FINAL TASK 5 REPORT

STRATEGIC RECOMMENDATIONS

Safety Roadside Rest Area Master Plan

Prepared for

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By Dornbusch Associates

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16. ABSTRACT

This study constitutes an update the 2000 California Safety Roadside Rest Area (SRRA) Master Plan. The primary objective of the project was to develop strategic planning recommendations for the planning, funding and implementation of improvements to the Safety Roadside Rest Area System. This report presents the deliverable for Task 5 - Strategic Recommendations. It incorporates the analyses and conclusions from previous Tasks 1 through 4, and derives recommendations regarding expansions of and additions to existing rest areas, identifying the auto and truck/bus parking

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EXECUTIVE SUMMARY

This report recommends strategies to enhance the safety roadside rest area (SRRA) system while also assessing the use/parking needs of existing rest areas and the locations where new rest area services are most needed. The following summarizes some of the key findings of this report:

- Based on data obtained by SRRA traffic count surveys, average annual daily traffic (AADT) at existing SRRAs ranges widely, between 56 and 3,007 vehicles per day, with average AADT for all 87 SRRAs of 859 vehicles per day.
- Vehicle count surveys performed as part of this analysis and count data from previous surveys performed by Caltrans indicate that on average 74% of vehicles entering SRRAs are autos and 26% are trucks and buses.
- It is estimated that over the next 20 years, 52 of the 87 SRRAs (or 60% of all SRRAs) will require some level of additional parking to meet forecasted parking demand. Projected 20-year SRRA parking deficiencies range between 1 and 76 spaces, with an average parking deficiency of 20 spaces.
- A total of nine SRRAs were identified as being potential candidates for closure or replacement due to low utilization rates, close proximity to other SRRAs or stopping opportunities, and other factors. In considering SRRA closures, Caltrans should consult the SRRA closure evaluation guidelines specified in Section IIA Part 6 and Section B of the Appendix of this report.
- A total of 22 highway segments were identified as being in need of new rest area services, with 11 high priority regions identified.
- Developing public/private partnerships to provide rest area services is judged to represent one of the most effective long-term strategies for simultaneously increasing the level of rest area services statewide and reducing rest area development and operating costs incurred by the state.
- Federal and state laws continue to prohibit the provision of commercial services at SRRAs located within the right-of-way of federally funded highways. These laws limit the options available in developing public/private partnerships at SRRAs.
- Considering the limitations created by federal and state laws, it is recommended that Caltrans seek to implement public/private SRRA partnerships which offer commercial services exclusively at off-line locations, outside the highway right-of-way.
- The Federal Interstate Oasis program is judged to represent the public/private partnership model that yields the best chance of being successfully implemented in California. It is recommended that Caltrans emphasize efforts to develop Oasis-type partnerships, particularly focusing on the Intestate Oasis Program, as the primary form of rest area public/private partnerships developed at off-line locations.
- In addition to Interstate Oasis partnerships, it is recommended that Caltrans investigate the potential of developing public/private partnerships on land owned by Caltrans at the Sidewinder Road interchange on Interstate 8 and at the State Route 76 interchange on

Interstate 15. These locations offer Caltrans the opportunity to develop alternative types of public/private partnership arrangements, including lease based partnership arrangements.

- It is recommended that Caltrans seek to modify California law where necessary to conform to the Federal Interstate Oasis Program and enable the most cost-effective procurement and contracting system for the lease based partnership arrangements. In addition, it is recommended that Caltrans adapt policies to implement the Federal Interstate Oasis Program as written.
- It is recommended that Caltrans initiate an Oasis pilot program by developing the necessary policies, rules and regulations, etc. at a select few sites considered to offer the highest probability of success and greatest benefit to the state and traveling public.

I. BACKGROUND & INTRODUCTION

The California Department of Transportation (Caltrans) engaged Dornbusch Associates to update the 2000 California Safety Roadside Rest Area (SRRA) Master Plan. The primary objective of the project was to develop strategic planning recommendations for the planning, funding and implementation of improvements to the Safety Roadside Rest Area System. This report presents the deliverable for Task 5 - Strategic Recommendations. It incorporates the analyses and conclusions from previous Tasks 1 through 4, and derives recommendations regarding expansions of and additions to existing rest areas, identifying the auto and truck/bus parking expansion requirements and locations where such expansions/additions are needed. The recommendations are based on criteria developed during the course of the study in consultation with Caltrans.

As required by the Scope of Work, the strategic recommendations include use of public/private partnerships to yield cost savings to the state from private partners assuming some or all of the capital and maintenance costs required to expand, supplement or substitute for existing rest areas, where necessary, developing new rest areas. This report describes a variety of such public/private partnership models, evaluates their relative advantages, and recommends selection and implementation strategies intended to achieve the greatest cost savings and state control while meeting future rest area service needs.

The tasks completed prior to this report include:

Task 1. Background Research and Analysis. This task identified and evaluated current policies, stakeholder interest, and vehicle/goods movement issues related to rest area needs, operation and development. The Task 1 Report presents a detailed discussion of the research regarding rest areas and driver fatigue and public/private partnership strategies for SRRAs, and includes references and summary extracts of the relevant regulations and policies impacting development and operation of rest areas in California (See Appendix Section A).

Task 2. User Counts. This task analyzed current and projected future vehicle and user volumes at all 87 SRRAs statewide. In this task, vehicle count surveys were performed at 63 of the 87 SRRAs, while user count surveys were conducted at five SRRAs.

Task 3. Alternative Stopping Opportunities. Commercial facilities along the state's highways, referred to as "Alternative Stopping Opportunities," were identified and evaluated for their potential

to be engaged as public/private partnerships to provide necessary rest areas services. The locations were mapped in GIS format.

Task 4. Unauthorized Truck Parking. The incidence and magnitude of unauthorized truck parking was identified by locations within one-quarter mile of the state's highways. The California Highway Patrol (CHP) reported their observations, which was augmented by a systematic review of Google Earth air photos, from which locations and judgments about the severity of unauthorized truck parking problems were tabulated and mapped in GIS.

The outputs and deliverables from Tasks 1 through 4 are included as a separate appendix to this report.

This report is organized as follows:

Section I. Introduction.

Section II. Opportunities for and Constraints on Amending the SRRA System presents an overview of the programs, policies and initiatives that were judged to be most relevant and useful in developing innovative and cost-effective strategies for improving existing, and developing new, SRRAs. This section discusses the potential role of public/private partnerships to cost-effectively enhance the rest area system in California.

Section III. Recommendations for Existing SRRAs presents key information for each of the 87 existing SRRAs, including the levels of stopping traffic, parking deficiency estimates, SRRA spacing, and other information relevant to planning the rest area system by route. This section offers recommendations regarding the type of parking expansions (by auto and truck/bus) that are needed at each existing SRRA and provides judgments about whether particular SRRAs might be candidates for closure.

Section IV. Recommendations for Proposed New SRRAs identifies locations where additional rest area services are judged to be needed, including locations for new rest areas, distinguishing the relative magnitude of need. This section also indicates the type of rest area that might be developed at a particular location, that is, whether a traditional SRRA or a public/private partnership SRRA might be appropriate and practical.

II. OPPORTUNITIES FOR AND CONSTRAINTS ON AMENDING THE SRRA SYSTEM

A. OVERVIEW OF NEW PROGRAMS, POLICIES, AND INITIATIVES

Several new programs are available which have the potential to significantly and cost-effectively improve California's rest area system. These programs focus on the use of public/private partnerships to provide basic rest area services to the traveling public. Public/private partnerships can have significant strategic value as a means of expanding the level of rest area services while simultaneously taking advantage of significant capital and operating cost savings, and in some cases possibly even generating income for the state. The potential for public/private partnerships to expand rest area services at a lower cost than developing a traditional state-owned SRRA is particularly compelling given California's continuing budgetary challenges and the need for rest area services as highway traffic continues to grow in California.

Providing rest areas via public/private partnership arrangements is still in the early phases of development in the western United States. Except for Interstate highways on the east coast of the U.S., which were exempted from the Randolph-Sheppard Act's prohibition against offering commercial services at rest areas within the highway right-of-way, only a few states have developed rest areas under public/private partnerships. The previous lack of a national model and opposition by special interest groups and implementation problems in a few forerunner states stemming from legal restrictions and community opposition has, up to now, made many western states reluctant to pursue such partnerships. However, the confluence of special interest group support, availability of federal approval and implementation guidelines, and the very compelling economic advantages that such partnerships offer California, especially given the states budgetary challenges, make such public/private rest area partnerships worthy of serious consideration.

The following discussion presents the key aspects of programs judged to offer the potential to improve the rest area system in California through the use of public/private partnership arrangements.

1. Federal Interstate Oasis Program

The federal Interstate Oasis Program was enacted as part of the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005. In 2006, the FHWA published the "Interstate Oasis Program and Policy" which presented finalized rules/policies governing the Interstate Oasis Program. Note that all of the following quotes are excerpted from this policy document.[1] The FHWA describes the purpose of the Interstate Oasis Program as being:

"…to enhance safety and convenience for Interstate highway users by allowing States, in accordance with this policy, to designate and provide signing to certain facilities off the freeway that will provide increased opportunities for stopping to rest, using restroom facilities, and obtaining basic services."

Under the final Program rules the FHWA went on to define an Interstate Oasis as:

"…a facility near an Interstate highway but not within the Interstate right-of-way, designated by a State after meeting the eligibility criteria of this policy, that provides products and services to the public, 24-hour access to public restrooms, and parking for automobiles and heavy trucks."

The Interstate Oasis Program allows states to partner with private operators who meet the minimum criteria to provide basic rest area services in exchange for online highway signing and official designation as an Interstate Oasis. Therefore, by designating and signing commercial operations that meet the minimum eligibility criteria for an Oasis, the state may expand guaranteed free parking and rest room services to augment the services available at existing SRRAs without having to construct and maintain expensive new SRRA facilities. Importantly, the Interstate Oasis Program has the support of the National Association of Truck Stop Operators (NATSO), the most powerful industry lobbying group that opposes public/private partnerships or any commercialization of existing or new online SRRAs. As such, the Interstate Oasis Program provides an alternative type

[1] The FHWAs Interstate Oasis Program and Policy document can be found online at: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2006_register&docid=E6-17367.pdf

of public/private partnership offline and which is supported by the very industry lobbying groups that have in the past been so successful in defeating every significant attempt to overturn or skirt the federal prohibition against providing commercial services at SRRAs.

The following represent the seven minimum eligibility criteria for an operator(s) to be designated and signed as an Interstate Oasis, according to FHWA standards:

(a) Distance from Interchange. *"Shall be located no more than 3 miles from an interchange with an Interstate highway, except that:*

i. A lesser distance may be required when a State's laws specifically restrict truck travel to lesser distances from the Interstate system; and

ii. Greater distances, in 3-mile increments up to a maximum of 15 miles, may be considered by States for interchanges in very sparsely developed rural areas where eligible facilities are not available within the 3-mile limit;"

(b) Access from Route. "*Shall be accessible via a route that an engineering study determines can safely and conveniently accommodate vehicles of the types, sizes, and weights that would be traveling to the facility, entering and leaving the facility, returning to the Interstate highway, and continuing in the original direction of travel."*

(c) Physical Geometry of Site Layout. "*Shall have physical geometry of site layout, including parking areas and ingress/egress points, that an engineering study determines can safely and efficiently accommodate movements into and out of the site, onsite circulation, and parking by all vehicles, including heavy trucks of the types, sizes, and weights anticipated to use the facility."*

(d) Rest Rooms. *"Shall have restrooms available to the public at all times (24 hours per day, 365 days per year). Restrooms should be modern and sanitary and should have drinking water. The restrooms and drinking water should be available at no charge or obligation;"*

(e) Parking. *"Shall have parking spaces available to the public for automobiles and heavy trucks. The parking spaces should be well lit and should be available at no charge or obligation for parking durations of up to 10 hours or more, in sufficient numbers for the various vehicle types, including heavy trucks, to meet anticipated demands based on volumes, the percentage of heavy vehicles in the Interstate highway traffic, and other pertinent factors as described in formulas contained in the AASHTO ''Guide for Development of Rest Areas on Major Arterials and Freeways'' (2001 or latest edition);"*

(f) Products & Services to be Provided. "*Shall provide products and services to the public. These products and services should include:*

i. Public telephone;

ii. Food (vending, snacks, fast food, and/or full service); and

iii. Fuel, oil, and water for automobiles, trucks, and other motor vehicles;"

(g) Security & Staffing. "*Should be staffed by at least one person on duty at all times (24 hours per day, 365 days per year).*"

These criteria include the basic services that are available at most SRRAs in California, including free parking for cars and trucks for extended periods and in sufficient numbers to meet demand, free access to sanitary restrooms, water, and access to public telephones. The Interstate Oasis program provides the additional services of (a) commercial services and (b) onsite security available 24-hours per day.

In exchange for providing the above services, the operator is eligible to be designated and signed as an Interstate Oasis.

Signing Guidelines. In January 2008 the FHWA issued proposed changes to its "Manual on Uniform Traffic Control Devices," on which the CMUTCD is based, in a document entitled "*2007 Notice of Proposed Amendments for the Manual on Uniform Traffic Control Devices.*" Most importantly, the proposed additions and revisions include a new section regarding guidelines for signing Interstate Oasis facilities. The following summarizes the FHWA's proposed guidelines relating to Interstate Oasis signing under Section 2F.04.[2]

The MUTCD revisions indicate that states providing Interstate Oasis signing should implement the following signing practices on the freeway for any given exit to identify the Interstate Oasis:

Online Highway Sign: Option 1. *"If adequate sign spacing allows, a separate Interstate Oasis sign should be installed in an effective location with spacing of at least 245 m (800 ft) from other adjacent guide signs, including any Specific Service signs. This Interstate Oasis sign should be located upstream from the Advance Guide sign or between the Advance Guide sign and the Exit Direction sign for the exit leading to the Interstate Oasis. The Interstate Oasis sign should have a white legend with a letter height of at least 250 mm (10 in) and a white border on a blue background and should contain the words INTERSTATE OASIS and the exit number or, for an unnumbered interchange, an action message such as NEXT RIGHT. The names or logos of the businesses designated as Interstate Oases should not be included on this sign."*

The MUCTD indicates that when a separate Interstate Oasis sign is provided (as under Option 1) then *"…an Interstate Oasis (D5-12) sign panel (see Figure 2F-1) should be incorporated into the design of the sign" and that this D5-12 sign "shall only be used on the separate Interstate Oasis sign where it is accompanied by the words INTERSTATE OASIS and shall not be used independently without the words."*

Online Highway Sign: Option 2. *"If the spacing of the other guide signs precludes the use of a separate sign as described in Item A* [Option 1]*, a supplemental panel with a white INTERSTATE OASIS legend with a letter height of at least 250 mm (10 in) and a white border on a blue background should be appended above or below an existing D9-18 series General Service sign for the interchange."*

[2] "2007 Notice of Proposed Amendments for the Manual on Uniform Traffic Control Devices," Section 2F.04, "Interstate Oasis Signing" can be found online at: http://mutcd.fhwa.dot.gov/resources/proposed_amend/npa_text.pdf

Ramp/Interchange Signing: Option 1. *"If Specific Service signing is provided at the interchange, a business designated as an Interstate Oasis and having a business logo sign panel on the Food and/or Gas Specific Service signs may use the bottom portion of the business logo sign panel to display the word OASIS."*

Ramp/Interchange Signing: Option 2. *If Specific Services signs containing the OASIS legend as a part of the business logo(s) are not used on the ramp and if the Interstate Oasis is not clearly visible and identifiable from the exit ramp, a sign with a white INTERSTATE OASIS legend with a letter height of at least 150 mm (6 in) and a white border on a blue background shall be provided on the exit ramp to indicate the direction and*

Guide Signs. *"If needed, additional trailblazer guide signs shall be used along the crossroad to guide road users to an Interstate Oasis."*

These signing requirements indicate that two Oasis signs will be provided along the Interstate right-of-way in each direction of travel – or a total of four highway signs per Oasis - with one sign being on the mainline of the highway in advance of the exit where the Interstate Oasis is located, and the second sign be located at the off ramp leading to the Oasis. In addition, guide signs may be used on cross streets/frontage roads where needed to direct travelers from the highway off-ramp to the Oasis.

Given that highway signing represents the primary incentive for private partners to participate in the Interstate Oasis Program, these regulations will have important implications for potential partners' interest in participating in the program. For example, the requirement that the partners' business name or logo cannot be used on the mainline sign would somewhat diminish the attractiveness of the opportunity. However, since travelers will be guided directly to the facility by exit/trailblazing signs and given that the partner presumably has the authority to provide additional signing onsite, advertising itself as an Interstate Oasis, this is not considered to be a major impediment to attracting partners.

The following figures depict examples of Interstate Oasis signs as provided under proposed revisions to the MUTCD.

Examples of Permissible Interstate Oasis Signs

D5-12
Interstate Oasis

Other important Interstate Oasis requirements specified by the FHWA include the following:

Routes Where Oases are Permitted. Oases can only be established on Interstate highways. However, Caltrans currently has a state program, discussed in following section, for signing "Alternative Rest Area Stopping Opportunities" which are partnerships similar to Interstate Oases that can be implemented along non-Interstate routes.

California should be able to implement the two programs simultaneously. However, in doing so, the state should consider some potential problems. For example, unless both programs applied consistent standards, the FHWA might object that the similarly designated rest areas would confuse the traveling public. In addition, industry groups, such as NATSO, might object to the state imposing greater operating requirements to the state highway facilities that exceeded those of the Interstate Oasis Program, and which it judged not to be a threat to their members' interests.

Therefore, as long as the Interstate and state highway public/private partnership rest areas are designated and signed differently, while applying consistent standards, no opposition might be expected from either the FHWA or industry groups to the state's implementing the two programs.

Multiple Operators. When two or more individual operator might fail to meets all of the Oasis requirements, states can allow two or more businesses that are located at an interchange, are immediately adjacent to each other, and are mutually accessible by foot to combine to satisfy the Oasis requirements. Clearly, this will allow a greater degree of flexibility in creating Oasis partnerships. For example, an adjacent gas station and a restaurant at an interchange could collaborate to satisfy the minimum Oasis eligibility requirements.

Non-Exclusion. The federal Oasis legislation states that if a state provides or permits Interstate Oasis signing, then *any* facility/operator meeting the minimum criteria shall be *eligible* for designation as an Interstate Oasis. Given that the state cannot require additional criteria for designating an operator as an Interstate Oasis, states would not be able to deny operators from being designated and signed as an Oasis, while permitting others, as long as all meet the Oasis requirements. However, if the Oasis Program proved popular, the provision might enable a significant number of Oases, and therefore traveler stopping opportunities, while also multiplying the state's signing obligation.

Additional State Criteria. A state cannot impose additional criteria beyond the criteria specified by the FHWA to qualify for designation as an Interstate Oasis. However, a business designated as an Interstate Oasis would be permitted to provide additional products, services, or amenities. This requirement effectively blocks the state from imposing any additional criteria/standards on Oasis partners not specified in the act, while allowing the operator to offer them. For example, a state could not require the operator to provide a landscaped lawn and picnic area as a requirement to be designated as an Interstate Oasis, because this is not one of the eligibility criteria specified under the Interstate Oasis Program. However, the Oasis partner might provide such amenities *voluntarily*.

