Appendix D:
Interim Network Memorandum
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

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.
North Desert Region - Future Roadways

Current General Plan Proposed Roadway
Proposed Deletion (F&P)
Proposed Deletion (County)

RTP: New Facilities
RTP: New Lanes/Widening

City Boundaries
Community Plan Boundaries
San Bernardino County
North Desert Region

Figure 1A

within Unincorporated County

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Mountain Region - Future Roadways

Figure 1C

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

Within Unincorporated County
Valley Region - Future Roadways

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

*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.
North Desert Region - Existing CMP Network
Figure 2C
Mountain 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 Majave 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.
North Desert Region - Scenic Routes and Trails

Figure 3A

Existing State Designated Scenic Highway
Existing County Designated Scenic Routes
Proposed Regional Trails

North Desert Region
Community Plan Boundaries
San Bernardino County
San Bernardino County
Kern County
Los Angeles County
Riverside County

Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only.
East Desert Region - Scenic Routes and Trails

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

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

- Existing State Designated Scenic Highway
- Existing County Designated Scenic Routes
- Proposed Regional Trails

Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only.
Figure 3D
Valley Region - Scenic Routes and Trails

Existing County Designated Scenic Routes
Proposed Regional 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.
Figure 4A
North Desert Region - Existing Bridges

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

Note: The FHWA considers bridges “Deficient” if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81.
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.
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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.
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.
East Desert Region - Future Transit Routes

- Existing Bus Routes
- Community Plan Boundaries
- San Bernardino County
- East Desert Region
- Transit Service Areas
Mountain 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.
Figure 5D
Valley 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.
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.
East Desert Region - Airports

Figure 6B

Airports

San Bernardino County

Riverside County

Morongo Valley

Homestead Valley

Pioneertown

Joshua Tree

Quail Springs Rd

Sonora Rd

Pole Line Rd

Reche Rd

Aberdeen Dr

Avalon Ave

Pole Line Rd

San Bernadino County

City Boundaries

Community Plan Boundaries

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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).
Figure 7B
East Desert Region - Future Goods Movement

High Desert Corridor
New/Expanded Facilities
Existing Truck Route
Rail
City Boundaries
San Bernardino County
Community Plan Boundaries
San Bernardino County
Riverside County
Homestead Valley
Pioneertown
Morongo Valley
Joshua Tree

*within Unincorporated County

DRAFT
Valley Region - Future Goods Movement

*within Unincorporated County*
NON-MOTORIZED FACILITIES

As documented in the Existing Conditions Report, bicycle facilities are extremely limited in the County's unincorporated communities. Most communities offer no facilities at all. However, according to the SANBAG Non-Motorized Transportation Plan, a significant number of bicycle facilities are planned in unincorporated County areas. The County should work to ensure that facilities are built and that surrounding development supports their active use. In addition, the County should continue to examine additional locations for expanded bicycle facilities.

Figures 8A through 8D show proposed bikeways in each facility. In the North Desert and East Desert Regions, planned facilities are limited, similar to existing facilities. Most proposed facilities are located in the Mountain and Valley Regions.

NORTH DESERT REGION

In the North Desert Region, proposed bikeways include a Class III facility along the National Trails Highway continuing into Newberry Springs and Daggett. Proposed facilities also include Class II bicycle lanes in Helendale and Oro Grande and Class I, II, and III bikeways in Oak Hills.

EAST DESERT REGION

In the East Desert Region, proposed bikeways include Class II and III facilities in Homestead Valley and Pioneertown, and Class I, II, and III facilities in Joshua Tree.

MOUNTAIN REGION

Significant bikeway improvements are planned in the Mountain Region. These include Class II facilities in Crest Forest, Lake Arrowhead, and Hilltop and Class II and III facilities in Bear Valley. In addition, there are two proposed facilities in unincorporated areas adjacent to Interstate 15: the Class I Cajon Pass path and Class II bicycle lanes on Cajon Boulevard.
Figure 8B
East Desert Region - Future Bicycle Facilities

- Planned Class I
- Planned Class II
- Planned Class III
- Existing Bikeways
- Community Plan Boundaries
- City Boundaries
- East Desert Region
- San Bernardino County
- San Bernardino County
- Riverside County
- Joshua Tree
- Morongo Valley
- Pioneertown

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L-974
Figure 8C
Mountain Region - Future Bicycle Facilities

- Planned Class I
- Planned Class II
- Planned Class III
- Existing Bikeways
- Community Plan Boundaries
- Mountain Region
- San Bernardino County
- City Boundaries
Valley Region - Future Bicycle Facilities

Planned Class I

Existing Bikeways

Community Plan Boundaries

San Bernardino County

San Antonio Heights

Muscoy

Bloomington

Mentone

Riverside County

Los Angeles County

San Bernardino County

City Boundaries
VALLEY REGION

Significant bikeway improvements are also planned in the Valley Region. These include Class II bikeways in San Antonio Heights, Bloomington, and Muscoy. In Mentone, Class I, II, and III facilities are proposed.

