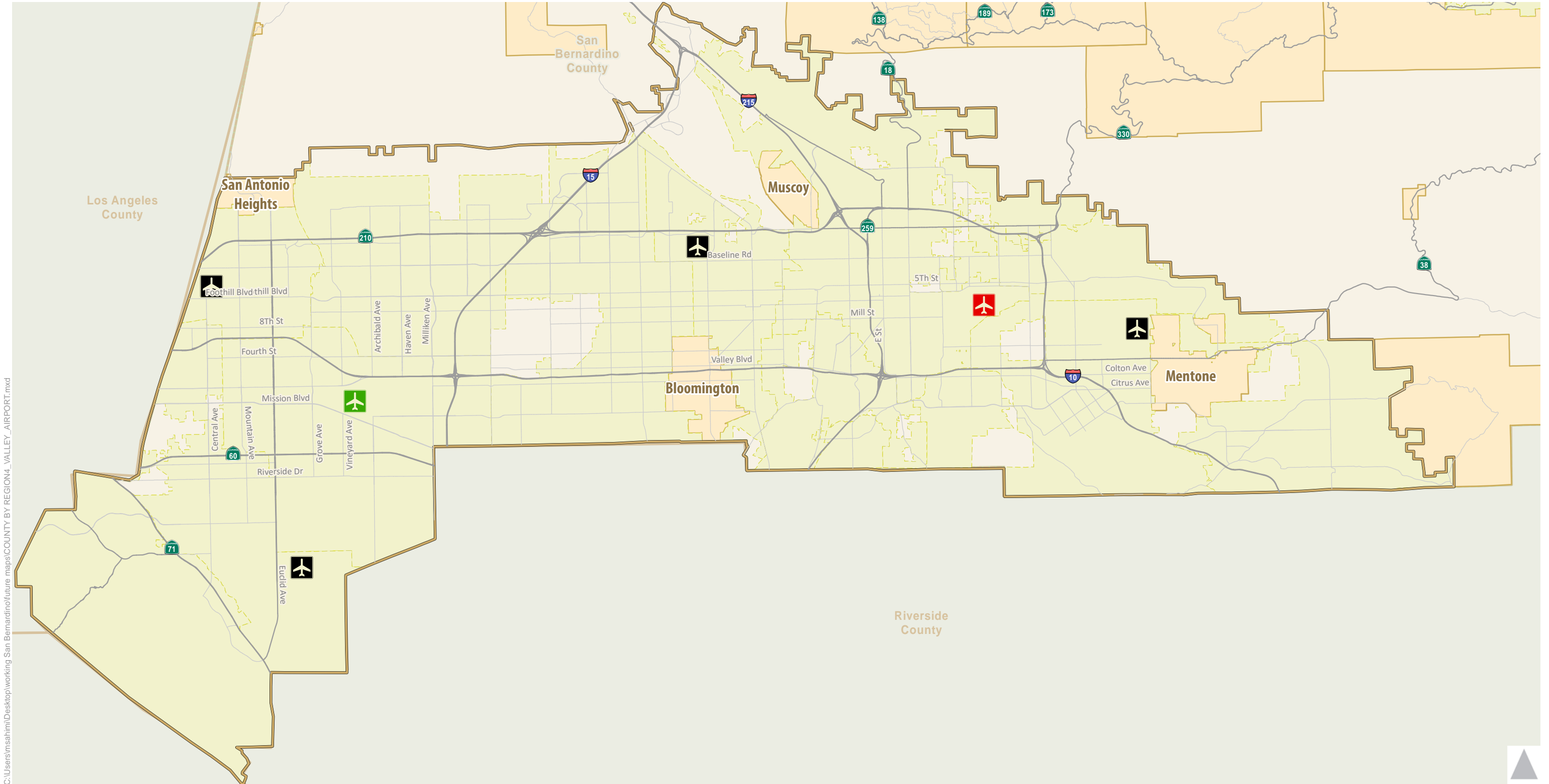
C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_MOUNTAINS_AIRPORT.mxd

- | | | |
|--|---|---|
|  Ontario International Airport |  Mountain Region |  San Bernardino County |
|  San Bernardino International Airport |  City Boundaries | |
|  Other Airports |  Community Plan Boundaries | |

DRAFT

Figure 6C





C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_AIRPORT.mxd

-  Ontario International Airport
-  San Bernardino International Airport
-  Other Airports
-  Valley Region
-  City Boundaries
-  Community Plan Boundaries
-  San Bernardino County



DRAFT

Figure 6D



GOODS MOVEMENT

Due to its location between the Los Angeles metropolitan area and destinations in the Midwest and East Coast, San Bernardino County serves as an important path for goods movement via airports, railways, and roadways. As documented in the *Existing Conditions Report*, goods movement in San Bernardino County is accommodated by an extensive railway and truck route network.

