

California Statewide Rural Intercity Bus Study Update

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Glossary of Acronyms

5311(f)	FTA Section defining the intercity bus program	NCHRP	National Cooperative Highway Research Program
ACS	American Community Survey	NEMT	Non-Emergency Medical Transportation
AP	Aviation Plan	OA	Operating Assistance
CA	Capital Assistance	RABA	Redding Area Bus Authority
CAL	Calipatria State Prison	RTAP	Rural Transit Assistance Program
CalACT	California Association for Coordinated Transportation	RTP	Regional Transportation Plan
Caltrans	California Department of Transportation	RTPA	Regional Transportation Planning Agencies
CEN	Centinela State Prison	SDMTS	San Diego Metropolitan Transit System
CEQA	California Environmental Quality Act	SB1	Senate Bill 1, known as the Road Repair and Accountability Act
CIBS	California Intercity Bus System	SBPP	State Bicycle and Pedestrian Plan
CTP	California Transportation Plan	SCS	Sustainable Communities Strategy
CMAQ	Congestion Mitigation and Air Quality	SRP	State Rail Plan
CVSP	Chuckawalla Valley State Prison	S RTP	Short-Range Transit Plans
DRMT	Division of Rail and Mass Transportation	STSP	Statewide Transit Strategic Plan
ESTA	Eastern Sierra Transit Authority	TIP	Transportation Improvement Program
FAA	Federal Aviation Administration	TTIP	Tribal Transportation Improvement Program
FAST	Fixing America's Surface Transportation	U.S.C.	United States Code
FCRTA	Fresno County Rural Transit Agency	YARTS	Yosemite Area Regional Transportation System
FMCSA	Federal Motor Carrier Safety Administration		
FMP	Freight Mobility Plan		
FTA	Federal Transit Administration		
FY	Fiscal Year		
GHG	Greenhouse Gas		
IMDP	Individual Marketing Demonstration Program		
ISP	Ironwood State Prison		
ITSP	Interregional Transportation Strategic Plan		
KT NET	Klamath Trinity Non-Emergency Transportation		
LAX	Los Angeles International Airport		
MAP-21	Moving Ahead for Progress in the 21st Century Act		
MARTA	Mountain Area Regional Transit Authority		
MCSP	Mule Creek State Prison		
MPO	Metropolitan Planning Organization		
MST	Monterey-Salinas Transit		
MTA	Mendocino Transit Authority		
NCES	National Center for Education Statistics		

Chapter 1 - Introduction

The purpose of this study is to provide Caltrans, Division of Rail and Mass Transportation (DRMT) and other stakeholders with an objective evaluation of the rural intercity bus network that currently exists in California and to identify the changes that have occurred in that network since the 2008 Statewide Rural Intercity Bus Study. This study is also intended to provide an in-depth analysis, findings, and recommendations on how to meet future rural intercity bus needs. In pursuit of these objectives, the study has sought to identify and promote partnerships, encourage cross-jurisdictional coordination, and ensure that there is efficient and effective connectivity for a sustainable rural intercity bus transportation network.

1.1 Definition of Rural Regional Intercity Bus System

As California's designated grantee Caltrans DRMT provides critical support for California's intercity bus system with funding from the Federal Transit Administration (FTA) Section 5311(f) rural intercity bus program. However, needs in rural communities have necessitated that this program is leveraged to assist rural regional mobility as well. This section describes what constitutes this "rural regional intercity bus system".

In a broad sense, the intercity bus system includes services operated by private firms, non-profits, and public transit entities with federal, state, or local operating or capital assistance, as well as services operated by private firms and non-profits without any public assistance. The FTA defines intercity bus service as a unique mode of transit with: "Regularly scheduled bus service for the general public that operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available."

In California, rural area operators face several challenges in providing transit services. Their trip densities are frequently too low to meet normal ridership and cost-efficiency standards, they are often operating in harsh climates, and fiscal resources are typically very limited. At the same time many rural areas have an increasing number of elderly and other transit dependent populations who rely on their services. The FTA defines rural public transit as: "Surface transportation by conveyance that provides regular and continuing general or special transportation to the public, but does not include school bus, charter, or intercity bus transportation" that is provided in a "non-urbanized area which includes rural areas and urban areas under 50,000 in population not included in an urbanized area."

A recent study by the National Cooperative Highway Research Program (NCHRP)¹ describes the mode of transit services between rural public transit and rural intercity bus service as rural regional transit. It is defined as the services which “provides transportation for the general public from a rural area across the county, or other jurisdictional boundaries, to serve a destination that has services (e.g., medical, educational, employment, retail, government) not available in the rural area.” While Section 5311(f) requirements for a meaningful connection to the national intercity bus network constrain that program’s ability to provide impactful rural regional transit, the limited resources available to support this important class of transit service in rural areas has meant that the intercity bus program in California is an important resource for rural regional transit and integrally linked with that system. As such, it is necessary to look at the broader rural regional intercity bus system rather than artificially limit the analysis to the rural intercity bus system.

1.2 Overview of Study

The Rural Transit Program (49 United State Code, Section 5311) provides formula funding to support public transportation in rural areas. These funds are apportioned by the FTA to each state’s non-urbanized county or region based upon population information from the U.S. Census Bureau. A subset of this program is the FTA Section 5311(f) Rural Intercity Bus Program wherein the state must use 15 percent of its annual apportionment to support rural intercity bus service, unless the governor certifies that the needs of the state are adequately met. In California, the primary emphasis of the FTA Section 5311(f) Rural Intercity Bus Program has been to support the following three national program objectives:

- Connectivity between rural communities and the larger regional or national system of intercity bus service.
- Services that meet the rural intercity travel needs of residents in non-urbanized areas.
- Infrastructure of the rural intercity bus network through planning, marketing assistance, and capital investment in facilities.

However, recent decreases in funding have meant that the 5311(f) program has limited resources to address all these objectives. Therefore, this study seeks to provide recommendations for how the needs of California’s rural regional intercity bus system can best be met while continuing to address the program’s objectives.

¹ *Best Practices in Rural Regional Mobility* (2017). NCHRP

1.3 Recommendations

In addressing the needs of the statewide rural regional bus system, immediate actions and longer-term solutions have been identified. Owing to the 5311(f) program's decreased funding, a priority of this analysis was to develop revised funding criteria. In consultation with existing program recipients and potential applicants, as well as user representative organizations, key priorities of the 5311(f) program were identified. Those priorities were then translated into revised scoring criteria for the 5311(f) program. These criteria provided a partial solution to the immediate challenge of available funding declines, but do not address the broader needs of California's rural regional intercity bus system. Immediate opportunities to leverage other initiatives and resources such as those in the State Rail Plan (SRP) and the Road Repair and Accountability Act (SB 1) through existing structures in the statewide regional intercity system should also be pursued.

Addressing longer-term solutions for the system, the study identifies and describes a more fundamental restructuring of the rural regional intercity system as an enduring transformation that could address the long-term needs of the system. Drawing on lessons from other states as well as California's diverse geographic and demographic structures, this transformation would target reformulating the organizational, funding, and planning structures of the system. It also looks to further develop comprehensive partnerships that exist in many regions for planning infrastructure investments and use them to enhance marketing and demand for the rural regional intercity bus network.

1.4 Organization of the Report

This report documents the study process, its key findings and recommendations. Following this initial introduction, Chapter 2 presents an overview of the study's context and methodology. Changes in Federal, State, and Local transit policies and plans relevant to the rural regional intercity system are reviewed, then the study's methodology is discussed. Chapter 3 identifies the structure of the system and its changes since the 2008 study. Chapter 4 presents an assessment of the intercity system's needs. This is accomplished through statewide reviews of rural transit dependent populations, rural regional service needs and relationships between policy planning focuses and area growth dynamics. Chapter 5 identifies issues from the analysis and presents policy programs and recommends program changes to address the system's needs.

Chapter 2 - Policy Context and Methodology

There have been several policy and planning changes affecting the rural regional intercity bus system since the previous, 2008, study. Perhaps the most significant change to the system has been the recent reduction in available funds for the 5311(f) program. This chapter discusses that change and other significant differences in the system's context. It begins with a review of Federal policies and plans that impact the system and is followed by a similar section on State policies and plans before concluding with a summary of issues identified through a review of local planning documents and outreach.

2.1 Federal Policies and Plans

Overall, the federal policy and planning environment has not changed significantly, but the reduction in Section 5311 funding to California has been significant because of the associated reductions in 5311(f) funding it incurred. Table 1 shows that Federal 5311(f) funding in FY2017 was 30% less than FY2013 funding levels. This has been compounded by an end of Caltrans fund savings adding additional resources to the program, resulting in a reduction in available funds from over \$7 million annually to around \$4.1 million in the foreseeable future. At the same time there has been rising demand for 5311(f) funding from across the state. While only 5 agencies received funding in fiscal year (FY) 2010, by FY2017 the program was supporting some 13 agencies despite having less apportioned funds.

Table 1: California's Estimated 5311(f) Funding Apportionment

Federal Fiscal Year	FTA 5311(f) Apportionment*	Number of Agencies Receiving Funding
2017	\$4,172,586	13
2016	\$4,094,808	13
2015	\$4,128,681	17
2014	\$4,129,281	19
2013	\$5,985,522	19
2012	\$5,127,215	9
2011	\$4,851,555	8
2010	\$4,804,765	5
*Estimated at 15% of 5311 Program Apportionment Source: FTA, Annual Apportionments www.fta.dot.gov		

Besides the reduced 5311 program funds, most policy changes of direct relevance to the rural regional intercity system concerned updates of legislation that govern FTA's grant programs. The Moving Ahead for Progress in the 21st Century Act, (MAP-21) of 2012, and subsequently the Fixing America's Surface Transportation (FAST) Act of 2015 consolidated many FTA programs including former Transportation Equity Act for the 21st Century (TEA-21) Section

3038 (Over-the-Road Bus Program), as well as U.S. Code Title 49 Sections 5309 (Bus and Bus Facilities Program), 5317 (New Freedom Program), and 5316 (Job Access and Reverse Commute). As part of the general restructuring these policies facilitated, they also allowed intercity bus services to begin carry packages along their routes as long as providing that service is incidental to the main purpose of passenger transportation.

Another change affecting intercity transportation is Congestion Mitigation and Air Quality (CMAQ) limits for operational assistance increasing from three years to five years, with a focus changing to flexibility in the timing of assistance. The same amount of assistance can now be spread over five years and be awarded in any amount for each of the five years (so long as the total amount awarded remains below the maximum). Below are a number of examples of allocations through CMAQ.

Table 2: Example Allocations of CMAQ Funds for Operating Assistance

Example	Year 1	Year 2	Year 3	Year 4	Year 5	Total
A	\$300	\$300	\$200	\$50	\$50	\$900
B	\$300	\$300	\$100	\$100	\$100	\$900
C	\$100	\$400	\$200	\$100	\$100	\$900

However, the requirement of CMAQ recipients being in air quality non-attainment areas has not changed. While this limits the applicability of the program for most rural areas, it might be relevant to some rural areas that are not in air quality attainment zones. The other major federal regulatory framework regarding intercity bus transportation, the Federal Motor Carrier Safety Administration (FMCSA), has not significantly changed since the 2008 Study.

2.2 State Policies and Plans

California's priorities regarding intercity transportation have changed more significantly than their Federal counterparts. These shifts are not only the result of legislation and policy decisions, but also a result of changing opinions on what an ideal transportation system in California looks like. Since the 2008 California Statewide Rural Bus Study, there have been myriad pieces of legislation and executive action taken to combat vehicle emissions, and the way transportation is approached in California.

In terms of emissions, the first significant piece of legislation since the last study was SB 375 (Steinberg) in 2008, which required all Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) to include a sustainable communities strategy (SCS) in their Regional Transportation Plan (RTPs), and supported incentives to local governments to implement the SCS in the pursuit of reducing greenhouse gas (GHG) emissions. However, California's 26 rural RTPAs are not required to submit an SCS with their RTPs.

Other policy actions specifically targeting GHG emissions included:

- Executive Order B-16-12 (2012) – Reaffirms GHG reductions in transportation by 20% of the 1990 level by 2050.
- SB 743 (Steinberg) – Revised California Environmental Quality Act (CEQA) to establish criteria for determining the impacts of transportation projects within transit priority areas and emphasized GHG emissions reductions, multimodal transportation networks, and diverse land use.
- Executive Order B-30-15 (2015) – Sets GHG reduction levels to 40% below 1990 levels by 2030.

In addition to these policy actions specifically targeting GHG emissions, there are other pieces of legislation that alter the way intercity bus operations are conducted in California. These include SB 391 (Liu) in 2009 which requires the California Transportation Plan (CTP) to be updated every 5 years and encourages Caltrans to consider new technologies, expand public transit and commuter and intercity rail, as well as active forms of transportation. Related to this is SB 99 (Leno) 2013, and AB 101 (Skinner) 2013 which created the Active Transportation Program. The Active Transportation Program consolidates existing federal and state transportation programs including the Transportation Alternative Program, the Bicycle Transportation Account, and the Safe Routes to School programs into a single program focusing on active transportation. The purpose of this program is to increase the proportion of trips accomplished by biking and walking instead of by vehicle, with the end goal being increased health of the population as well as a reduction in GHG emissions.

The flagship program in California to implement these climate and transportation priorities is the cap-and-trade system established by AB 32 (Nunez) in 2006 and started in 2012. The long-term goal of this program being to reduce GHG emissions in California by 80% below the 1990 level by 2050. Many transportation funding programs that receive money from the cap-and-trade system have a requirement that the transportation service benefit what CalEPA defines as a “disadvantaged community”. CalEPA developed this definition, which includes a large environmental component, in response to SB 535 (De Leon) in 2012. Unfortunately, this definition precludes most rural areas from receiving this funding as environmental factors in these areas are too diffused to qualify. As a result, the rural regional intercity bus system is faced with an increasingly difficult statewide environment for transportation funding.

Another major change in the regulatory environment in California is a change in the approach to transportation planning from a project-based approach, to a more holistic planning approach. In this new approach, projects are not looked at on an individual basis but are looked at through the lens of the entire system. This can be seen in the CTP 2040 focus on

repairing/preserving existing infrastructure instead of adding new, perhaps unsustainable, routes and infrastructure to the system, as well as the emphasis on stakeholder engagement. This new holistic approach should allow rural transit agencies to more directly engage in transportation policy and planning. The six-long range modal plans united under the CTP 2040 consist of:

- Statewide Transit Strategic Plan (STSP 2018)*
- Freight Mobility Plan (FMP 2014)
- State Rail Plan (SRP 2018)
- Aviation Plan (AP 2011)
- State Bicycle and Pedestrian Plan (SBPP 2017)
- Interregional Transportation Strategic Plan (ITSP 2015)

(*the draft STSP has not been released but is planned for the spring of 2018)

Among these plans, three with the most relevance to the rural regional intercity bus system are the 2015 ITSP, the 2018 SRP and the 2018 STSP. The draft STSP is at this point still forthcoming, but the background baseline report includes a subsection on Intercity Bus Service in California. The broader intercity transit system is also expected to be a focus of the STSP.

The Draft 2018 SRP contains several initiatives of direct relevance to the rural regional intercity bus system. In addition to complementarities between the state-supported intercity rail services that operate the Amtrak Thruway bus service, there are other overlaps between these transit modes' networks. The most significant among these are the SRP's envisioned integrated passenger rail network, which is a plan to develop an integrated multi-modal transit system that enhances operating efficiencies across California as well as connecting with neighboring states and Mexico.

The 2015 ITSP provides an important organizing framework for interregional travel across California. The 11 Strategic Interregional Corridors identified in the ITSP are recommended for prioritized improvements. As the organizing interregional framework, all analyses of the interregional transportation system must consider the vision and objectives of the ITSP and their linkage to the 2040 CTP (2015 ITSP, p.23). As such, the present analysis adopts the 11 strategic interregional corridors identified in the ITSP as primary units for analysis of the statewide rural regional intercity bus system in its review of the system and the market needs that it serves.

2.3 Local Policies and Plans

At a local level, many of the most significant issues as well as the policies and plans to address them, have persisted since the 2008 Study. However, this study undertook a statewide review of RTPs, Coordinated Plans, and Short-Range Transit Plans to identify key issues related to the rural region intercity transit system. While the list of issues identified through this iterative study of local planning documents is not comprehensive, the recurrence of these issues served as a vetting and validating process.

Non-Emergency Medical Transportation (NEMT)

The need for transportation to medical appointments was a common need for transit dependent people and those who cannot drive after a medical appointment or procedure (e.g. after getting dialysis or other medical procedure). Many residents in rural communities have to go out of town and/or county for medical services.

Using services

Specialized Assistance: Some members of the transit dependent population require a high level of “hands on” assistance during their trips (e.g. clients with dementia or those in wheelchairs).

First/last mile + Transferring between different systems: Incompatibilities also come in the form of transferring between different transportation providers. Some riders can be confused by different transit systems. It can also be difficult when clients must pay different fares to different systems and need to figure out timings, bus stop locations, etc. to transfer. For some riders, it may be challenging to navigate a new city/town.

Service Affordability

Consumer resource constraints: Multiple counties reported that fares can be unaffordable for some people and travel.

Knowledge and Confidence Gap

Limited/lack of awareness of services/gaps in knowledge act as a barrier to mobility and cause unnecessary perceptions of unmet needs. When it comes to intercity travel, some residents may need to use multiple transportation services and navigate new communities which can pose multiple challenges, including feeling intimidated by transit services and thus not using them. Other considerations include thinking of those with developmental disabilities, seniors who recently can no longer drive, or those with limited English or literacy.

Service Limitations

The hours and days of operations and service area limits mobility for riders. A number of transit services operate during business hours, limiting access outside of business hours and days for evening classes, shopping recreation, social services, and jobs. Roundtrips may also not be

possible due to the length of the journey because of long wait times. If a rider has to use multiple transportation services to reach their destination, the timings may not work for seamless connections, making a roundtrip within one day impossible at times.

Transit Accessibility

Difficulty accessing transit services is a challenge for many people. Factors contributing to poor transit access include the distance of residents' homes from bus routes, hilly terrain, and road quality. Limited pedestrian infrastructure was identified as a mobility barrier and potential safety issues were also identified. Additionally, not all local transit vehicles are equipped with wheelchair lifts or low floors making connections to intercity services a challenge. In addition to these issues, fragile health status also makes accessibility a challenge.

Infrastructure

Many riders are a pedestrian for some portion of their trip. Limited continuous pedestrian sidewalks in a number of communities was identified as a challenge. Sidewalks that are not contiguous can inhibit transit access, particularly for people using mobility devices. Some reports brought up the need and desire for new and/or improved signage and benches/shelters which can bring attention to services as well as make the journey relatively more comfortable and appealing for riders.

2.4 Methodology

This analysis began with a focused review of planning and the network of intercity bus services in California. The resulting policy context and inventory of the network were then refined and further developed in consultation with the project's steering committee and staff from the DRMT. Key issues identified through this initial phase were then focused upon through a series of outreach events, which included the Spring 2017 California Association for Coordinated Transportation (CalACT) conference, online surveys, and interviews with bus service providers as well as a variety of transit agencies.

Options to address the challenges and maximize the opportunities facing the rural regional intercity bus were then vetted through a combination of additional online surveys, a presentation and discussion at the Fall 2017 CalACT conference, and series of statewide on-site interviews and stakeholder meetings with transit agencies and providers.² This process resulted in development of the key issues and recommendations for this study.

² See Appendix A for details of the project's outreach and stakeholder engagement.

Chapter 3 - Inventory of Intercity Service

This part of the Statewide analysis inventories existing intercity bus services and changes in service since the 2008 Study. A list of public intercity transit providers who received 5311(f) funding in FY2018 is reported in Table 3 below. That is followed in Table 4 by a list of private for-profit intercity bus operators as well as a selection of other intercity transit providers. In both cases these operators' intercity routes are identified across 18 interregional corridors. Those interregional corridors are illustrated in Figure 1 and described in detail in Appendix B.