COMMUTE PATTERNS

As documented in the Existing Conditions Report, most county residents travel outside of the county for work. This finding was based on data obtained through the U.S. Census Bureau’s Longitudinal Employer Household Dynamics (LEHD). According to the LEHD database, the percentage of persons living in the county’s unincorporated communities who work outside the County has increased steadily between 2004 and 2013 from 46.9% to 53.3%. This pattern generally applies to county residents as a whole. Generally, this trend translates to higher than usual vehicle volumes on regional roads.

Figures 9A through 9H show the daily vehicle model volumes from the San Bernardino Transportation Analysis Model (SBTAM) for the base year 2008 and future year 2035. In the North Desert Region, there are noticeable increases in roadway volumes. Daily volumes are higher on regional highways such as Interstate 40 and US Route 395. In addition, there are increases on State Routes 18 and 38 in Phelan/Pinon Hills, State Routes 18 and 247 in Lucerne Valley, and several local roads in cities such as Victorville and Apple Valley. In the East Desert Region, there are higher volumes on State Route 247 in Homestead Valley, which continues into the Desert Region. In the Mountain Region, State Routes 138, 18, and 38 all show higher volumes. The tighter, denser grid system in the Valley Region shows widespread increases in daily volumes.

Long-distance commutes most likely play a role in increasing roadway volumes and congestion as residents leave their communities for work. The commute patterns of each specific region are examined below.
North Desert Region - Year 2008 SBTAM Daily Volumes

- San Bernardino County
- Kern County
- Los Angeles County
- Riverside County
- Phelan/Pinon Hills
- Yermo
- Baker
- Daggett
- El Mirage
- Helendale
- Oro Grande
- Lucerne Valley
- Newberry Springs
- Oak Hills
- Hesperia
- Apple Valley
-Defaults
- City Boundaries

**Daily Model Volume**
- 900 and lower
- 2,901 - 6,000
- 6,001 - 13,000
- 13,001 and higher

Figure 9A
North Desert Region - Year 2035 SBTAM Daily Volumes

- **Daily Model Volume**
  - 900 and lower
  - 601 to 13,000
  - 13,001 and higher

- **Color Legend**
  - North Desert Region
  - City Boundaries
  - San Bernardino County
  - Community Plan Boundaries

**Figure 9B**

North Desert Region - Year 2035 SBTAM Daily Volumes
Figure 9C
East Desert Region - Year 2008 SBTAM Daily Volumes

East Desert Region
Community Plan Boundaries
San Bernardino County

Daily Model Volume
- 900 and lower
- 901 - 2,900
- 2,901 - 6,000
- 6,001 to 13,000
- 13,001 and higher
Figure 9D
East Desert Region - Year 2035 SBTAM Daily Volumes

- East Desert Region
- Community Plan Boundaries
- City Boundaries

**San Bernardino County**

**Daily Model Volume**
- 900 and lower
- 6,001 to 13,000
- 2,901 - 6,000
- 13,001 and higher

**Legend**

- Green: 900 and lower
- Orange: 6,001 to 13,000
- Yellow: 2,901 - 6,000
- Red: 13,001 and higher
Mountain Region - Year 2008 SBTAM Daily Volumes

- City Boundaries
- San Bernardino County
- Community Plan Boundaries
- Daily Model Volume
  - 900 and lower
  - 901 - 2,900
  - 2,901 - 6,000
  - 6,001 to 13,000
  - 13,001 and higher

Figure 9E
NORTH DESERT REGION

Figure 10A shows LEHD data for resident worker commute patterns in the North Desert Region (including incorporated cities). The figure shows that 33% work within the North Desert Region, 19% work within the three other County regions, and 48% work outside of San Bernardino County. The percentage working outside of the county is slightly lower than the county average.

Tables 1 and 2 document the top worker origins and destinations specifically for unincorporated communities in the North Desert Region. As shown in the tables, several of the top origins and destinations are local communities and cities. However, a minority of workers come from or go to them. In addition, some top locations (e.g., Los Angeles, San Diego, and Riverside) are outside of the County.

Figure 10B shows the distance and directionality of commuters entering and leaving the North Desert Region's unincorporated communities. Both are skewed to the south, with significant numbers of workers coming from or going to locations more than 50 miles away.