Use of the Term "Interstate Oasis." The FHWA recommends that the state policies, program, and procedures developed to govern the Interstate Oasis Program should include legislation or rules to limit the use of the phrase ''Interstate Oasis'' on a business premises and advertising media to only those businesses approved by the state as an Interstate Oasis. Doing so would provide a branding advantage to only those businesses designated as an Oasis, and who could use the designation in their marketing efforts. If use of the term were not limited to only those businesses designated as an Interstate Oasis, it would reduce the attractiveness of such designation both from the perspective of the traveling public's confidence in the program and private partners' ability to benefit from meeting the program's standards. Therefore, failure to restrict the term's use would reduce partner's participation in, and the public's acceptance of, the program.

Educational/Marketing Campaign. Since the Interstate Oasis Program is an entirely new program, the FHWA recommends that if a state chooses to participate, it should *"undertake educational and marketing efforts, in cooperation with trucking and travel industry partners as appropriate, to familiarize travelers and businesses with the program before it is implemented and during the initial period of implementation."* Marketing the Oasis concept will be important for attracting both future Oasis partners and travelers to individual Oases. Since the program is new and the traveling public is unfamiliar with the term and concept of an Interstate Oasis, the state should attempt to distribute educational information on (a) the locations of Oases, (b) the services provided, and (c) company contact information for the Oasis partner. A very low cost option for doing all three would be for Caltrans to develop a dedicated website , accessible by mobile devices,

that provided statewide maps of Oases locations, services provided, and links to the Oasis operators' websites.

2. Alternative Rest Areas Stopping Opportunity - State Program

Chapter 29, Section 3 of the California Project Development Procedures Manual, (PDPM) provides additional guidelines regarding procedures for the implementation of SRRA projects in California.[3] Section 3, Article 1 of the PDPM outlines the criteria and signing program for *"alternative stopping opportunity rest areas"* which are similar the concept of an Interstate Oasis discussed in the preceding section. Referring to the State Highway System (SHS), the PDPM states that "*Caltrans may enter into an agreement with the operator(s) of commercial or governmental facilities located along the SHS to designate those facilities as alternative rest area stopping opportunities, and to provide highway directional signs with text or logos indicating, for example, restrooms, gas, and/or food. One or more entities may participate jointly in the agreement. Agreements should include reasonable expiration and renewal terms."*

The PDPM provides general guidance regarding the selection of alternative stopping opportunities stating that, "*Each alternative rest area stopping opportunity should consist of facilities that are clustered in a single, easily identifiable location. Unless they serve a single direction of highway traffic, Caltrans-designated alternative stopping facilities should not be located closer than 20 miles apart."* Caltrans might need to relax this recommendation, so that this criteria is not more restrictive than the Interstate Oasis standard.

To qualify to be designated and signed as an Alternative Rest Area Stopping Opportunity, the facility must meet the following criteria:

- The facility must be located in an area designated by Caltrans as deficient in rest area opportunities and should correspond to a new rest area need as indicated on the current Safety Roadside Rest Area System Master Plan, or supplement the capacity of an existing rest area that is deficient in parking capacity.
- The facility must provide adequate parking for automobiles and long vehicles (including commercial trucks), rest rooms, and drinking fountains, at no charge to the public.
- Operators may designate a time limit for free parking, but travelers must be allowed at least 2 hours of free parking. (Note that this standard might need to be changed to remove operators' ability to limit parking time and to be consistent with the Interstate Oasis program which specifies free parking of up to 10 hours or more.)
- Public pay telephones must be available.
- These basic SRRA features/services must be open and available to the public 24 hours per day, 7 days per week, and must be accessible to individuals with disabilities.

[3] The Project Development Procedures Manual, Chapter 29, Section 3 "Safety Roadside Rest Areas" can be found online at: http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt29.pdf

- The facility must be within one-half mile of the highway with safe and convenient highway ingress and egress and adequate off-right-of-way and on-premise signs. (Although one-half mile is certainly a desirable practical distance, the Oasis standard is "not more than three miles." To be consistent, this restriction might need to be relaxed.)

- The facility operator must provide written assurance from local law enforcement authorities that the area signed will receive adequate police protection.

- The facility operator must provide sufficient maintenance services to assure that all facilities available to the public are clean and usable.

These minimum requirements are very similar to those specified under the Federal Interstate Oasis Program. Although the Interstate Oasis Program indicates that commercial services *should* be available at the facility, it does not require them.

The PDPM specifies that for each alternative stopping opportunity project, "*A Project Report (PR) should be prepared and should address the anticipated increase in traffic, parking, water, and wastewater-disposal demand and the impacts on the local community and environment. The public and affected agencies should be afforded an opportunity to comment on the proposed action."*

Regarding the signing for alternative stopping opportunity locations, the PDPM states that "*Signs should be placed within the operational right-of-way only when privately-owned signs located outside the operational right-of-way cannot reasonably provide adequate directional information for travelers. Duplication of signs along non-access-controlled highways should be avoided. Off-highway directional signs must be in place prior to placement of signs within the operational State right-of-way."*

3. Auxiliary Parking Locations

The California Highway Design Manual (HDM) defines auxiliary parking areas as *"…parking areas and restrooms provided by or jointly developed and operated by partners (such as existing or new truck stops, or at other highway oriented commercial development). These are for longer-duration stops and overnight parking, primarily for commercial vehicle operators. These facilities are located outside of freeway right of way, within one-half mile of the freeway."* Therefore, auxiliary parking facilities offer a service closely related to the concepts of an Interstate Oasis and Alternative Rest Area Stopping Opportunity. However, auxiliary parking facilities do not require meeting all of the minimum eligibility requirements of the Interstate Oasis Program or Alternative Rest Area Stopping Opportunity program, and could therefore be provided by a broader range of commercial operators, potentially including malls, large stores, and other facilities located near and accessible from the highway.

In selecting auxiliary parking locations the HDM states that, *"Sites for auxiliary parking facilities should be chosen for their suitability in accommodating large numbers of commercial trucks for longer stays (up to 8 hours). Auxiliary parking facilities are not limited to 120 spaces; however, the amount of parking should be appropriate for the site and its surroundings."*

The PDPM provides additional guidance regarding the concept and development of auxiliary parking facilities, indicating that:

"In partnership with the private sector, auxiliary parking facilities that may alleviate overcrowding at nearby existing rest areas may be developed outside the right-of-way of controlled-access highways. Auxiliary parking facilities provide an alternative to expanding parking at existing rest areas where space is limited or the site is environmentally sensitive."

Therefore, auxiliary parking facilities represent another option for Caltrans to provide additional parking utilizing a public/private partnership arrangement, particularly in locations where SRRAs are at capacity and/or locations where additional truck parking is judged to be needed. Auxiliary parking facilities are a broad partnership concept that appear consistent with the more narrowly defined Oasis partnership model.

4. FHWA Special Experimental Project Number 15 (SEP-15)

Special Experimental Project Number 15 (or SEP-15) derives from section 502 of United States Code, Title 23 and allows the Secretary to waive the requirements and regulations of Title 23 on a case-by-case basis. SEP-15 allows the FHWA to experiment in four major areas of project delivery - contracting, right-of-way acquisition, project finance, and compliance with the National Environmental Policy Act (NEPA) and other environmental requirements.

The FHWA states that *"While FHWA has long encouraged increased private sector participation in federal-aid projects, SEP-15 allows FHWA to actively explore much needed changes in the way we approach the oversight and delivery of highway projects to further the Administration's goals of reducing congestion and preserving our transportation infrastructure."*[4] Therefore, it would seem that the SEP-15 program (which began in 2004) administered by FHWA might provide legal flexibility for developing commercialized rest areas under public/private partnerships. However, previous investigations found that the FHWA has not been inclined to use SEP-15 to allow rest area commercialization on Interstate highways, due to the expected strong opposition from powerful lobbying groups and Congress that such a waiver might generate.[5]

5. Section 226.5 of the California Streets and Highways Code

The California Streets and Highways Code provides for Caltrans to develop a Joint Economic Development Demonstration Project for six new SRRAs. Section 3, Article 3 of the PDPM provides the following guidelines for the development of these Demonstration Projects:

- *"Caltrans does not have statutory authority to commercialize existing rest areas."*
- *"A viable rest area joint economic development partnership may consist of a private or public partner that agrees to share in at least 50 percent of the total construction cost of the*

[4] FHWA SEP-15 Program: http://www.fhwa.dot.gov/ipd/p3/tools_programs/sep15_faqs.htm
[5] "Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs: Task B Report – Barriers to Future Caltrans Rest Area Partnership Projects," for Caltrans, by Dornbusch Associates July 18, 2007.

standard public rest area facility, including, but not limited to, ramps, access roads, parking, utilities, architecture, landscape, lighting, signs, and fences."

- *"In conjunction with traditional rest area facilities, the partner may fund, construct, maintain, and operate traveler-related commercial facilities, subject to federal and state laws, regulations, and requirements. The partner should maintain both the public and private facilities for an agreed-to term, generally 25 to 30 years."*

- *"It is preferred that Caltrans or another public agency own the right-of-way underlying any facilities or improvements funded with state or federal money. The partner may lease from Caltrans the land necessary for traveler-related commercial facilities or may construct those facilities on abutting land owned by others. State and federal requirements, such as prevailing wages, apply to work funded by Caltrans."*

- *"Federal Highway Administration (FHWA) regulations and the California Code of Regulations restrict or prohibit most commercial activities within controlled-access federal-aid highways. Pending a change in federal restrictions, commercialized rest areas are limited to locations along conventional highways or the area within one-half mile of a freeway ingress and egress."*

- *"Stakeholder interests include but are not limited to local and regional business competition, goods-movement needs, environmental concerns, and employment opportunities for the disabled and blind are among the issues of concern."*

- *"Implementation of a successful partnership requires a willing partner, an economically feasible proposal, open communication, fairness to all interests, respect of the inherent risks and effort of private entrepreneurs, and attention to the concerns of all stakeholders."*

The statement that Caltrans cannot commercialize existing SRRAs addresses the restriction against commercializing SRRAs within Interstate right-of-way, and that partnership projects would need to be developed consistent with the federal restriction. Section 3, Article 3 of the PDPM states that such commercialized partnership SRRAs "…*are limited to locations along conventional highways or the area within one-half mile of a freeway ingress and egress."* Therefore, locations outside of the Interstate right-of-way or along conventional non-controlled access highways are the only locations where commercialized SRRAs operated by private partners could be developed.

The requirement that the partner fund at least 50% of all improvements might present a significant limitation in circumstances where expensive highway improvements, such as ramp and interchange improvements, are required exclusively to accommodate the additional traffic generated by the off-line Oasis. If the improvement is required to serve existing or future expected traffic, regardless of the Oasis addition, this provision would not be an impediment. Regardless, Caltrans might wish to clarify whether this requirement is still in effect and desired.

The guideline that land ownership by Caltrans (or another state agency) is "preferred" where public monies will be spent on site improvements is not restrictive enough to be a significant impediment. Indeed, such land control would be desirable when a significant amount of public money would be

spent. Therefore, partnerships under scenarios where the private partner owns/controls the land would be preferred only if little or no public funding would be required to make the project feasible.

To comply with the Streets and Highways Code section 226.5 and to demonstrate that such partnerships can result in overall cost savings to the state, Caltrans should consider developing public/private partnership projects at locations where there is an identified need for new SRRAs.

6. SRRA Closure Evaluation Requirements

The California Project Development Procedures Manual (PDPM) and Maintenance Manual provide guidelines for the evaluations that are required when considering the different type of SRRA closures. According to the PDPM and Maintenance Manual there are three primary types of SRRA closures, which include: emergency closures, intermittent/economic closures, and permanent closures. The PDPM presents the requirements for permanent closures, while the Maintenance Manual discusses the requirements for emergency and intermittent/economic closures. This section summarizes the SRRA closure requirements specified in these documents for each of the three types of closures.

Emergency closures are defined in the Maintenance Manual as *"…an unanticipated temporary closure of facilities and temporary suspension of service at an SRRA to ensure public health, safety, or welfare."* [6] The Maintenance Manual provides the following key guidelines with respect to emergency closures:

- *"An SRRA should be immediately closed when a condition is determined to be a hazard to the public health, safety, or welfare."*
- *"Emergency repairs shall proceed with speed and diligence to ensure the closures last no longer than essential, and the SRRA should be reopened as soon as public health, safety, and welfare are no longer compromised."*
- *"The length of the emergency closure shall be approved by the Deputy District Director, Maintenance if it will be more than 5 calendar days."*

Intermittent/seasonal/economic closures are defined in the Maintenance Manual as *"…a planned and scheduled temporary closure of facilities and temporary suspension of services at a rest area unit to respond to seasonal issues (such as snow), or an expected or documented reduction in demand during a specified period of time (season, certain days or months)."* The Maintenance Manual goes on to state that a *"…economic closure is a planned temporary closure of facilities and temporary suspension of services at a rest area unit to respond to extraordinary budget issues. Economic closures may occur after careful consideration has been given to reducing costs at the rest area unit."*

The Maintenance Manual provides the following key guidelines with respect to Intermittent/seasonal/economic closures:

[6] "Maintenance Manual, Chapter G Public Facilities," July, 2006, California Department of Transportation; Available online at: http://www.dot.ca.gov/hq/maint/manual/ChG.pdf

- *"Review of the intermittent/seasonal/economic closures and conditions should be reevaluated on an annual basis, or when a significant change in conditions occurs."*
- *"Closure schedules must be recommended for approval by the Deputy District Director, Maintenance and approved by the District Director in concurrence with the Division Chief for Maintenance."*
- *"Closure schedules should be determined as early as possible so that notification can be given on contracts, and closures can be coordinated with any contractors providing services at the facilities (i.e. Shelter Workshops, Blind Vendors Program, etc.)."*

For all types of closures, the Maintenance Manual recommends that the following tasks be performed:

- *"Appropriate signage shall be placed at preceding rest areas or tourist oriented directional signs to notify motorists of the closure."*
- *"The statewide Maintenance Coordinator and Maintenance Webmaster shall be notified in order to ensure updated information is available and accurate."*
- *"Stakeholders (motorist, trucking associations, adjacent businesses, chambers of commerce, sheltered workshops, and contractors) should also be notified if closure is of more than a very short duration."*

Permanent closures are defined in the PDPM as "*…the termination of services and facilities at an existing rest area unit, and the removal of that unit from the Safety Roadside Rest Area System Master Plan."*[7] Section 3, Article 4 of the PDPM states that an SRRA may be closed only after the following conditions have been met or addressed:

- *"A project has been initiated for closure of the facility following existing project development procedures."*
- *"The public and stakeholders have been provided an opportunity for public hearing" or "notified and provided a 30-day opportunity to comment".*
- *"Environmental analysis indicates impacts will be insignificant or may be mitigated."*
- *"Traffic analysis has addressed mainline and ramp traffic volumes and vehicle types (auto, commercial trucks, buses) for the rest area and adjacent rest areas in the system."*
- *"The CHP Division level office has been provided an opportunity to comment on the proposed closure."*
- *"Route-segment accident and roadside parking history has been investigated and addressed."*
- *"The resulting gap in rest area spacing has been addressed relative to spacing guidelines in the statutes and the Safety Roadside Rest Area System Master Plan."*

[7] "Project Development Procedures Manual, Chapter 29, Section 3, Article 4 Closure" March 04, 2010, California Department of Transportation; Available online at: http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt29.pdf

- *"Availability of alternative safe and free parking and restroom opportunities has been addressed."*
- *"Alternatives such as replacement, relocation, and operation by others have been considered."*
- *"The FHWA has been provided an opportunity to comment on the proposed closure and potential reimbursement requirements."*
- *"The District Director finds and recommends that rest area closure will not reduce traveler safety."*
- *"The Rest Area Program Manager (Chief, LAP) concurs that the rest area closure will not significantly impact the rest area system, and amends the current Safety Roadside Rest Area System Master Plan."*
- *"The CTC [California Transportation Commission] concurs with the action."*
- *"The District Director should find that the rest area closure will not impact the function of adjacent rest areas. Consideration should be given to potential impacts to rest areas in adjacent districts or states."*

The SRRAs that are identified as potential candidates for closure in this report must ultimately be evaluated against the above criteria to determine whether the closure will be desirable and possible. More specifically, the types of closures at the SRRAs identified as potential candidates for closure in this report would fall either under the economic or permanent closure type and would therefore need to follow the standards for those types of closures outlined in the PDPM and Maintenance Manual. Caltrans has developed an additional set of guidelines and decision making processes for each of the three general types of closures to be followed when considering the closure of a particular SRRA. These decision making guidelines have been included in the Appendix of this report under Section B. SRRA Closure Guidelines.

B. STRATEGIES TO IMPROVE THE SRRA SYSTEM

This portion of the analysis focuses on the use of public/private partnerships as a key strategy to enhance the statewide rest area system in California. The objective is to capitalize on the potential for public/private partnerships to simultaneously expand rest area services in California while reducing development and maintenance costs to the state. Although a few have been attempted, such partnership models have not yet been implemented in California. However, considering California's budgetary challenges, the use of public/private partnerships to develop new and improve existing rest area services appears to be a timely and appropriate strategic focus. In addition, as a strategy for creating additional cost savings to the state, this analysis also identifies rest areas judged to be underutilized and therefore represent those which are potential candidates for closure, conversion, or replacement by partnerships SRRAs.

Rest area partnerships can generate cost savings to the state in two ways. First, by reducing the cost to design and build a new rest area (which includes land acquisition, design/permitting, and construction costs), and second by reducing annual rest area operating and maintenance costs.

Instead of the state having to fund the capital and operating costs, some or all of these expenses might be covered by the private partner in exchange for the rights and privileges of being designated as a state sanctioned partnership rest area and being signed as such. In some cases, a partner might even operate on Caltrans controlled property.

A critical issue which will be discussed in greater depth in the subsections that follow is the need to create sufficient incentives to encourage private sector participation. Without such incentives, private operators will not be interested in partnering. This will be one of the primary challenges to successfully implementing public/private partnerships for providing rest area services.

The following subsection summarizes the different types of partnerships that Caltrans might engage in.

1. Public/Private Partnership Models

Allowing a private partner to operate some form of profit-generating commercial services within a rest area would be the only practical way of inducing a private entity to partner with Caltrans on such a project. Certainly, the most desirable location for a private entity to operate commercial services would be within the highway right-of-way, such as at an existing rest area located along the highway mainline. Being located within the mainline highway right-of-way would provide the partner with the competitive advantage of superior access to and visibility of the facility from the highway compared to an offline location, such as operating adjacent to an interchange. However, providing commercial services *within* a highway right-of-way that was even partly funded with federal money is expressly prohibited under the Randolph-Sheppard Act. Therefore, all of the public/private partnerships models that would be practical to implement would necessarily need to be outside most highway right-of-ways.

Partnership on *Publicly*-Controlled Land: Under a partnership arrangement where Caltrans would control the land – either through fee simple ownership or a long-term lease – a private partner might enter into a lease and share responsibility for developing, operating and/or maintaining the site and facilities. The private partner would be able to operate commercial services onsite, such as food/beverage, retail, fuel and perhaps other appropriate traveler-related commercial services. Caltrans would review and approve the private entity's facility design and services operations, incurring the design and operations conformed to the Department's standards.

In this partnership model, the benefits to the private partner would include (a) not having to purchase costly freeway frontage property, (b) obtaining a designation and highway signage as a state-sanctioned partnership rest area, and (c) possibly other incentives and financial benefits that the state might provide, such as a property tax exemption or favorable lease terms, such as perhaps low or no lease fees, and a long-term contract. However, the private partner would sacrifice long-term control of the land through ownership and would in most cases need to make some amount of financial contribution to development, operation, maintenance or instead make lease payments to the state. In this partnership model, Caltrans would benefit by (a) not having to fund all of the design, construction of an expensive traditional rest area, (b) save on annual rest area maintenance costs, and/or (c) receive income in the form of lease payments from the private partner.