As discussed, several roadway improvement programs are slated for County roadways in the coming decades according to the SCAG RTP/SCS. Included in the RTP/SCS transportation projects list are improvements to highways used for goods movement, as shown on Figures 7A through 7D. Projects are shown only for unincorporated portions of the County for clarity. These improvements are expected to increase goods movement capacity on these roadways, improve operations, and accommodate future goods movement growth.

The High Desert Corridor, a proposed multipurpose corridor between Antelope Valley in Los Angeles County and Victor Valley in San Bernardino County, is expected to spur goods movement and growth in the region. Upon completion, the corridor would include a freeway and right-of-way for high speed rail between Palmdale and Apple Valley. The corridor could serve trucks moving between the Central Valley and Interstate 15, alleviating congestion and increasing goods movement capacity. The corridor is also expected to create jobs in the region and reduce vehicle miles traveled (VMT).

NORTH DESERT REGION

The proposed High Desert Corridor would primarily serve the County's North Desert Region. The corridor's freeway would begin in Palmdale, run east parallel and south of El Mirage Road in San Bernardino County, turn east to Air Express Boulevard near Interstate 15, transition to Dale Evans Parkway, and end at State Route 18 in Apple Valley. This new facility can drastically change travel patterns in the region, increase jobs along the corridor, and reduce the need for North Desert residents to travel elsewhere (e.g., Los Angeles County) for work. In conjunction with the XpressWest high speed rail, the High Desert Corridor's rail component could continue northeast along Interstate 15 to Nevada.



In addition, according to the SCAG RTP, a new truck climbing lane is planned on State Route 138 through Phelan/Pinon Hills. This project can result in improved operations and capacity for goods movement through the area.

Beyond new facilities such as the High Desert Corridor and additional truck climbing lanes, increased goods movement in the North Desert Region will be driven by the projected increase in warehousing. SCAG has projected a 55% increase in warehousing building space demand in the SCAG region from 2015 to 2040 (or 385 million square feet). Initial demand will be met by scattered urban locations such as the Valley Region. However, as those spaces quickly build out, growth will move to the North Desert Region. At the time of SCAG's study, the North Desert Region had 23% of the warehousing development capacity in the SCAG region, or 43 million square feet, predominantly in the area around the Southern California Logistics Airport. With Victorville's approval of the Desert Gateway Specific Plan (which could accommodate 17 million square feet), a total of 60 million square feet of warehousing is projected to move into the North Desert Region.

Another important driver of goods movement growth in the North Desert region is the Southern California Rail Complex. This planned facility is a 3,500-acre intermodal rail and container storage complex. Demand for this facility will be driven by the High Desert Corridor, the Southern California Logistics Airport, and the projected substantial increase in local warehousing as growth shifts away from the Valley Region and necessitates a multimodal goods movement network to reduce strain on regional roadways.

EAST DESERT REGION

As shown on Figure 7B, no freight or goods movement projects are currently planned in the East Desert Region.

MOUNTAIN REGION

According to the SCAG RTP, a new truck climbing lane is planned on State Highway 138 through the Mountain Region.