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>2,763</td>
<td>100.0%</td>
</tr>
<tr>
<td>Victorville city</td>
<td>292</td>
<td>10.6%</td>
</tr>
<tr>
<td>Apple Valley town</td>
<td>282</td>
<td>10.2%</td>
</tr>
<tr>
<td>Hesperia city</td>
<td>222</td>
<td>8.0%</td>
</tr>
<tr>
<td>Lucerne Valley CDP</td>
<td>145</td>
<td>5.2%</td>
</tr>
<tr>
<td>Lake Arrowhead CDP</td>
<td>84</td>
<td>3.0%</td>
</tr>
<tr>
<td>Barstow city</td>
<td>80</td>
<td>2.9%</td>
</tr>
<tr>
<td>Silver Lakes CDP</td>
<td>77</td>
<td>2.8%</td>
</tr>
<tr>
<td>San Diego city</td>
<td>66</td>
<td>2.4%</td>
</tr>
<tr>
<td>Adelanto city</td>
<td>52</td>
<td>1.9%</td>
</tr>
</tbody>
</table>
### TABLE 1
**TOP WORKER ORIGINS – NORTH DESERT REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles city</td>
<td>39</td>
<td>1.4%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>1,424</td>
<td>51.5%</td>
</tr>
</tbody>
</table>

### TABLE 2
**TOP WORKER DESTINATIONS – NORTH DESERT REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>7,106</td>
<td>100.0%</td>
</tr>
<tr>
<td>Los Angeles city</td>
<td>563</td>
<td>7.9%</td>
</tr>
<tr>
<td>Victorville city</td>
<td>370</td>
<td>5.2%</td>
</tr>
<tr>
<td>San Bernardino city</td>
<td>292</td>
<td>4.1%</td>
</tr>
<tr>
<td>Hesperia city</td>
<td>237</td>
<td>3.3%</td>
</tr>
<tr>
<td>Apple Valley town</td>
<td>184</td>
<td>2.6%</td>
</tr>
<tr>
<td>Riverside city</td>
<td>146</td>
<td>2.1%</td>
</tr>
<tr>
<td>San Diego city</td>
<td>143</td>
<td>2.0%</td>
</tr>
<tr>
<td>Barstow city</td>
<td>119</td>
<td>1.7%</td>
</tr>
<tr>
<td>Lucerne Valley CDP</td>
<td>119</td>
<td>1.7%</td>
</tr>
<tr>
<td>Rancho Cucamonga city</td>
<td>118</td>
<td>1.7%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>4,815</td>
<td>67.8%</td>
</tr>
</tbody>
</table>
North Desert Region - Resident Commute Patterns

Source: US Census Longitudinal Employer-Household Dynamics, 2014

- 48% Work Within Region
- 19% Work Within Other Regions
- 33% Work Outside County

Legend:
- North Desert Region
- Community Plan Boundaries
- City Boundaries
- Work Within Region
- Work Within Other Regions
- Work Outside County

Kern County
Los Angeles County
San Bernardino County
Riverside County
Phelan/Pinon Hills
Lucerne Valley
Yermo
Newberry Springs
Daggett
North Desert Region - Resident Commute Patterns

*Incorporated Cities and Unincorporated Communities

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Figure 10A
L-988
Figure 10b
North Desert Region - Jobs by Distance/Direction

Source: US Census Longitudinal Employer-Household Dynamics, 2014

Commuters Leaving Unincorporated Communities
Commuters Entering Unincorporated Communities
EAST DESERT REGION

Figure 10C shows LEHD data for resident worker commute patterns in the East Desert Region (including incorporated cities). The figure shows that 23% work within the East Desert Region, 11% work within the three other County regions, and 66% work outside of San Bernardino County. The percentage working outside of the County is significantly higher than the County average, perhaps due to the lack of employment in the East Desert Region for local residents.

Tables 3 and 4 document the top worker origins and destinations specifically for unincorporated communities in the East Desert Region. As shown in the tables, several of the top origins are local communities and cities with a significant share of incoming workers. However, several of the top destinations (e.g., Palm Springs, Los Angeles, and Palm Desert) are more distant cities and communities.

Figure 10D shows the distance and directionality of commuters entering and leaving the East Desert Region’s unincorporated communities. Outgoing workers tend to go to destinations in the west, many of them more than 50 miles away. This pattern also holds true for commuters entering, except for the fact that a significant number also enter from the northeast from locations less than 25 miles away.