Partnership on *Privately*-Controlled Land: Under this arrangement, Caltrans would become the lessee, presumably yielding benefits to the private partner, which might be as much as partial funding of the development and maintenance (or an annual fee), or as little as simply providing designation and signing as a state-approved rest area. In this case, Caltrans would sacrifice long-term control of the land, and therefore a long-term guarantee of rest area services at the partnership location, either upon the expiration or early termination of the contract, such as in the event the private operator were to go out of business.

Commercial Services Rest Areas & Related Facilities: Over the last decade, there have been numerous attempts by states to overturn the federal ban on allowing commercial services at rest areas located within the highway right-of-way, but with no success. The primary reason for this failure to overturn the ban on commercial services and consequently to implement successful public/private partnerships has been the intense lobbying pressure exerted by truck stop and other highway commercial industry groups, including most prominently the National Association of Truck Stop Operators (NATSO). NATSO and its associated industry groups have successfully blocked all attempts by states to overturn the ban on commercializing rest areas, believing that their members' interests would be threatened, as the development of online rest areas offering commercial services would take customers away from existing highway commercial business located outside the highway right-of-way, including especially at interchange locations.

In addition, previous research investigating whether the FHWA SEP-15 program could be used in waiving the prohibitions on permitting commercial services at online rest areas under public/private partnership demonstration projects found that such projects would likely not be approved due to the historically strong opposition to rest area commercialization emanating from a range of sources. Therefore, developing rest areas under public/private partnerships within the mainline highway right-of-way under SEP-15 is not likely to be a realistically achievable option in the near or distant future.

However, the prohibition on offering commercial services at rest areas only applies only to rest areas located *within* the right-of-way of the federally-funded highway mainline. Therefore, locations *outside* the mainline highway right-of-way are potential areas where public/private partnership rest areas offering commercial services could be developed on state owned/controlled land. For example, at locations where Caltrans owned/controlled land adjacent to the highway, such as near interchanges, this property could be leased to a private entity that would develop and operate a commercialized rest area at this location.

Another variant of this partnership option includes developing public/private partnership rest areas on land *leased* instead of owned *by* Caltrans, which could then be subleased to a private partner. One way in which this partnership option might be implemented is in the case where Caltrans leased vacant land adjacent to a private partners' operation, which could be used to provide additional parking for automobiles and trucks/buses. In this case, Caltrans might lease the vacant land and sublease the land to a private partner, who could use the area to expand its parking capacity. The incentive for the private partner to participate in this arrangement would be the increased traffic to the facility induced from being designated and signed as a state sanctioned partnership rest area and by offering greater parking capacity on site, both of which would tend to increase traffic and therefore sales at the partner's establishment. Caltrans would incur the expense

of leasing the land adjacent to the commercial operator, which would entail significantly less expensive up-front cost, but greater cost in the long run, since the lease fee would presumably provide a reasonable return to the lessor/land owner. Still, the net cost might be less than the combined cost of purchasing the land and developing a traditional state owned/maintained rest area at this location.

The most practical approach to implementing a public/private partnership on land controlled by either Caltrans or a private entity, is either through an Interstate Oasis model or an Alternative Rest Area Stopping Opportunity (which is very similar to an Interstate Oasis but on a non-Interstate highway), or an Auxiliary Parking Facility.

- **Interstate Oasis** (Oasis): Federally-approved public/private partnership, as defined by the FHWA, and limited to commercial services rest areas accessible from Interstate highways located outside the right-of-way.

- **Alternative Rest Area Stopping Opportunity (ARASO):** A public/private commercial rest area, as defined in the California PDPM, similar to an Interstate Oasis, but located along *non-Interstate* highways. Although the PDPM title is used in this report, an alternative title is recommended, such as State Traveler Services Parking Area or Facility. The reason is that FHWA might prohibit use of the terms "rest area" or "rest stop" for any facility other than a traditional state-owned/operated SRRA without commercial services. Similarly, the FHWA may also restrict use of the term and signing "Interstate Oasis" or "Oasis" exclusively to commercial operations located near Interstates and meeting FHWA Oasis criteria. This type of parking facility would presumably have its own identifiable sign/logo to distinguish it from an Interstate Oasis.

- **Alternative Stopping Opportunity (ASO):** Highway commercial enterprises providing food/beverage, fuel, and other traveler-related services within ¼ mile of a highway or highway interchange. ASOs do not have a partnership agreement with Caltrans and have not been approved or designated as a type of rest area facility.

- **Auxiliary Parking Facility (APF):** A location providing vehicle parking along a segment of highway where additional parking is needed to supplement the parking available at one or more nearby SRRAs, especially to provide longer-term parking. APFs are defined in the California Highway Design Manual as: *"…parking areas and restrooms provided by or jointly developed and operated by partners (such as existing or new truck stops, or at other highway oriented commercial development). These are for longer-duration stops and overnight parking, primarily for commercial vehicle operators. These facilities are located outside of freeway right of way, within one-half mile of the freeway."*

  Therefore, although the definition of an APF encompasses both of the Interstate Oasis and ARASO public/private partnership concepts indicated above, it is distinguished in this report to refer exclusively to parking facilities which meet the definition, but do not include an Interstate Oases or ARASOs.

The specific and detailed criteria for each of these three partnerships are discussed in detail elsewhere in this report.

These three models are similar in that they involve partnering with an existing or possibly new private enterprise, at a location outside of the highway right-of-way, on property that is generally owned by the private partner but might be controlled by Caltrans, and are signed according the state signing program.

Caltrans might pursue any or all three partnership forms by developing formal programs and inviting proposals which meet the relevant development and operating criteria. The incentive for private sector participation is the advantage of obtaining designation as a state-approved Oasis, ARASO, or APF and highway signing expected to attract additional travelers to the private operators' establishment.

The incremental cost to the private partner to obtain an Oasis, ARASO, or APF would depend on the extent to which to operator's facilities and operations already met the established minimum criteria. If a private partner already met most of the basic criteria, the potential additional cost of obtaining designation and signing might merely include (1) parking/restroom expansions, if any, (2) the cost of preparing a proposal to apply for the relevant designation, and (3) perhaps the cost of the highway signing, assuming Caltrans were to charge for this.

The costs to Caltrans of instituting any of the programs would include (1) the cost of soliciting and reviewing proposals, and processing designations, (2) the cost of manufacturing and erecting the highway signs, and (3) the cost to administer the program, presumably to monitor for contract compliance. However, some or all of Caltrans costs might be passed on to private partners as either a one-time application fee and/or a fee from successful applicants.

Although prospective Oasis partners in other states have expressed an interest in the program, actual benefits to the private partner have not yet been demonstrated, and Caltrans might expect some reluctance and skepticism from the private sector regarding the value of participating in such a program. Therefore, Caltrans should initiate the programs where competition for designation and signing is expected to be greatest and the requirement for private investment the lowest.

Public/Public Partnerships: A conceivable alternative partnership model might involve Caltrans partnering with another public sector agency such as federal, state or local government entities and even a non-profit group to share in the development, operation, and maintenance of SRRAs or Oasis/APF-type facility. In the current economic climate, no public agency or non-profit would be likely to contribute much, if any, funding to such a partnership. However, some might have excess parking capacity and restrooms they would be willing to share in exchange for the benefits the additional traffic might generate.

For example, Caltrans might work with local municipalities or community organizations, particularly in remote areas, where the additional stopping traffic might yield greater traveler spending on local goods and services. Where facilities already exist, such as at a visitor center, Chamber of Commerce, or municipal park, Caltrans might not need to contribute much if any funding to develop or maintain new or additional parking or restroom facilities. A similar arrangement might be made with a state agency, such as the California Department of Parks and

Recreation, who might be eager to share the cost of upgrading and/or maintaining existing parking areas and rest rooms.

Caltrans might also partner with non-profit organizations, such as California Welcome Centers who have developed and maintain parking areas and restrooms and might be eager for the additional patronage a rest area service might generate.

2. Challenges to Developing Public/Private Partnerships

This section summarizes the key legal, policy, and stakeholder challenges to developing rest area services under public/private partnerships in California.

Federal and State Laws. As previously noted, the federal prohibition against developing commercial services within the federally funded right-of-way specified under U.S.C Title 23 Section 111 remains the single greatest legal barrier to developing SRRAs operated under public/private partnerships. Given the intensity of past lobbying efforts by industry groups led primarily by NATSO, it is very unlikely that Section 111 will be overturned or waived in the near future. This effectively prohibits states from developing public/private rest area partnerships *within* the right-of-way of federally funded highways.

As one might expect, California laws governing the development and operation of SRRAs generally conform to and reflect federal statutes. However, there is one provision within California law which provides an additional legal challenge to developing public/private partnership rest areas. California Welfare and Institutions Code, Article 5, Section 19625, which governs the implementation of the Randolph-Sheppard Act in California, requires that:

- Blind vendors shall be given priority to operate vending facilities on state property.

- Under Article 5, Section 19625(a) "State property" is defined as "*all real property, or part thereof, owned, leased, rented, or otherwise controlled or occupied by any department or other agency or body of (the) state.*"

- Under Article 5, Section 19626 of the Welfare and Institutions Code "vending facility" is defined as "*a location which may sell, at wholesale or retail, foods, beverages, confections, newspapers, periodicals, tobacco products, and other articles or services dispensed automatically or manually and prepared on or off the premises in accordance with applicable health laws.*" In addition, Section 19626 states that vending facilities "*may consist, exclusively or in appropriate combination, of automatic vending machines, cafeterias, snack bars, catering or food concession vehicles, cart service, shelters, counters and any appropriate equipment as the director may by regulation prescribe as being necessary for the sale of the articles or services described in the first paragraph of this section.*"[8]

Therefore, considering:

[8] California Welfare and Institutions Code, Article 5, Section 19625 can be found online at: http://law.justia.com/california/codes/wic/19625-19641.html

(1) The requirement that the state give priority to blind vendors to operate vending facilities on state property,

(2) That "state property" would include land or facilities, not only owned or controlled by the state, but also leased or rented, that might pertain to land or facilities used under a public/private partnership Oasis, ARASO, or APF, and

(3) That a "vending facility" may consist of significantly broader types of commercial operations than just vending machines – the sale of food and beverages at "cafeterias" and "snack bars" might be interpreted to include those at prospective Oasis, ARASO or even APF partnerships.

Therefore, where Caltrans might seek to develop public/private partnerships at off-line locations (e.g. on land adjacent to an interchange) using land that was owned, leased, or otherwise defined to be controlled by the state, Caltrans might be required to engage a partner who would either be, or contract with, a blind operator for the commercial services considered to be "vending facilities." **This would present such a significant obstacle that it is likely to preclude a partnership with any existing private enterprise that did not already qualify.** Therefore, two key issues ought to be resolved. One is regarding the extent to which the concept and definition of a "vending facility" under California Law might be applied to the commercial services provided at a public/private partnership Oasis, ARASO or APF, which typically would include food and beverage services and/or convenience store/retail services. It appears that food and beverage and retail services might be included in the definition of "vending facility" as defined under Section 19626. The other issue is what might constitute "state property." It would *not* seem that a private partner, merely by agreeing to meet the *operating* requirements of an Oasis, ARASO or APF program, and Caltrans judging qualifications and granting a designation, would be interpreted as Caltrans owning, leasing, renting, or occupying the private partner's real property. However, it might not be clear whether by granting such a designation Caltrans might be exercising sufficient *control* over the partner's real property that the partner's real property should be interpreted as being "state property" under Article 5, Section 19625(a). One would think that approval of operating standards would not constitute real property ownership, just as the State Department of Health's approval of a restaurant's operations does not constitute state ownership.

It is recommended that Caltrans seek a judgment on these two issues prior to pursuing public/private partnerships, especially if such a partnership might be sought on state controlled property.

Contracting Options for Different Land Ownership Scenarios. Caltrans is legally limited in the range of contracting options that it can engage in depending on different land ownership/site control scenarios. The following summarizes rest area site control scenarios and an understanding of Caltrans' legal authority under each scenario, each of which are recommended for review by the Department's legal counsel.

- **Caltrans Owns the Site.** In the case where Caltrans owns the land, the Department has the authority to lease out the site (ground lease) to a private partner.

- **Caltrans Leases the Site.** Section 104 of the California Streets and Highways Code allows Caltrans to lease private land. However, Section 104 is *silent* on whether Caltrans could then *sublease* to a private partner.

- **Private Partner Owns/Controls the Site.** Under this more likely public/private partnership scenario, Caltrans could enter into an agreement with a private operator at a site Caltrans did not own or lease (e.g., under an Interstate Oasis partnership). However, it is not clear what requirements Caltrans has to enter into an agreement. Under some conditions, projects must be competitively bid by three or more prospective bidders. Sole-source partnership would not be permissible under current law. However, it would seem that Caltrans does not need to seek competitive proposals if all private entities who meet the qualification terms are granted a qualification designation and signing, such as under the federal Interstate Oasis qualification terms. In that case, bidders are not competing with each other; they are merely seeking confirmation that they meet qualification standards, and all who do are granted designation and signing.

Caltrans Funding Limitations. Caltrans must comply with the following legal restrictions regarding the funding of public/private rest area partnerships:

- **Caltrans Funded Improvements on Privately Owned Land.**

    - Under scenarios where Caltrans does not own the land, the Department could not provide any funding for the construction of *private commercial facilities* – i.e. restaurants, fuel stations, convenience stores, etc.,
    - Under scenarios where Caltrans does not own the land, any improvements to the *public portion* (i.e. non-commercial rest area facilities) of the site funded by Caltrans would likely require a clause within the agreement that stated a right for Caltrans to recover the remaining dollar value of the improvements when the agreement expired or was terminated. Such a clause would be needed to comply with Article 16, Section 6 of the California Constitution (i.e., the "Gift of Public Funds Clause") which prohibits gifting of public funds to a private entity.
    - However, neither of the two above conditions is likely to apply to the public/private partnership programs identified. For a private partner to qualify for an Oasis, ARASO, or APF designation, it is unlikely that Caltrans would need to fund any improvements.
      However, if any off-site capital improvements, including site access or utility improvements might be needed, Caltrans could fund those improvements under all land ownership scenarios.

- **Caltrans Funding Responsibilities.** Caltrans indicated that if the Department were required to fund any portion of onsite improvements for a partnership SRRA project, this would trigger a requirement that the Department design and build the *entire* SRRA facility. If correct, this requirement could substantially increase the cost to develop partnership SRRAs in cases where Caltrans onsite funding is required to make the project financially feasible. However, all three types of public/private partnerships are possible without a

requirement for onsite improvements, let alone funding of any such improvements by Caltrans.

Contracting Authority to Develop Public/Private Partnerships. Regarding the development of an entirely new public/private partnership SRRA, the preferred strategy is for the private partner to design and construct the facility conforming to Caltrans' building/design criteria. Although this strategy has been found to be complicated by the State's restrictions on the ways in which the project must be designed and constructed, it will pertain in relatively few cases, and none of the three public/private partnership strategies identified above would necessarily require new design or construction, let alone on land controlled by Caltrans.

However, in the situations where Caltrans were to seek a public/private partnership on Caltrans controlled land, a 2006 memorandum by Caltrans' Deputy Chief Counsel Thomas C. Fellenz should be noted. In that memorandum Mr. Fellenz expressed a legal opinion that, the "*Streets and Highways Code section 226.5 does not authorize the Department to solicit design-build proposals for demonstration roadside rest area units"* and that *"the Department does not currently have any other design-build authority which can be invoked for the demonstration roadside rest area projects."*[9]

Mr. Fellenz concluded that Caltrans must itself perform or procure the (a) design, (b) construction, and (c) maintenance/operations *in three separate efforts*. The California Public Contract Code (Section 10, Part 100) also mandates that Caltrans design and bid the construction of such projects.

In his conclusion, Mr. Fellenz offers Caltrans the following contracting options:

(1) Issue three separate contracts for design, construction, and operation/maintenance,

(2) Seek design-build authority with legislation to change Section 226.5, and/or

(3) Do the first and second simultaneously, or

(4) Caltrans could assume authority exists to enter into design/build contracts under Section 226.5, solicit proposals, and then defend against legal challenges, if there are any. It was judged that if no one had any reason to challenge the design-build procurement, option (4) would succeed. However, it would leave open the possibility for anyone unsatisfied with the project to try to obstruct it.

However, Mr. Fellenz' conclusions would not appear to pertain to the predominant partnership scenarios available to Caltrans, namely:

- Designation of a previously developed commercial site as an Oasis, ARASO, or APF.

For the case where Caltrans controls the land, Caltrans has not provided a definitive judgment on the design/build contracting issue. If it is determined that Caltrans cannot allocate design and construction responsibility to the private partner under any circumstances, and has to engage three separate contractors to design, build, and operate the SRRA, that approach might still work,

[9] "Memorandum" from Thomas C. Fellenz to Keith Robinson, "Legal Opinion – Rest Stops", September 18, 2006.

although it would be a more expensive alternative to allowing the private partner to perform all of those services.

Substantial costs savings would likely result if the private partner were able to design and construct the SRRA instead of Caltrans. The savings would be due to three factors. First, when Caltrans designs SRRA facilities, the Department seeks to minimize its annual maintenance costs by designing and constructing a very robust and therefore expensive structure. Second, Caltrans requires that union labor perform the construction. Third, significant administrative costs for land acquisition, design, construction and project development supervision can be assumed by the private partner. In addition, Caltrans will devote much more time to those efforts than will a private partner. For these reasons, it is recommended that Caltrans seek to give design-build responsibility to the private partner.

3. Strategies for Implementing Public/Private Partnerships

This section provides recommendations and strategies to overcome the challenges to implementing public/private partnerships in California. The strategies are intended to yield successful partnerships for all four types of public/private ventures, including Commercial Lease SRRAs on Caltrans-controlled land, Interstate Oases, Alternative Rest Area Stopping Opportunities (ARASOs), and Auxiliary Parking Facilities (APFs), which might be pursued under the new SRRA master plan.

Due to federal prohibitions against developing commercial services on federally funded highway right-of-way and opposition by powerful industry lobbying groups, it is recommended that Caltrans:

- **Seek to implement public/private SRRA partnerships which offer commercial services exclusively at off-line locations, outside the highway right-of-way.**

Of the four models discussed in the preceding sections, including leases on Caltrans-controlled land, Interstate Oases, Alternative Rest Area Stopping Opportunities (ARASOs), and Auxiliary Parking Facilities (APFs), the Interstate Oasis model is judged not only to be the most effective in achieving rest area objectives, but also to be the least restricted by current California law and policies and therefore offering the best chance of being successfully implemented. This is particularly true, because this model is supported by powerful industry groups, including especially NATSO, that have been so successful in defeating past efforts to develop partnership SRRAs nationally. Therefore, it is recommended that Caltrans:

- **Emphasize efforts to develop Oasis-type partnerships, particularly focusing on the Intestate Oasis Program, as the primary form of rest area public/private partnerships developed at off-line locations,**

- **Modify California law where necessary to conform to the Federal Interstate Oasis Program and enable the most cost-effective procurement and contracting system for the lease model.**

- **Adapt policies to implement the Federal Interstate Oasis Program as written.**

- **Adopt strategies to minimize interest group opposition, for example by restructuring the Alternative Rest Area Stopping Opportunity signing program specified in the PDPM to closely resemble the Federal Interstate Oasis Program's signing program.**

By adopting these recommendations, Caltrans will enhance its potential for partnering with both existing and prospective commercial enterprises along its highways to provide motorists with rest area services in various forms, and especially an Oasis-type partnership, judged to be the most readily implementable and cost-effective.