As mentioned in Chapter 2, the first eleven corridors, Corridor 1 to 11, correspond to the eleven strategic corridors identified in the 2015 ITSP. However, California's rural regional intercity network is not limited to those corridors alone. Therefore, seven additional corridors, Corridors 12 to 18, define distinct rural areas that form inclusive coverage across the entirety of California.

Table 3 5311(f) Funded Intercity Transportation Providers in FY2018

Service/Corridor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Butte B-Line*				X										X				
Calaveras Transit*											X			X				
ESTA		X			X									X	X			
FCRTA*		X									X			X				
Greyhound*							X											
Kern Transit		X			X						X			X				
Lake Transit			X				X					X						
MST								X										
MTA*							X											
MARTA*										X								
Napa Transit				X		X	X											
Plumas Transit*														X				
RABA*			X	X									X					
Redwood Coast Transit							X					X						
Redwood Transit System							X					X						
Sage Stage			X	X									X					
San Diego MTS*	X															X		
Sunline Transit*	X									X								
Trinity Transit*			X	X								X						
YARTS					X						X			X				

Reduced since '08 CIBS

Expanded since '08 CIBS

New since '08 CIBS

Ended since '08 CIBS

In order to capture changes in intercity service since the 2008 Study, Table 3 and Table 4 have been color coded to reflect changes in the routes, with distinct colors representing the addition and suspension of routes in particular corridors as well as the expansion or contraction of service within routes. New services since 2008 Study are identified in Table 3 with an asterisk (*). As an example, Trinity Transit operated service between Willow Creek and Weaverville along interregional corridor 3, the North Coast-Northern Nevada Corridor, when the 2008 Study was conducted, but it did not connect with Redding or receive 5311(f) funding. Trinity Transit now offers regular intercity service between Willow Creek and Redding with 5311(f) support. Therefore, Trinity Transit is identified by an asterisk and an orange filled box with a check under interregional corridor 3 as well as a green filled box with a check under interregional corridor 4, which is the Sacramento – Oregon Corridor since that corridor is now linked with its Trinity Transit’s connection to Redding.

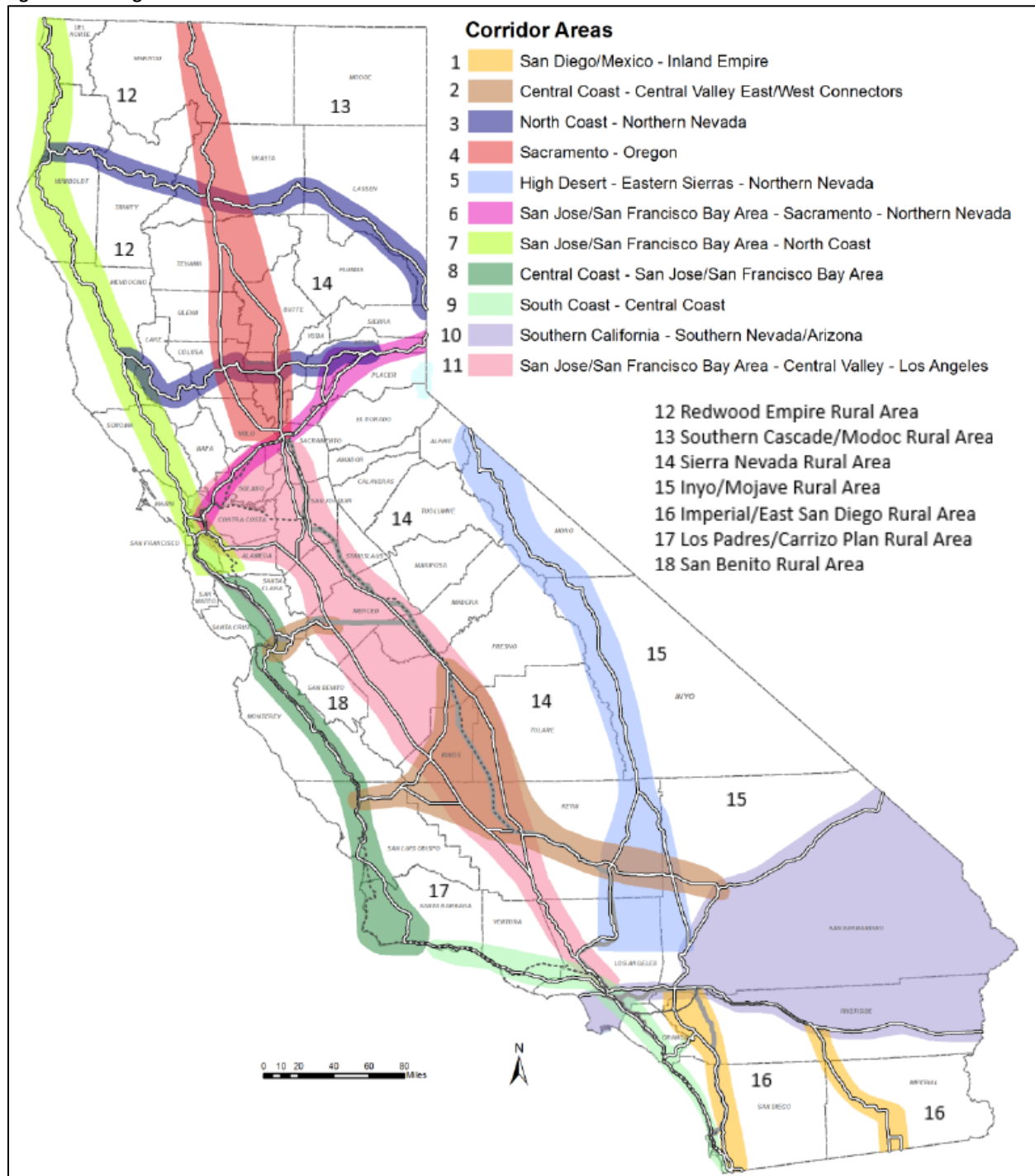
Table 4 Private for-profit intercity operators and select other intercity bus service providers

Service/Corridor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Airport Valet Express*											X							
Amador Transit*				X		X					X			X				
Amador Stage Lines*														X				
America Asia Express*										X								
Amtrak Thruway		X		X	X	X	X	X	X	X	X			X			X	
Antelope Express*		X			X						X							
Bolt Bus*										X	X							
Breeze Bus*								X										
CHD-Group Bus*		X								X	X							
Clean Air Express*								X	X									
Greyhound	X	X				X	X	X	X	X	X							
Hoang Express Bus*						X			X		X							
KT NET*												X						
Lassen Tours*											X							
Lux Bus										X								
MegaBus						X				X	X							
Orange Belt Stages		X					X											
Transportes Intercalifornias	X	X									X							
Ventura CTC*									X									

As with the FY 2018 5311(f) recipient providers, Table 4 demarks new services since the 2008 Study with an asterisk. It is evident from these two tables that several additional intercity routes have emerged since the 2008 Study. Nevertheless, several intercity services identified in the 2008 Study no longer operate or receive 5311(f) funding. Among private providers there are three companies who have stopped intercity operations in California: Americanos USA, CA Shuttle Bus, and USASIA. Similarly, four public intercity transportation providers that received 5311(f) funding when the 2008 Study was conducted did not receive funds in FY 2018:

- Los Angeles County Department of Public Works, whose 5311(f)-funding supported service between Acton and Santa Clarita.
- SamTrans, whose 5311(f)-funding supported service between Half-Moon Bay and San Mateo.
- San Luis Obispo Regional Transit Authority, whose 5311(f)-funding supported service between Santa Maria and San Luis Obispo.
- Yurok Tribal Government, whose 5311(f)-funding supported service between Pecwan and Willow Creek.

Figure 1 Interregional Corridor Areas



Drawing on the intercity routes listed in Table 4 and Table 3, key components of the statewide regional intercity network are illustrated in Figure 2 along with their associated stops. Further details of that network along with buffers representing 10 miles and 25 miles from the intercity stops are then illustrated in Figure 3 to Figure 5.

Figure 2 Intercity Bus Service in California

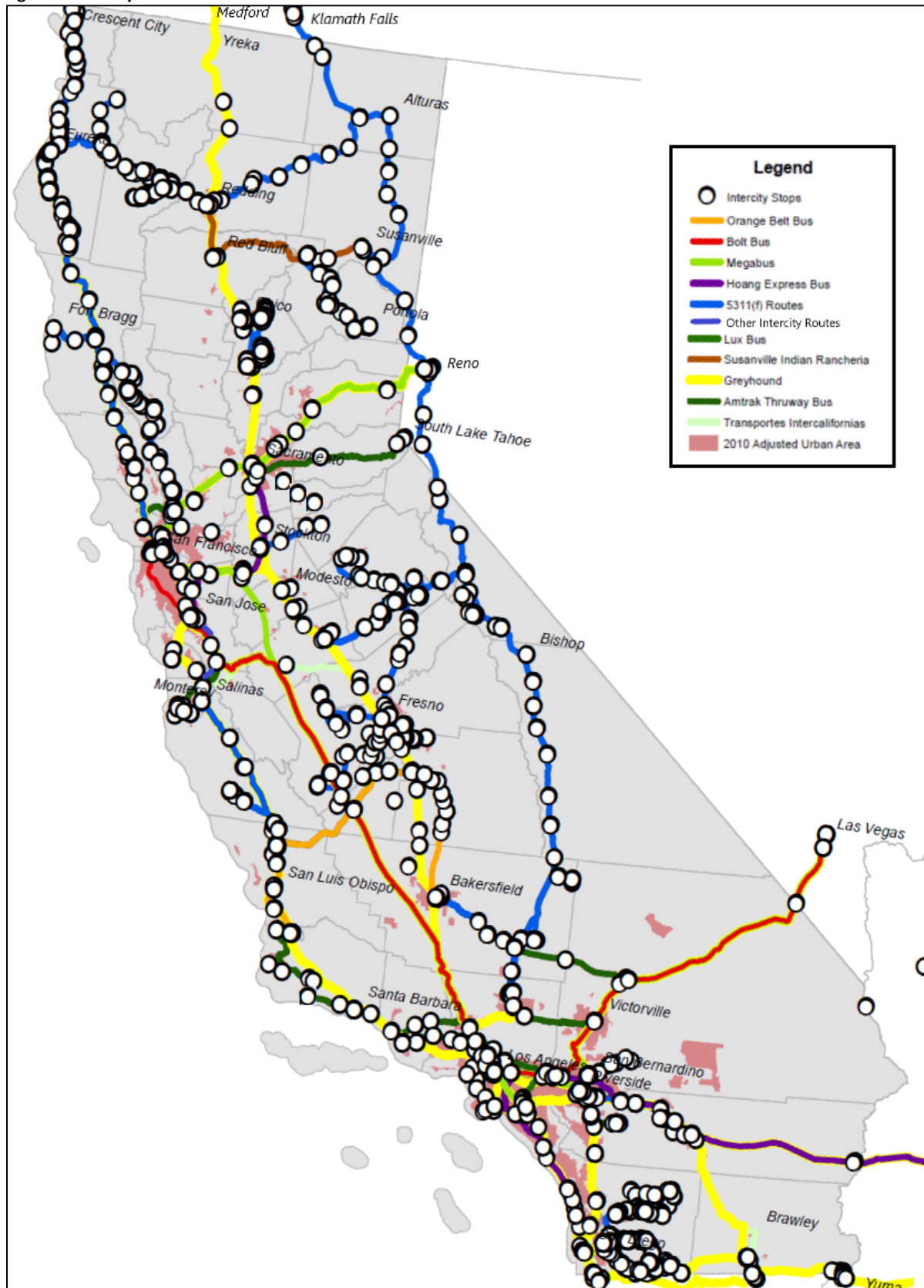


Figure 3 Intercity Bus Services in Southern California

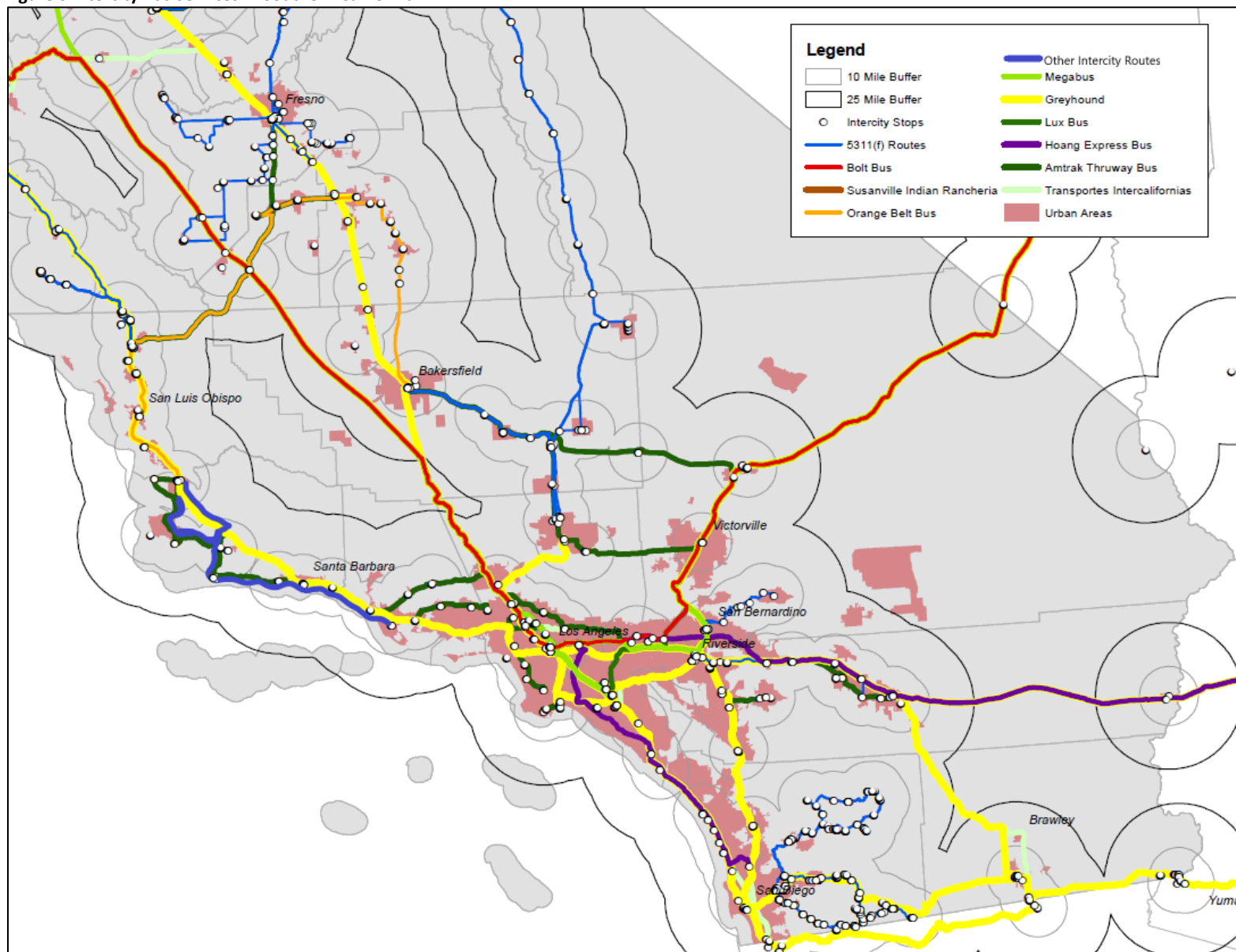


Figure 4 Intercity Bus Services in Central California

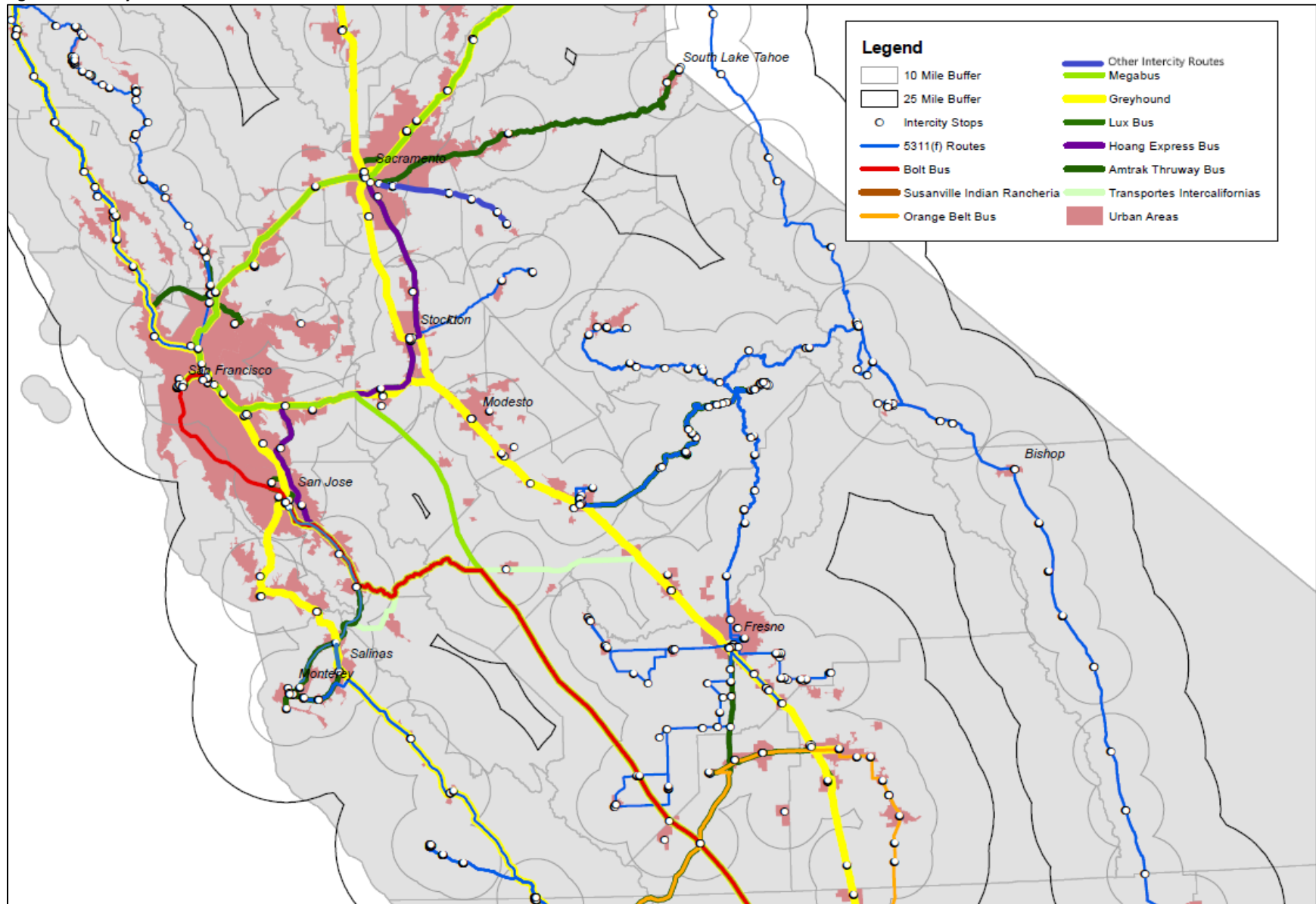
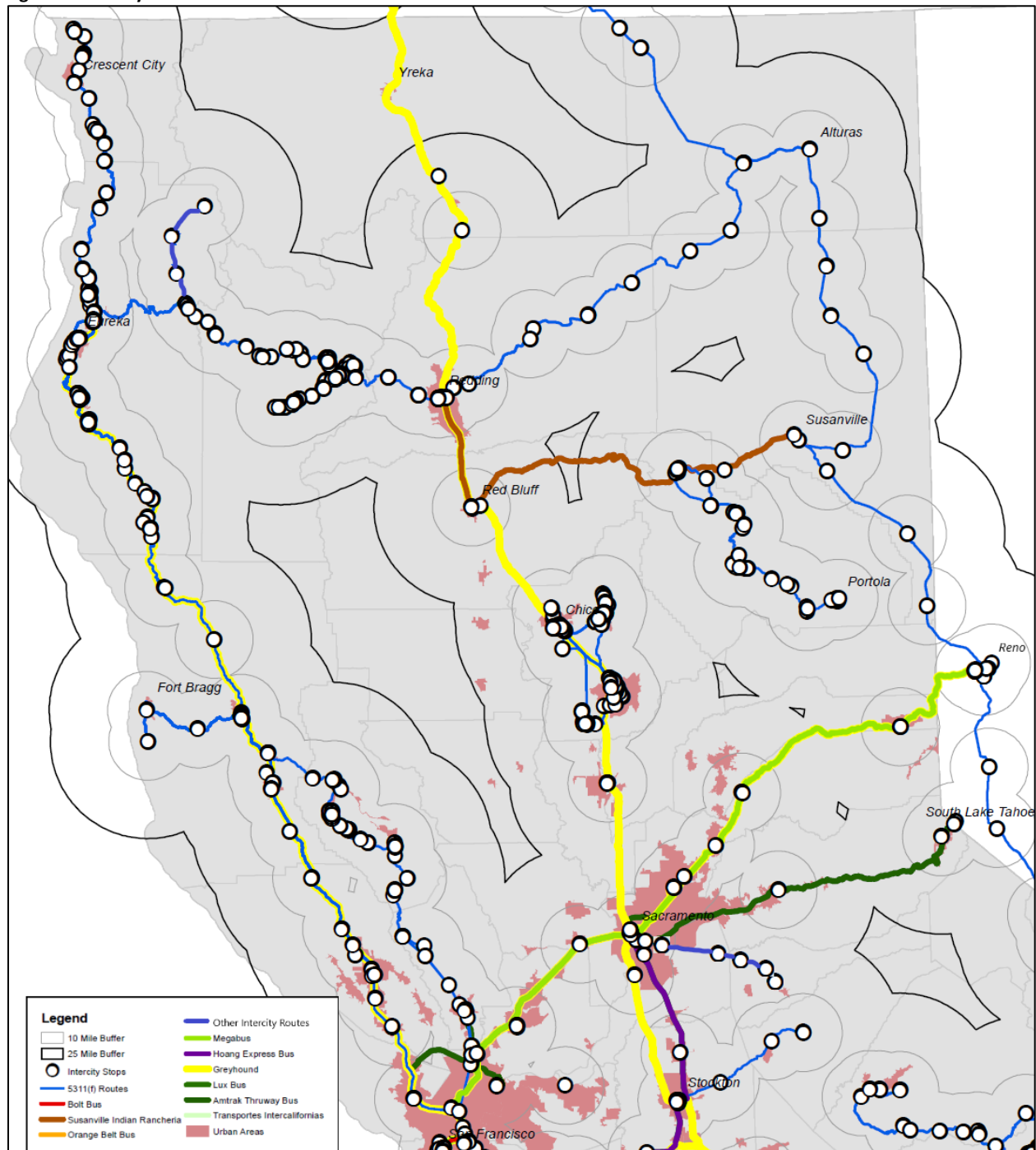