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>271</td>
<td>100.0%</td>
</tr>
<tr>
<td>Morongo Valley CDP</td>
<td>76</td>
<td>28.0%</td>
</tr>
<tr>
<td>Yucca Valley town</td>
<td>43</td>
<td>15.9%</td>
</tr>
<tr>
<td>Indio city</td>
<td>9</td>
<td>3.3%</td>
</tr>
<tr>
<td>Joshua Tree CDP</td>
<td>9</td>
<td>3.3%</td>
</tr>
<tr>
<td>Palm Desert city</td>
<td>9</td>
<td>3.3%</td>
</tr>
<tr>
<td>Cathedral City city</td>
<td>8</td>
<td>3.0%</td>
</tr>
<tr>
<td>Homestead Valley CDP</td>
<td>6</td>
<td>2.2%</td>
</tr>
</tbody>
</table>
### TABLE 3
**TOP WORKER ORIGINS – EAST DESERT REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucerne Valley CDP</td>
<td>5</td>
<td>1.8%</td>
</tr>
<tr>
<td>Desert Hot Springs city</td>
<td>4</td>
<td>1.5%</td>
</tr>
<tr>
<td>Los Angeles city</td>
<td>4</td>
<td>1.5%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>98</td>
<td>36.2%</td>
</tr>
</tbody>
</table>

### TABLE 4
**TOP WORKER DESTINATIONS – EAST DESERT REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>1,853</td>
<td>100.0%</td>
</tr>
<tr>
<td>Palm Springs city</td>
<td>161</td>
<td>8.7%</td>
</tr>
<tr>
<td>Los Angeles city</td>
<td>115</td>
<td>6.2%</td>
</tr>
<tr>
<td>Palm Desert city</td>
<td>79</td>
<td>4.3%</td>
</tr>
<tr>
<td>Morongo Valley CDP</td>
<td>76</td>
<td>4.1%</td>
</tr>
<tr>
<td>Yucca Valley town</td>
<td>61</td>
<td>3.3%</td>
</tr>
<tr>
<td>San Diego city</td>
<td>52</td>
<td>2.8%</td>
</tr>
<tr>
<td>Rancho Mirage city</td>
<td>48</td>
<td>2.6%</td>
</tr>
<tr>
<td>San Bernardino city</td>
<td>41</td>
<td>2.2%</td>
</tr>
<tr>
<td>Riverside city</td>
<td>40</td>
<td>2.2%</td>
</tr>
<tr>
<td>Cathedral City city</td>
<td>31</td>
<td>1.7%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>1,149</td>
<td>62.0%</td>
</tr>
</tbody>
</table>
Source: US Census Longitudinal Employer-Household Dynamics, 2014
Figure 10D
East Desert Region - Jobs by Distance/Direction

Source: US Census Longitudinal Employer-Household Dynamics, 2014
MOUNTAIN REGION

Figure 10E shows LEHD data for resident worker commute patterns in the Mountain Region (including incorporated cities). The figure shows that 18% work within the Mountain Region, 23% work within the three other County regions, and 59% work outside of San Bernardino County. The percentage working outside of the County is somewhat higher than the County average, perhaps due to the lack of employment in the Mountain Region for local residents.

Tables 5 and 6 document the top worker origins and destinations specifically for unincorporated communities in the Mountain Region. As shown in the tables, several of the top origins are local communities and cities with a significant share of incoming workers. Several top destinations are also local communities and cities. However, a minority of workers travel to and from to them.

Figure 10F shows the distance and directionality of commuters entering and leaving the Mountain Region’s unincorporated communities. Outgoing workers tend to go to destinations in the west, southwest, and south, many of them more than 50 miles away. Incoming workers generally arrive from locations either to the west, southeast, and east more than 50 miles away. However, a significant number also enter from multiple directions from nearby locations less than 10 miles away.

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>695</td>
<td>100.0%</td>
</tr>
<tr>
<td>Wrightwood CDP</td>
<td>79</td>
<td>11.4%</td>
</tr>
<tr>
<td>Yucaipa city</td>
<td>65</td>
<td>9.4%</td>
</tr>
<tr>
<td>Lake Arrowhead CDP</td>
<td>37</td>
<td>5.3%</td>
</tr>
<tr>
<td>Phelan CDP</td>
<td>37</td>
<td>5.3%</td>
</tr>
<tr>
<td>Pinon Hills CDP</td>
<td>36</td>
<td>5.2%</td>
</tr>
<tr>
<td>San Bernardino city</td>
<td>23</td>
<td>3.3%</td>
</tr>
<tr>
<td>Hesperia city</td>
<td>21</td>
<td>3.0%</td>
</tr>
</tbody>
</table>
### TABLE 5
**TOP WORKER ORIGINS – MOUNTAIN REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redlands city</td>
<td>20</td>
<td>2.9%</td>
</tr>
<tr>
<td>Fontana city</td>
<td>18</td>
<td>2.6%</td>
</tr>
<tr>
<td>Highland city</td>
<td>14</td>
<td>2.0%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>345</td>
<td>49.6%</td>
</tr>
</tbody>
</table>