Since Oasis-type partnerships have not yet been implemented, it is recommended that Caltrans:

- **Initiate an Oasis pilot program by developing the necessary policies, rules and regulations, etc. at a select few sites considered to offer the highest probability of success and greatest benefit to the state and motoring public.**

In this initial effort, Caltrans should:

(1) Compile compelling evidence that an Oasis designation and signing on the Interstate will effectively attract significant numbers of stopping motorists and induce visitor spending - including data obtained from other states and from monitoring Caltrans' own pilot program.

(2) Use the information obtained to promote the Oasis program and plan Oasis parking and service needs.

(3) Gather data on travelers' attitudes toward and use of Oasis facilities.

(4) Monitor partners' reactions to the program.

(5) Adapt subsequent program implementation methods, as appropriate, based on the above information.

To maximize the private sectors interest in participating in the pilot Oasis program and to promote the public use of Oasis sites, it is recommended that Caltrans implement the following strategies:

- **Develop a marketing and outreach plan.** While implementing the pilot Oasis program it is highly recommended that Caltrans simultaneously develop a marketing plan and engage in targeted outreach to educate the public and especially prospective users and partners, about the program. This effort should include:

  - Promote the program with representatives of key industry groups/associations whose support of the Oasis program is critical, including especially the National Association of Truck Stop Operators (NATSO), whose constituents are especially likely to become Caltrans' Oasis partners.

  - Development of a webpage on the Department's website which provides an overview of the program including - how private operators can apply to become partners in the program, program policies/regulations, maps showing prospective Oasis locations, and other pertinent information.

- Development of a separate webpage on the Department's website that includes an interactive map and information about Oasis and SRRA facility amenities (including commercial services) statewide, which would enable free interactive access in real time by mobile web devices such as smart phones, laptops, tablets, and vehicle navigation systems.

- Work with other state government agencies, such as the California Travel and Tourism Commission, Cal Parks, the Department of Motor Vehicles, to learn of and distribute information about the program.

- Work with California Welcome Centers, chambers of commerce, regional visitor and convention bureaus, and auto, auto and truck/bus transportation organizations (CSAA, California Trucking Association, and others) to provide travelers with information about the program.

- **Seek initial private Oasis partners whose existing facilities are adequate or nearly adequate** and therefore require minimal capital improvement investments to meet Oasis requirements **(**such as parking and/or restroom expansions).

- **Keep fees for private partners to participate in the program to a minimum.** It is recommended that Caltrans not charge any fees, at least initially, for private partners to apply for or participate in the program - such as for signage or site access improvements.

- **Develop the first Oasis-type partnerships exclusively along Interstate highways**, strictly adhering to FHWA Interstate Oasis program criteria and principles, and thereby minimize potential interest group opposition.

These strategies are intended to provide the greatest incentives to prospective private partners to participate in the Oasis program, and therefore offer Caltrans the best chances for program success.

An effective marketing and outreach program will represent an excellent investment in the Oasis program, since informing potential Oasis visitors will serve to entice prospective partners' participation in the program. If potential partners believe that their location will be seen on various media outlets in different locations, this can add significant value to being designated as an Oasis. Mobile real-time access to web-based technology, including maps and site facility information, will be an especially important means to promote the Oasis program at relatively low cost.

An Oasis-type partnership would be as effective as a Commercial Leased SRRA in providing convenient and extensive rest area services. However, it would be much more effective in minimizing not only Caltrans' capital and repair and maintenance costs, but also its time for implementation. However, the Oasis model offers Caltrans only a contractual control of the site, and therefore does not provide the long-term control offered by a Commercial Lease SRRA. Therefore, if Caltrans' highest priority is to control the site over the long-term, but not necessarily to minimize capital and maintenance costs or expedite project implementation, Caltrans should:

- **Acquire the site and implement a procurement process for a lease with a private partner who would design, develop, operate and maintain the commercial services rest area to Caltrans' specifications.**

As previously discussed, given the apparent requirement for Caltrans to design and build the SRRA facility when the Department funds any onsite improvements, every effort should be made to restrict Caltrans' funding responsibility to the design and construction of o*ff-site improvements*, namely the access improvements and bringing utility services to (not into) the site. Avoiding the funding of onsite improvements would substantially reduce Caltrans' share of SRRA development costs, as doing so would avoid triggering the Department's requirement to design and build the *entire* SRRA facility should the Department fund *any* onsite improvements.

Therefore, it is recommended when pursuing a Commercial Lease SRRA that Caltrans should favor selecting sites where:

- **Caltrans' share of the capital costs would be limited to making off-site access improvements, bringing utility services to the site, possibly preparing the site for development, but making design and construction of all on-site improvements entirely the partner's responsibility.**

There is still some uncertainty about Caltrans' ability to lease land for a Commercial Lease SRRA rather than own it. If Caltrans were to consider such a lease arrangement, it is recommended that Caltrans seek clarification regarding its ability to sublease the land to a private operator under Section 104 of the California Streets and Highways Code. Specifically, it is recommended that Caltrans determine if the Department could:

- **Sublease land or otherwise transfer use of land leased by Caltrans to a private operator for development of public rest area facilities, including the development of parking lots and restrooms onsite.**

To maximize a private partner's potential capital contribution under a Commercial Lease SRRA, Caltrans should maximize the private partner's ability to sell traveler-related items and services, and therefore maximize its revenues and profits. Therefore, Caltrans should:

- **Permit the commercial partner to sell fuel, food & beverages, and retail merchandise, offer advertising for local business/attractions and other secondary services, provide ATMs and sell lottery ticket sales.**

Caltrans should consider all possible contractual incentives permitted by law that will help attract private sector partnership interest. Therefore, Caltrans should:

- **Offer as many favorable contract terms as possible, such as a very long term lease, low lease rates and annual rate escalations, and property and other tax exemptions which in combination enable the private partner to realize a reasonable internal rate-of-return. Additionally, Caltrans might guarantee not to enter into other leases or forms of rest area partnership arrangements within some stated distance and for a stated period of time.**

If Caltrans opts to enter into a lease or other agreement with a private partner who would either (a) expand a previously developed commercial site or (b) develop a new site, Caltrans should:

- **Specify that the private partner design and construct all facilities, including the public facilities, according to Caltrans' requirements.**

Should Mr. Fellenz' legal judgments apply in the case where Caltrans seeks to develop an undeveloped site for a Commercial Lease SRRA, recognizing that a private partner would prefer to design and contract for the construction of the commercial facilities, of the four contracting options that Mr. Fellenz suggests are available to Caltrans, it is recommended that Caltrans:

- **Assume authority exists to enter into a design/build contract under Section 226.5, solicit proposals, and then defend against legal challenges, if any should arise.**

If blind vendors are to have priority to sell retail goods and food and beverages under any of the types of public/private partnership arrangements described in this report, it would make such partnerships very difficult, if not impossible, to implement. In particular, if Caltrans had to require an *existing* enterprise to alter its operations to engage a blind vendor, this would very likely exclude the possibility of engaging an existing enterprise under an Oasis, ARASO or APF agreement. Therefore, Caltrans should clarify:

- **Which, if any, of the four public/private partnership arrangements described here (Commercial Lease SRRA, Interstate Oasis, ARASO, or APF) constitute state control of the property as pertaining to its requirement to give priority to blind vendors to operate vending facilities.**

If it turns out that Caltrans does have such an obligation to blind vendors:

- **Caltrans should negotiate with a representative of the blind vendors (perhaps the Randolph-Sheppard Vendors of America) to find a compromise that would satisfy their desires while enabling implementation of public/private partnerships, perhaps by adding or expanding vending machines at an online SRRA.**

These recommendations should be adopted and implemented when developing public/private partnership SRRAs at locations identified in this report.

III. RECOMMENDATIONS FOR EXISTING SRRAS

A. CRITERIA USED TO EVALUATE EXISTING SRRA LOCATIONS

This section summarizes the findings and recommendations for all 87 rest areas on the following California highways.

- Interstate 5
- Interstate 8
- Interstate 10
- Interstate 15
- Interstate 40
- Interstate 80
- Interstate 280
- U.S. Highway 97
- U.S. Highway 101
- U.S. Highway 199
- U.S. Highway 395
- State Highway 36
- State Highway 44
- State Highway 46
- State Highway 58
- State Highway 70
- State Highway 99
- State Highway 111
- State Highway 299

The findings and recommendations for each rest area are presented by highway route in the subsections that follow. In each subsection, a summary table presents key characteristics for each rest area located on the particular highway route, including levels of SRRA use, estimated parking deficiencies, distances between SRRAs and alterative stopping opportunities, the level of alternative stopping opportunities in the region, and the rural/urban nature of the SRRA location. The following criteria were considered when analyzing existing SRRAs:

Average Annual Daily Traffic (AADT). The average annual daily traffic estimates provided by Caltrans reflect estimates of average 24-hour bi-directional traffic volumes on highway routes maintained by Caltrans. AADT levels at interchange/count locations closest to a given rest area were used to understand the average volume of traffic passing by the SRRA each day and therefore provide an indication of the service potential for each SRRA. All else being equal, an SRRA located on a route with higher AADT has a greater potential to serve a higher number of users. Since the primary objective of an SRRA is to provide a safe and secure place for fatigued drivers to stop and rest, SRRAs that have the *potential* to serve a greater number of users should be seen as providing a higher level of public value compared to SRRAs on routes where AADTs are considerably lower. In this study, route AADT ranges from 132,000 on I-5 near Aliso Creek to 1,200 on U.S. 395 near Secret Valley SRRA, with an average AADT for all SRRA locations of roughly 30,000.

Level of SRRA Use. Traffic surveys were performed at SRRAs to generate a direct count of the number and type of vehicles entering each SRRA. Where counts were not performed directly, traffic count data from recent past surveys was provided by Caltrans. The traffic counts were performed at 63 SRRAs over a continuous seven day period for 24-hours per day. Vehicle counts were classified according to the FHWAs vehicle count classification scheme. The average number of vehicles entering SRRAs over the 7-day period ranges from 3,007 vehicles daily at Aliso Creek North Bound SRRA on I-5 to 56 vehicles daily at Two Rivers SRRA on State Route 111. Based on the vehicle count surveys performed as part of this analysis and available counts from previous surveys performed by Caltrans, at each of the 87 SRRAs, on average 74% of vehicles entering SRRAs are autos and 26% are trucks and buses.

In addition, surveys which counted the number of people in vehicles using SRRAs were conducted at Aliso Creek South Bound (I-5), Weed Airport North Bound (I-5), Valley Wells West Bound (I-15), Bogard (State 44), and Division Creek (U.S. 395). The user surveys were performed over a 24-hour period for one weekday, one weekend day, and one holiday.

Obviously SRRAs with greater vehicle counts indicate locations where the demand for rest area services is high and therefore reflect locations that provide a high degree of value within the statewide rest area system. Conversely, rest areas with lower vehicle counts serve fewer travelers and have a relatively lower value in terms of the absolute number of travelers served. However, since SRRA use is only partly related to AADT levels on the route on which the SRRA is located use is also related to the proportion of passing vehicles that actually stop at the rest area, or the *stopping factor*. The stopping factor is defined as the percentage of route AADT stopping at the rest area on a daily basis and is determined based on the average number of vehicles entering the SRRA over a 24-hour period divided by the route AADT. Stopping factors at SRRAs in California range between approximately 1% at Two Rivers SRRA on State Route 111 to 20% at Bogard SRRA on State Route 44. The average stopping factor for all SRRAs in California is roughly 7%.

The stopping factor must be considered in combination with AADT to judge rest area demand. Stopping factors tend to be higher on routes where there are few alternative stopping opportunities, with high spacing between SRRAs, in a remote location, and where route AADT is low. Conversely, stopping factors are lower on routes with more alternative stopping opportunities, closer SRRA spacing, in more urban locations, and where route AADT is high. One indicator that a rest area is potentially underutilized and therefore would provide less public service value would be on routes where the SRRA AADT is low *and* the stopping factor is low, which indicates that demand for rest area services is low relative both to AADT volumes and in terms of the absolute number of rest area users. Therefore, SRRAs where both the stopping factor and SRRA AADT are low may be candidates for potential closure or conversion to Vista Points, especially if alternative stopping opportunities are located nearby.

Parking Deficiencies and Expansion Potential. Current and future parking needs were estimated based on parking demand equations provided in the Caltrans Highway Design Manual. SRRA parking needs were estimated over a 20-year planning period to the year 2030. Future parking needs were compared to the current number of auto and truck/bus parking spaces at each SRRA and parking deficiencies estimated for both automobiles and trucks/buses. SRRAs requiring additional parking were than analyzed to determine:

- Whether the SRRA could accommodate the necessary parking expansion onsite or,
- Whether additional parking is required to be developed off-site, either at a new SRRA, by expanding the existing right-of-way to accommodate more parking area within the existing SRRA, or by addition of a public/private partnership providing rest area service – i.e., Interstate Oasis, ARASO, etc.

Where additional parking is judged necessary, the area needed to accommodate the additional parking is estimated for new right-of-way adjacent to the SRRA, at a new SRRA location, or alternatively for a public/private partnership. Prospective public/private partnership locations and contact information of potential partners are identified and indicate whether the existing private entities meet the minimum criteria for either an Interstate Oasis or Caltrans' alternative rest area

stopping opportunity designation and in what way, if any, the private entity does not currently meet the minimum criteria.

When identifying private operators with which Caltrans might partner to provide the additional parking required at a nearby SRRA, the parking expansion potential of the private operators' site was evaluated. Where data was available, county GIS websites were used to analyze parcel ownership at the private operator's site to judge whether vacant land adjacent to the site might be owned by the operator and therefore whether parking expansion might be possible without requiring additional land acquisition. However, determining the number of parking spaces and therefore land required at a prospective private partners location is complicated by a number of factors. First, no Oases have been developed as yet and therefore no data is available from which to estimate the stopping factors for such commercial operations outside an Interstate right-of-way, which can often be locations that are less visible and have poorer access from the Interstate compared to an SRRA. Second, since some visitors will use the commercial facilities, the average length of stay at a commercialized rest area might be longer than at an SRRA, parking spaces might turn over slower, and therefore more parking spaces might be required to accommodate the stopping traffic. Third, data was not available for this study indicating prospective private partner's parking occupancies. If unused parking capacity exists, additional parking might not be required. Therefore, the number of parking spaces, or amount of additional land required for parking expansion, at an Oasis/ARASO parking facility could not be accurately estimated. Instead, this study considered (a) whether prospective private partner offer at least the same or more parking than the current and future parking deficiencies at the nearby SRRA being considered and (b) whether the partner owns vacant land adjacent to their site on which additional parking might be developed. Clearly, more information will be necessary before negotiating a partnership arrangement. This analysis merely offers an initial guide to where such potentials exist.

The California Highway Design Manual states that "*the maximum parking capacity for a safety roadside rest area unit should not exceed 120 total vehicular parking spaces"* and that "*if more than 120 vehicular parking spaces are needed, it is advisable to consider the development of additional safety roadside rest areas as identified on the Safety Roadside Rest Area System Master Plan, or development of an auxiliary parking facility.*" Therefore, when estimates of current or future parking needs result in parking levels exceeding 120 spaces, then off-site parking – whether provided via a traditional SRRA or public/private partnership facility – is judged to be required.

Where SRRA parking deficiency was estimated to be only 1-2 spaces by 2030, we did not recommend actions to expand the parking opportunity, unless a very low- or no-cost opportunity was available and the value of the additional parking was high. Where we estimated parking deficits greater than 2 spaces by 2030, we sought to recommend the most cost-effective method of expanding parking, such as where (1) the existing rest area right-of-way would accommodate parking expansion, (2) where low- or no-cost options were available nearby, such as engaging a private partner for development or provision of a parking facility provided under a public/private partnership arrangement (e.g. Interstate Oasis), or (3) locations where Caltrans judged that vacant land adjacent to a particular SRRA might be suitable for acquisition for parking expansion, considering the potential cost of this land.

Our research, which documented evidence of unauthorized truck parking, indicated rest area locations where truck parking demand might already periodically exceed truck parking capacity,

and therefore could indicate a current need for supplemental truck parking near those rest areas. The research also indicated incidences of unauthorized truck parking in areas not served by rest areas, and therefore a need for entirely new sites to accommodate truck parking – such as either entirely new rest areas or utilizing public/private partnerships such as Oasis, ARASOs, or APFs.

In making recommendations regarding the type of parking expansion that Caltrans might pursue at a particular SRRA location, this analysis first considered the total amount of parking deficiencies at the SRRA and whether or not existing developable right-of-way at the SRRA is sufficient to provide the additional parking required. In general, parking expansion onsite within the SRRA is judged to be preferable over other options such as developing an Interstate Oasis, ARASO, or APF in the region, as this option yields the greatest long-term guarantee that parking will be available to the public and provides Caltrans with the greatest level of control of the site. However, in certain instances where the additional amount of parking required to meet forecasted parking demand is relatively high and existing developable right-of-way is insufficient to provide all of the required parking, then a combination of onsite parking expansion and development of Interstate Oases, ARASOs, or APFs is recommended. In cases where there is not only insufficient right-of-way to develop all of the required additional parking, and/or where the parking deficiencies are relatively large, and also costly to develop, the study recommends developing Interstate Oases, ARASOs, or APFs as a means of creating cost savings to the state. Finally, for SRRAs where parking expansion is not possible onsite, and where there are few ASOs available in the region with whom to develop Interstate Oases, ARASOs, or APFs, then it is recommended that Caltrans acquire additional right-of-way to provide the additional parking either on land adjacent to the SRRA or elsewhere in the region.

SRRAs with the greatest parking deficiencies should be considered as priority locations where additional parking should be developed first. A total of 53 of the 87 SRRAs statewide were estimated to have some amount of parking deficiency by 2030, which ranged to as many as 76 spaces and averaged 20 spaces. Auto parking deficiencies ranged up to 61 spaces and averaged 17 spaces, while truck/bus parking deficiencies ranged up to 22 spaces and averaged 8 spaces.

Spacing Between SRRAs. Spacing between SRRAs is a key safety factor when considering the importance of existing SRRAs and planning the location of new SRRAs. Recommendations regarding the optimal spacing distance between SRRAs vary according to the recommending agency, the characteristics of the particular highway segment being considered, and the number, sizes and spacing of alternative stopping opportunities.

Subsection 219(a) of the California Streets and Highways Code states that "*Safety roadside rests should be provided so that, in combination with other stopping facilities, there shall be facilities available at intervals of approximately one-half hour's normal driving time."* This translates to spacing between SRRAs and "other stopping facilities" of approximately 30 miles apart assuming an average speed limit of 60 miles per hour. Importantly, the fact that this guideline states "*in combination with other stopping facilities"* suggests that the recommended spacing could be achieved through a combination of traditional SRRAs plus *"other stopping opportunities,"* which could potentially include Interstate Oases, ARASOs, APFs or other stopping opportunities.

The American Association of State Highway and Transportation Officials (AASHTO), a leading organization providing transportation-related technical and policy guidelines, recommends spacing SRRAs at intervals of 60 miles, yet states that "*professional judgment should be used concerning*

final spacing for their best use. The obvious point from which to assess this spacing is to calculate distance from the previous [rest] *area"*

AASHTO recognizes the difficulty in adhering to a rigid SRRA spacing rule, stating that "*It is difficult to establish a consistent approach to spacing rest areas when availability of potential sites is the controlling factor."* AASHTO suggests the circumstances under which exceptions might be made to the 60 mile spacing rule, including:

- "Near large cities, where sites may not be available",
- "Where costs of acquiring property are prohibitive", and
- "Where motorist services are readily available."

AASHTO concludes that, "*In the final analysis, spacing depends almost entirely on professional judgment."* This study concurs with the AASHTO judgment, given that the need to develop SRRAs will differ from location to location and flexibility in spacing is useful to meet the varied needs of the traveling public.