Figure 5 Intercity Bus Services in Northern California



Details of the for-profit operators' routes are provided in Figure 6 to Figure 13. The routes supported with 5311(f) in FY2018 are then illustrated in Figure 14.

Figure 6 Intercity Bus Services in California – Amtrak Thruway Bus

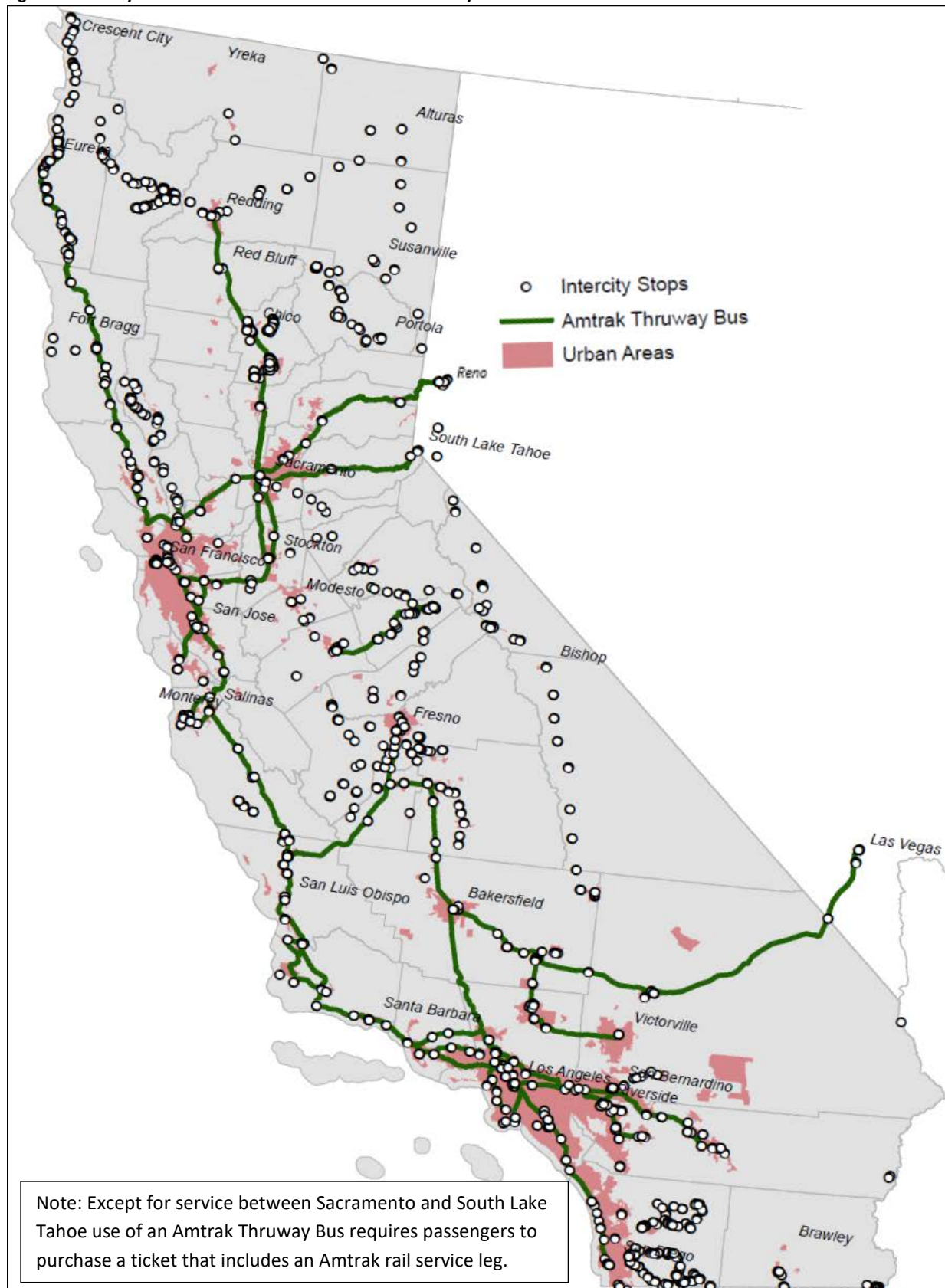


Figure 7 Intercity Bus Services in California – Bolt Bus

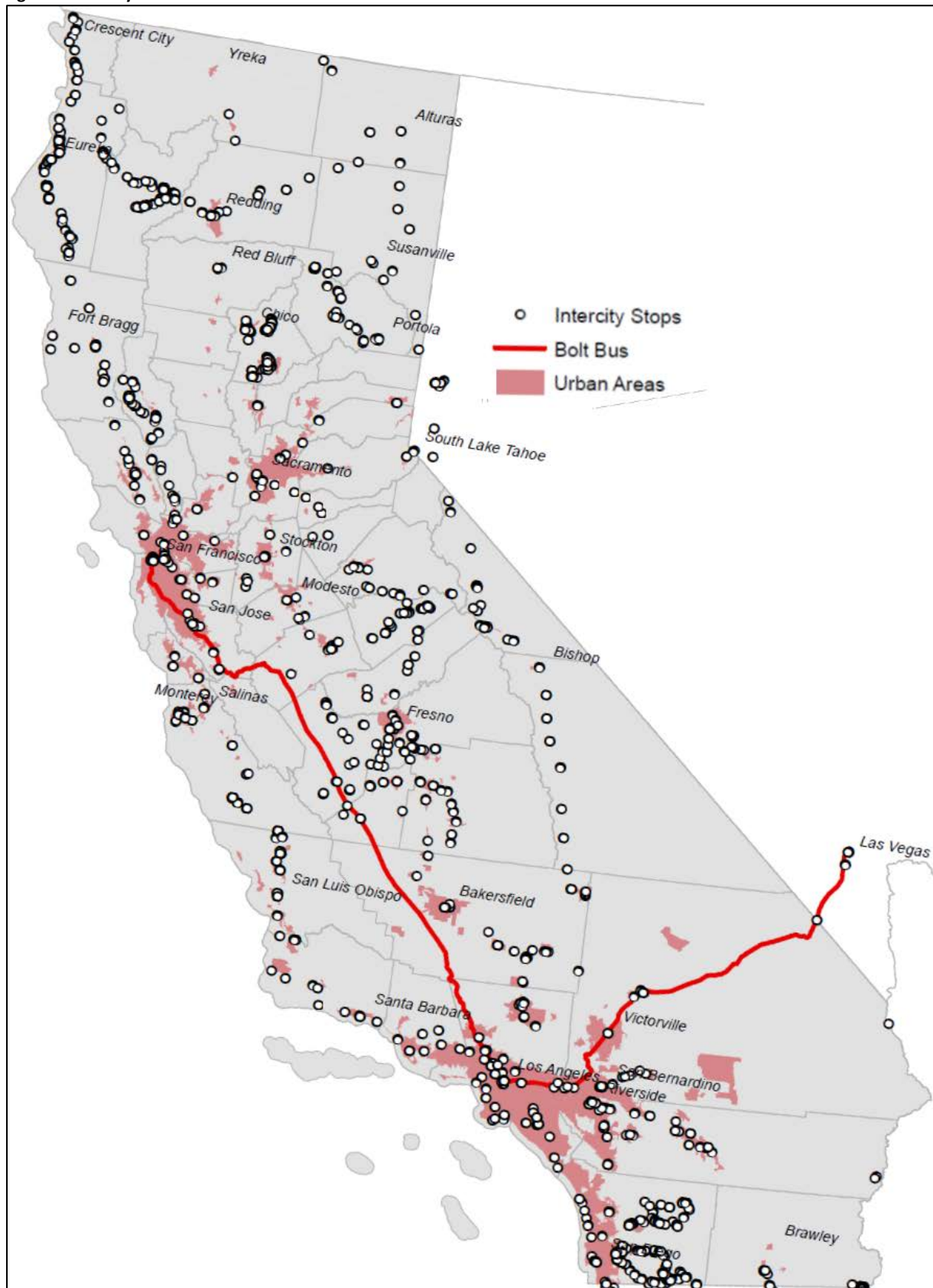


Figure 8 Intercity Bus Services in California - Greyhound

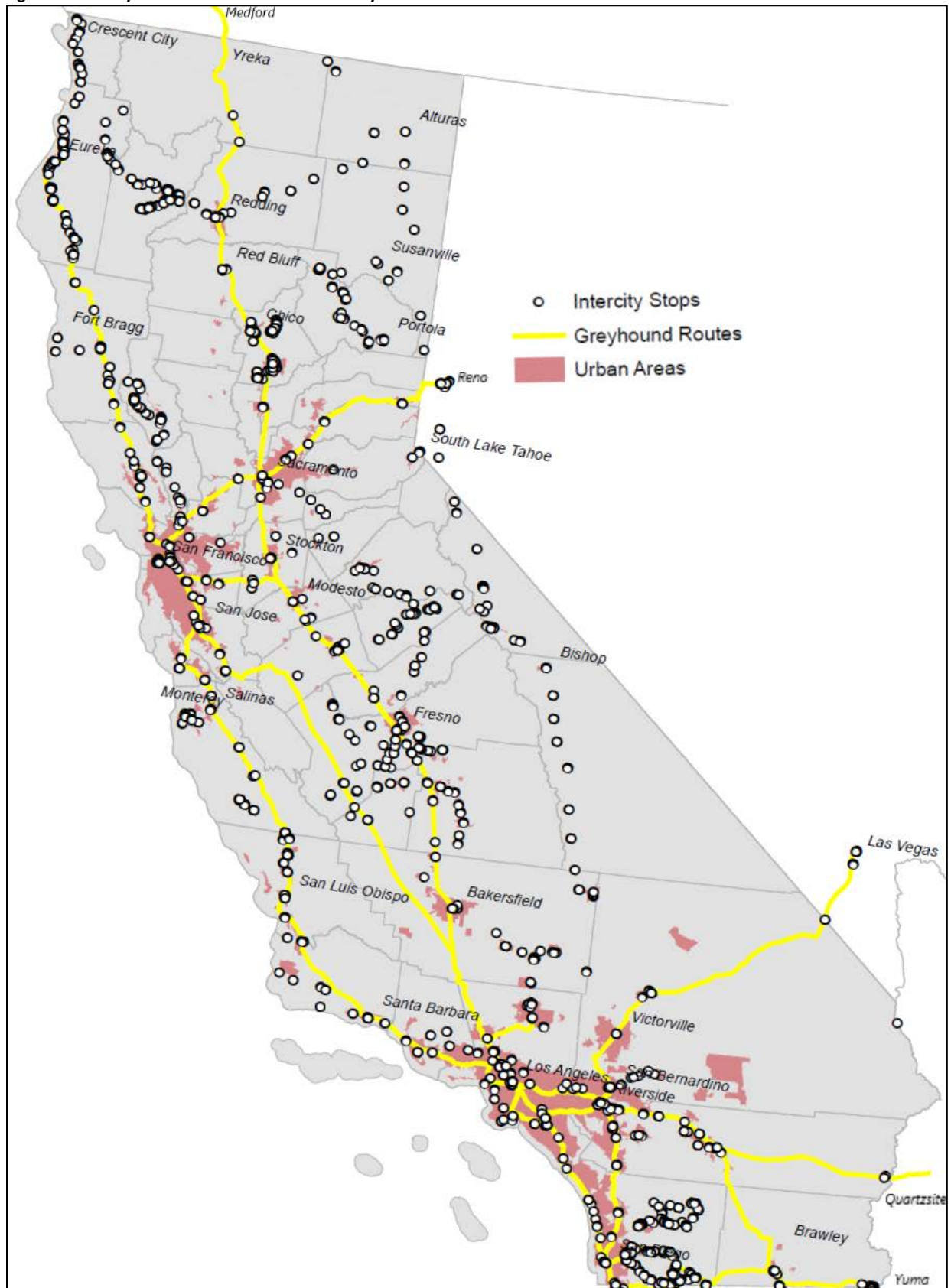


Figure 9 Intercity Bus Services in California – Hoang Express Buss

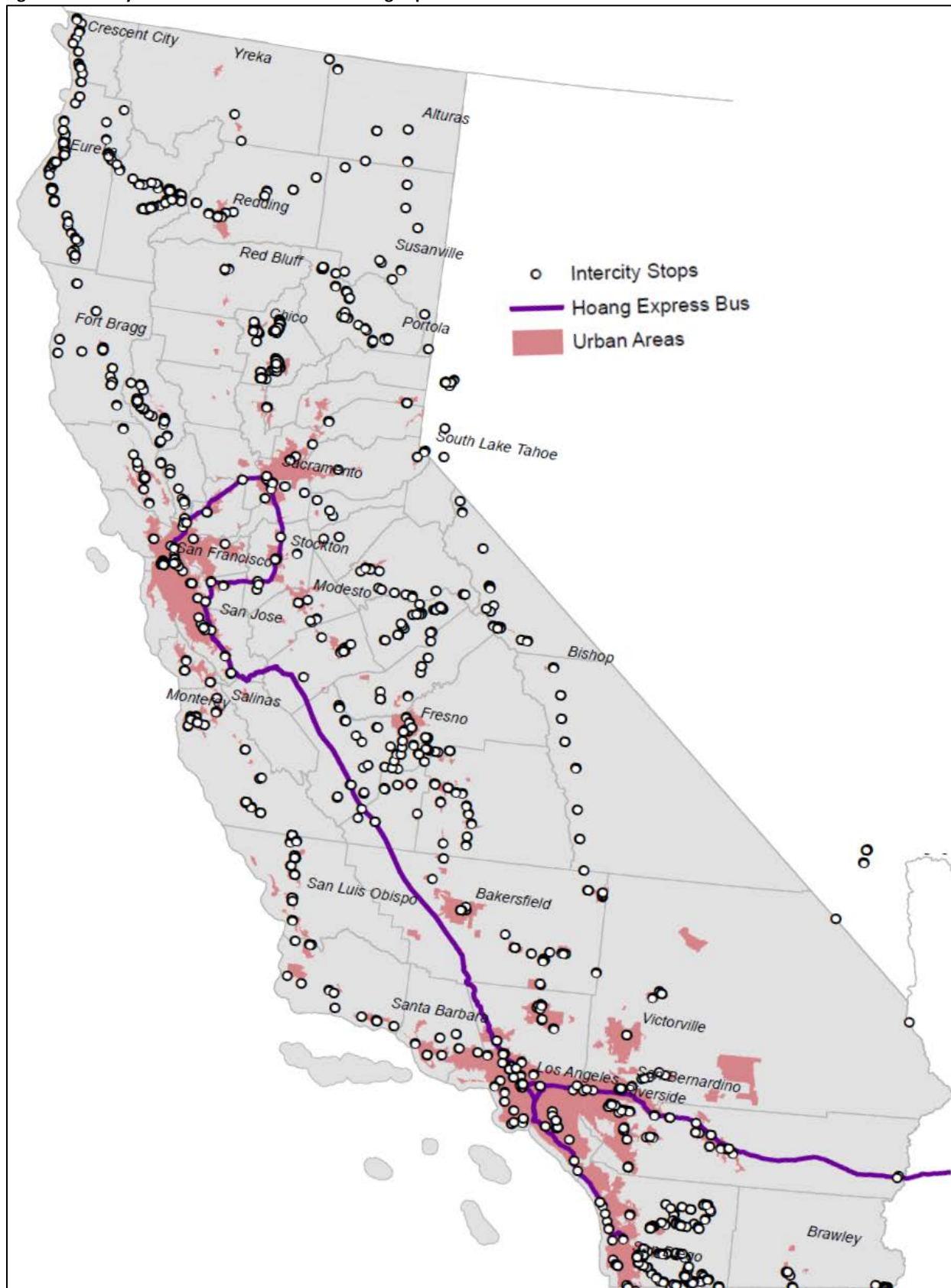


Figure 10 Intercity Bus Services in California – LuxBus

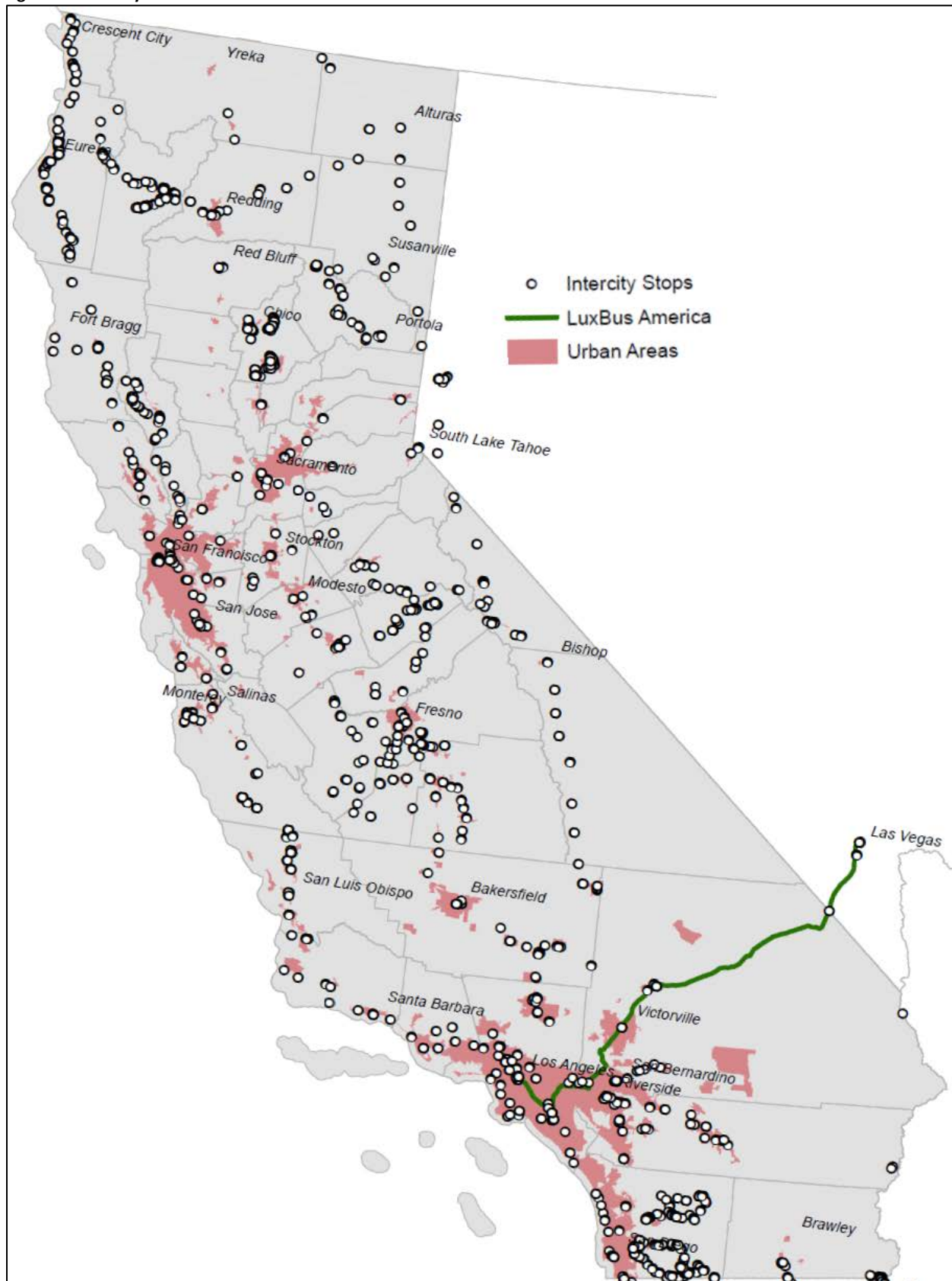


Figure 11 Intercity Bus Services in California – Megabus

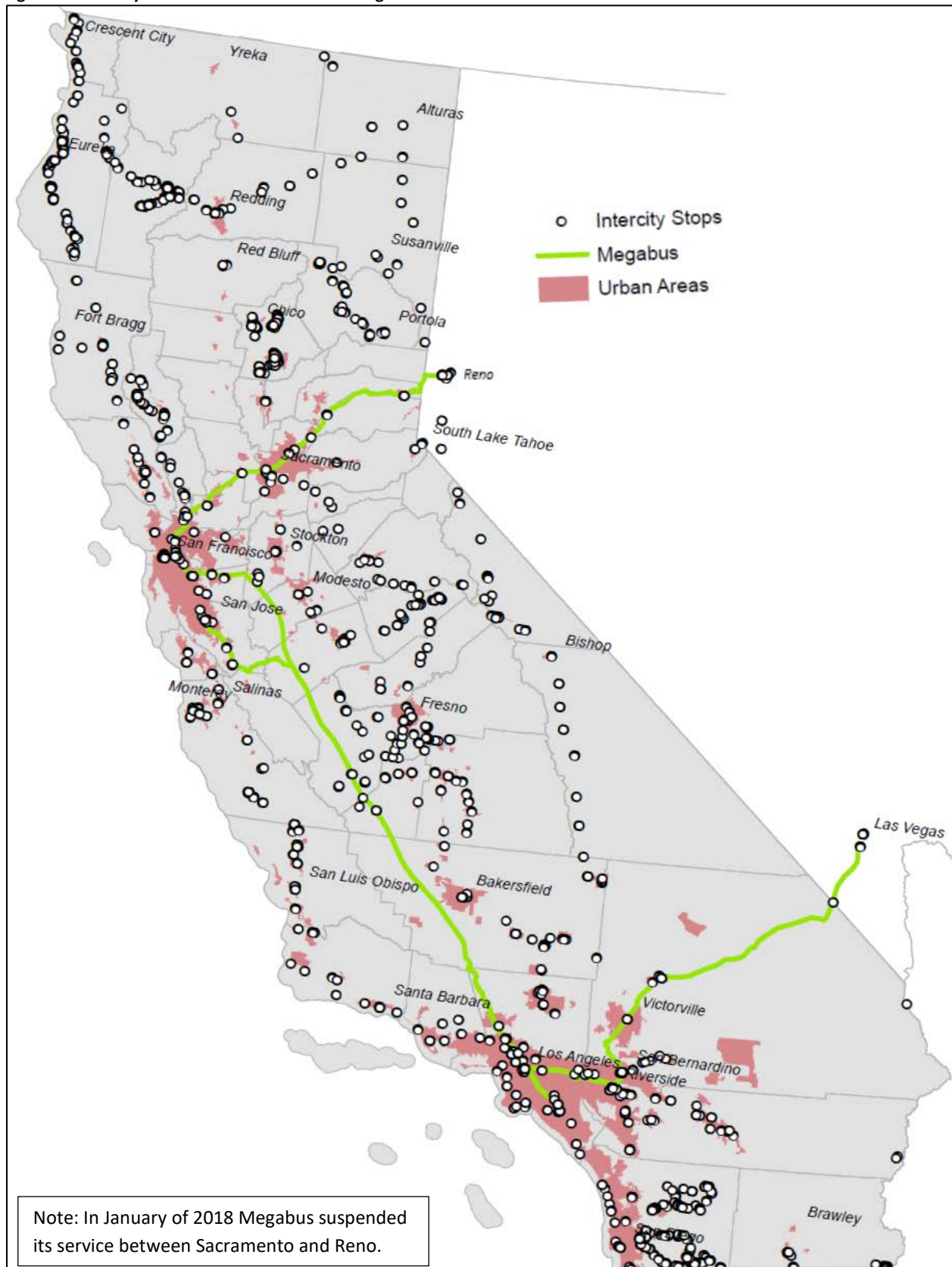


Figure 12 Intercity Bus Services in California – Orange Belt Line

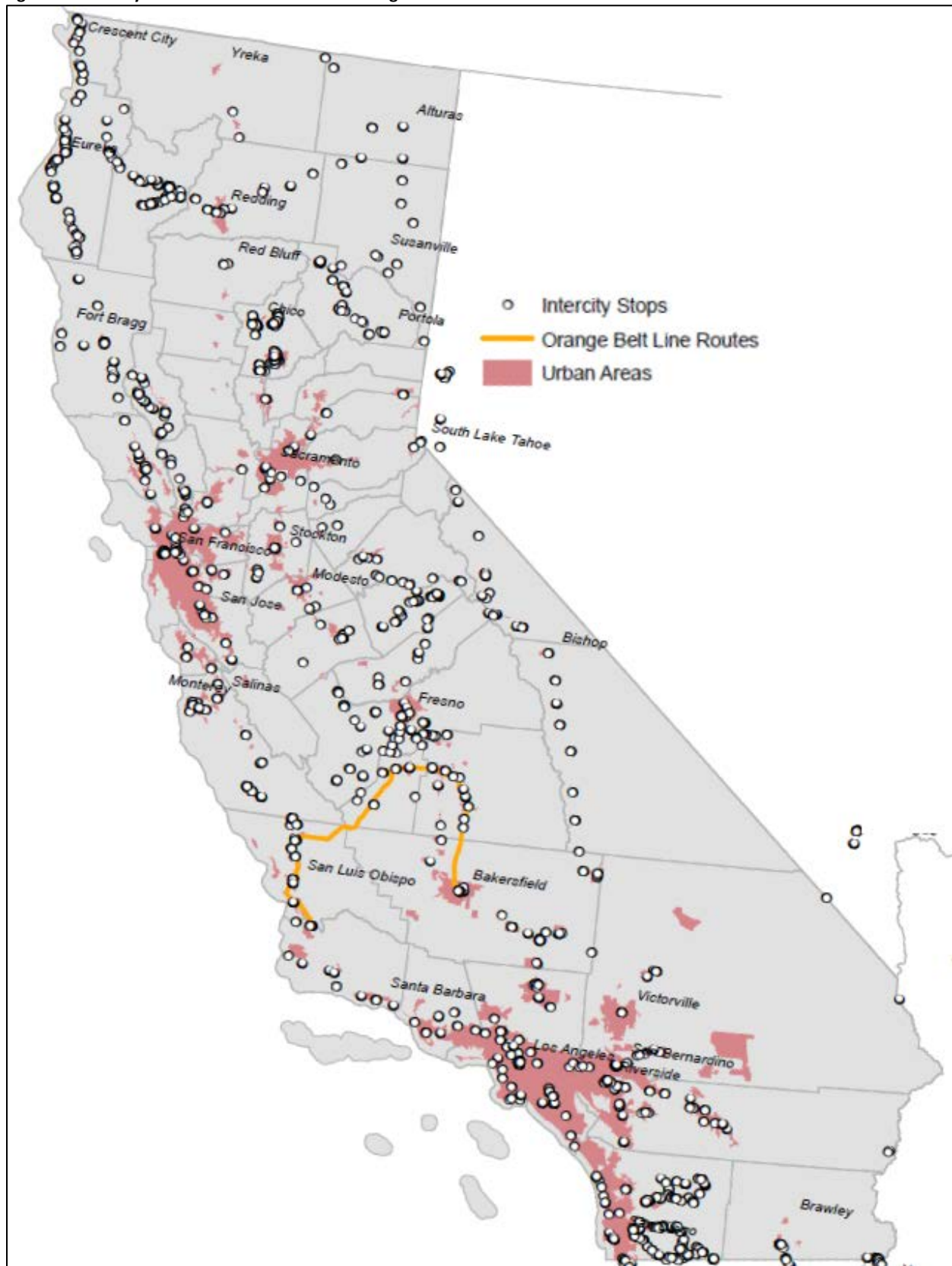


Figure 13 Intercity Bus Services in California – Transportes Intercalifornias

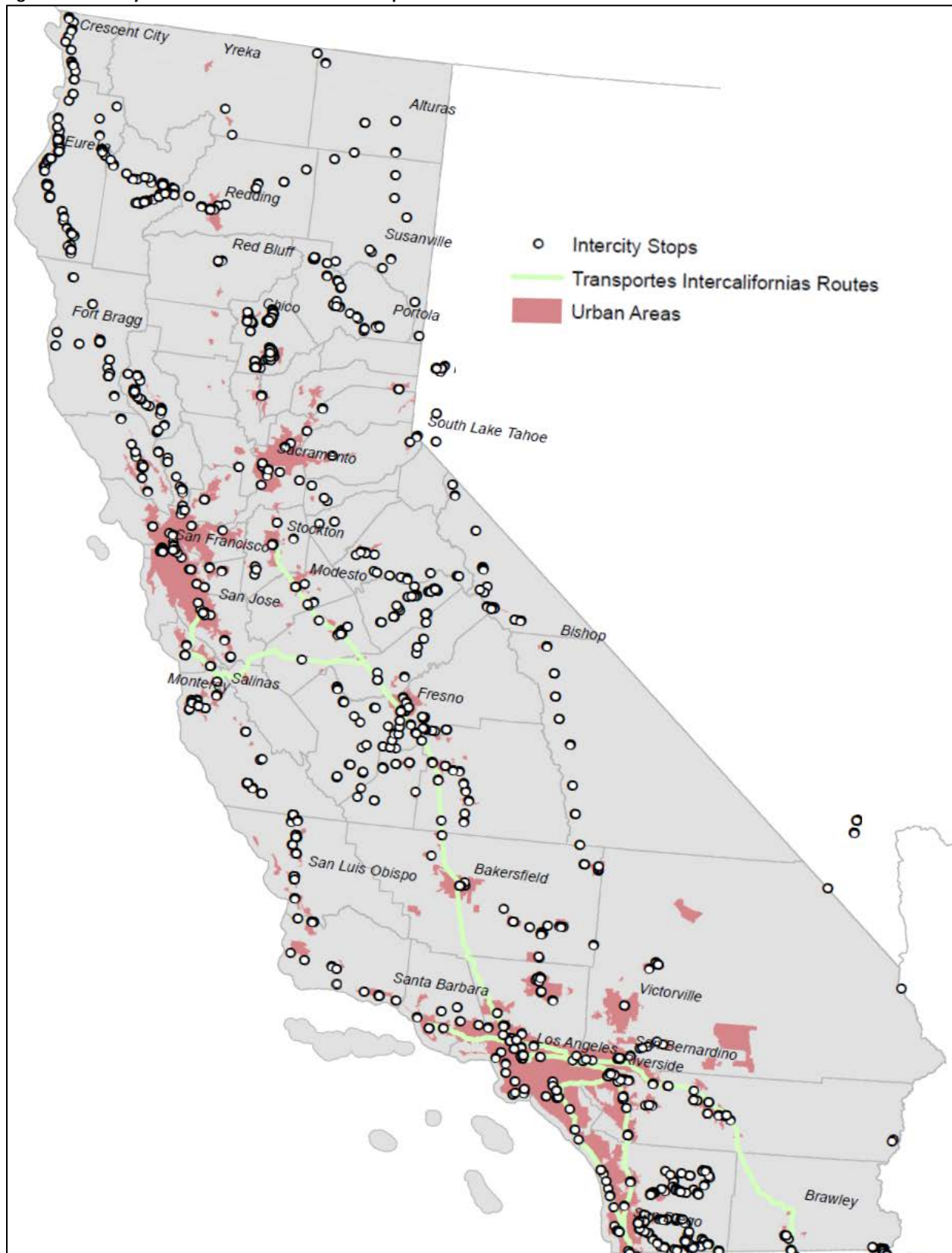
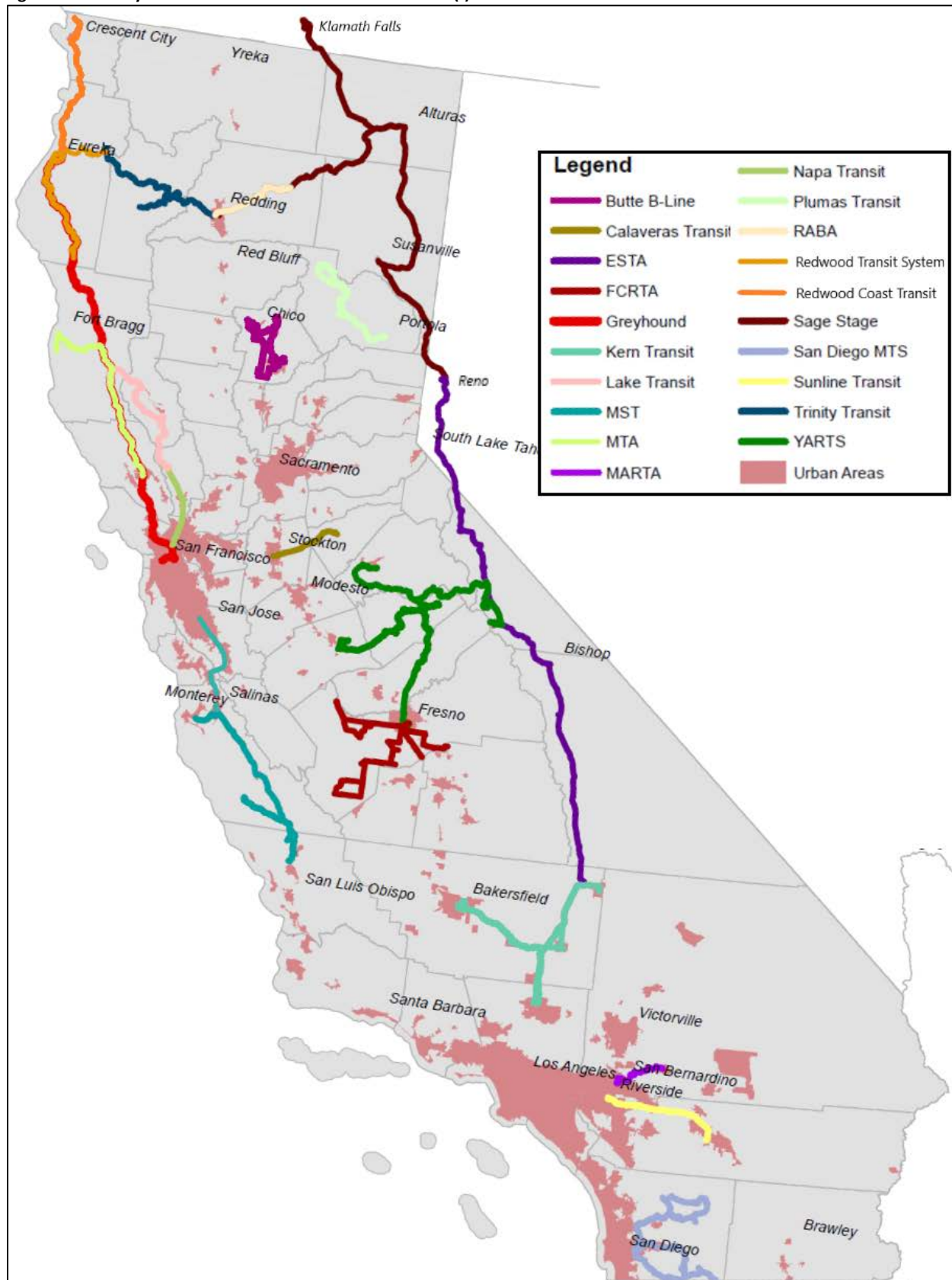


Figure 14 Intercity Bus Services in California – FY 2018 5311(f) Funded Routes



Chapter 4 - Assessment of Intercity and Rural Regional Bus Service

In this chapter we assess existing and anticipated demand for rural regional intercity bus service in comparison to the network's capacity. The base network of regional intercity bus service developed in Chapter 3 is augmented with urban and regional transit feeder services to identify the overall network of regional intercity transit service available statewide. Three complementary approaches are then applied to assess the adequacy of that network in comparison to rural needs statewide. First, we create a relative measure of rural transit dependence population needs. Second, we identify six categories of key regional destinations and their location statewide. Finally, population and policy dynamics are considered. Policy dynamics are considered with a focus on rural population needs across the State's inter-regional corridors as well as growing demand for resources in California's State and National Parks. The system's role in emergency and disaster response is then discussed. Lastly, population dynamics are reviewed using a comparison of two statewide county-level forecasts to identify where gaps in the rural regional intercity system are likely to emerge.