VALLEY REGION

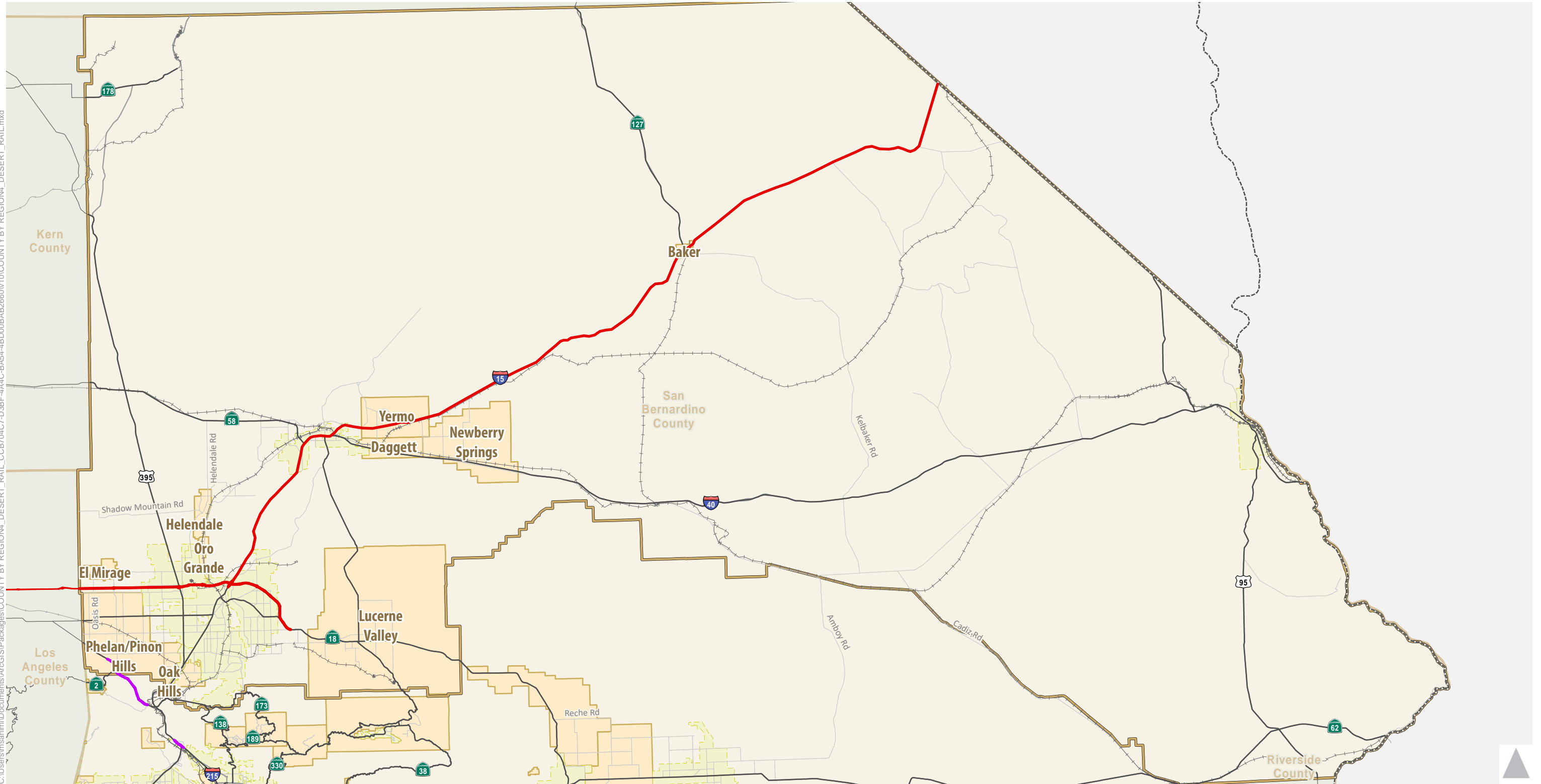
According to the SCAG RTP, new truck bypass lanes are planned on portions of Interstate 15 and Interstate 215 in the Valley Region.



As previously mentioned, SCAG has projected substantial increases in warehousing space demand in the coming decades. Due to its position closer to ports than more inland regions, scattered urban locations in the Valley Region will initially absorb growth in warehousing space. However, SCAG projects that excess capacity in scattered urban locations such as the Valley Region will be sufficiently absorbed by 2020 that new development will take place elsewhere (including the North Desert Region).

DRAFT

C:\Users\msahimi\Documents\ArcGIS\Projects\COUNTY BY REGION4\DESERT_RAIL_CCB704C7-D3BF-44C-BA54-4BD00BAB2660\10\COUNTY BY REGION4_DESERT_RAIL.mxd



- High Desert Corridor
- New/Expanded Facilities
- Existing Truck Route
- Rail
- North Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County