FHWA's "Non-Regulatory Supplement for Part 752" requires that if Caltrans chooses to abandon an existing SRRA, then the Department must ensure that "*distances between the remaining rest areas are reasonable."* In this case, the FHWA states that "*a spacing of an hour's driving time or less is considered to be reasonable unless an extenuating circumstance can be established."* Considering the average speed along most highways, the hour drive time would tend to translate to a distance of roughly 60 miles, similar to AASHTO's general spacing recommendation.

SRRA spacing is an important safety issue since, all else being equal, the greater the distance between SRRAs on a particular route, the fewer opportunities there are for drivers to stop and rest when fatigued, which in turn has the potential to lead to a greater number of fatigued related traffic accidents. A recent Caltrans study of the relationship between fatigue-related collisions and the provision of SRRAs found that fatigue-related collisions tend to increase beginning 30 miles from SRRAs, suggesting that 30 miles might represent an optimal spacing. However, this study did not state a conclusion regarding optimal SRRA spacing.

In a nationally representative telephone survey of U.S. drivers conducted in the spring of 2010, 41.0% of drivers admitted to having "fallen asleep or nodded off" while driving at some point in their lives, including 11.0% within the past year and 3.9% in the past month. The study found that more than one in four drivers admitted to having driven when they were "so sleepy that [they] had a hard time keeping [their] eyes open" within the past month. The study estimated that 7.0% of all crashes in which a passenger vehicle was towed, 7.2% of crashes that resulted in at least one person being treated for a non-fatal injury, 13.1% of crashes that resulted in at least one person being admitted to a hospital, and 16.5% of fatal crashes involved a drowsy driver.[10] The study's findings highlight the important role that rest areas can play in providing a safe and secure location for tired drivers to stop, rest, and refresh themselves. A clear implication is that an expansion in the number of SRRAs or alternative stopping opportunities, especially in locations that are remote or where few stopping opportunities exist, could help reduce the number of fatigue related accidents.

[10] Brian C. Tefft, Asleep at the Wheel: The Prevalence and Impact of Drowsy, AAA Foundation for Traffic Driving Safety, November, 2010.

In general, the greater the spacing between SRRAs, the more critical the SRRA location within the statewide rest area system, particularly if alternative stopping opportunities are limited in the region between SRRAs. Conversely, if spacing between successive SRRAs on a given route is small and alternative stopping opportunities exist along the route segment, then the SRRA might be considered less of a critical location within the overall SRRA system. Spacing between SRRAs on the same route ranges from 331 miles between Camp Roberts South Bound and Moss Cove SRRA on U.S. Highway 101 and 21 miles between Irvine Lodge and Empire Camp SRRA also on U.S. Highway 101. The average spacing between SRRAs on the same route is 71 miles, slightly greater than the 60 mile/1-hour spacing recommendations by AASHTO and FHWA.

Availability of Alternative Stopping Opportunities. Alternative stopping opportunities (ASOs) play an important role in filling in the gaps in stopping opportunities between SRRAs on a given route. Although long-term parking, 24-hour access, and free use of restrooms are not always provided at the commercial facilities that typically comprise ASOs, in general these facilities still provide important opportunities for travelers to stop, rest, and refresh themselves.

The locations and sizes of (ASOs) - including highway commercial operations, such as gas stations, truck stops, restaurants, etc. – were analyzed in conjunction with SRRA spacing. Distances from a given SRRA to the nearest ASO were estimated using Google Earth.

In reviewing the spacing between SRRAs, this study also examined the location, distance to, and volume of ASOs between the SRRAs. In cases where there are few ASOs between a pair of SRRAs on a particular route, each SRRA plays a relatively more critical role in providing stopping opportunities compared to cases where ASOs exist between the SRRAs. Since long-haul commercial truck drivers require larger parking spaces and seek locations with longer term parking, there are generally fewer ASOs able to accommodate large trucks, suggesting that SRRAs are relatively more important to large trucks even when intermediate ASOs are available.

The distance from SRRAs to the nearest ASO ranges from 0.5 miles north of Coso Junction SRRA to 55 miles west of John Wilkie SRRA. The average distance from SRRAs to the nearest ASO is 13 miles.

Urban, Rural, or Remote Location. Each SRRA was also characterized as being located in an urban, rural, or remote location. This characterization of each SRRA location is based on a review of populations and population densities (i.e., persons per square mile) within a 20 mile radius of the SRRA using U.S. Census data. The proximity of the SRRA to nearby population centers was also analyzed based on a general assessment using Google Earth. Highways running through urban areas typically have more alternative stopping opportunities, greater levels of commuter traffic, less developable or vacant land, and higher land values. For these reasons, highways in more urbanized locations are often less suitable for SRRA development while also having lower demand for rest area services. This judgment is reflected in the Code of Federal Regulations subsection 752.5 (e) which states that "*Proposals for safety rest areas or similar facilities on Federal-aid highways in suburban or urban areas shall be special case and must be fully justified before being authorized by the FHWA Regional Administrator.*" However, subsection 219(b) of the California Streets and Highways code states that "*On highway entrances to large metropolitan areas, safety roadside rests*

may be provided." Therefore, both federal law and California code recognize that there may be a need for SRRAs near large metropolitan urban centers, particularly to serve commercial trucks.

In general, in more remote areas, where there are few and small population centers and where alternative stopping opportunities are limited, SRRAs should be considered more critical to the SRRA system. This is especially true considering that many of the travelers utilizing SRRAs in remote regions will likely have been driving for longer periods of time between breaks, since there are fewer opportunities for travelers to stop and rest. This study classifies 10 SRRAs (11%) as being located in urban areas, 51 SRRAs (59%) located in rural areas, and 26 SRRAs (30%) as being in remote locations.

The following sections present key information and recommendations for each SRRA based on the criteria discussed above.

B. INTERSTATE 5

Exhibit 1 summarizes key use, traffic, and geographical information for each of the 28 rest areas located on I-5. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 1. Key Statistics for SRRAs on Interstate 5

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location?	2030 Parking Deficiency (Spaces)	Type of Parking Expansion[11]
Aliso Creek NB	132,000	2,351	3.6%	147 N/None S	14 N/6 S	High	Urban	None	None
Aliso Creek SB	132,000	3,007	4.6%	147 N/None S	14 N/6 S	High	Urban	None	None
Tejon Pass NB	67,000	2,281	6.8%	53 N/147 S	10 N/1 S	Moderate	Rural	30	Onsite and/or Oases
Tejon Pass SB	67,000	1,730	5.2%	53 N/147 S	10 N/1 S	Moderate	Rural	None	None
Buttonwillow NB	28,000	1,152	8.2%	61 N/53 S	19 N/2 S	Moderate	Rural	None	Onsite
Buttonwillow SB	28,000	1,283	9.2%	61 N/53 S	19 N/2 S	Moderate	Rural	5	Onsite
Coalinga Avenal NB	30,000	1,731	11.5%	66 N/61 S	5 N/1 S	Moderate	Rural	71	New ROW Adjacent and Oases
Coalinga Avenal SB	30,000	1,790	11.9%	66 N/61 S	5 N/1 S	Moderate	Rural	76	New ROW Adjacent and Oases
J.C. Erreca NB	34,000	1,168	6.9%	59 N/66 S	22 N/18 S	Low	Rural	None	None
J.C Erreca SB	34,000	1,206	7.1%	59 N/66 S	22 N/18	Low	Rural	None	None

[11] **Parking expansion terms:** "Onsite" refers to parking expansion within the current-right-of way of the SRRA; "New ROW Adjacent" refers to Caltrans purchasing land adjacent to the SRRA for parking expansion; "New SRRA" refers to developing a state owned SRRA; "Oasis" refers to developing an Interstate Oasis partnership; "ARASO" refers to developing an Alternative Rest Area Stopping Opportunity partnership; "APF" refers to developing an Auxiliary Parking Facility.

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location?	2030 Parking Deficiency (Spaces)	Type of Parking Expansion[11]
					S				
Westley NB	39,250	902	4.6%	112 N/59 S	18 N/4 S	Moderate	Rural	23	Onsite
Westley SB	39,250	1,446	7.4%	85 N/59 S	18 N/4 S	Moderate	Rural	68	Onsite and New ROW Adjacent or Oases
Elkhorn	63,500	778	2.5%	27 N/85 S	2 N/7 S	High	Urban	None	None
Dunnigan SB	30,250	1,319	8.7%	27 N/27 S	10 N/1 S	Moderate	Rural	27	Oases
Dunnigan NB	30,250	980	6.5%	27 N/ 112 S	10 N/1 S	Moderate	Rural	11	Oases
Maxwell NB	24,750	759	6.1%	25 N/27 S	20 N/6 S	Moderate	Rural	1	None
Maxwell SB	24,750	780	6.3%	25 N/27 S	20 N/6 S	Moderate	Rural	None	None
Willows SB	25,100	730	5.8%	25 N/25 S	11 N/5 S	High	Rural	None	None
Willows NB	25,100	697	5.6%	25 N/25 S	11 N/5 S	High	Rural	None	None
LT J.C. Helmick NB	26,750	456	3.4%	22 N/25 S	15 N/1 S	High	Rural	5	Onsite or Oases
LT J.C. Helmick SB	26,750	483	3.6%	22 N/25 S	15 N/1 S	High	Rural	None	None
Herbert Miles NB	36,500	843	4.6%	40 N/22 S	9 N/6 S	High	Rural	12	New ROW Adjacent or Oases
Herbert Miles SB	35,250	793	4.5%	40 N/22 S	7 N/7 S	High	Rural	None	None
O'Brien	19,100	628	6.6%	59 N/40 S	9 N/7 S	Moderate	Rural	28	New SRRA or Oases
Lakehead	17,100	893	10.4%	49 N/49 S	8 N/2 S	Moderate	Rural	11	Onsite
Weed Airport NB	14,700	904	12.3%	33 N/59 S	13 N/6 S	Moderate	Rural	37	New SRRA or Oases
Weed Airport SB	14,700	900	12.2%	33 N/49 S	13 N/6 S	Moderate	Rural	37	New SRRA, ROW Adjacent or Oases
Randolph E. Collier	13,500	817	6.1%	None N/33 S	4 N/10 S	Low	Rural	None	None

The following subsections discuss findings and judgments for each SRRA on I-5.

1. Aliso Creek SRRA.[12]

Aliso Creek SRRA is located in San Diego County near a number of large population centers in what should be considered an essentially urban environment. For example, the cities of Oceanside, Carlsbad, Encinitas, and others are located within 20 miles south of Aliso Creek while the cities of San Clemente, San Juan Capistrano, and others are located roughly 20 miles to the north. The cities of Santa Ana and Irvine are within a one-hour drive north of the SRRA. Aliso Creek serves a highway segment on I-5 with the highest average annual daily traffic (AADT) volumes of all 87 SRRAs considered in this analysis, with an AADT of 132,000 vehicles.

[12] **Note** throughout this section, the reader can hold down the Control key and click the name of the rest area in the heading of each subsection to view a satellite image of the rest area in Google Maps.

Currently Aliso Creek Northbound (NB) has 82 auto and 27 truck/bus spaces for a total of 109 parking spaces, and Aliso Creek Southbound (SB) has 89 auto and 29 truck/bus for a total of 118 parking spaces. There are no estimated current or future parking shortages at Aliso Creek NB or SB. The current levels and mix of parking at Aliso Creek NB and SB are judged to be sufficient to accommodate parking demand for autos and trucks over the 20-year planning period (to 2030). ***Therefore, the current number and mix of parking spaces is judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary at either Aliso Creek NB or SB.***

The closest rest area to Aliso Creek on I-5 is Tejon Pass, which is located 147 miles north. There are no rest areas located to the south of Aliso Creek on I-5. As Aliso Creek is located in an urban environment, relatively high volumes of alternative stopping opportunities (ASOs) exist in the region. The nearest ASOs are located 14 miles north and 6 miles to the south of Aliso Creek. Although the spacing of 147 miles between Aliso Creek and Tejon Pass is substantially greater than the general SRRA spacing guidelines recommended by AASHTO and FHWA of 60 miles or a 1-hour drive, respectively, there are many large communities both north and south of Aliso Creek which provide numerous ASOs at intervals less than 60 miles or a 1-hour drive north and south of Aliso Creek. Considering the location of ASOs along this segment of I-5, the distance between SRRAs and nearby ASOs is in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Traffic surveys conducted at Aliso Creek as part of this analysis found that average daily traffic at the Aliso NB and SB units to be 2,351 vehicles and 3,007 vehicles, respectively. Aliso Creek SB and Aliso Creek NB have the 1st and 2nd highest recorded average daily traffic levels of all SRRAs in California, respectively. This level of use translates into stopping factors of 3.6% and 4.6% for Aliso Creek NB and SB, respectively, which rank as the SRRAs with the 66th and 60th highest stopping factors of all 87 SRRAs statewide. The relatively low stopping factors, which are below the average stopping factor for all SRRAs of 7.0%, are explained by the extremely large AADT volumes along this segment of I-5, the proximity to urban centers with large numbers of alternative stopping opportunities and higher volumes of commute traffic. Approximately 72% of the vehicles entering Aliso Creek NB are autos and 28% are trucks/buses, while 80% of vehicles entering Aliso Creek SB are autos and 20% are trucks/buses. Aliso Creek NB has similar proportions of vehicles entering the rest area as the average proportions for all rest areas of 74% autos and 26% trucks/buses, however Aliso Creek SB has higher than average proportions of auto traffic and lower levels of truck traffic.

Considering the very high average number of vehicles using the rest area on a daily basis, the high route AADT at this location, and considering the location/spacing factors, ***Aliso Creek NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.***

2. Tejon Pass SRRA.

Tejon Pass SRRA is located in a rural region of Kern County, near the northern portion of the "Grape Vine" area of I-5 linking central and southern California. The closest large communities are Bakersfield, located 35 miles to the north, and Santa Clarita which is roughly 40 miles south. Tejon Pass SRRA provides an important resting opportunity for vehicles traveling through the Tejon Pass where road conditions can be dangerous at times, particularly during the winter months when snow,

wind, and rain can create hazardous driving conditions. Tejon Pass consists of two SRRA units serving the northbound and southbound directions of travel on I-5. AADT on I-5 near Tejon Pass is very high at 67,000 vehicles per day.

Existing parking at Tejon Pass NB consists of 76 auto and 44 truck/bus spaces for a total of 120 parking spaces, while parking at Tejon Pass SB consists of 80 auto and 40 truck/bus spaces. Tejon Pass NB has no estimated current parking deficiencies, yet has a projected parking deficiency of 17 auto and 13 truck/bus spaces by the year 2030. Tejon Pass SB has no estimated current or future parking deficiencies, therefore current parking levels are judged to be sufficient to satisfy parking demand for autos and trucks over the next 20-year planning period (to 2030). Based on these findings, current parking levels at Tejon Pass NB will need to be expanded by 17 auto and 13 truck/bus spaces to meet parking demand in 2030, resulting in a total of 150 parking spaces. Caltrans has judged that there is likely sufficient right-of-way at the Tejon Pass NB unit to accommodate the required parking expansion to meet 2030 parking demand. The California Highway Design Manual (HDM) recommends that the number of parking spaces at a given rest area unit should not exceed 120 spaces. However, developing the additional 30 parking spaces onsite would be significantly less expensive as compared to purchasing additional right-of-way on which to develop this parking. Furthermore, engaging in a public/private private partnership to provide this additional parking would be less costly as compared to developing the additional parking onsite, yet would not provide a long-term guarantee for the provision of the additional parking spaces. Therefore, if Caltrans is unwilling to exceed the maximum parking space guideline of 120 spaces at Tejon Pass NB, a suitable alternative would be to develop the additional parking via an Interstate Oasis. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Tejon Pass NB:

- **Flying J Travel Plaza** - 42810 Frazier Mountain Road, Lebec, CA 93243, (661) 248-2600; Located off Exit 205 at Frazier Mountain Road/I-5 interchange, 1-mile south of Tejon Pass SRRA (34.816704, -118.886885)[13]; The site has approximately 240 auto and 240 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Petro Stopping Center** - 5855 Dennis Mccarthy Drive, Lebec, CA 93243, (661) 663-4340; Located off Exits 219A and 219B at Wheeler Ridge Rd/I-5 interchange, 13 miles north of Tejon Pass SRRA (34.986149, -118.948276); The site has 185 auto and 415 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Travel Centers of America** - 5800 North Wheeler Ridge Road, Arvin, CA 93203, (661) 858-2804; Located off Exits 219A and 219B at Wheeler Ridge Rd/I-5 interchange, 13 miles north of Tejon Pass SRRA (34.988874, -118.942830); The site has 106 auto and 130 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

[13] **Note** anytime the reader sees coordinates in blue font in this report, the reader can view a satellite image in Google Maps of the location being referenced by holding down the Control key and clicking on the coordinates. Note that location is indicated in Google Maps by the green arrow.

It is recommended that Caltrans develop the additional parking onsite at Tejon Pass NB. However, if exceeding the 120 parking space maximum specified in the Highway Design Manual is not desirable or if developing this additional parking onsite is not feasible, it is recommended that Caltrans seek to provide the additional parking needed by developing Interstate Oases in the region. No parking expansion is required for Tejon Pass SB.

The closest SRRA to Tejon Pass is Buttonwillow, located 53 miles north on I-5 or less than a 1-hour drive. The nearest SRRA to the south is Aliso Creek, at a distance of 147 miles or slightly longer than a 2-hour drive. The closest ASOs to the north and south of Tejon Pass on I-5 are located 10 miles and 1 mile from the SRRA, respectively. There are moderate levels of ASOs to the north and south of the Tejon Pass SRRA, providing a variety of nearby stopping opportunities. The spacing between Tejon Pass and Buttonwillow conform to the maximum spacing guidelines provided by FHWA and AASHTO of a 1-hour drive or a distance of 60 miles. The distance between Tejon Pass and Aliso Creek significantly exceeds the FHWA/AASHTO spacing recommendations, however, given the highly urban nature and large number of ASOs between these two rest areas, there are many opportunities for travelers to stop and rest. Considering that the spacing of ASOs between Tejon Pass and Aliso Creek is generally a 30 minute drive or less, this would tend conform with spacing requirements stipulated in Subsection 219(a) of the California Streets and Highways Code.

Using data from traffic surveys conducted by Caltrans at Tejon Pass, average daily traffic at the Tejon Pass NB and SB units were estimated to be 2,281 vehicles and 1,730 vehicles, respectively. Tejon Pass NB has the 3rd highest recorded average daily traffic levels of any SRRA in California, while Tejon Pass SB ranks as the SRRA with the 8th highest daily traffic volumes. This level of use translates into stopping factors of 6.8% for Tejon Pass NB and 5.2% for Tejon Pass SB. The stopping factor for Tejon Pass NB is close to the average stopping factor for all SRRAs in California of 7.0%, while Tejon Pass SB is lower. Approximately 62% of the vehicles entering Tejon Pass NB are autos and 38% are trucks/buses, while 68% of vehicles entering Tejon Pass SB are autos and 32% are trucks/buses. Both Tejon Pass NB and SB have relatively greater proportions of truck traffic as compared to average proportions of trucks for all 87 SRRAs of 26% trucks/buses.

Considering the very high average number of vehicles using the rest areas on a daily basis, the high route AADT at this location, and considering the location/spacing factors, ***Tejon Pass NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.***

3. Buttonwillow SRRA.

Buttonwillow SRRA is located in the Central Valley in a rural region of Kern County, lying approximately 25 miles west of the city of Bakersfield, which is the largest community in the region. The nearest large communities to the north are Fresno and Modesto at distances of 106 miles and 185 miles, respectively. However, these communities are not located directly on I-5 and are situated to the east, along State Route 99. The largest community to the south of the SRRA is Santa Clarita, at a distance of roughly 94 miles. Buttonwillow consists of two SRRA units serving the northbound and southbound directions of travel on I-5. AADT on I-5 near Buttonwillow SRRA is moderate, at 28,000 vehicles per day.