4.1 Rural Transit Dependent Population Needs

Certain members of the State's population are more likely to use or need to use regional intercity bus services than others. These "transit dependent populations" are less likely than the rest of the population to have other transportation options for their mobility beside transit. In defining the transit dependent population, we follow the methodology of the 2008 Study and use five variables: 1) the population 18-24 years of age, 2) the population 65 years of age and older, 3) the population of individuals with a disability, 4) the population of individuals in poverty, and 5) the population of households with no vehicle. However, we update the analysis using US Census Bureau 5-year data on the period from 2011 to 2015,³ to identify these populations for each of California's 23,200 Census block groups.⁴ Each area's transit dependent populations are then placed in relative terms by dividing the block group's total population by the component transit dependent populations of seniors, young adults, disabled, poor, and vehicle-less. This relative population value of rural needs represents the intensity of transit dependent population needs rather than the total counts to geographic density used in the 2008 Study which are inherently biased to urban areas with larger total populations.⁵

³ Specifically, the source was 2011-2015 US Census Bureau's American Community Survey (ACS) 5-year estimates.

⁴ In the 2015 5-year data there were 23,205 block group areas in California, five of these block groups were defined for island areas off the California coast and were therefore excluded from our analysis.

⁵ This bias arises because block groups are population based so block groups in urban areas will be geographically smaller than those in rural areas. Inherently then the density of transit dependent population needs will be lower in rural areas than urban.

With relative measures for each variable, each block group is then sorted by intensity and ranked. The sum of the five variables, with larger sums corresponding to greater transit dependent population needs, is then used to provide each of the 23,200 block groups a ranking for the significance of their transit dependent populations. That overall summary ranking is then used to identify three tiers of transit needs by populations: low, moderate, and high. The top third of block groups are classified as “high needs”. The middle third of block groups are classified as “moderate needs” and the last third of block groups are classified as “low needs”. Using the 2010 Caltrans adjusted urban areas as our base, the high, moderate, and low block groups are illustrated in Figure 15 to Figure 17.

This statewide ranking of its areas’ transit dependent population needs is then analyzed with respect to those areas’ access to the regional intercity bus network. This assessment was done by comparing the geographic center of the block group, its centroid, to the nearest intercity or feeder service bus stop. To represent the rural block groups with higher relative transit dependent population needs and limited access to the network, we identified those block groups 10 to 25 miles from the nearest bus stop and those over 25 miles from the nearest stop in Figure 18 to Figure 20.

In order to link these needs to planning and organizing structures we also analyzed the block groups within each of California’s 58 counties in a similar fashion. The results of that analysis are reported in Table 5. That table highlights the counties with the great proportion of high needs block groups and shows that in 7 of the 58 counties high needs block groups composed over 70% of all block groups in the county.⁶ In comparison, only 5 of the 58 counties had low needs block groups composing over 50% of the area in the county.

While understanding the geography of transit dependent populations and their proximity to the regional intercity bus network is important it is merely suggestive of actual adequacy of the network. This type of high level statewide analysis implies that being less than 10 miles from a bus stop makes access to that service feasible in some way. Clearly, reasonable access even in rural areas is likely less than a mile let alone 10 miles. Furthermore, even if there is a bus stop nearby its presence alone does not guarantee meaningful access. In rural areas especially, the large distances covered by the system often means that available service may be infrequent (perhaps less than weekly) and may not correspond to times of the day when the service is needed. Nonetheless, understanding the structure of the state’s intercity network in comparison to a measure of its needs provides a useful starting point to understanding the overall strengths and weakness of the system.

⁶ Those 7 counties are: Alpine, Del Norte, Glenn, Lake, Modoc, Plumas and Siskiyou.

Figure 15 Relative Density of Transit Dependent Populations in Southern California

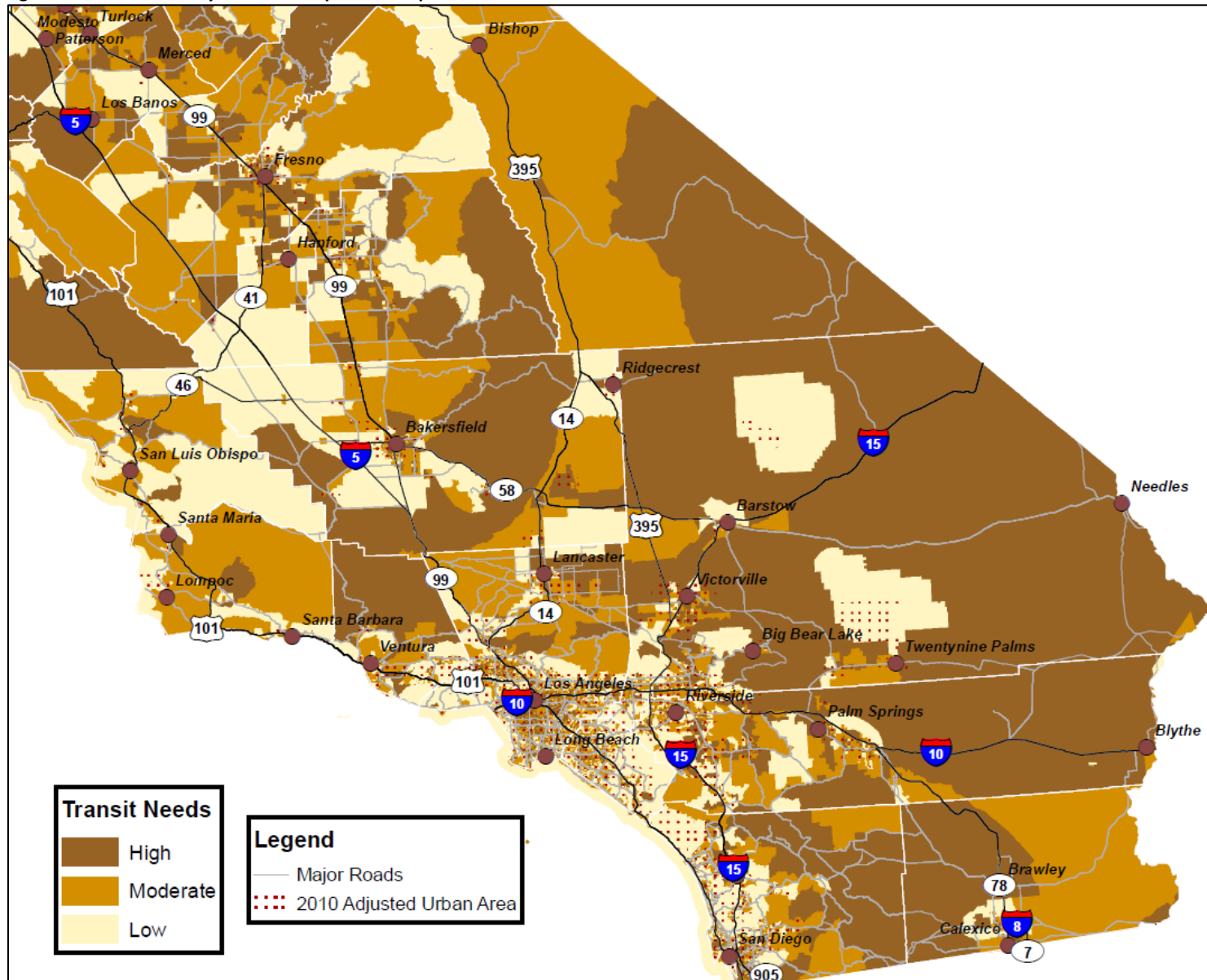


Figure 16 Relative Density of Transit Dependent Populations in Central California

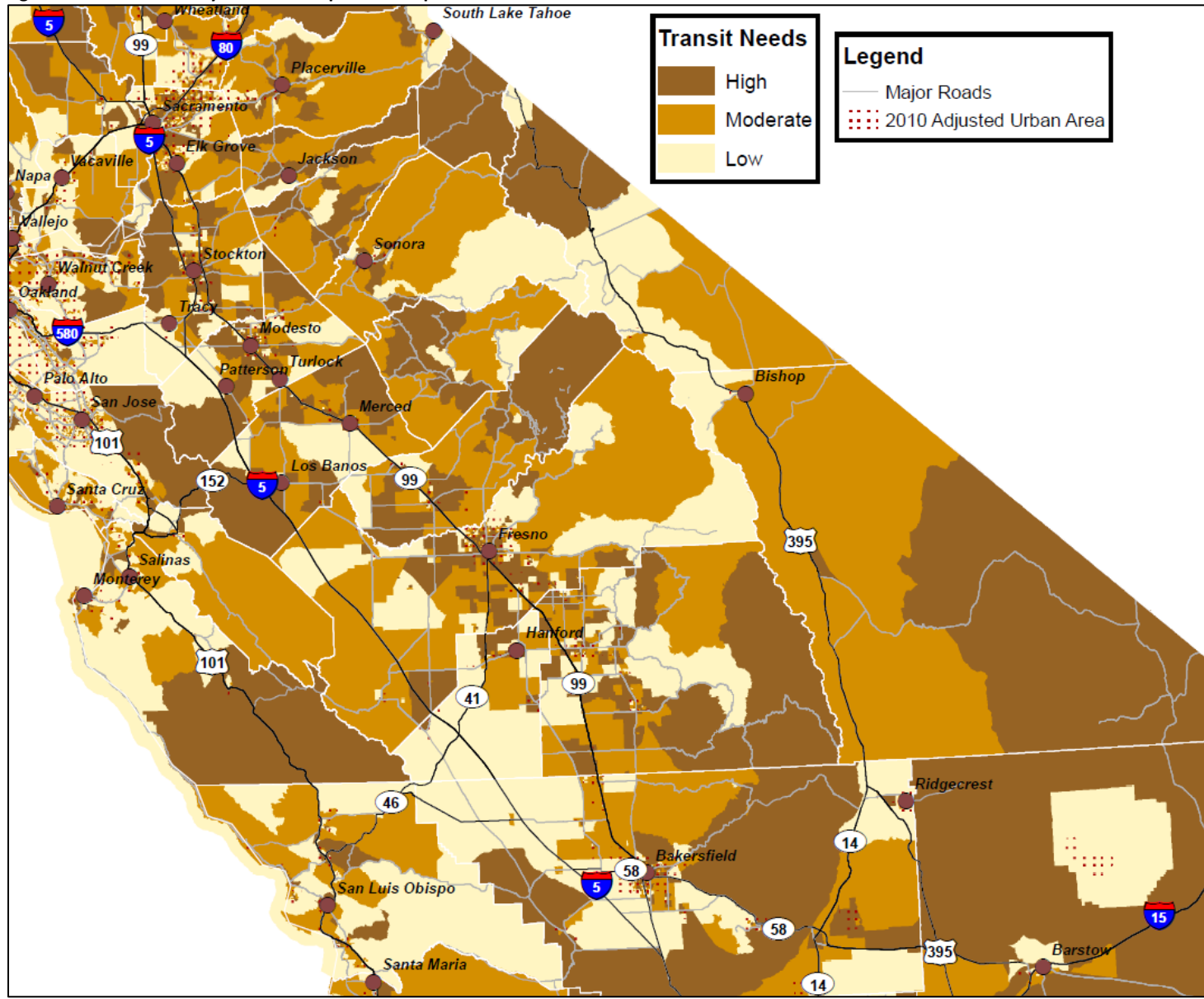


Figure 17 Relative Density of Transit Dependent Populations in Northern California

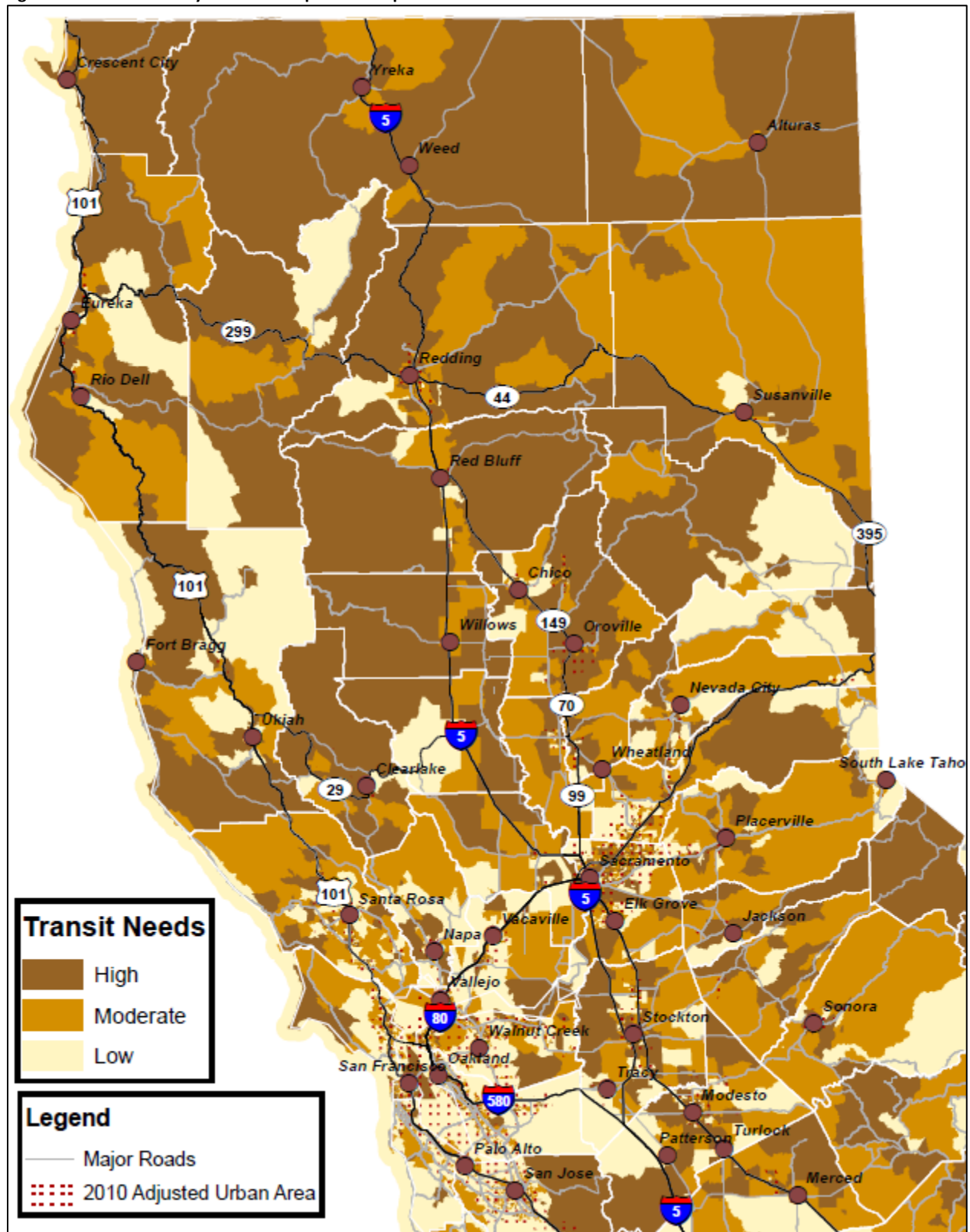


Figure 18 Transit Dependent Populations and Intercity Services in Southern California

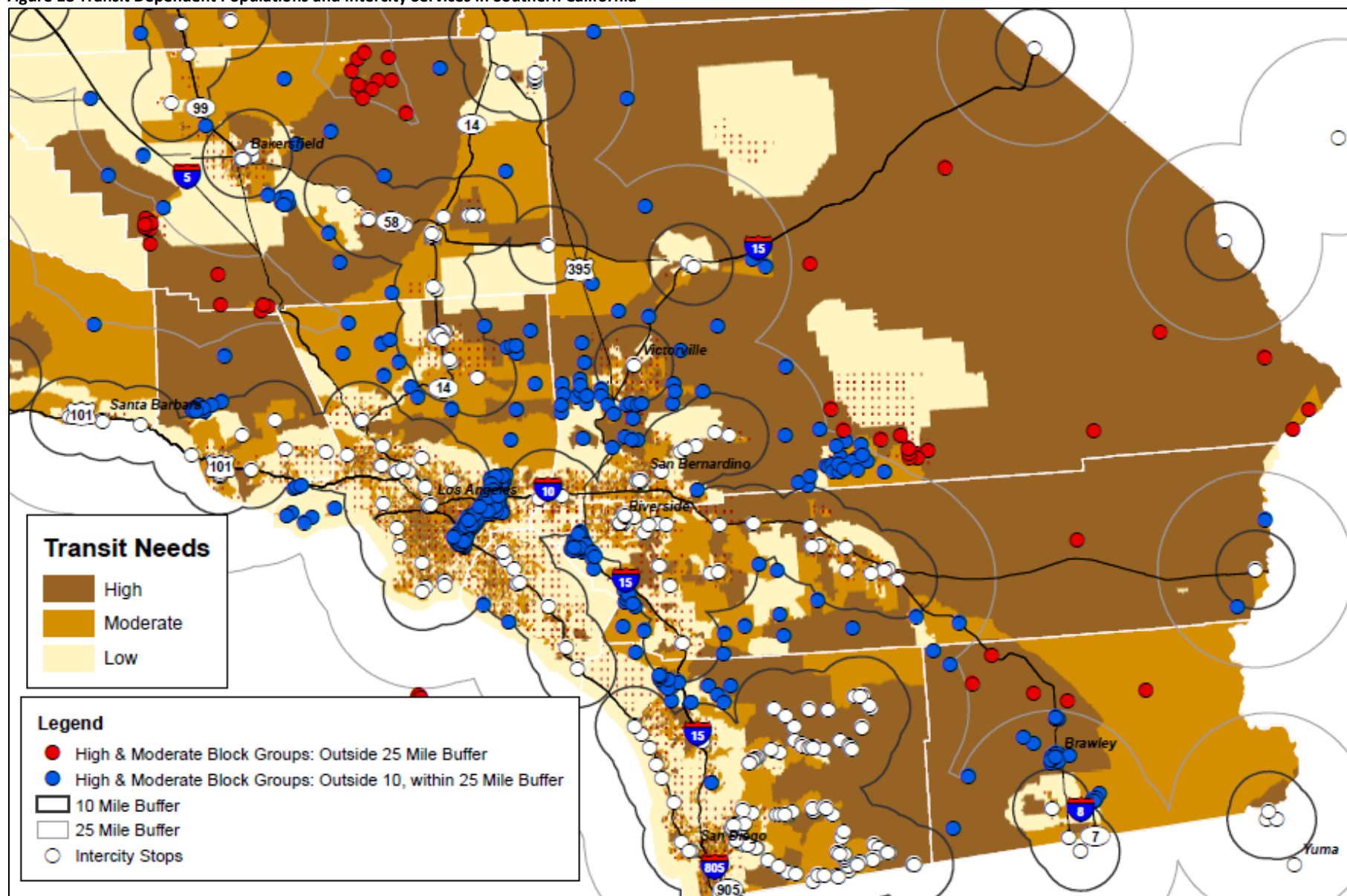


Figure 19 Transit Dependent Populations and Intercity Services in Central California