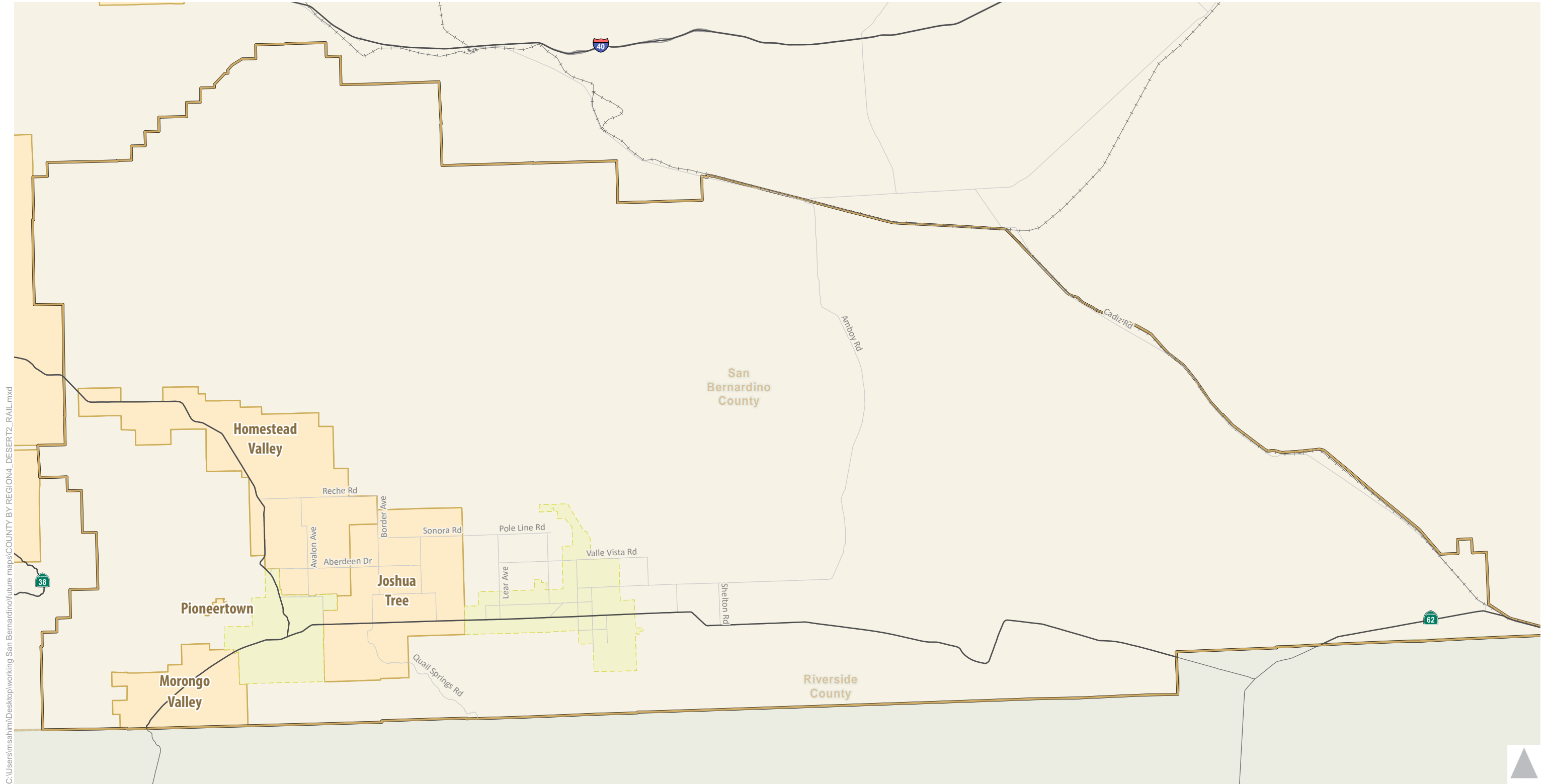
DRAFT

Figure 7A

North Desert Region - Future Goods Movement

*within Unincorporated County





C:\Users\msahimi\Desktop\working San Bernardino\Future maps\COUNTY BY REGION4_DESERT2_RAIL.mxd

- High Desert Corridor
- New/Expanded Facilities
- Existing Truck Route
- Rail
- East Desert Region
- City Boundaries
- San Bernardino County
- Community Plan Boundaries