Buttonwillow NB and SB each have a total of 100 parking spaces, including 67 auto and 33 truck spaces at each unit. Although Buttonwillow SB does not have a current parking deficiency, the

SRRA is projected to have a parking deficiency of 5 auto spaces by the year 2030. Buttonwillow NB has no current or projected future parking deficiencies for either autos or trucks. According to Caltrans, Buttonwillow SB has sufficient right-of-way on which to develop the additional 5 parking spaces to meet 2030 parking demand. ***It is recommended that Caltrans seek to develop the additional parking at Buttonwillow SB onsite. No parking expansion is required for Buttonwillow NB.***

The closest SRRA to the north of Buttonwillow is Coalinga-Avenal, at a distance of 61 miles or roughly a 1-hour drive. The nearest SRRA to the south is Tejon Pass, at a distance of 53 miles or slightly less than a 1-hour drive. The closest ASOs are located 19 miles north and 2 miles south, with moderate levels of ASOs to the north and south of Buttonwillow providing a variety of nearby stopping opportunities. The spacing between Buttonwillow and Tejon Pass and Coalinga-Avenal are essentially in conformance with the maximum spacing recommendations provided by FHWA and AASHTO. Considering that the spacing of ASOs between Buttonwillow, Coalinga-Avenal and Tejon Pass is generally 30 minutes or less, this would tend conform with 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Using data from traffic surveys conducted by Caltrans at Buttonwillow, average daily traffic at Buttonwillow NB and SB were estimated to be 1,152 vehicles and 1,283 vehicles, respectively. Buttonwillow SB has the 16th highest recorded average daily traffic levels of any SRRA in California, while Buttonwillow NB ranks as the SRRA with the 23rd highest daily traffic volumes. This level of use translates into stopping factors of 8.2% for Buttonwillow NB and 9.2% for Buttonwillow SB. These stopping factors are slightly greater than the average stopping factor for all SRRAs in California of 7.0%, with Buttonwillow SB and NB ranking as the SRRAs with the 22nd and 27th highest stopping factors of all 87 SRRAs statewide, respectively. Approximately 67% of the vehicles entering Buttonwillow NB are autos and 33% are trucks/buses, while 68% of vehicles entering Buttonwillow SB are autos and 32% are trucks/buses. Both Buttonwillow NB and SB have relatively greater proportions of truck traffic as compared to average proportions of truck traffic for all 87 SRRAs of 26%.

Considering the large number of vehicles using the Buttonwillow SRRA on a daily basis, the moderate route AADT at this location, and considering the location/spacing factors, ***Buttonwillow NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.***

4. Coalinga-Avenal SRRA.

Coalinga-Avenal SRRA is located within Fresno County in a rural region of the Central Valley, lying approximately 65 miles south of the city of Fresno. The nearest large communities to the north are Modesto and Stockton at distances of 124 miles and 153 miles, respectively. However, Fresno and Modesto are not located on I-5 and are situated to the east, along State Route 99. The largest community to the south of the SRRA is Bakersfield, which is roughly 86 miles south, and is located on State Route 99, not directly on I-5. Coalinga-Avenal consists of two SRRA units serving the northbound and southbound directions of travel on I-5. Mainline AADT on I-5 at Coalinga-Avenal is moderate, at 30,000 vehicles per day.

Coalinga-Avenal NB and SB each have a total of 72 parking spaces, including 49 auto and 23 truck spaces at each unit. Coalinga-Avenal NB has an estimated current parking deficiency of 14 auto and 6 truck/bus spaces and a projected parking deficiency of 49 auto and 29 truck/bus spaces in the year 2030. Coalinga-Avenal NB has the second highest projected future parking deficiency of all 87 SRRAs. Coalinga-Avenal SB has an estimated current parking deficiency of 21 auto and 2 truck/bus spaces and a projected parking deficiency of 60 auto and 15 truck/bus spaces in the year 2030. Coalinga-Avenal SB has the highest projected future parking deficiency of all 87 SRRAS.

According to Caltrans, existing right-of-way at both SRRA units is insufficient to develop all of the required parking. Therefore, most of the required parking will need to be developed either by expanding the SRRA by purchasing land adjacent to the NB and SB units or by providing the additional parking at a new SRRA or Interstate Oasis in the region. Based on input provided by Caltrans, expansion of the SRRA by acquiring adjacent right-of-way may be possible at this location. In this case, Coalinga-Avenal NB and SB would require an estimated 2.5 and 3.2 acres of additional right-of-way, respectively. An alternative to purchasing additional right-of-way would be to provide the additional parking by developing Interstate in region. Some combination of these two options might also be considered. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Coalinga-Avenal NB and SB:

- **Hillcrest Travel Plaza** - 44779 South Lassen Ave., Avenal, CA (559) 386-9783; Located off Exit 319 at South Lassen Avenue (Route 269)/I-5 interchange, 1-mile south of Coalinga-Avenal SRRA (36.075123,-120.103422); Has approximately 20 auto and 10 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Shell Station** - 24505 West Dorris Ave., Coalinga, CA 93210, (559) 935-0717; Located off Exit 334 at West Dorris Ave. (Route 198)/I-5 interchange, 14 miles north of Coalinga-Avenal SRRA (36.253212,-120.238962); Has approximately 40 auto spaces and can accommodate up to 50 trucks; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Multiple Highway Commercial Enterprises** - Located off Exit 334 at West Dorris Ave. (Route 198)/I-5 interchange, 14 miles north of Coalinga-Avenal SRRA (36.254295,-120.249987); Various amounts of auto and truck/bus parking; Most enterprises at this location are open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Multiple Highway Commercial Enterprises** - Located off Exit 309 at Route 41/I-5 Interchange, 12 miles south of Coalinga-Avenal SRRA (35.986641,-119.958905); Various amounts of auto and truck/bus parking; Most all service stations at this location are open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

Since projected 20-year parking needs will exceed 120 total parking spaces at each site, it is recommended that the necessary additional parking be provided by Caltrans acquiring additional right-of-way adjacent to the NB and SB units, engaging in Interstate Oasis partnerships to the north and south of the SRRA, or both.

The closest SRRA to the north of Coalinga-Avenal is J.C. Erreca, at a distance of 66 miles or roughly a 1-hour drive. The nearest SRRA to the south is Buttonwillow, at a distance of 61 miles or slightly less than a 1-hour drive. The closest ASOs are located 5 miles north and 1 mile south. There are moderate levels of ASOs to the north and south of Coalinga-Avenal providing a range of nearby stopping opportunities. The spacing between Coalinga-Avenal, J.C. Erreca, and Buttonwillow are only slightly greater than the maximum spacing recommendations provided by FHWA and AASHTO. Considering that the spacing of ASOs between Coalinga-Avenal, J.C. Erreca, and Buttonwillow is generally 30 minutes or less, this would tend to conform to the 30-minute drive time spacing requirements stipulated in Subsection 219(a) of the California Streets and Highways Code.

Using data from traffic surveys conducted by Caltrans at Coalinga-Avenal SRRA, average daily traffic at Coalinga-Avenal NB and Southbound SB were estimated to be 1,731 and 1,790 vehicles, respectively. Coalinga-Avenal NB and SB have the 7th and 6th highest recorded average daily traffic levels of all SRRAs in California. This level of use translates into stopping factors of 11.5% and 11.9% for Coalinga-Avenal NB and SB, respectively. These stopping factors are substantially higher than the average stopping factor for all SRRAs in California of 7.0%, with Coalinga-Avenal NB and SB ranking as the SRRAs with the 14th and 13th highest stopping factors of all 87 SRRAs statewide.

Approximately 69% of the vehicles entering Coalinga-Avenal NB are autos and 31% are trucks/buses, while 74% of vehicles entering Coalinga-Avenal SB are autos and 26% are trucks/buses. Coalinga-Avenal NB has a relatively greater proportion of truck traffic as compared to the average for all 87 SRRAs of 26%, while Coalinga-Avenal SB has exactly the same proportion of truck traffic as the statewide average.

Considering the large distances between major communities in the region, it is likely that this segment of I-5 contains a higher proportion of long distance/non-commute travelers which makes the provision of rest area services an important safety consideration in this region.

Coalinga-Avenal NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

5. John "Chuck" Erreca SRRA.

John "Chuck" (J.C.) Erreca SRRA is located within Merced County in a rural region of the Central Valley, lying approximately 15 miles south of the city of Los Banos, 61 miles south of the city of Modesto and 87 miles south of the city of Stockton. The nearest large community to the south of the SRRA is Bakersfield, at a distance of roughly 152 miles, while Fresno lies 63 miles to the east. However, all of these communities are located to the east, along State Route 99 and not I-5. J.C. Erreca consists of two SRRA units serving the northbound and southbound directions of travel on I-5. AADT on I-5 near J.C. Erreca is moderate, at 34,000 vehicles per day.

J.C. Erreca NB and SB each have a total of 92 parking spaces, including 61 auto and 31 truck spaces at each unit. There is no current or projected future parking deficiencies at either rest area unit. ***Therefore, the current number and mix of parking spaces is judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary at either J.C. Erreca NB or SB.***

The closest SRRA to the north of J.C. Erreca SRRA is Westley SRRA which is located 59 miles north or roughly a 1-hour drive. The nearest SRRA to the south is Coalinga-Avenal SRRA located 66 miles south, again roughly a 1-hour drive. The closest ASOs to J.C. Erreca are located 22 miles north and 18 miles south. There are low levels of ASOs to the north and south of J.C. Erreca, providing only a limited number of nearby stopping opportunities. The spacing between J.C. Erreca and Coalinga-Avenal is only slightly greater than the maximum spacing recommendations provided by FHWA and AASHTO, while spacing between J.C. Erreca and Westley is nearly the same as these spacing recommendations. Considering that the spacing of ASOs between Coalinga-Avenal, J.C. Erreca and Westley is roughly 30 minutes or less, this would tend conform with the 30-minute drive time spacing requirements stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at the J.C. Erreca NB and SB units were estimated to be 1,168 and 1,206 vehicles, respectively. J.C. Erreca NB and SB rank as having the 21st and 20th highest levels of average daily traffic of all 87 SRRAs statewide, respectively. This level of use translates into stopping factors of 6.9% and 7.1% for J.C. Erreca NB and SB, respectively. These stopping factors are nearly the same as the average stopping factor for all SRRAs in California of 7.0%, with J.C. Erreca NB and SB ranking as the SRRAs with the 37th and 33rd highest stopping factors of all 87 SRRAs statewide. Approximately 62% of the vehicles entering J.C. Erreca NB are autos and 38% are trucks/buses, while 66% of vehicles entering J.C. Erreca SB are autos and 34% are trucks/buses. Both rest area units have relatively greater proportions of truck/bus traffic as compared to the average proportions of trucks/buses for all 87 SRRAs of 26%.

Considering the relatively low volumes of ASOs in the region, the provision of rest area services along this segment of I-5 is important as there are simply fewer locations where travelers can stop and rest. In addition, the substantial distances between large communities in the region suggest that this segment of I-5 contains a higher proportion of long distance/non-commute travelers which also makes the provision of rest area services an important safety consideration in this region.

J.C. Erreca NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

6. Westley SRRA.

Westley SRRA is located within Stanislaus County in a rural region of the Central Valley, lying approximately 14 miles south of the city of Tracy and 28 miles south of the city of Stockton. The nearest large communities to the south are Los Banos and Bakersfield at distances of 49 miles and 210 miles, respectively. Westley consists of two SRRA units serving the northbound and southbound directions of travel on I-5. AADT on I-5 near Westley is moderate, at 39,250 vehicles per day.

Westley NB has a total of 51 parking spaces, including 33 auto and 18 truck/bus spaces. Westley SB has a total of 50 parking spaces, including 34 auto and 16 truck/bus spaces. Based on estimates of parking demand, Westley NB has no current parking deficiencies, yet has projected future parking deficiencies of 13 auto and 10 truck/bus spaces. Westley SB has an estimated current parking deficiency of 7 auto and 2 truck/bus spaces and projected future parking deficiencies of 47

auto and 21 truck/bus spaces. Westley SB has the 3rd highest projected future parking deficiencies of all 87 SRRAS.

According to Caltrans, the additional parking required to meet future parking demand at Westley NB could be accommodated within the existing right-of-way of the SRRA unit and no additional right-of-way would be needed. Caltrans has judged that additional right-of-way would need to be acquired to provide all 68 parking spaces required at Westley SB to meet parking needs over the 20-year horizon. Caltrans has also indicated that it may be possible to purchase additional right-of-way adjacent to the site while some portion of the additional parking spaces could be developed within the existing right-of-way of the SRRA unit. In this case, Westley SB would require roughly 3.0 acres of additional right-of-way to meet forecasted parking needs. However, if Caltrans is unable to secure additional right-of-way adjacent to Westley SB, then the remaining additional parking would need to be provided either at a new SRRA or via Interstate Oasis. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Westley SB:

- **Shell Station** - 4549 Ingram Creek Road, Westley, CA 95387, (209) 894-3500; Located off Exit 441 at Ingram Creek Rd./I-5 interchange, 4 miles south of Westley SRRA (37.539777, -121.269324); Site has 25 auto spaces and can accommodate approximately 60 trucks/buses.; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Joe's Travel Plaza** - 4415 Howard Road, Westley, CA 95387, (209) 894-3040; Located off Exit 441 at Ingram Creek Rd./I-5 interchange, 4 miles south of Westley SRRA (37.538540, -121.263682); Site has 64 auto and 105 truck parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Triangle Truck Stop** - 7051 McCracken Road, Westley, CA 95387, (209) 894-3000; Located off Exit 441 at Ingram Creek Rd./I-5 interchange, 4 miles south of Westley SRRA (37.544248, -121.270704); Site has 10 auto and 150 truck parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

It is recommended that Caltrans develop all of the additional parking required at onsite, within the existing right-of-way at Westley NB. For Westley SB, it is recommended that as much of the additional parking as possible be developed onsite and that Caltrans acquire additional right-of-way adjacent to the Westley SB unit to provide the remaining parking. As an alternative to acquiring new right-of-way at Westley SB, some or all of the remaining parking might be provided through development of Interstate Oases to the south of the SRRA.

The closest SRRA to the north of Westley SRRA is Elkhorn SRRA at distance of 85 miles or roughly a 1.5-hour drive. However, Elkhorn SRRA only serves the southbound direction of travel on I-5. The next closest SRRA serving northbound traffic on I-5 is Dunnigan SRRA which is located 112 miles north or just under a 2-hour drive. The nearest SRRA to the south is John "Chuck" Erreca SRRA located 59 miles south or roughly a 1-hour drive. The closest ASOs to Westley SRRA are located 18 miles north and 4 miles south. There are moderate levels of ASOs to the north and south of Westley SRRA, providing a range of nearby stopping opportunities. The spacing between Westley and J.C. Erreca is roughly the same as the maximum spacing recommendations provided by FHWA and AASHTO, while spacing between Westley and Elkhorn

and Dunigan SRRAs is substantially greater than FHWA and AASHTO spacing recommendations. Considering that the spacing of ASOs between Westley, J.C. Erreca, and Elkhorn/Dunnigan is roughly 30 minutes or less, this would tend to conform to the 30-minute drive time spacing requirements stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at the Westley (NB) and Southbound (SB) units were estimated to be 902 and 1,446 vehicles, respectively. Westley SB and NB have the 10th and 36th highest recorded average daily traffic levels of all SRRAs in California. This level of use translates into stopping factors of 7.4% and 4.6% for Westley SB and NB, respectively. The stopping factor for Westley SB is nearly the same as the average stopping factor for all SRRAs in California of 7.0%, while the stopping factor for Westley NB is substantially lower as compared to the average. The stopping factors for Westley SB and NB rank as having the 32nd and 59th highest stopping factors of all 87 SRRAs statewide. The substantially lower level of vehicles entering the Westley NB as compared to the SB unit is likely explained by the junction of I-580 and I-5 just north of the SRRA, where traffic along the southbound lanes on I-5 increases as the southbound I-580 traffic merges onto I-5.

Approximately 63% of the vehicles entering Westley NB are autos and 37% are trucks/buses, while 69% of vehicles entering Westley SB are autos and 31% are trucks/buses. Westley NB and SB have greater proportions of truck traffic as compared to average proportions of truck/bus traffic for all 87 SRRAs of 26%.

The substantial distances between large communities in the region suggest that this segment of I-5 contains a higher proportion of long distance/non-commute travelers which makes the provision of rest area services an important safety consideration in this region. In particular, the Westley SB unit provides an important stopping opportunity for southbound travelers merging onto I-5 from southbound I-580. I-580 is a major trucking route providing an important link between ports in the Bay Area and I-5. In addition, Westley NB is the last SRRA before entering the more urban areas of the Stockton/Sacramento area to the North and the Bay Area to the west, suggesting that the SRRA plays an important staging site for commercial trucks planning on traveling into and out of these areas.

Westley NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

7. Elkhorn SRRA.

Elkhorn is located within Sacramento County near the Sacramento International Airport, lying approximately 10 miles northwest from downtown Sacramento and 7 miles east of the city of Woodland. AADT on I-5 near Elkhorn is high at 63,500 vehicles per day. Elkhorn only serves the southbound direction of travel on I-5.

Elkhorn has a total of 49 parking spaces, including 35 auto and 14 truck/bus spaces. Based on estimates of parking demand, Elkhorn has no current parking deficiencies or projected future parking deficiencies over the 20-year planning horizon or to 2030. ***Therefore, the current number and mix of parking spaces is judged to be sufficient to meet current and future parking needs over the next 20-years and no parking expansion is necessary.***

The closest SRRA to the north of Elkhorn SRRA is Dunnigan, at a distance of 27 miles, while the closest SRRA to the south is Westley, at a distance of 85 miles. The closest ASOs to the north and south of Elkhorn are located at distances of 2 miles and 7 miles, respectively. There are high levels of ASOs to the north and south of Elkhorn, providing numerous nearby stopping opportunities. At 27 miles, the spacing between Elkhorn and Dunnigan is roughly half the distance of the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO, while spacing between Elkhorn and Westley is substantially greater than FHWA and AASHTO spacing recommendations. Considering that the spacing of ASOs between Elkhorn, Dunnigan, and Westley is roughly 30 minutes or less, this would tend to conform to the 30-minute drive time spacing requirements stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic levels at Elkhorn were estimated to be 778 vehicles per day, representing the SRRA with the 46th highest average daily traffic. This level of use translates into a stopping factor of 2.5% which ranks as the SRRA with the 80th highest stopping factor of all SRRAs statewide. The stopping factor for Elkhorn is significantly lower than the average stopping factor for all SRRAs in California of 7.0%. The low stopping factor is likely a function of the high level of AADT on I-5, the high volumes of ASOs in the region, the close proximity of Dunnigan SRRA to the north, and the urban nature of the region, which tends to translate into higher proportions of commuter traffic traveling shorter distances and who are therefore less likely to utilize rest area services.

Approximately 60% of the vehicles entering Elkhorn are autos and 40% are trucks/buses. Elkhorn has a significantly higher proportion of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Conclusions regarding the relative importance and level of value provided by Elkhorn SRRA within the statewide SRRA system are mixed. Considering the high route AADT, moderate average daily traffic volumes entering the SRRA and the high proportion of trucks/buses utilizing the SRRA are factors which tend to suggest a location that provides a moderate degree of value to the traveling public on I-5. However, given the close proximity to Dunnigan SRRA (located 27 miles to the north), the relatively low stopping factors at Elkhorn, the high number of ASOs in the region, and the increasingly urban environment in which Elkhorn is situated, tend to indicate a location that is less critical relative to the other SRRA locations on I-5 considered thus far. However, the high proportions of trucks/buses utilizing Elkhorn may indicate that the SRRA provides important stopping opportunities for commercial trucks entering the Sacramento region and for trucks planning to travel east or west on I-80.