### TABLE 6
**TOP WORKER DESTINATIONS – MOUNTAIN REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>1,962</td>
<td>100.0%</td>
</tr>
<tr>
<td>Los Angeles city</td>
<td>137</td>
<td>7.0%</td>
</tr>
<tr>
<td>San Bernardino city</td>
<td>134</td>
<td>6.8%</td>
</tr>
<tr>
<td>Wrightwood CDP</td>
<td>82</td>
<td>4.2%</td>
</tr>
<tr>
<td>Rancho Cucamonga city</td>
<td>78</td>
<td>4.0%</td>
</tr>
<tr>
<td>Riverside city</td>
<td>71</td>
<td>3.6%</td>
</tr>
<tr>
<td>Lake Arrowhead CDP</td>
<td>60</td>
<td>3.1%</td>
</tr>
<tr>
<td>Ontario city</td>
<td>59</td>
<td>3.0%</td>
</tr>
<tr>
<td>Redlands city</td>
<td>55</td>
<td>2.8%</td>
</tr>
<tr>
<td>Phelan CDP</td>
<td>54</td>
<td>2.8%</td>
</tr>
<tr>
<td>Fontana city</td>
<td>49</td>
<td>2.5%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>1,183</td>
<td>60.3%</td>
</tr>
</tbody>
</table>
Mountain Region - Resident Commute Patterns

Source: US Census Longitudinal Employer-Household Dynamics, 2014
Source: US Census Longitudinal Employer-Household Dynamics, 2014

Figure 10F

Mountain Region - Jobs by Distance/Direction

Commuters Leaving Unincorporated Communities

Commuters Entering Unincorporated Communities
VALLEY REGION

Figure 10G shows LEHD data for resident worker commute patterns in the Valley Region (including incorporated cities). The figure shows that 18% work within the Valley Region, 23% work within the three other County regions, and 59% work outside of San Bernardino County. The percentage working outside of the County is approximately the same as the County average.

Tables 7 and 8 document the top worker origins and destinations specifically for unincorporated communities in the Valley Region. As shown in the tables, several of the top origins are local communities and cities with a significant portion of incoming workers. This also holds true for the top worker destinations; however, a few are located a significant distance from the region.

Figure 10H shows the distance and directionality of commuters entering and leaving the Valley Region’s unincorporated communities. Outgoing workers tend to go to destinations in the west, many of them more than 50 miles away. This pattern also holds true for commuters entering, except for the fact that a significant number also enter from multiple directions from nearby locations less than 10 to 25 miles away.

### TABLE 7

**TOP WORKER ORIGINS – VALLEY REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>5,131</td>
<td>100.0%</td>
</tr>
<tr>
<td>San Bernardino city</td>
<td>482</td>
<td>9.4%</td>
</tr>
<tr>
<td>Redlands city</td>
<td>363</td>
<td>7.1%</td>
</tr>
<tr>
<td>Fontana city</td>
<td>294</td>
<td>5.7%</td>
</tr>
<tr>
<td>Riverside city</td>
<td>227</td>
<td>4.4%</td>
</tr>
<tr>
<td>Yucaipa city</td>
<td>216</td>
<td>4.2%</td>
</tr>
<tr>
<td>Rialto city</td>
<td>196</td>
<td>3.8%</td>
</tr>
<tr>
<td>Moreno Valley city</td>
<td>175</td>
<td>3.4%</td>
</tr>
<tr>
<td>Highland city</td>
<td>145</td>
<td>2.8%</td>
</tr>
</tbody>
</table>
### TABLE 7
**TOP WORKER ORIGINS – VALLEY REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloomington CDP</td>
<td>144</td>
<td>2.8%</td>
</tr>
<tr>
<td>Colton city</td>
<td>137</td>
<td>2.7%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>2,752</td>
<td>53.6%</td>
</tr>
</tbody>
</table>