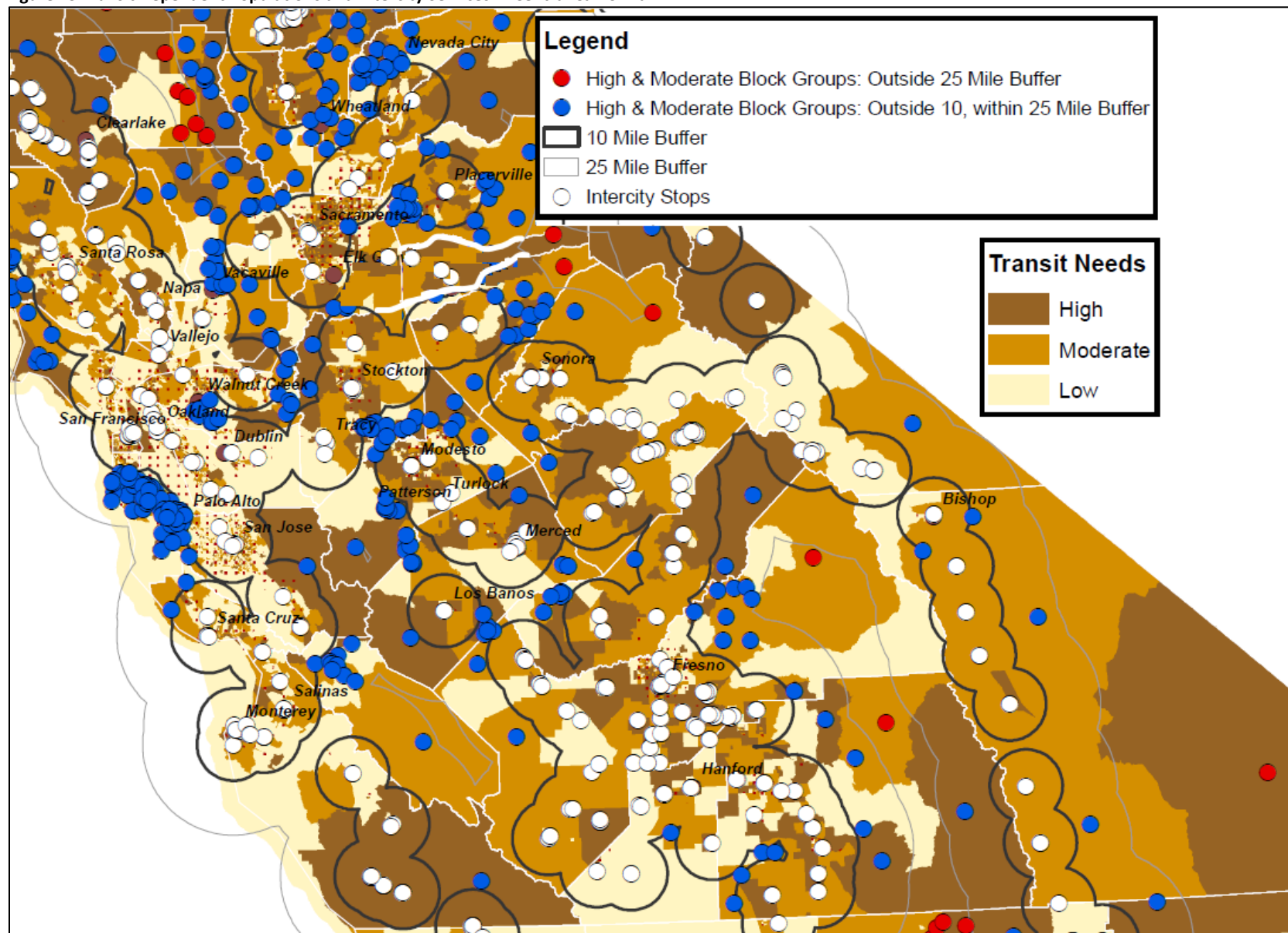


Figure 20 Transit Dependent Populations in Northern California

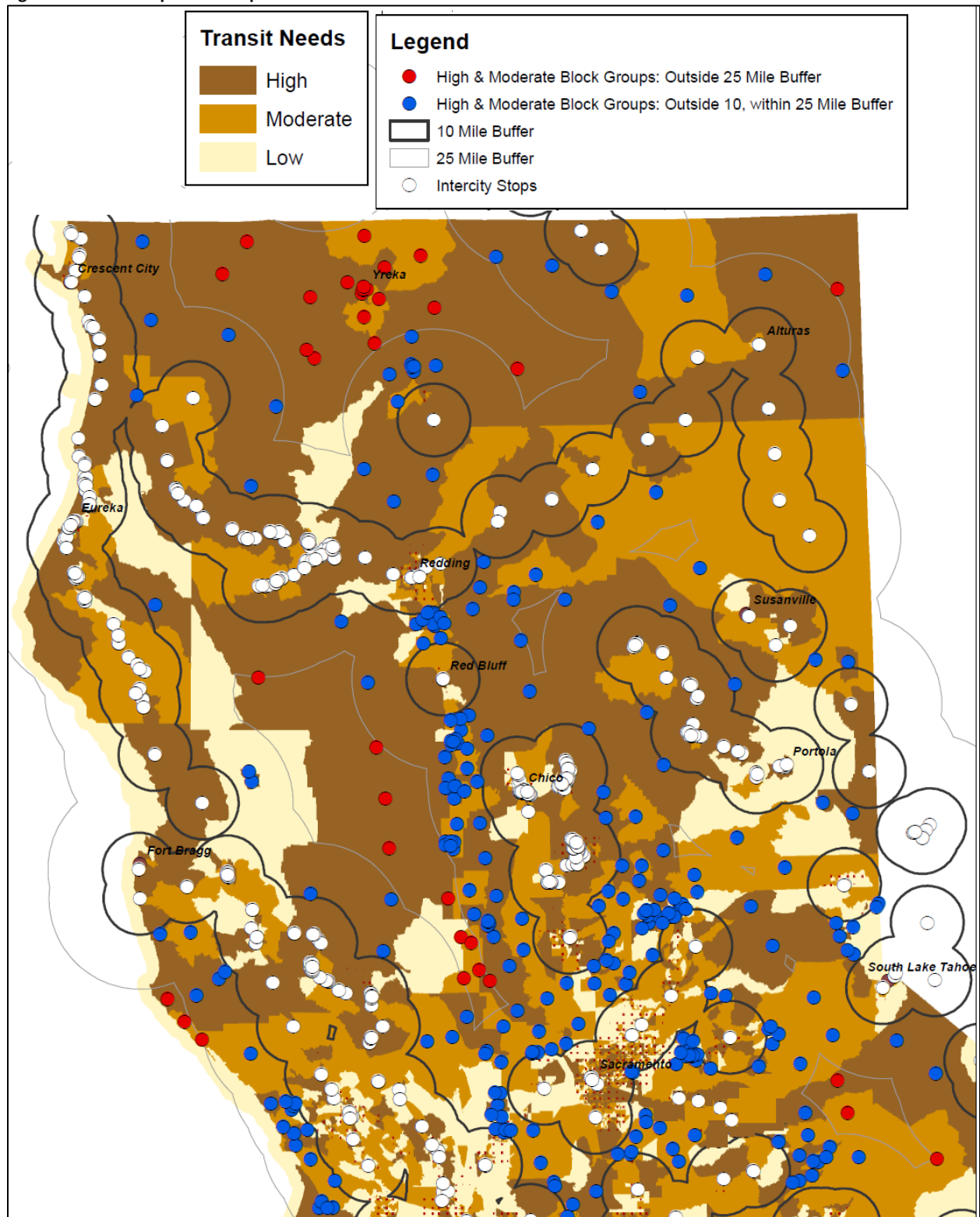


Table 5 Statewide Inferred Population Transit Needs

	Low	Moderate	High	# High Needs	Total B.G.
Alameda County	42%	30%	28%	295	1,047
Alpine County	0%	0%	100%	2	2
Amador County	7%	43%	50%	14	28
Butte County	12%	24%	64%	125	195
Calaveras County	10%	37%	53%	16	30
Colusa County	20%	30%	50%	10	20
Contra Costa County	43%	31%	26%	164	637
Del Norte County	10%	15%	75%	15	20
El Dorado County	30%	40%	30%	38	125
Fresno County	18%	28%	54%	317	589
Glenn County	0%	30%	70%	16	23
Humboldt County	10%	31%	59%	64	108
Imperial County	9%	28%	63%	60	96
Inyo County	25%	44%	31%	5	16
Kern County	24%	28%	48%	218	456
Kings County	26%	23%	51%	41	81
Lake County	4%	19%	77%	37	48
Lassen County	12%	44%	44%	11	25
Los Angeles County	29%	35%	36%	2315	6,419
Madera County	9%	33%	59%	47	80
Marin County	50%	37%	13%	22	175
Mariposa County	18%	35%	47%	8	17
Mendocino County	18%	25%	57%	45	79
Merced County	12%	26%	62%	89	144
Modoc County	8%	17%	75%	9	12
Mono County	71%	18%	12%	2	17
Monterey County	36%	40%	23%	54	233
Napa County	43%	38%	19%	20	106
Nevada County	31%	41%	28%	21	75
Orange County	48%	34%	18%	321	1,823
Placer County	42%	38%	20%	43	213
Plumas County	9%	18%	73%	16	22
Riverside County	32%	34%	33%	342	1,030
Sacramento County	26%	32%	43%	388	912
San Benito County	50%	35%	15%	6	40
San Bernardino County	29%	34%	37%	408	1,092
San Diego County	37%	35%	28%	506	1,795
San Francisco County	29%	36%	36%	207	580
San Joaquin County	19%	32%	49%	195	395
San Luis Obispo County	26%	39%	34%	56	163
San Mateo County	60%	30%	10%	47	463
Santa Barbara County	34%	35%	31%	95	311
Santa Clara County	64%	25%	11%	121	1,075
Santa Cruz County	34%	39%	27%	53	196
Shasta County	8%	33%	60%	78	131
Sierra County	40%	20%	40%	2	5
Siskiyou County	0%	22%	78%	29	37
Solano County	37%	34%	29%	82	285
Sonoma County	36%	37%	26%	102	387
Stanislaus County	18%	29%	54%	166	308
Sutter County	16%	34%	50%	31	62
Tehama County	12%	28%	60%	26	43
Trinity County	15%	31%	54%	7	13
Tulare County	14%	37%	49%	133	270
Tuolumne County	17%	33%	50%	24	48
Ventura County	40%	39%	21%	91	427
Yolo County	23%	38%	39%	48	122
Yuba County	12%	24%	63%	31	49
State-wide	33%	33%	33%	7,734	23,200

4.2 Rural Regional Service Needs

The 2017 NCHRP Study on rural regional mobility identified several types of rural regional trips. In this assessment we examine the statewide need for rural regional intercity transit that originates from six types of trips:

- 1) Airports
- 2) Colleges/Universities
- 3) Correctional facilities
- 4) Hospitals and major medical facilities
- 5) Major military bases
- 6) Tribal home lands

In order to identify where gaps in regional intercity bus service for these trips potentially exists, we systematically examine locations for facilities across each trip type and compare those locations to bus stops in the statewide regional intercity system. In a manner similar to the assessment of transit dependent populations in Section 4.1, we use buffers from the stops in 10-25 mile and over 25-mile increments to identify facilities in each trip category that are not near the statewide network. the distance of each block group to the nearest intercity bus stop. Using 10-mile and 25-mile buffers, we thereby identify facilities with potential intercity bus service needs.

Airports

Using data from the Federal Aviation Administration (FAA), some 26 primary commercial service airports across California were identified based on 2013 data.⁷ Of those, none were found to be more than 10 miles from the regional intercity network when transit feeder services were included in our analysis. However, without local feeder services there was one airport more than 10 miles from a network bus stop.

Colleges/Universities

Using data from the National Center for Education Statistics (NCES) global locator, some 477 colleges and universities across California were identified based on 2016 data. Of those, none were found to be more than 10 miles from the regional intercity network when transit feeder services were included in our analysis. However, when we assessed the connectivity without local feeder services there were 19 institutions more than 10 miles from a bus stop in the network and one which was more than 25 miles from a network bus stop.

⁷ The FAA defines a primary commercial service airport as those with more than 10,000 annual enplanements.

Correctional Facilities

Using 2017 data on secure detention facilities from the US Department of Homeland Security, 66 correctional facilities across California were identified. Of these, four were shown to be more than 10 miles from a network bus stop and one of those is more than 25. These facilities are reported in Table 6 as well as Figure 21 and Figure 22. When local feeder services are excluded, some seven correction facilities are more than 10 miles from a regional intercity bus stop and two of those are more than 25 miles.

Table 6 Correctional facilities over ten miles from a regional intercity bus network stop

Facility Name	City	Type	Population	Distance
CALIPATRIA STATE PRISON (CAL)	CALIPATRIA	STATE	3,897	> 25 Miles
CENTINELA STATE PRISON (CEN)	IMPERIAL	STATE	3,230	10-25 Miles
CHUCKAWALLA VALLEY STATE PRISON (CVSP)	BLYTHE	STATE	1,888	10-25 Miles
IRONWOOD STATE PRISON (ISP)	BLYTHE	STATE	3,580	10-25 Miles

Hospitals

Using 2017 data on licensed facilities from the California Health and Human Services Open Data Portal, 517 hospitals and major medical facilities across California were identified. Of these, eight were found to be more than 10 miles from a bus stop in the network when feeder services are included, but none were more than 25 miles. These hospitals are reported in Table 7 as well as Figure 23. When local feeder services are excluded there are 34 hospitals more than 10 miles from a regional intercity stop and three of those are more than 25 miles.

Table 7 Hospitals over ten miles from a regional intercity bus network stop

Hospital Facility Name	City	Total Beds	Distance
COLUSA REGIONAL MEDICAL CENTER	COLUSA	48	10-25 Miles
GLENN MEDICAL CENTER	WILLOWS	47	10-25 Miles
HAZEL HAWKINS MEMORIAL HOSPITAL	HOLLISTER	119	10-25 Miles
KAISER HOSPITAL - VACAVILLE	VACAVILLE	140	10-25 Miles
OJAI VALLEY COMMUNITY HOSPITAL	OJAI	25	10-25 Miles
PIONEERS MEMORIAL HEALTHCARE DISTRICT	BRAWLEY	107	10-25 Miles
SIERRA NEVADA MEMORIAL HOSPITAL	GRASS VALLEY	104	10-25 Miles
SURPRISE VALLEY COMMUNITY HOSPITAL	CEDARVILLE	26	10-25 Miles

Figure 21 Correctional Facilities over 10 Miles from a Regional Intercity Network Bus Stop

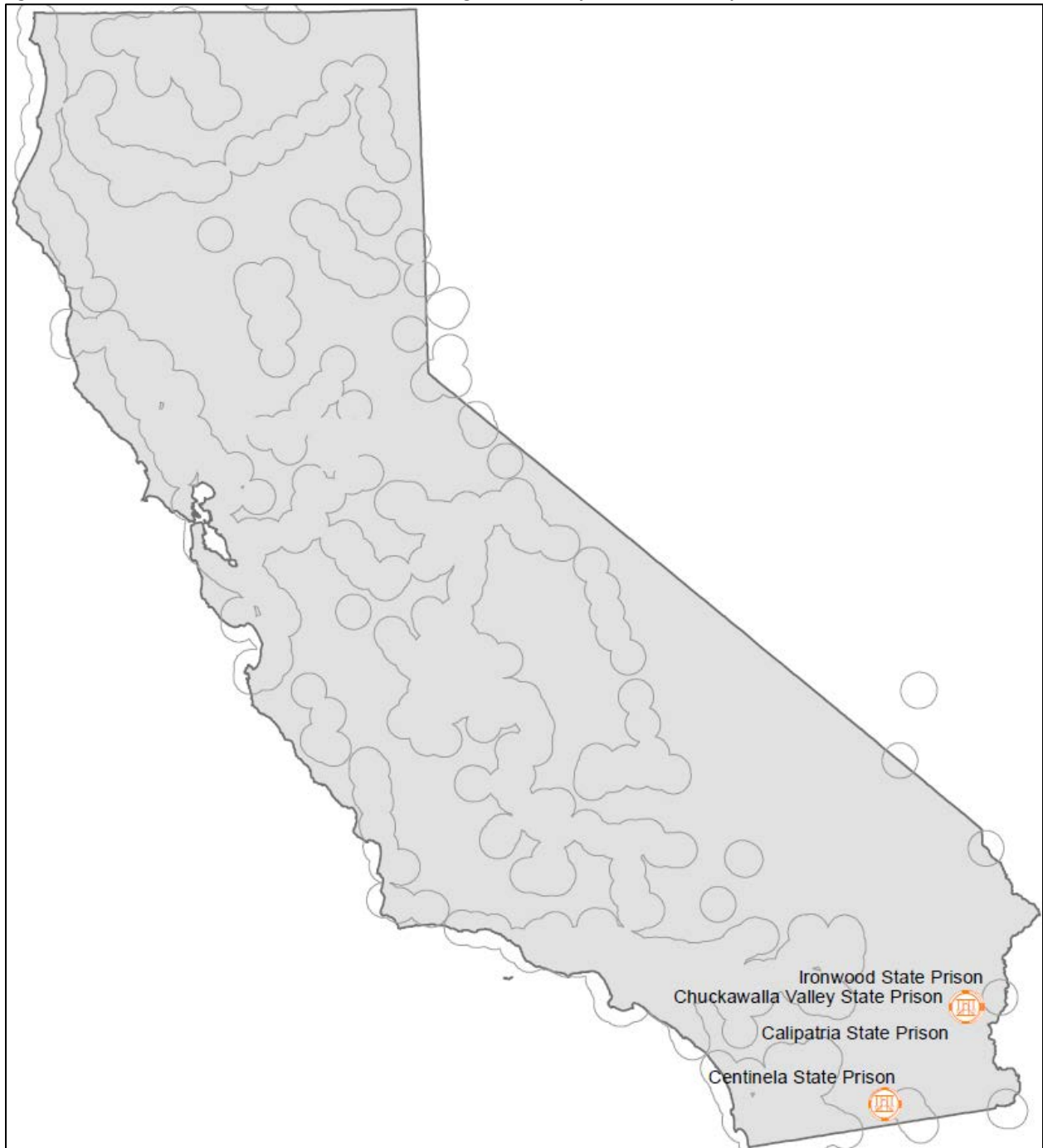
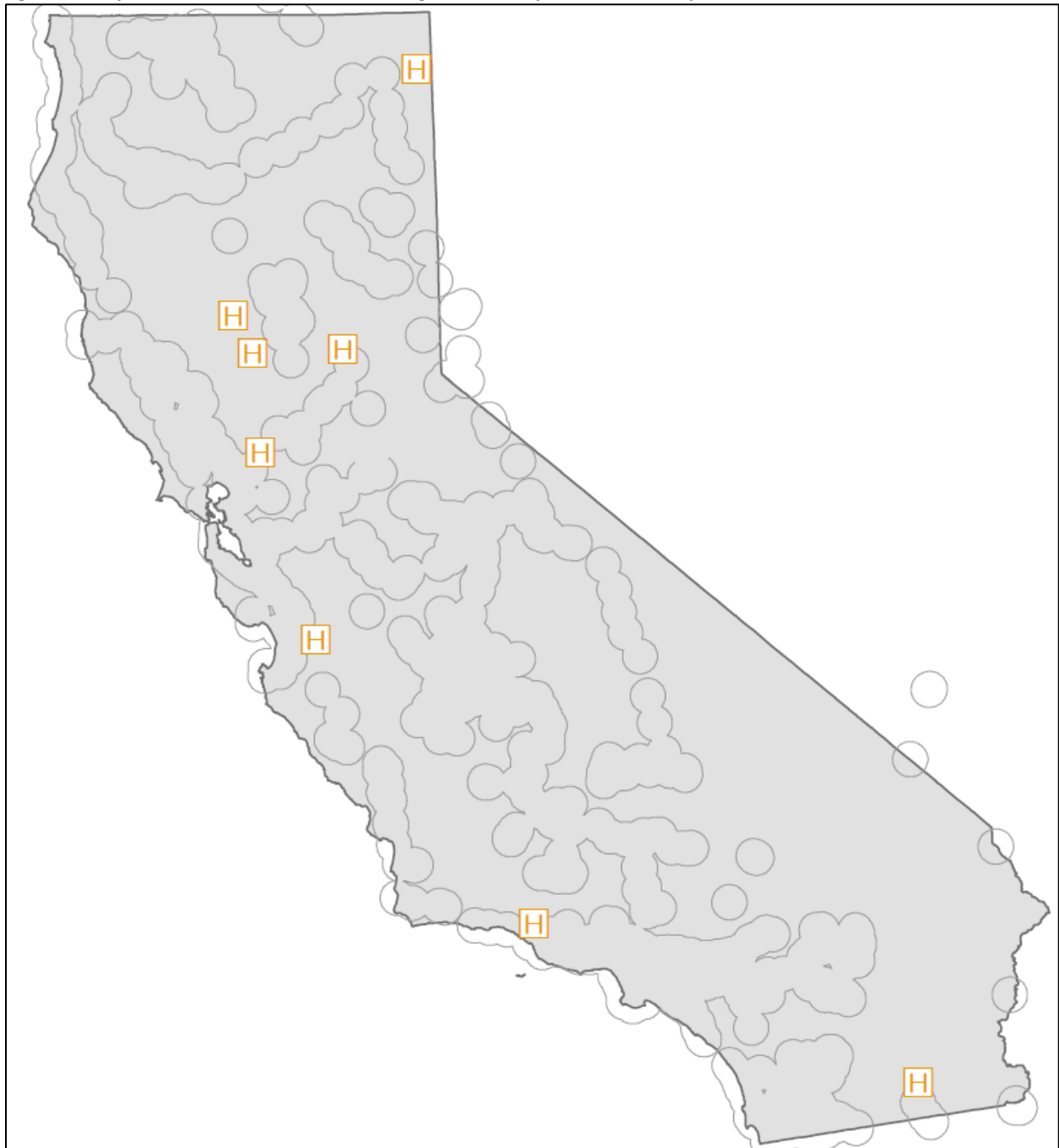


Figure 22 Correctional Facilities over 25 Miles from a Regional Intercity Network Bus Stop



Figure 23 Hospitals more than 10 Miles from a Regional Intercity Network Bus Stop



Military Bases

Using 2010 data from the US Census Bureau, 85 military bases across California were identified. Among these, even with feeder services, some seven bases are more than 10 miles but less than 25 miles from a network or feeder service bus stop, while two additional bases are more than 25 miles from a stop. These bases are reported in Table 8 as well as Figure 24 and Figure 25.