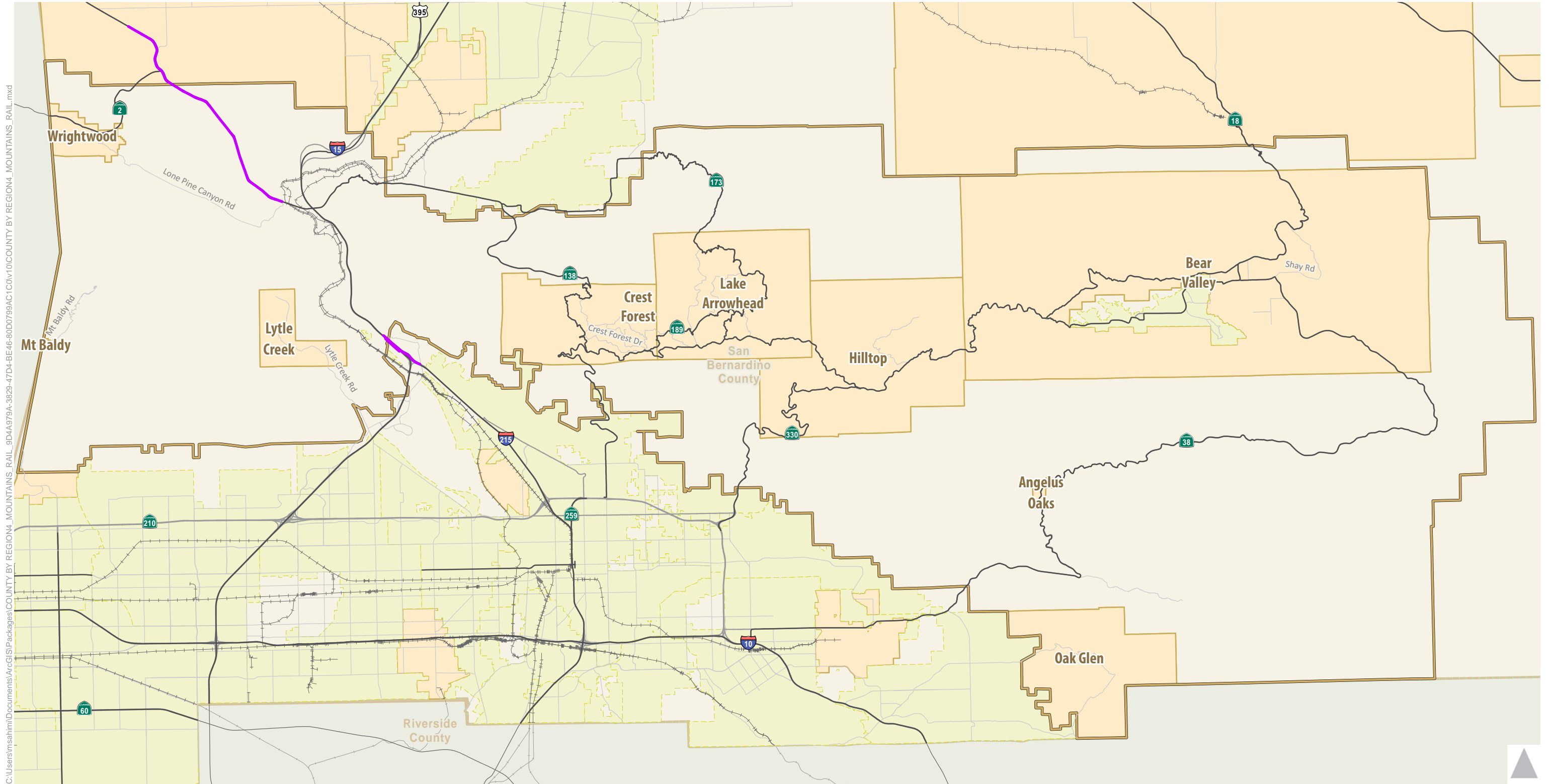
DRAFT

Figure 7B

East Desert Region - Future Goods Movement

*within Unincorporated County





C:\Users\msahimi\Documents\ArcGIS\Projects\COUNTY BY REGION\MOUNTAINS_RAIL_9D4A979A-3829-47D4-BE46-80D0799AC1C0\vr10\COUNTY BY REGION4_MOUNTAINS_RAIL.mxd

- New/Expanded Facilities
- Mountain Region
- Community Plan Boundaries
- Existing Truck Route
- City Boundaries
- San Bernardino County
- Rail

DRAFT

Figure 7C

Mountain Region - Future Goods Movement

*within Unincorporated County