### TABLE 8
**TOP WORKER DESTINATIONS – VALLEY REGION**

<table>
<thead>
<tr>
<th>City/CDP</th>
<th>Count</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>16,133</td>
<td>100.0%</td>
</tr>
<tr>
<td>San Bernardino city</td>
<td>1,799</td>
<td>11.2%</td>
</tr>
<tr>
<td>Ontario city</td>
<td>975</td>
<td>6.0%</td>
</tr>
<tr>
<td>Riverside city</td>
<td>959</td>
<td>5.9%</td>
</tr>
<tr>
<td>Fontana city</td>
<td>925</td>
<td>5.7%</td>
</tr>
<tr>
<td>Redlands city</td>
<td>803</td>
<td>5.0%</td>
</tr>
<tr>
<td>Rancho Cucamonga city</td>
<td>752</td>
<td>4.7%</td>
</tr>
<tr>
<td>Los Angeles city</td>
<td>720</td>
<td>4.5%</td>
</tr>
<tr>
<td>Rialto city</td>
<td>487</td>
<td>3.0%</td>
</tr>
<tr>
<td>Colton city</td>
<td>436</td>
<td>2.7%</td>
</tr>
<tr>
<td>Jurupa Valley city</td>
<td>330</td>
<td>2.0%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>7,947</td>
<td>49.3%</td>
</tr>
</tbody>
</table>
Source: US Census Longitudinal Employer-Household Dynamics, 2014

Valley Region - Resident Commute Patterns

- Work Within Region: 55%
- Work Within Other Regions: 44%
- Work Outside County: 1%

Incorporated Cities and Unincorporated Communities

Valley Region

City Boundaries

Community Plan Boundaries

San Bernardino County

Valley Region

Source: US Census Longitudinal Employer-Household Dynamics, 2014

DRAFT
Figure 10H

Valley Region - Jobs by Distance/Direction

Source: US Census Longitudinal Employer-Household Dynamics, 2014

Commuters Leaving Unincorporated Communities
Commuters Entering Unincorporated Communities

Legend:
- Valley Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- Less than 10 Miles
- 10 to 24 Miles
- 25 to 50 Miles
- Greater than 50 Miles

Jobs by Distance/Direction in 2014
All Workers
PROPOSED COUNT LOCATIONS

In consultation with staff, Fehr & Peers has selected locations throughout the County for peak hour intersection and daily roadway segment vehicle volume counts. This data will be used throughout the General Plan Update process to analyze the potential level of service impacts of various growth scenarios. In total, 39 intersections and 160 roadway segments were selected. The regional breakdown of the number of count locations is provided in Table 9. Figures 11A through 11D show these locations.

<table>
<thead>
<tr>
<th>Region</th>
<th>Intersections</th>
<th>Segments</th>
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</tr>
<tr>
<td>East Desert</td>
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<td>42</td>
</tr>
<tr>
<td>Valley</td>
<td>16</td>
<td>41</td>
</tr>
</tbody>
</table>
Mountain Region - Count Locations

- Intersections
- Mountain Region
- Community Plan Boundaries
- Roadway Segments
- City Boundaries
- San Bernardino County

Figure 11C

DRAFT
SUMMARY AND CONCLUSIONS

This memo documented several existing transportation issues and future trends that the County should be cognizant of as the Countywide General Plan is updated. These issues are summarized below.

FUTURE ROADWAY NETWORK

- Several roadway improvements are slated for County roadways in the coming decades according to the SCAG RTP/SCS. In addition, the previous Countywide General Plan proposed a wide network of future roadways, many of which do not overlap with the funded RTP projects. The County should strive to develop a proposed roadway network consistent with the RTP and ensure proposed roadway improvements are funded.

- 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. Upon completion, the study’s results will be incorporated into the General Plan Update. 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

- Currently, the County relies on two different programs to generated fees to construct roadway improvements, whether it is building new roads, expanding or improving existing roads, paving existing dirt roads, installing traffic signals, or other improvements. Local Fee Plans generate funds for road improvements within an adopted Plan are to mitigate development impacts. A fee is levied on residential and non-residential projects based on the projected increase in traffic; as fees accumulate, projects are completed in the order of their priority. In addition, the Regional Transportation Mitigation Plan collects fees from...
new developments for improvements to roads in specified cities’ spheres of influence within the Valley Region and the Victor Valley area. However, fees can take many years to accumulate and construction expenses are rising, meaning many projects have yet to begin. The County should work to develop realistic construction cost forecasts that take rising costs and other trends into account.

- Since many roads traverse multiple jurisdictions (whether the County or incorporated Cities), there can be issues with raising funds and implementing improvements. In addition, several roads in the County are under Caltrans control; this especially holds true in the Mountain Region, where many major roads such as State Routes 18, 38, and 173 are under Caltrans jurisdiction and provide the sole means of access in many communities. The County should focus on coordinating with Caltrans, SANBAG, and other jurisdictions to finance and implement improvements across boundaries. The County should also work with Caltrans to mitigate the impacts of state highway projects on local communities, especially in the Mountain Region.