However, when feeder services are not included some 15 of the military bases are more than 10 miles from a regional intercity stop and four of those are more than 25 miles.

Table 8 Military bases over ten miles from a regional intercity bus network stop

Military Base Name	Distance	Military Base Name	Distance
Chocolate Mountains Gunnery Range	> 25 Miles	Loom Lobby Range	10-25 Miles
Coast Guard Station Rio Vista	10-25 Miles	Naval Support Detachment Monterey	10-25 Miles
Cuddeback Lake Air Force Gunnery Range	10-25 Miles	Point Arena Air Force Station	> 25 Miles
Ft Irwin	10-25 Miles	Shade Tree Range	10-25 Miles
Kitty Baggage Range	10-25 Miles		

Tribal Lands

Using 2016 data on from the US Department of the Interior's Bureau of Indian Affairs, 143 Indian Tribal Homelands and Trust Lands across California were identified. Of these, 26 were shown to be more than 10 miles from a network bus stop and four of those are more than 25. These lands are reported in Table 9 as well as Figure 26 and Figure 27. When local feeder services are excluded, some 37 tribal lands are more than 10 miles from a regional intercity bus stop and seven of those are more than 25 miles.

Table 9 Tribal Homelands over ten miles from a regional intercity bus network stop

Reservation Name	Distance	Reservation Name	Distance
Auburn Rancheria	10-25 Miles	Grindstone Indian Rancheria	> 25 Miles
Benton Paiute Reservation	10-25 Miles	Manchester-Point Arena Rancheria	> 25 Miles
Berry Creek Rancheria	10-25 Miles	North Fork Rancheria	10-25 Miles
Big Bend Rancheria	10-25 Miles	Paskenta Rancheria	10-25 Miles
Big Sandy Rancheria	10-25 Miles	Pauma and Yuima Reservation	10-25 Miles
Cahuilla Reservation	10-25 Miles	Ramona Village	10-25 Miles
Cedarville Rancheria	10-25 Miles	Rincon Reservation	10-25 Miles
Chemehuevi Reservation	10-25 Miles	Round Valley Reservation	10-25 Miles
Cold Springs Rancheria	10-25 Miles	Rumsey Indian Rancheria	10-25 Miles
Colusa Rancheria	10-25 Miles	Santa Rosa Reservation	10-25 Miles
Cortina Indian Rancheria	10-25 Miles	Stewarts Point Rancheria	10-25 Miles
Enterprise Rancheria	10-25 Miles	Timbi-Sha Shoshone Reservation	> 25 Miles
Fort Bidwell Reservation	> 25 Miles	Tule River Reservation	10-25 Miles

Figure 24 Military Bases More than 10 Miles from a Regional Intercity Network Bus Stop

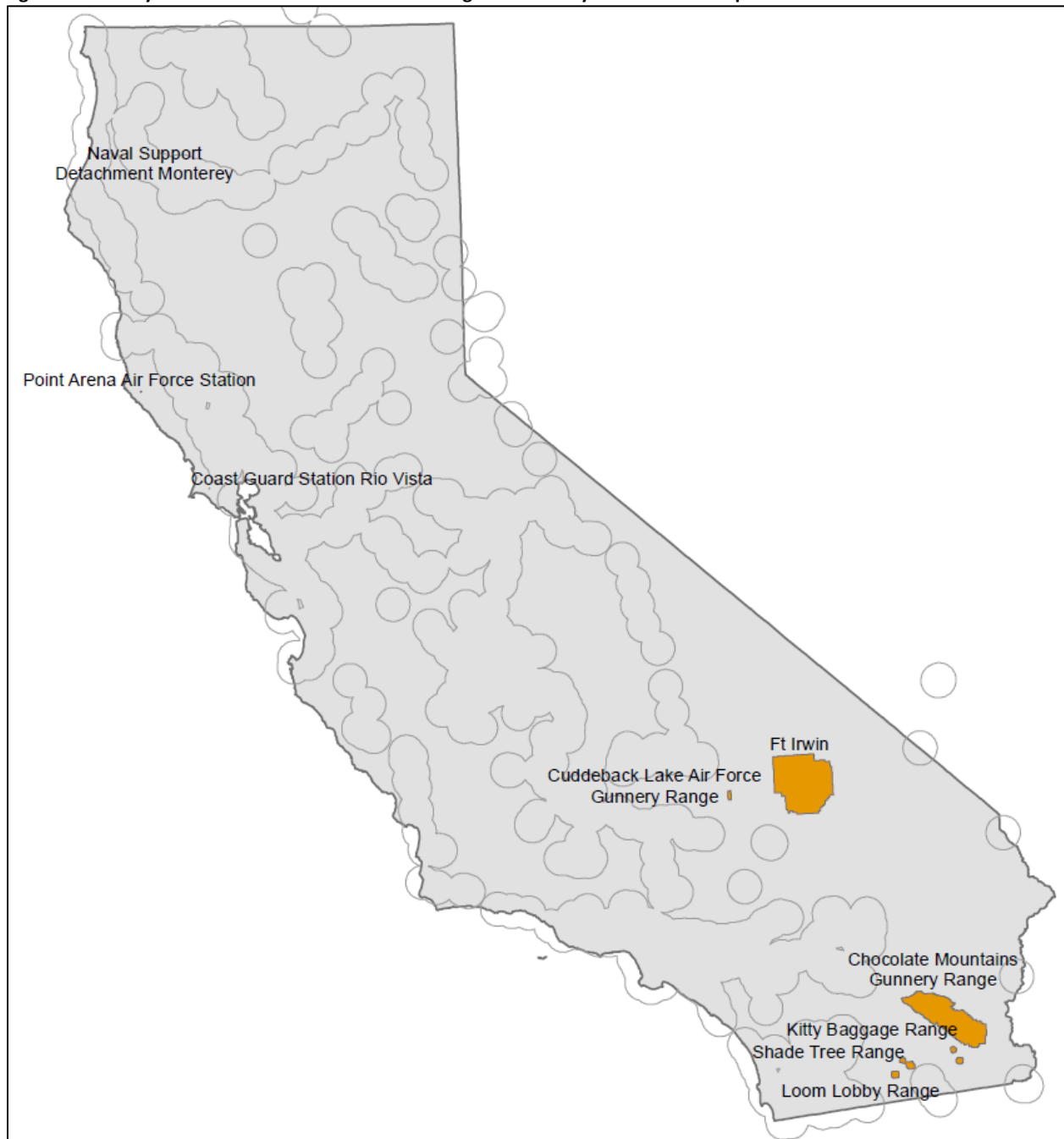


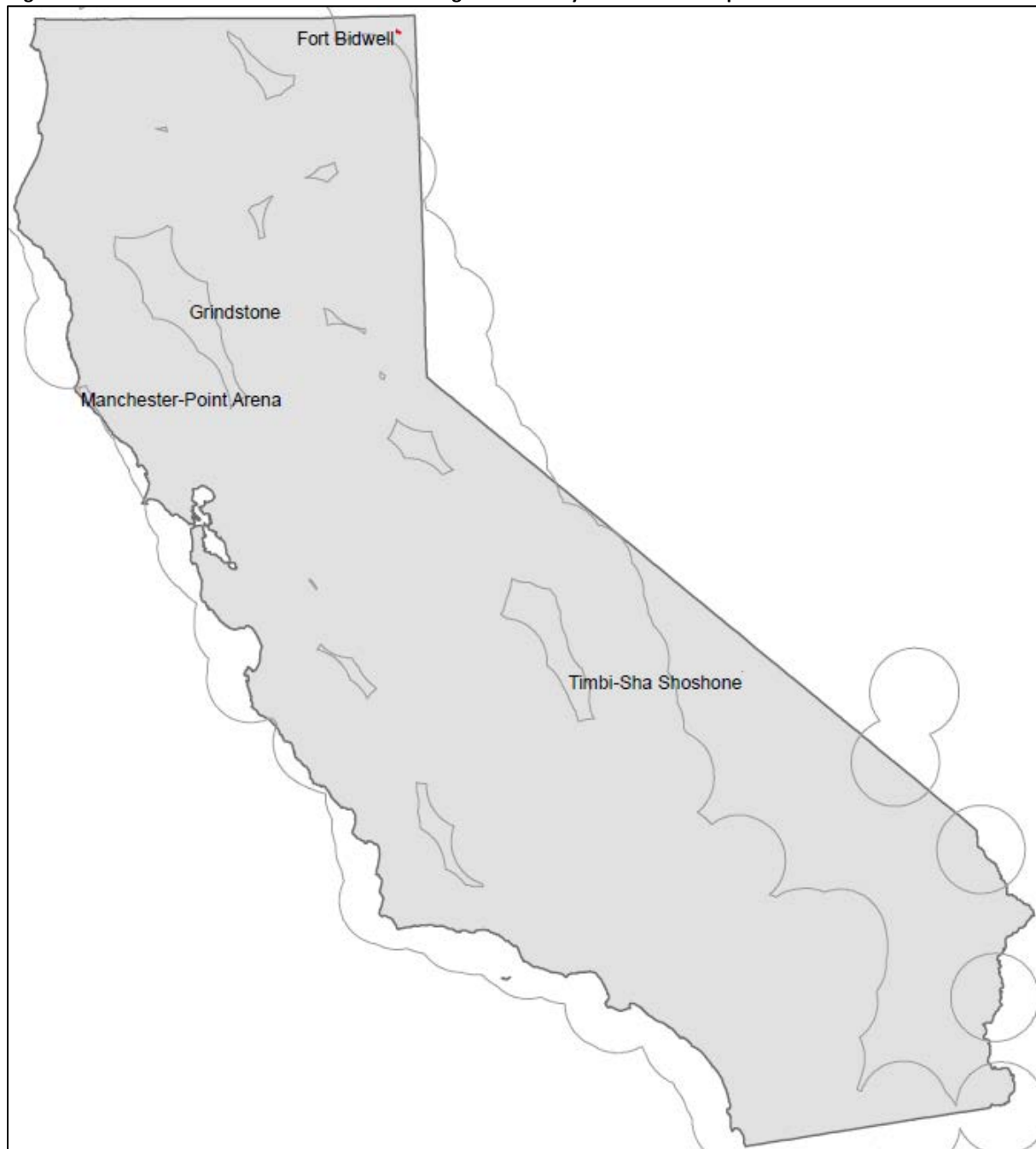
Figure 25 Military Bases more than 25 Miles from a Regional Intercity Network Bus Stop



Figure 26 Tribal Lands more than 10 Miles from a Regional Intercity Network Bus Stop



Figure 27 Tribal Lands more than 25 Miles from a Regional Intercity Network Bus Stop



4.3 Policy, Socio-Economics and Other Influences on Intercity Dynamics

At a local level, the adequacy of the regional intercity network to meet rural needs requires careful review of the underlying demand as well as details of the service. However, it is also necessary to consider transit and other policy dynamics as well as broader socio-economic change that influences the system's efficiency. In this section we explore a few examples of these influences. First, using National Park visitor data we discuss how changing urban-rural relationships may be increasing the demand for rural experiences. Second, we look at some unintended challenges policy frameworks may create by comparing the rural regional intercity transit needs of the 11 interregional corridors in the 2015 ITSP and the seven rural area corridors defined in this Study. Third, the ability of the system to provide emergency and disaster response and recovery services is reviewed. Finally, we review forecasted population change across the state while highlighting inherent uncertainties by comparing the County-level forecast generated by Caltrans with that of the State Department of Finance.

Urban Access to Rural Areas

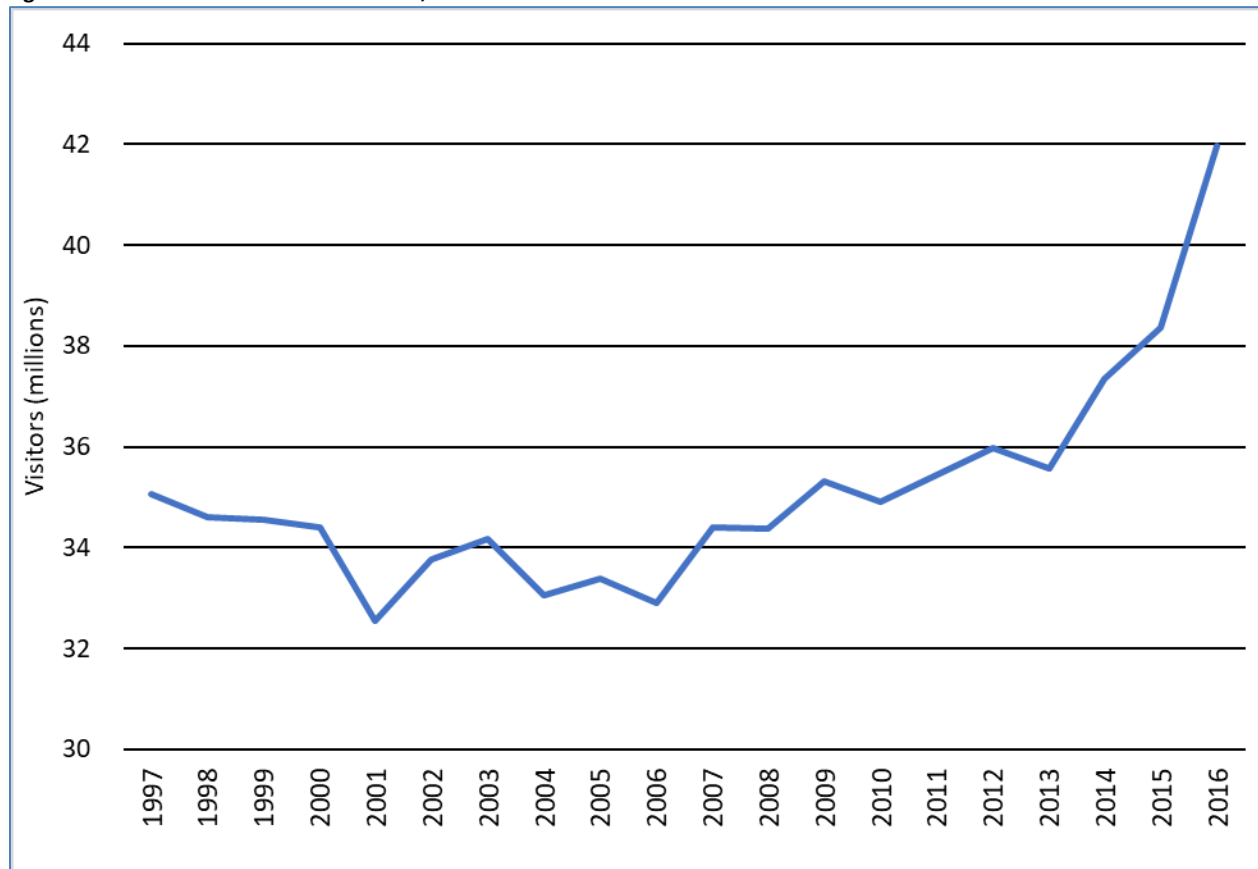
While the focus of regional intercity transit needs tends to be on facilitating access from rural areas to urban areas, there is also substantial need for the regional intercity network to facilitate access from urban areas to rural areas and especially natural resource conservation areas such as California's State and National Parks. The rural regional intercity Yosemite Area Regional Transportation System (YARTS) service, which runs bus service into and across Yosemite National Park is an important example of this type of service. By providing a public transit option to visit Yosemite, YARTS is designed to reduce traffic and increase the Park's accessibility.

In addition to State and National Parks, National Forests, National Monuments, and Wilderness Areas California has an array of rural destinations with highly developed recreation and entertainment opportunities that also form significant opportunities for service from the regional intercity transit system. However, the dispersed nature of these assets makes a systematic assessment of that need difficult.

In order to illustrate some measure of this demand, we have compiled two decades of available visitor data to California's National Parks, Monuments, and Historic areas. That data, illustrated in Figure 28, shows that after a decade of relative stagnation visitors have increased in the past decade by 24% from 34 million annually in 2007 to 42 million in 2016. While the National Parks visitor data is merely suggestive, it does indicate a substantial market for regional intercity transit services. However, as currently constituted the statewide regional intercity network is limited in resources to capture and development this market. In the latest, 2010, assessment by the U.S. Census Bureau some 35.5 million Californians or 94.95% of its total population was classified as residing in an urban area. That urban population grew by 3.4 million or 11% from

the year 2000. Given these trends, which are also reflected in national dynamics, this type of regional intercity service is likely to continue to grow in importance.