Elkhorn is judged to represent an SRRA that provides a moderate degree of value to the traveling public and is an SRRA that should remain within the rest area system.

8. Dunnigan SRRA.

Dunnigan is located within a relatively rural area of Yolo County in the Central Valley, lying approximately 38 miles north of Sacramento and 19 miles north of Woodland. The nearest large community to the north is Red Bluff, at a distance of 93 miles. AADT on I-5 near Dunnigan is moderate, at 30,250 vehicles per day.

Dunnigan NB and SB each have a total of 42 parking spaces, including 30 auto and 12 truck/bus spaces at each unit. Dunnigan SB has an estimated current parking deficiency of 3 auto and 1 truck spaces and a projected future parking deficiency of 19 auto and 8 truck/bus spaces. Dunnigan NB has no estimated current parking deficiency and a projected future parking deficiency of 6 auto and 5 truck/bus spaces. Therefore, to meet future parking demand, 19 auto and 8 truck/bus parking spaces need to be developed at Dunnigan SB, while 6 auto and 5 truck/spaces need to be developed at Dunnigan NB.

According to Caltrans, the required additional parking required to meet future parking demand at Dunnigan NB and SB *cannot* be accommodated within the existing right-of-way of the SRRA units and additional right-of-way would be needed. Caltrans has judged that acquiring additional right-of-way adjacent to Dunnigan NB and SB would not be possible given current land uses surrounding each site. Therefore, an a new SRRA or Interstate Oases would be required to provide the additional parking to meet parking needs over the 20-year planning period. If Caltrans were to acquire new right-of-way in the region, approximately 1.75 and 1.0 acres would be needed to accommodate the additional parking required at Dunnigan SB and NB, respectively, or at total of 2.75 acres. However, an alternative to purchasing additional right-of-way would be to develop Interstate Oases in region. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Dunnigan NB and SB:

- **Shell Station** - 29029 County Road 6, Dunnigan, CA 95695, (530) 724-3446; Located off Exit 556 at County Road 6/I-5 interchange, 1 mile south of Dunnigan SRRA (38.882102, -121.976484); Site has roughly 10 auto and no truck/bus parking spaces; Operating hours are unknown; Site is accessible from both directions of travel on I-5; Does ***not*** currently meet Interstate Oasis requirements, as facility does not provide truck/bus parking.
- **United Travel Plaza** - 29770 County Road 8, Dunnigan, CA 95695, (530) 724-3477; Located off Exit 554 at County Road 8/I-5 interchange, 2.5 miles south of Dunnigan SRRA (38.860497, -121.956234); Site has approximately 10 auto spaces and can accommodate an estimated 40 trucks/buses; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Pilot Truck Stop** - 30035 County Road 8, Dunnigan, CA 95695, (530) 724-3060; Located off Exit 554 at County Road 8/I-5 interchange, 2.5 miles south of Dunnigan SRRA (38.861778, -121.949996); Site has 90 auto and 70 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Shell Station** - 1975 County Road 99W, Dunnigan, CA 95695, (530) 662-5551; Located off Exit 548 at County Hwy E-10/I-5 interchange, 9 miles south of Dunnigan SRRA (38.794996, -121.878410); Site has approximately 20 auto parking spaces and moderate size parking area for truck/bus parking; Open 6 a.m. to 8 p.m.; Site is accessible from both directions of travel on I-5. Does ***not*** currently meet Interstate Oasis requirements, as facility is not open 24/7.

It is recommended that Caltrans provide the required additional parking by developing Interstate Oasis partnerships at nearby ASOs located to the south of the SRRA.

The closest rest area to the north of Dunnigan SRRA is Maxwell SRRA at distance of 27 miles or roughly a half-hour drive, while the closest SRRA to the south is Elkhorn SRRA, also at a distance of 27 miles or a half-hour drive. However, Elkhorn SRRA only serves the southbound direction of travel on I-5. The next closest SRRA serving northbound traffic on I-5 is the Westley NB SRRA, located 112 miles south or just under a 2-hour drive. The closest ASOs to Dunnigan SRRA are located 10 miles north and 1 mile south. There are moderate levels of ASOs to the north and south of Dunnigan SRRA, providing a range of nearby stopping opportunities. The spacing between Dunnigan, Maxwell, and Elkhorn is roughly half the distance of the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. However, considering the distance between Dunnigan NB and Westley NB (the next closest SRRA south of Dunnigan serving northbound traffic on I-5) is 112 miles, this distance is substantially greater than FHWA and AASHTO spacing recommendations. Since the spacing of ASOs between Dunnigan, Maxell, Elkhorn, and Westley is roughly 30 minutes or less, this would tend to conform to the 30-minute drive time spacing requirements stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed by Caltrans, average daily traffic at the Dunnigan NB and SB units are estimated to be 980 and 1,319 vehicles, respectively. Dunnigan SB and NB rank as having the 14th and 30th highest recorded average daily traffic levels of all 87 SRRAs in California, respectively. This level of use translates into stopping factors of 8.7% and 6.5% for Dunnigan SB and NB, respectively. The stopping factor for Dunnigan SB is higher than the average stopping factor for all SRRAs in California of 7.0%, while the stopping factor for Dunnigan NB is only slightly lower as compared to the statewide average. The stopping factors for Dunnigan SB and NB rank as having the 24th and 41st highest stopping factors of all 87 SRRAs statewide.

Approximately 71% of the vehicles entering Dunnigan SB are autos and 29% are trucks/buses, while 69% of vehicles entering Dunnigan NB are autos and 31% are trucks/buses. Dunnigan NB and SB have greater proportions of truck traffic as compared to average proportions of truck/bus traffic for all 87 SRRAs of 26%.

Considering the moderately average vehicle volumes entering Dunnigan NB and SB on a daily basis and the moderate level of mainline AADT on I-5, Dunnigan SRRA provides valuable rest area services to the traveling public. However, given the close spacing of nearby SRRAs, including Maxwell to the north and Elkhorn to the south, and the moderate levels of ASOs in the region, Dunnigan is relatively *less* critical within the statewide rest area system as compared to locations where spacing between SRRAs and ASOs are greater and the surrounding region more remote.

Dunnigan NB and SB are judged to represent SRRAs that provide a moderate to high degree of value to the traveling public and should remain within the rest area system.

9. Maxwell SRRA.

Maxwell is located in a relatively rural area of Colusa County, lying approximately 6 miles north of the community of Williams and 66 miles south of Red Bluff. Yuba City is located approximately 40 miles to the east of the rest area. AADT on I-5 near Maxwell is moderate, at 24,750 vehicles per day.

Maxwell NB and SB each have a total of 44 parking spaces, including 34 auto and 10 truck/bus spaces. Based on estimates of parking demand, Maxwell NB and SB have no current parking deficiencies, and only Maxwell NB has a future parking deficiency of just 1 truck space. After reviewing the configuration of the SRRA, there appears to be sufficient right-of-way onsite at Maxwell NB to accommodate the minor parking expansion. ***Therefore, the current number and mix of parking spaces at Maxwell NB and SB is judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary.***

The closest rest area to the north of Maxwell SRRA is Willows SRRA at distance of 25 miles or roughly a half-hour drive, while the closest SRRA to the south is Dunnigan SRRA, also at a distance of 27 miles or a half-hour drive. The nearest ASOs to Maxwell SRRA are located 20 miles north and 6 miles south. There are moderate levels of ASOs to the north and south of Maxwell SRRA, providing a range of nearby stopping opportunities. The spacing between Maxwell, Willows, and Dunnigan is roughly half the distance of the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO and is in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code. In addition, the ASOs in the region are spaced even closer to Maxwell and are within 20 miles of the rest area.

Based on traffic surveys performed by Caltrans, average daily traffic at the Maxwell NB and SB units are estimated to be 759 and 780 vehicles, respectively. Maxwell ranks as having the 47th and 45th highest recorded average daily traffic levels of all 87 SRRAs in California, respectively. This level of use translates into stopping factors of 6.1% and 6.3% for Maxwell NB and SB, respectively. The stopping factor for Maxwell NB and SB are only slightly below the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Maxwell NB and SB rank as the 45th and 44st highest of all 87 SRRAs statewide.

On average, approximately 72% of the vehicles entering Maxwell NB are autos and 28% are trucks/buses, while 74% of vehicles entering Maxwell SB are autos and 26% are trucks/buses. Maxwell NB and SB have nearly the same proportions of truck/bus traffic as compared to average proportions of truck/bus traffic for all 87 SRRAs of 26%.

Considering the moderately average vehicle volumes entering Maxwell on a daily basis and the moderate level of mainline AADT on I-5, Maxwell SRRA provides valuable rest area services to the traveling public. However, given the close spacing of nearby SRRAs, including Willows to the north and Dunnigan to the south, and the relatively moderate levels of ASOs in the region, Maxwell is relatively *less* critical within the statewide rest area system as compared to locations where spacing between SRRAs and ASOs are greater and the surrounding region more remote.

Maxwell NB and SB are judged to represent SRRAs that provide a moderate to high degree of value to the traveling public and should remain within the rest area system.

10. Willows SRRA.

Willows SRRA is located in a rural region of Glenn County, lying approximately 41 miles south of Red Bluff and 10 miles north of the community of Willows. The city of Chico is approximately 31 miles northeast of the rest area. AADT on I-5 near Maxwell is moderate, at 25,100 vehicles per day.

Willows NB and SB each have a total of 55 parking spaces, including 38 auto and 17 truck/bus spaces. Based on estimates of parking demand, Willows NB and SB do not have any current or projected future parking deficiencies. ***Therefore, the current number and mix of parking spaces at Willows NB and SB is judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary.***

The closest rest area to the north of Willows SRRA is Lt. John C. Helmick at distance of 25 miles or roughly a half-hour drive, while the closest SRRA to the south is Maxwell SRRA, also at a distance of 25 miles or a half-hour drive. The nearest ASOs from the Willows SRRA are located 11 miles north and 5 miles south. There are high levels of ASOs to the north and south of Willows SRRA, providing a range of nearby stopping opportunities. The spacing between Willows, Maxwell, and Lt. John C. Helmick is less than half the distance of the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO and is in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis and by Caltrans, average daily traffic at the Willows NB and SB units are estimated to be 697 and 730 vehicles, respectively. Willows NB and SB rank as having the 52nd and 49th highest recorded average daily traffic levels of all 87 SRRAs in California, respectively. This level of use translates into stopping factors of 5.6% and 5.8% for Willows NB and SB, respectively. The stopping factors for Willows NB and SB are below the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Willows NB and SB rank as the 53rd and 48th highest of all 87 SRRAs statewide.

On average, approximately 70% of the vehicles entering Willows NB are autos and 30% are trucks/buses, while 66% of vehicles entering Willows SB are autos and 34% are trucks/buses. Willows NB and SB have greater proportions of truck/bus traffic as compared to average proportions of truck/bus traffic for all 87 SRRAs of 26%.

Considering the moderately average vehicle volumes entering the rest area on a daily basis and the moderate level of mainline AADT on I-5 at this location, Willows SRRA is judged to provide valuable rest area services to the traveling public in the region. However, given the close spacing of nearby SRRAs, including Lt. John C. Helmick to the north and Maxwell to the south, and the high levels and close spacing of ASOs in the region, the Willows SRRA represents a relatively *less* critical site within the statewide rest area system as compared to locations where spacing between SRRAs and ASOs are greater and the surrounding region more remote. Regardless***, Willows NB and SB are judged to represent SRRAs that provide a moderate to high degree of value to the traveling public and should remain within the rest area system.***

11. Lt. John C. Helmick SRRA.

Lt. John C. (Lt. J.C.) Helmick SRRA is located in a rural area of Tehama County, lying approximately 16 miles south of Red Bluff and 1 mile north of the community of Corning. AADT on I-5 near the Lt. J.C. Helmick SRRA is moderate, at 26,750 vehicles per day.

Lt. J.C. Helmick NB has a total of 41 parking spaces including 20 auto and 11 truck/buses spaces, while Lt. J.C. Helmick SB has a total of 50 parking spaces, including 37 auto and 13 truck/bus spaces. Based on estimates of parking demand, Lt. J.C. Helmick NB and SB do not have any

current parking deficiencies. However, Lt. J.C. Helmick NB has a projected future parking deficiency of 5 truck/bus spaces. After reviewing the configuration of current truck/parking and the amount of potential developable space within the Lt. J.C. Helmick NB SRRA it is unclear whether the rest area could accommodate the additional 5 truck/bus parking spaces. Considering the relatively small amount of additional truck/bus parking spaces required, it may be desirable for Caltrans to attempt to provide this parking onsite. An alternative to developing these parking spaces within the rest area would be to provide the additional 5 truck/bus parking spaces through an Interstate Oasis. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Lt. J.C. Helmick NB:

- **Flying J Truck Stop** - 2120 South Avenue, Corning, CA 96021, (530) 824-8767; Located off Exit 630 at South Ave./I-5 interchange, 3 miles south of Lt. J.C. Helmick SRRA (39.907756, -122.196128); Site has approximately 110 auto and 145 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

- **Petro Truck Stop** - 2151 South Avenue, Corning, CA 96021, (530) 824-0713; Located off Exit 630 at South Ave./I-5 interchange, 3 miles south of Lt. J.C. Helmick SRRA (39.905528, -122.195490); Site has 118 auto and 103 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Travel Centers of America** - 3524 Highway 99W, Corning, CA 96021, (530) 824-1072; Located off Exit 630 at South Ave./I-5 interchange, 3 miles south of Lt. J.C. Helmick SRRA (39.904307,-122.198376) ; Site has 68 auto and 214 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

Given the small number of additional truck/bus parking spaces required at Lt. J.C. Helmick NB, it is recommended that Caltrans develop the additional parking onsite. If developing the additional parking onsite is not possible, it is recommended that Caltrans provide the required additional parking by developing Interstate Oases to the south of the SRRA.

The closest rest area to the north of Lt. John C. Helmick is Herbert S. Miles at distance of 22 miles or roughly a half-hour drive, while the closest SRRA to the south is Willows, at a distance of 25 miles or a half-hour drive. The nearest ASOs from the Lt. John C. Helmick SRRA are located 15 miles north and 1 mile south. There are relatively high levels of ASOs to the north and south of SRRA, providing a range of nearby stopping opportunities. The spacing between Lt. John C. Helmick, Herbert S. Miles, and Willows is less than half the distance of the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO and is in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis and by Caltrans, average daily traffic at the Lt. J.C. Helmick NB and SB units are estimated to be 456 and 483 vehicles, respectively. Lt. J.C. Helmick NB and SB rank as having the 66th and 65th highest recorded average daily traffic levels of all 87 SRRAs statewide, respectively. This level of use translates into stopping factors of

3.4% and 3.6% for Lt. J.C. Helmick NB and SB, respectively. The stopping factors for Lt. J.C. Helmick NB and SB are roughly half of the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Lt. J.C. Helmick NB and SB rank as the 67th and 65th highest of all 87 SRRAs statewide, respectively. Lt. J.C. Helmick NB and SB have the lowest average daily usage and stopping factors of any SRRA on I-5. One potential explanation for the lower than average usage at this rest area may be due to the close proximity of ASOs in nearby communities and the very close spacing between rest areas to the north and south on I-5. This spacing and concentration of SRRAs and ASOs creates many stopping opportunities for travelers along this segment of I-5 and could tend to reduce the propensity of travelers to stop at Lt. J.C. Helmick SRRA.

On average, approximately 59% of the vehicles entering Lt. J.C. Helmick NB are autos and 41% are trucks/buses, while 68% of vehicles entering Lt. J.C. Helmick SB are autos and 32% are trucks/buses. Lt. J.C. Helmick NB and SB have greater proportions of truck/bus traffic as compared to average proportions of truck/bus traffic for all 87 SRRAs of 26%. Furthermore, Lt. J.C. Helmick NB has substantially greater proportions of trucks/buses traffic as compared to the SB unit and has one of the highest proportions of truck/bus use of any SRRA statewide.

Considering the moderately average vehicle volumes entering the rest area on a daily basis and the moderate level of mainline AADT along this segment of I-5, Lt. J.C. Helmick is judged to provide valuable rest area services to the traveling public in the region. However, given the close spacing of nearby SRRAs, including Herbert S. Miles to the to the north and Willows to the south, and the high volumes and close spacing of ASOs in the region, the Lt. J.C. Helmick SRRA represents a relatively *less* critical site within the statewide rest area system as compared to locations where spacing between SRRAs and ASOs are greater and the surrounding region more remote. In particular, since this SRRA has the lowest stopping factors and traffic volumes of any SRRA on I-5, Lt. J.C. Helmick is judged to represent one of the least critical SRRAs on I-5.

Regardless, considering the importance of I-5 as a major commercial trucking route in California, Lt. J.C. Helmick NB and SB are judged to represent SRRAs that provide a moderate degree of value to the traveling public and should remain within the rest area system.

12. Herbert S. Miles SRRA.

Hebert S. Miles is located in a rural region of Tehama County, lying approximately 26 miles south of Redding and 6 miles north of Red Bluff. The NB and SB units of the SRRA are separated by a distance of 1 mile. AADT on I-5 near Herbert S. Miles NB and SB are moderate, at 36,500 and 35,250 vehicles per day, respectively.

Herbert S. Miles NB has a total of 45 parking spaces including 31 auto and 14 truck/buses spaces, while Herbert S. Miles SB has a total of 75 parking spaces, including 52 auto and 23 truck/bus spaces. Based on estimates of parking demand, Herbert S. Miles NB and SB do not have any current parking deficiencies. However, Herbert S. Miles NB has a projected future parking deficiency of 2 auto and 10 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated that new right-of-way would be needed to provide the additional 12 parking spaces at the NB unit. Caltrans has also stated that the land adjacent to the site might be suitable for developing the additional parking if the land could be acquired. In this case, approximately 1.2 acres would be needed to develop the additional parking. This amount of vacant land appears to

exist at locations both to the north and south of the NB unit. As an alternative to Caltrans acquiring new right-of-way the additional parking required could provided by developing Interstate Oases in the region. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Herbert S. Miles NB:

- **Travel Centers of America** - 19483 Knighton Road, Redding, CA 96002, (530) 221-4760; Located off Exit 673 at Knighton Rd./I-5 interchange, 19 miles north of Herbert S. Miles NB SRRA (40.505213, -122.334494); Site has 80 auto and 151 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Texaco Station** - 19845 S. Main Street, Cottonwood, CA 96022, (530) 347-5353; Located off Exit 662 Bowman Rd./I-5 interchange, 8 miles north of Herbert S. Miles NB SRRA (40.370085, -122.283295); Site has 28 auto and 5 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

Considering that the Texaco location appears to have a small number of truck parking spaces and limited space for parking expansion, as well as the relatively large distance to the Travel Centers of America site, it may be preferable that Caltrans acquire land adjacent to Herbert S. Miles NB on which to develop the additional parking. ***Therefore, it is recommended that Caltrans attempt to acquire land adjacent to Herbert S. Miles EB unit on which to develop the required additional parking or if this is not possible, to provide the required additional parking by developing Interstate Oases in the region.***

The closest rest areas to the north of Herbert S. Miles are Obrien (serving northbound traffic) and Lakehead (serving southbound traffic) located at distances of 40 and 49 miles north, respectively, or roughly a 45-minute drive. The closest SRRA to the south is Lt. J.C. Helmick at distance of 22 miles or slightly less than a half-hour drive. The nearest ASOs from the Herbert S. Miles SRRA are located 9 miles north and 7 miles south. There are relatively high levels of ASOs to the north and south of SRRA, providing a range of nearby stopping opportunities. The spacing between Herbert S. Miles, Obrien, Lakehead, and Lt. J.C. Helmick is less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO and is essentially in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code, especially when the spacing of nearby ASOs is considered.