- Within the County, there are 441 CMP monitored intersections along the County’s major highways and arterials, which also form the CMP Network. The minimum acceptable LOS under the CMP is LOS E, which is less rigorous than the County’s standards (LOS C or D depending on the Region and facility). Most analyzed roadway segments in the Existing Conditions Report performed acceptably under the County standards. However, 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.

- As roads are improved and constructed in the future, the County should work with local jurisdictions to minimize inconsistencies in roadway right-of-way and capacity across boundaries.

SCENIC ROUTES AND TRAILS

- Throughout San Bernardino County are vast undeveloped tracts of land that offer significant scenic vistas. State Designated Scenic Highways, County Designated Scenic Routes, and the Regional Trails network offer residents and visitors a chance to enjoy these natural amenities. However, future growth and development can increase pressure on these areas. The County should ensure that these facilities continue to be preserved and maintained with future growth and consider adding additional locations under these designations if deemed necessary.
EXISTING BRIDGES AND DEFICIENCIES

- Aging bridges in the County can present issues related to safety and evacuation routes in times of natural disasters or other emergencies. Of the 535 local agency bridges in San Bernardino County, the FHWA considers 257 of them deficient (deficiency data on the 899 state highway bridges was not available at the time of this report). 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). Existing deficiencies and future degradation will require repair and investment. Furthermore, bridge health can be affected by future growth and vehicle travel patterns.

- In the North Desert Region, 122 local agency bridges have been deemed deficient. These include several in Phelan/Pinon Hills, Helendale, Yermo, Daggett, and Baker. A significant number of deficient bridges run along National Trails Highway; reasons for deficiency primarily consist of low sufficiency ratings. However, Interstate 40 provides parallel capacity to these deficient bridges. In Helendale and Phelan/Pinon Hills, the primary issue with deficient bridges is structural deficiency; some bridges also suffer from sufficiency ratings below 81.

- In the East Desert Region, 14 local agency bridges have been deemed deficient – all on the National Trails Highway along the region’s northern boundary primarily for low sufficiency ratings.

- In the Mountain Region, 12 local agency bridges are deficient, in locations such as Lytle Creek and Crest Forest. In Lytle Creek, this is due to a low sufficiency rating and functional obsoleteness, while reasons in Crest Forest consist of functional obsoleteness and structural deficiency.

- In the Valley Region, there are 109 local agency bridges that are deficient. Reasons for being deemed deficient vary widely across the region but structural deficiency and functional obsoleteness are common. In addition, several bridges that cross the San Antonio Creek Channel are functionally obsolete or have low sufficiency ratings.

PUBLIC TRANSIT

- 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. However, these improvements are not evenly distributed.

- There are no planned transit improvements in the East Desert Region. Current bus service does not provide connectivity to existing and proposed rail and bus rapid transit service in
the Valley and North Desert Regions. In addition, SCAG does not project any HQTAs or TPAs in this Region. Transit access for unincorporated communities in this Region is overall limited, with buses routes on only one or two major roads.

- There are no planned transit improvements in the Mountain Region. Existing bus service does provide connectivity to existing and proposed rail stations and bus rapid transit service in the Valley Region; however, there is no direct connectivity to transit in the North Desert Region, including the proposed XpressWest. In addition, there is a lack of existing transit service in Lytle Creek, Oak Glen, and Mt. Baldy, and there is no direct connectivity between Wrightwood and other Mountain and Valley Region areas. SCAG does not project any HQTAs or TPAs in this Region.

- The North Desert Region would benefit from the proposed XpressWest high speed rail with its connectivity to Metrolink lines to Los Angeles; however, SCAG projects very limited HQTAs and TPAs in this area (near Barstow Station and the proposed Victorville Station). Bus routes running along Interstate 15 do provide connectivity to the south. However, some North Desert communities (Newberry Springs, Daggett, and El Mirage) currently have no transit service while in other communities (Phelan/Pinon Hills, Oak Hills, Lucerne Valley, and Yermo) transit service is only provided along one or two major roads.

- The Valley Region does benefit from several planned projects including High Speed Rail Phase 2, a rail extension to Redlands, and several new BRT routes along Foothill Boulevard, San Bernardino Avenue, Sierra Avenue, Riverside Avenue, E Street, and several other arterials throughout the Region; SCAG projects a significant number of HQTAs and TPAs in the region. However, this coverage does not reach most unincorporated communities in the Valley Region. The only community projected to have a HQTA is Bloomington (specifically, north of Valley Boulevard). There are no HQTAs or TPAs projected for San Antonio Heights, Muscoy, or Mentone. In addition, there is no existing bus transit service in San Antonio Heights that would provide connectivity to existing and proposed rail and bus rapid transit service.