Figure 28 Visitors to Select National Parks, Monuments & Historic Places in California



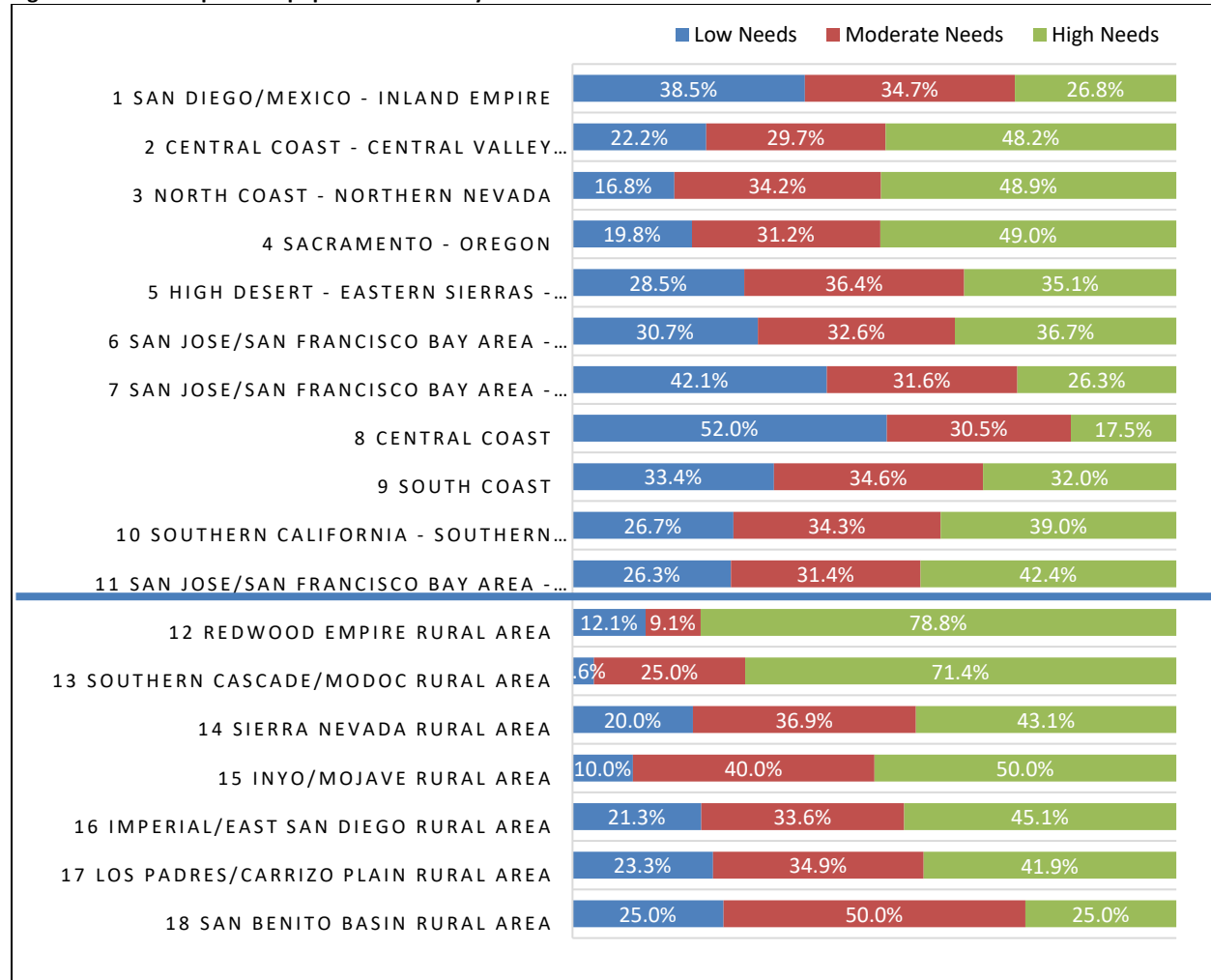
Incidental Policy Influences

Unintended policy impacts are an issue much larger than just transit or transportation policy. However, given the scale of rural relative to urban populations it is often particularly challenging to identify and address these outcomes. For instance, equity targets formulated in an urban environment that focus on racial characteristics to facilitate access to transit services might have very different impacts in rural environments on transit-dependent populations where factors such as age might be more significant determinants.

While it is not clear what the long-term consequence will be, one example of these potential impacts may be suggested by looking at the 11 interregional corridors identified in the 2015 ITSP and the seven rural area corridors identified in this Study. Building on the analysis in Section 4.1, Figure 29 shows the composition of each corridor's transit dependent populations. It is evident from the figure that the rural corridors have a higher proportion of high transit-dependent areas than the strategic corridors identified in the 2015 ITSP. In total, 36% of all block groups in the strategic corridors are high needs, but in the rural area corridors 46% of

their block groups are high needs. Hence without consideration of these differences it's possible that focused support on the ITSP corridors could perpetuate the challenges for rural regional intercity transit in the rural areas outside those corridors.

Figure 29 Transit dependent population needs by corridor area



Emergency and Disaster Response and Recovery

There is increasing awareness of the key role of mobility during times of crisis. In rural communities this role can be heightened because their environments tend to have more hazards such as wildfires, flooding events, avalanches, and landslides. In assessing needs of the rural regional intercity network its ability to prepare, prevent, respond and recover to emergencies and disasters is an important component. This rural area need is liable to grow even more important with climate change potentially increasing the number of extreme weather events.

Population Dynamics

Lastly, it is important to consider expected changes in populations when identifying needs of the rural regional intercity transit system. Long-run population forecasts are useful tools in this regard, but those forecasts typically focus on statewide or county-level population growth. In addition, as forecasts shift to smaller populations there is frequently much more uncertainty over what will occur in the long-run.

These differences are shown in Table 10, which compares the statewide and county-level forecasts published by Caltrans and the California Department of Finance. While the two forecasts only differ by 0.1% at the statewide level, in 16 of the 58 counties the forecasts diverge by 10% or more. Furthermore, in 8 counties the forecasts differ regarding whether the county is expected to see population growth or decline by 2050. These differences highlight the information challenges faced when identifying transit needs at the local level, and especially the acute challenges for smaller predominantly rural areas.

Table 10 Forecast Population Growth

	2015	Caltrans 2050	DoF 2050	Caltrans % Change	DoF % Change	Forecasts' Difference	% Diff. of DoF
Alameda County	1,619,244	2,117,320	2,159,782	↑ 30.76%	↑ 33.4%	42,462	2.0%
Alpine County	1,165	1,256	1,105	↑ 7.77%	↓ -5.2%	(151)	-12.0%
Amador County	37,302	29,783	42,711	↓ -20.16%	↑ 14.5%	12,928	43.4%
Butte County	224,301	243,094	277,512	↑ 8.38%	↑ 23.7%	34,418	14.2%
Calaveras County	44,881	36,812	48,775	↓ -17.98%	↑ 8.7%	11,963	32.5%
Colusa County	22,312	30,016	27,482	↑ 34.53%	↑ 23.2%	(2,534)	-8.4%
Contra Costa County	1,116,385	1,473,799	1,505,996	↑ 32.02%	↑ 34.9%	32,197	2.2%
Del Norte County	27,089	25,306	28,773	↓ -6.58%	↑ 6.2%	3,467	13.7%
El Dorado County	182,917	201,581	234,290	↑ 10.20%	↑ 28.1%	32,709	16.2%
Fresno County	980,980	1,390,668	1,358,963	↑ 41.76%	↑ 38.5%	(31,705)	-2.3%
Glenn County	29,000	35,202	34,357	↑ 21.39%	↑ 18.5%	(845)	-2.4%
Humboldt County	134,825	138,588	141,193	↑ 2.79%	↑ 4.7%	2,605	1.9%
Imperial County	184,760	307,001	267,419	↑ 66.16%	↑ 44.7%	(39,582)	-12.9%
Inyo County	18,697	21,130	19,176	↑ 13.01%	↑ 2.6%	(1,954)	-9.2%
Kern County	884,436	1,271,021	1,350,705	↑ 43.71%	↑ 52.7%	79,684	6.3%
Kings County	149,813	223,158	202,760	↑ 48.96%	↑ 35.3%	(20,398)	-9.1%
Lake County	65,023	63,845	73,015	↓ -1.81%	↑ 12.3%	9,170	14.4%
Lassen County	30,988	33,605	27,941	↑ 8.45%	↓ -9.8%	(5,664)	-16.9%
Los Angeles County	10,192,374	11,861,060	11,274,596	↑ 16.37%	↑ 10.6%	(586,464)	-4.9%
Madera County	154,982	228,257	237,116	↑ 47.28%	↑ 53.0%	8,859	3.9%
Marin County	261,663	288,827	277,335	↑ 10.38%	↑ 6.0%	(11,492)	-4.0%
Mariposa County	18,097	16,827	19,112	↓ -7.02%	↑ 5.6%	2,285	13.6%
Mendocino County	88,379	94,202	95,608	↑ 6.59%	↑ 8.2%	1,406	1.5%
Merced County	270,156	391,614	410,095	↑ 44.96%	↑ 51.8%	18,481	4.7%
Modoc County	9,566	8,915	8,656	↓ -6.81%	↓ -9.5%	(259)	-2.9%
Mono County	13,762	16,804	14,778	↑ 22.11%	↑ 7.4%	(2,026)	-12.1%
Monterey County	435,658	514,121	541,508	↑ 18.01%	↑ 24.3%	27,387	5.3%
Napa County	141,625	174,511	166,634	↑ 23.22%	↑ 17.7%	(7,877)	-4.5%
Nevada County	97,946	103,718	115,821	↑ 5.89%	↑ 18.2%	12,103	11.7%
Orange County	3,165,203	3,883,550	3,616,582	↑ 22.70%	↑ 14.3%	(266,968)	-6.9%
Placer County	371,558	480,491	551,660	↑ 29.32%	↑ 48.5%	71,169	14.8%
Plumas County	19,675	16,770	17,605	↓ -14.76%	↓ -10.5%	835	5.0%
Riverside County	2,331,040	3,311,478	3,406,136	↑ 42.06%	↑ 46.1%	94,658	2.9%
Sacramento County	1,489,308	1,971,038	2,105,299	↑ 32.35%	↑ 41.4%	134,261	6.8%
San Benito County	57,572	78,277	79,210	↑ 35.96%	↑ 37.6%	933	1.2%
San Bernardino County	2,127,735	2,843,580	2,981,484	↑ 33.64%	↑ 40.1%	137,904	4.8%
San Diego County	3,275,546	4,167,890	3,997,108	↑ 27.24%	↑ 22.0%	(170,782)	-4.1%
San Francisco County	862,470	1,055,715	1,117,661	↑ 22.41%	↑ 29.6%	61,946	5.9%
San Joaquin County	728,509	1,058,344	1,079,902	↑ 45.28%	↑ 48.2%	21,558	2.0%
San Luis Obispo County	276,142	320,436	309,424	↑ 16.04%	↑ 12.1%	(11,012)	-3.4%
San Mateo County	762,327	939,734	915,205	↑ 23.27%	↑ 20.1%	(24,529)	-2.6%
Santa Barbara County	445,444	543,644	531,252	↑ 22.05%	↑ 19.3%	(12,392)	-2.3%
Santa Clara County	1,915,407	2,486,815	2,640,473	↑ 29.83%	↑ 37.9%	153,658	6.2%
Santa Cruz County	274,594	310,692	327,682	↑ 13.15%	↑ 19.3%	16,990	5.5%
Shasta County	178,795	182,970	202,817	↑ 2.34%	↑ 13.4%	19,847	10.8%
Sierra County	3,166	2,857	2,899	↓ -9.75%	↓ -8.4%	42	1.5%
Siskiyou County	44,563	42,024	44,024	↓ -5.70%	↓ -1.2%	2,000	4.8%
Solano County	429,384	578,847	595,865	↑ 34.81%	↑ 38.8%	17,018	2.9%
Sonoma County	500,487	563,027	601,189	↑ 12.50%	↑ 20.1%	38,162	6.8%
Stanislaus County	537,957	765,318	747,343	↑ 42.26%	↑ 38.9%	(17,975)	-2.3%
Sutter County	97,701	121,851	129,929	↑ 24.72%	↑ 33.0%	8,078	6.6%
Tehama County	63,975	69,464	76,483	↑ 8.58%	↑ 19.6%	7,019	10.1%
Trinity County	13,583	12,392	13,311	↓ -8.77%	↓ -2.0%	919	7.4%
Tulare County	465,013	690,894	639,477	↑ 48.58%	↑ 37.5%	(51,417)	-7.4%
Tuolumne County	54,511	51,495	55,691	↓ -5.53%	↑ 2.2%	4,196	8.1%
Ventura County	852,964	974,220	979,739	↑ 14.22%	↑ 14.9%	5,519	0.6%
Yolo County	212,747	291,753	331,183	↑ 37.14%	↑ 55.7%	39,430	13.5%
Yuba County	75,621	105,753	98,554	↑ 39.85%	↑ 30.3%	(7,199)	-6.8%
California	38,714,725	49,087,890	49,158,401	↑ 26.79%	↑ 27.0%	70,511	0.1%

Chapter 5 - Recommendations and Action Plan

Several issues were identified through this analysis. Among the most significant issues were the following:

- A decline in established, 5311(f), funding resources for regional intercity transit services.
- Existing rural regional intercity bus service gaps.
- Rising urban-rural regional intercity transit needs.
- A need to consider unintended consequences on rural transit from Federal and State transportation and other policies.
- General planning constraints and uncertainty created by limited administrative capacity in rural areas.

In this chapter these challenges are reviewed and recommendations to address them are proposed.

5.1 Short-Run Funding of Intercity and Rural Regional Mobility Services

The decline in available 5311(f) funding from Caltrans DRMT is perhaps the most significant near-term challenge facing the rural regional intercity system. In consultation with stakeholders a variety of alternative funding structures across the country were reviewed as part of this analysis. That review identified a system in several states where rural regional intercity routes were identified at the statewide level and a package of funding was made available to service providers to operate service on these routes. While this type of system had significant appeal to many stakeholders the size and diversity of California's rural regional intercity was deemed too great to assign total control to a top down approach. A hybrid model of prioritized corridors aligned to structures such as those identified in the 2015 ITSP, but with portion of funds set aside for needs outside those areas seemed to hold considerable promise.

However, implementing such a model would require a restructuring and reconceptualization of the statewide regional intercity network. Therefore, to address the near-term challenges of reduced 5311(f) resource a change in qualifying criteria for the 5311(f) program funds is recommended.⁸

⁸ Additionally, potential application of FTA Section 5339 grants for capital bus and bus facilities should be investigated. Details are available through Caltrans DRMT at: <http://www.dot.ca.gov/hq/MassTrans/5339.html>

Recommendation 1: Revised 5311(f) Project Funding Criteria

Appendix C details the proposed revisions to the 5311(f) program funding criteria. Key changes include limiting the initial base of 5311(f) funding to operating assistance for either continuing services, new services, or expansion of services. Other eligible capital and operating assistance would only be available if funding exceeds the base funds, which in FY2019 are estimated to be \$4.1 million.

Table 11 Revised 5311(f) Funding Criteria

Projects will be evaluated according to the following criteria:	Points
Continuation or expansion of an existing intercity bus project/service.	5
Extent the project/service effectively addresses a demonstrated community need.	20
Experience and/or expertise providing efficient transportation services as well as managing public transportation funding.	20
Fiscal and administrative capacity as well as budget to undertake the project/service.	20
Coordination and integration with the service area's transportation system.	15
Existing support for the project, financial and otherwise, on the part of citizens and local government has been submitted. If new, documents supporting must be provided.	10
The applicant demonstrates effort to support transit policies.	10
Total Points Possible	100

The projects are then evaluated with respect to seven criteria that are intended to ensure priorities of the 5311(f) program are achieved. These include addressing demonstrated needs, coordination with other services, and the capability of the applicant to undertake the project. These criteria are listed in Table 11 above.

5.2 Short-Run Coordination and Integration of Rural Regional Mobility Services

Caltrans' long-range transportation plans are united under the 2040 CTP to provide a coherent and consistent approach to statewide transportation planning.⁹ These plans and other state initiatives such as the recently passed Road Repair and Accountability Act (SB 1), contain a variety of features that could be leveraged to bring additional resources to the rural regional intercity network. While longer-term and more systematic engagement with these structures may require broader transformation of the rural regional intercity system, which is discussed in Section 5.3 below, it is important near-term opportunities are captured.

Recommendation 2: Leveraging existing initiatives and resources

Among Caltrans long-range transportation plans some of the largest opportunities to impact the regional intercity bus system exist in the forthcoming 2018 SRP. The envisioned integrated passenger rail service in the Draft 2018 SRP, would develop an integrated statewide rail network whereby schedules, ticketing, and physical infrastructure will be coordinated to

⁹ See Section 2.2 for further details.

provide a seamless user experience that connects different service types and modes and mobility hubs. This statewide network should enhance operations and leverage resources for the rural regional intercity bus system.

The SRP identifies integrated express bus service as a key component for delivering service needed to realize the 2040 Vision. The SRP assumes there are different delivery options for providing integrated express bus connections, which emphasize partnerships and flexibility in State support for connecting bus services. Other opportunities to support the regional intercity network should also be identified in large statewide funding initiatives like the 2017 transportation funding package, SB 1. Mobilizing information about these efforts and opportunities through existing structures such as the DRMT's Rural Transit and Intercity Bus program is an important action with potentially large benefits to the system.

Another potentially significant expansion of the intercity network could be created in the short-term if the Amtrak Thruway bus service eliminated the need to purchase a rail service leg for each trip. Changing that requirement would necessitate State legislation but that change could expand available intercity bus service statewide. Therefore, it is recommended that the costs and benefits of this change to the Amtrak Thruway bus service be further investigated.

5.3 Reorganization of Intercity and Rural Regional Mobility Services

Recognizing the inherent opportunity that a broader transformation of funding the rural regional transportation system presents, it is believed that such an initiative should be pursued over the longer-term. Changing the funding structure cannot be meaningfully accomplished without broader organizational, planning and policy changes occurring simultaneously. Recommendations to advance this sort of fundamental transformation include:

Recommendation 3: Transform the Funding System

Transforming public funding of California's rural regional intercity network is a necessary condition for a broader reconceptualization of the system. Currently, 5311(f) program funds are the primary resource available for these needs. However, as the recent 2017 NCHRP report suggests the needs of the system imply that a range of funding could be used to support the network. These sources include: Section 5311 rural funds, Section 5311(f) rural intercity funding, Section 5311(f) in-kind match from connecting unsubsidized intercity services, federal CMAQ funding, economic development funding, energy funding, tribal transit funding, state funding for match, state incentive funding for regional services, funding for Medicaid non-emergency transportation, and other local sponsors (NCHRP, 2017: 6). Combining these funds from different sources will potentially generate collective efficiencies that will mean the impact of each of their programs is advanced more than through their use in isolation. However, realizing that type of funding flexibility would require local and state policies as well as federal

programs to authorize their use for regional intercity services. That kind of authorization would be prohibitive to nearly all rural transit authorities and it would be difficult to find sufficient support for the rural areas in larger urban planning districts. Therefore, another recommendation for reconstituting the system is for a transformation of organizational structures.

Recommendation 4: Transform Organizational Structures

Given the number of funding entities and diversity of needs that would be addressed it is likely that some form of a rural regional intercity transit organization(s) would need to be created. Existing regional organizations may be able to fill this role, overcome jurisdictional boundaries, and develop coalitions needed to design and support such services but the best organizational model is a complex issue that needs careful and context specific consideration (NCHRP, 2017: 7). If a hybrid model is developed there will also be a need for a statewide entity that would work with the local champion to design services, find funding, and implement service. As an initial step, and building on existing structures, it is recommended that the steering committee that oversaw the development of this Rural Intercity Bus Update continue and assume leadership as guiding statewide organizational body advocating for intercity bus service.

Recommendation 5: Transform Planning Structures

A reconstituted rural regional intercity bus system would also need to look at broader array of transit needs and services in its planning structures. This function could be located within one or more of the rural regional intercity transit organization, in a separate policy entity or distributed across a consortium of agents. It would advocate for the transportation needs of rural communities in general and advance efforts for systematic consideration of policy impacts on rural communities. It would also facilitate consensus around key socio-economic dynamics influencing as well as identify and prioritize informational challenges about rural transportation.

Recommendation 6: Enhance Marketing and Integration of Rural Regional Intercity Transit

The reconstitution of rural regional intercity transit services advances coordination across the system that could also be leveraged to advance inter-modal integration. An important advance would be enhancing communications among rural agencies and Greyhound and Amtrak. These efforts should be advanced in the short-term through direct efforts by statewide stakeholders. It would be helpful to have a central location for upcoming schedule changes that all agencies could have access to for planning needs. Bus schedule changes are expensive to complete, and it takes time to get the word out to the public when they occur. It would also expand opportunities for enhanced marketing of these services as well as communicate opportunities for rural access to urban areas that may otherwise be prohibitive to local entities. Further ideas around rural regional intercity marketing opportunities are elaborated in Appendix D.