- HQTAs and TPAs are locations primed for investment and development in the coming decades. A lack of HQTAs and TPAs in unincorporated communities can result in missed opportunities for the County.

- The County should coordinate with local transit agencies to improve connectivity to and from the County’s communities, especially to future rail and bus rapid transit service.

AIRPORTS

- There are currently 53 airports and airfields operating in San Bernardino County. SCAG has projected cargo and passenger air traffic growth in the County, especially at the three major
airports: Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport. The County should be cognizant of trends in air travel and impacts on local and regional roadways.

- 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. 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.

- San Bernardino International Airport served cargo carriers. 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.

- 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. 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.

GOODS MOVEMENT

- SCAG’s RTP transportation projects include several new truck climbing lanes on state highways. Also, 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. 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 VMT.

- SCAG has projected substantial increases in warehousing space demand in the coming decades. SCAG has projected a 55% increase in warehousing building space demand in the SCAG region from 2015 to 2040 (or 385 million square feet). 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). 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.

- Increases in goods movement in the County will result in higher truck volumes even when taking future facilities such as the High Desert Corridor and rail into account. Local roads can experience impacts whether they are around regional facilities such as the High Desert Corridor or around locations with future warehousing intensification in scattered Valley Region areas or around the Southern California Logistics Airport in the North Desert Region. Local roads should be planned, designed, and built to handle future truck traffic.

- The County should coordinate the truck routes network with SANBAG and local jurisdictions. Currently, there are inconsistencies in the network such as roads that lose or gain a truck route designation through multiple jurisdictions. Coordination should take place to maintain consistency in designations and design.

NON-MOTORIZED FACILITIES

- As documented in the Existing Conditions Report, bicycle facilities are extremely limited in the County’s unincorporated communities. However, according to the SANBAG Non-Motorized Transportation Plan, a significant number of bicycle facilities are planned in unincorporated County areas. The County should work to ensure that facilities are built and
that surrounding development supports their active use. In addition, the County should continue to examine additional locations for expanded bicycle facilities.

- In the North Desert Region’s unincorporated communities, existing and proposed bikeways are extremely limited. There are currently no bikeways any of the ten community plan areas. Proposed bikeways include a Class III facility along the National Trails Highway continuing into Newberry Springs and Daggett. Proposed facilities also include Class II bicycle lanes in Helendale and Oro Grande and Class I, II and III bikeways in Oak Hills. No bikeways are planned in Baker, El Mirage, or Phelan/Pinon Hills.

- In the East Desert Region’s unincorporated communities, the only existing bikeway is approximately half a mile of Class I bicycle path in Joshua Tree; otherwise, existing bikeways are extremely lacking. Planned bikeways include Class II and III facilities in Homestead Valley and Pioneertown, and Class I, II, and III facilities in Joshua Tree. No additional bikeways are proposed in Morongo Valley.

- In the Mountain Region’s unincorporated communities, existing bikeways exist in Bear Valley but not in the other communities. Significant bikeway improvements are planned in the Mountain Region. These include Class II facilities in Crest Forest, Lake Arrowhead, Oak Glen, and Hilltop and Class II and III facilities in Bear Valley. In addition, there are two proposed facilities in unincorporated areas adjacent to Interstate 15: the Class I Cajon Pass path and Class II bicycle lanes on Cajon Boulevard. However, there are no planned facilities in Wrightwood, Mt. Baldy, Lytle Creek, or Angelus Oaks.

- In the Valley Region, none of the four unincorporated communities provide bikeways. However, significant bikeway improvements are planned in the Valley Region. These include Class II bikeways in San Antonio Heights, Bloomington, and Muscoy. In Mentone, Class I, II, and III facilities are proposed. These planned facilities will fit into the wider bikeways network in the Valley Region.

- The County should work with local jurisdictions to ensure that non-motorized facilities are planned consistently across jurisdictional boundaries to maintain a functioning regional network.

- The County should require non-motorized facilities in new residential and non-residential developments and install facilities on existing and future roadways to ensure that the planned network is built and continues to grow.

COMMUTE PATTERNS

- According to LEHD data, more than half of unincorporated County residents commute outside the County for work, often to locations in Los Angeles, Riverside, and San Diego
Counties. These long commutes can result in higher traffic volumes and congestion. The County should be cognizant of these travel patterns as it analyzes future growth and development.

- The County's commute patterns highlight to the importance of offering more local employment opportunities for residents, which can help reduce stress on local and regional roads.

- The County should encourage the reduction of automobile usage through incentive programs such as alternative transportation modes and facilities, increased non-residential development near housing, and transit-oriented development (TOD).