Based on traffic surveys performed as part of this analysis, average daily traffic at the Herbert S. Miles NB and SB units are estimated to be 843 and 793 vehicles, respectively. Herbert S. Miles NB and SB rank as having the 40th and 43rd highest recorded average daily traffic levels of all 87 SRRAs statewide, respectively. This level of use translates into stopping factors of 4.6% and 4.5% for Herbert S. Miles NB and SB, respectively, which are lower than the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Herbert S. Miles NB and SB rank as the 58th and 61st highest of all 87 SRRAs statewide, respectively.

On average, approximately 58% of the vehicles entering Herbert S. Miles NB are autos and 42% are trucks/buses, while 65% of vehicles entering Herbert S. Miles SB are autos and 35% are trucks/buses. Herbert S. Miles NB and SB have greater proportions of truck/bus traffic as compared

to average proportions of truck/bus traffic for all 87 SRRAs of 26%. Furthermore, Herbert S. Miles NB has substantially greater proportions of trucks/buses traffic as compared to the SB unit and has one of the highest proportions of truck/bus use of any SRRA statewide.

Considering the moderately average vehicle volumes entering the rest area on a daily basis and the moderate level of mainline AADT along this segment of I-5, Herbert S. Miles is judged to provide valuable rest area services to the traveling public in the region.

Herbert S. Miles NB and SB are judged to represent SRRAs that provide a relatively high degree of value to the traveling public and should remain within the rest area system.

13. Obrien SRRA.

Obrien SRRA is located in a rural region of Shasta County lying adjacent to Shasta Lake. Obrien lies approximately 16 miles north of Redding and 9 miles north of the community of Shasta Lake. The next largest community to the north of the rest area is Mount Shasta, at a distance of 43 miles. Obrien consists of a single SRRA unit serving only the northbound direction of travel on I-5. AADT on I-5 near the Obrien SRRA is moderate, at 19,000 vehicles per day.

Obrien has a total of 23 parking spaces including 14 auto and 9 truck/buses spaces. Based on estimates of parking demand, Obrien has a current parking deficiency of 8 auto spaces and projected future parking deficiencies of 23 auto and 5 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated that new right-of-way would be needed to provide the additional 28 parking spaces and that there is likely no suitable vacant land adjacent to the site which might be acquired for parking expansion. An estimated 1.3 acres would be required to accommodate the 28 parking additional parking spaces at a new location. Therefore, the additional parking will need to be provided at a separate location either through a new SRRA, Interstate Oasis, or APF in the region. As an alternative to Caltrans acquiring new right-of-way to provide the additional parking, Interstate Oases could be developed in the region to provide the additional parking. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop Interstate Oases to provide some or all of the required additional parking at Obrien SRRA:

- **Chevron Station -** 14361 Holiday Road, Redding, CA 96003, (530) 275-4375; Located off Exit 687 at Old Oregon Trail/I-5 interchange, 7 miles south of Obrien SRRA (40.705347, -122.334399); Site has 21 auto and no truck/bus parking spaces; Open 6:00 a.m. to 11:00 p.m. daily; Site is accessible from both directions of travel on I-5. Does ***not*** currently meet Interstate Oasis requirements, as facility does not offer truck/bus parking and is not open 24/7.
- **Shell Station –** 14385 Wonderland Blvd., Redding, CA 96003, (530) 275-9725; Located off Exit 687 at Old Oregon Trail/I-5 interchange, 7 miles south of Obrien SRRA (40.706847, -122.338428); Site has 17 auto and no truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Does ***not*** currently meet Interstate Oasis requirements, as facility does not offer truck/bus parking.
- **Exxon Station -** 24235 Eagles Roost Road, Lakehead, CA 96051, (530) 238-2534; Located off Exit 712 at Pollard Camp Rd./I-5 interchange, 18 miles north of Obrien SRRA (40.994405, -122.418800); Site can accommodate roughly 30 auto and 30 truck/bus parking

spaces; Open 6:00 a.m. to 10:00 p.m. Monday-Saturday, closed Sunday. Site is accessible from both directions of travel on I-5. Does ***not*** currently meet Interstate Oasis requirements, as facility in not open 24/7.

- **Shell Station -** 20884 Antlers Road, Lakehead, CA 96051, (530) 238-2331; Located off Exit 702 at Lakeshore Drive/I-5 interchange, 9 miles north of Obrien SRRA (40.892083, -122.382064); Site can accommodate roughly 16 auto and no truck/bus parking spaces; Open 5:00 a.m. to 11:00 p.m. daily; Site is accessible from both directions of travel on I-5. Does ***not*** currently meet Interstate Oasis requirements, as facility in not open 24/7 and does not offer truck/bus parking.

Most of the above candidate commercial enterprises are gas station operations where existing parking areas are relatively small and constrained. The Chevron and Exxon stations have vacant land adjacent to the facility which could provide additional parking for both autos and trucks, particularly the Exxon station. Developing Intestate Oases in this region would be a considerably less expensive option and would result in savings to the state. ***Therefore, to provide the required additional parking it is recommended that Caltrans attempt to develop Interstate Oases in the region. If developing an Interstate Oasis is not possible then it is recommended that Caltrans considered the development of a traditional SRRA in the region between Obrien and Weed Airport SRRA.***

The closest rest area to the north of Obrien serving northbound traffic is Weed Airport SRRA, at a distance of 59 miles or a 1-hour drive. The closest SRRA to the south is Herbert S. Miles at distance of 40 miles or slightly longer than a half-hour drive. The nearest ASOs from the Obrien SRRA are located 9 miles north and 7 miles south. There are moderate levels of ASOs to the north and south of SRRA, providing a range of nearby stopping opportunities. The spacing between Obrien, Weed Airport, and Herbert S. Miles is the same or less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. When the spacing of ASOs is considered, the distance between Obrien and nearby stopping opportunities is essentially in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Obrien SRRA is estimated to be 628 vehicles. Obrien ranks as having the 58th highest recorded average daily traffic levels of all 87 SRRAs statewide. This level of use translates into a stopping factor of 6.6%, which is close to the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Obrien ranks as the 39th highest of all 87 SRRAs statewide.

On average, approximately 72% of the vehicles entering Obrien are autos and 28% are trucks/buses, which is similar to the average proportions of truck/bus traffic for all 87 SRRAs of 26%.

Obrien is judged to represent an SRRA that provides a relatively high degree of value to the traveling public and should remain within the rest area system.

14. Lakehead SRRA.

Lakehead SRRA is located in a rural region of Shasta County just north of Shasta Lake. Lakehead lies approximately 26 miles north of Redding and 19 miles north of the community of Shasta Lake. The next largest community to the north of the rest area is Mount Shasta, at a distance of 34 miles.

Lakehead consists of a single SRRA unit serving only the southbound direction of travel on I-5. AADT on I-5 near the Lakehead SRRA is moderate, at 17,100 vehicles per day.

Lakehead has a total of 62 parking spaces including 44 auto and 18 truck/buses spaces. Based on estimates of parking demand, Lakehead has no current parking deficiency, yet has a projected future parking deficiency of 5 auto and 6 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated that the existing right-of-way at Lakehead would likely be sufficient to accommodate the required parking expansion and that no new right-of-way would be needed. ***Therefore, it is recommended that Caltrans develop the required additional parking onsite, within the existing right-of-way of the Lakehead SRRA.***

The closest rest area to the north of Lakehead serving southbound traffic is Weed Airport SRRA at a distance of 49 miles or just under a 1-hour drive. The closest SRRA to the south is Herbert S. Miles, also at a distance of 49 miles. The nearest ASOs from the Lakehead SRRA are located 8 miles north and 2 miles south. There are moderate levels of ASOs to the north and south of SRRA, providing a range of nearby stopping opportunities. The spacing between Lakehead, Weed Airport, and Herbert S. Miles is less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. When the spacing of ASOs is considered, the distance between Lakehead and nearby stopping opportunities is essentially in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Lakehead SRRA is estimated to be 893 vehicles. Lakehead ranks as having the 38th highest recorded average daily traffic levels of all 87 SRRAs statewide. This level of use translates into a stopping factor of 10.4% which is greater than the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Lakehead ranks as the 18th highest of all 87 SRRAs statewide.

On average, approximately 67% of the vehicles entering Lakehead are autos and 33% are trucks/buses. Lakehead has relatively greater proportions of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Lakehead is judged to represent an SRRA that provides a relatively high degree of value to the traveling public and should remain within the rest area system.

15. Weed Airport SRRA.

Weed Airport SRRA is located in a rural region of Siskiyou County roughly 6 miles north of the community of Weed. Weed Airport lies approximately 22 miles south of Yreka. The next largest community to the south of the rest area is Mount Shasta, at a distance of 34 miles. AADT on I-5 near the Weed Airport SRRA is moderate, at 14,700 vehicles per day.

Weed Airport NB and SB each have a total of 34 parking spaces including 16 auto and 18 truck/bus spaces. Based on estimates of parking demand, Weed NB has a current parking deficiency of 17 auto and 1 truck/bus spaces, and a projected future parking deficiency of 29 auto and 8 truck/bus spaces. Weed SB has a current parking deficiency of 16 auto and 2 truck/bus spaces, and a projected future parking deficiency of 28 auto and 9 truck/bus spaces. Caltrans has indicated that the existing right-of-way at Weed NB and SB would be insufficient to accommodate the required

parking expansion and that new right-of-way would be needed to provide the additional parking. Caltrans has also judged that vacant land adjacent to the SB unit may be suitable for right-of-way acquisition and parking expansion. Land surrounding the NB unit is already developed and in use by Weed Airport, therefore the additional parking would need to be provided by a new SRRA, Interstate Oasis, or APF. If land adjacent to the SB unit were purchased by Caltrans for parking expansion then an estimated 1.4 acres would be required. An estimated 1.9 acres would be needed to develop the additional parking required for the NB unit, assuming that an off-site parking facility was developed by Caltrans. However, an alternative to purchasing additional right-of-way would be to develop Interstate Oases in region. The following nearby ASOs are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at the Weed NB and SB units:

- **Pilot Travel Center** - 395 Vista Drive, Weed, CA 96094, (530) 938-9600; Located off Exit 745 at Vista Dr./I-5 interchange, 8 miles south of Weed SRRA (41.399328, -122.376384); Site has approximately 20 auto and 50 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **76 Station** - 338 Highway A 12, Grenada, CA 96038, (530) 436-2208; Located off Exit 766 at County Highway A 12/I-5, 13 miles north of Weed SRRA (41.646899, -122.528480); Site has vacant lot which can accommodate approximately 10 autos and 30 trucks/buses; Open 6:00 a.m. to 9:00 p.m., 7 days per week; Site is accessible from both directions of travel on I-5. Does ***not*** currently meet Interstate Oasis requirements, as facility in not open 24/7.

Considering the relatively limited number of ASOs that are potentially capable of providing the required additional parking needed at Weed NB, SB, or both units, Caltrans will likely need to purchase some amount of new right-of-way on which additional parking could be developed. ***Based on these findings, it is recommended that Caltrans attempt to acquire land adjacent to Weed SB on which to provide the additional parking required at that unit or if this is not possible, to develop Interstate Oases in the region. It is recommended that Caltrans seek to develop Interstate Oases to provide the required additional parking for the Weed NB unit. However, if developing Interstate Oases is not possible then it is recommended that Caltrans considered the development of a traditional SRRA in the region between Obrien and Weed Airport SRRA (see recommendations for Obrien SRRA).***

The closest rest area to the north of Weed SRRA is Randolph Collier SRRA, at a distance of 33 miles or a half-hour drive. The closest SRRAs to the south are Obrien SRRA (serving northbound traffic) and Lakehead SRRA (serving southbound traffic) at distances of 59 and 49 miles, respectively. The nearest ASOs from the Weed SRRA are located 13 miles north and 6 miles south. There are low levels of ASOs to the north and south of Weed SRRA. The spacing between Weed Airport, Randolph Collier, Obrien, and Lakehead SRRA, is the same or less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-5, the distance between SRRAs and nearby ASOs is essentially in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Weed NB and SB is estimated to be 904 and 900 vehicles, respectively. Weed NB and SB rank as having the 35th and

37th highest recorded average daily traffic levels of all 87 SRRAs statewide, respectively. This level of use translates into stopping factors for Weed NB and SB of 12.3 and 12.2%, respectively, which is significantly greater than the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Weed NB and SB rank as the 9th and 10th highest of all 87 SRRAs statewide.

On average, approximately 63% of the vehicles entering Weed NB are autos and 37% are trucks/buses, while 62% of vehicles enter Weed SB are autos and 38% are trucks/buses. Weed NB and SB each have substantially greater proportions of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Weed NB and SB are judged to represent SRRAs that provide a relatively high degree of value to the traveling public and should remain within the rest area system.

16. Randolph Collier SRRA.

Randolph Collier SRRA is located in a rural region of Siskiyou County lying 11 miles north of the city of Yreka and approximately 11 miles south of the California/Oregon border. The city of Ashland, Oregon lies approximately 26 miles to the north of the SRRA. Randolph Collier consists of a single rest unit that serves both northbound and southbound directions of travel on I-5. AADT on I-5 near the Randolph Collier SRRA is moderate, at 13,500 vehicles per day.

Randolph Collier has a total of 134 parking spaces including 96 auto and 38 truck/bus spaces. Based on estimates of parking demand, Rand Collier has no current or projected future parking deficiencies. ***The current number and mix of parking spaces at Randolph Collier SRRA are judged to be sufficient to meet current and future parking needs over the next 20-years and no parking expansion is necessary.***

There are no rest areas north of Randolph Collier SRRA on I-5 in California. However, the Suncrest SRRA in Talent, Oregon, which serves only southbound traffic, lies approximately 34 miles to the north on I-5 or a half-hour drive. The nearest SRRA to the north of Randolph Collier serving both the northbound and southbound directions of travel is the SRRA within Valley of the Rogue State Park (several miles east of Grants Pass, Oregon), at a distance of 58 miles or a 1-hour drive. The nearest SRRA to the south is Weed Airport, at a distance of 33 miles or a half-hour drive. The closest ASOs to the Randolph Collier SRRA are located 4 miles north and 10 miles south and there are low volumes of ASOs in the regions north and south of the SRRA in California. However, there are moderate levels of ASOs 25 miles to the north near Ashland, Oregon. The spacing between Randolph E. Collier, Weed Airport, and SRRAs in Oregon, is the same or less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-5, the distance between SRRAs and nearby ASOs is essentially in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Randolph Collier is estimated to be 817 vehicles. Randolph Collier ranks as having the 42nd highest recorded average daily traffic levels of all 87 SRRAs statewide. This level of use translates into a stopping factor of 6.1% which is lower than the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Randolph Collier ranks as the 46th highest of all 87 SRRAs statewide.

On average, approximately 77% of the vehicles entering Randolph Collier are autos and 23% are trucks/buses. Randolph Collier has a slightly lower proportion of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Randolph Collier is judged to represent an SRRA that provides a moderate to high degree of value to the traveling public and should remain within the rest area system.

C. INTERSTATE 8

Exhibit 2 summarizes key use, traffic, and geographical information for each of the four rest areas located on I-8. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 2. Key Statistics for SRRAs on Interstate 8

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Buckman Springs	16,450	628	3.8%	58 E/None W	23 E/21 W	Very Low	Rural	3	Onsite
Sunbeam EB	13,250	518	7.8%	48 E/None W	6 E/19 W	Low	Rural	1	None
Sunbeam WB	13,250	362	5.5%	48 E/None W	6 E/19 W	Low	Rural	None	None
Sand Hills	14,650	616	4.2%	None E/48 W	40 E/9 W	Very Low	Remote	26	Close and Relocate: New SRRA

1. Buckman Springs SRRA.

Buckman Springs SRRA is located in a rural region of San Diego County lying roughly 3 miles east of the small community of Pine Valley and 62 miles west of the city of El Centro. Buckman Springs consists of a single rest area unit serving both the eastbound and westbound directions of travel on I-8. AADT on I-8 near the Buckman Springs SRRA is moderate, at 16,450 vehicles per day.

Buckman Springs has a total of 50 parking spaces including 32 auto and 18 truck/bus spaces. Based on estimates of parking demand, Buckman Springs has no current parking deficiencies, yet has a projected future parking deficiency of 3 auto spaces. After reviewing the configuration of the SRRA there appears to be sufficient right-of-way at Buckman Springs to accommodate this minor level of additional parking. ***Therefore, it is recommended that Caltrans develop the required additional parking onsite, within the existing right-of-way of the Buckman Springs SRRA.***

There are no SRRAs to the west of Buckman Springs SRRA on I-8 and the closest rest area to the east is Sunbeam SRRA, at a distance of 58 miles or a 1-hour drive. The nearest ASOs from Buckman Springs are located 23 miles east and 21 miles west. There are very low levels of ASOs to the east and west of Buckman Springs SRRA. The spacing between Buckman Springs and Sunbeam SRRA is roughly the same as the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-5, the distance between SRRAs and nearby ASOs is essentially in line with the half-

hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Buckman Springs is estimated to be 628 vehicles. Buckman Springs ranks as having the 59th highest recorded average daily traffic levels of all 87 SRRAs statewide and this level of use translates into a stopping factor of 3.8% which is nearly half of the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Buckman Springs ranks as the 63rd highest of all 87 SRRAs statewide.

On average, approximately 82% of the vehicles entering Buckman Springs are autos and 18% are trucks/buses. Buckman Springs has a substantially lower proportion of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Considering the moderately average daily traffic entering the rest area, moderate volumes of mainline AADT along this segment of I-5, and the spacing to nearby SRRAs and ASOs, ***Buckman Springs is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.***

2. Sunbeam SRRA.

Sunbeam SRRA is located in a relatively rural region of Imperial County lying roughly 6 miles west of the city of El Centro and 63 miles east of the small community of Pine Valley. There are very few communities between Sunbeam and Pine Valley and this segment of I-5 is quite remote. Sunbeam consists of two SRRA units each serving the eastbound and westbound directions of travel. AADT on I-8 near the Sunbeam SRRA is moderate, at 13,250 vehicles per day.

Sunbeam EB has a total of 30 parking spaces including 21 auto and 9 truck/bus spaces. Sunbeam WB has a total of 32 parking spaces including 24 auto and 8 truck bus spaces. Based on estimates of parking demand, Sunbeam EB has no current parking deficiencies and has a projected future parking deficiency of just one auto space, while Sunbeam WB has no current or projected future parking deficiencies. After reviewing the configuration of the SRRA there appears to be sufficient right-of-way onsite at the Sunbeam EB SRRA to accommodate the minor parking expansion. ***Therefore, the current number and mix of parking spaces at Sunbeam EB and WB are judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary.***

The closest rest area to the west of Sunbeam SRRA is Buckman Springs SRRA, at a distance of 58 miles or a roughly a 1-hour drive, and the next SRRA east of Sunbeam is Sand Hills SRRA, at a distance of 48 miles or just under a 1-hour drive. The nearest ASOs from Sunbeam are located 6 miles east and 19 miles west. There are low levels of ASOs to the east and west of Sunbeam SRRA. The spacing between Sunbeam, Buckman Springs, and Sand Hills SRRA is either roughly the same as or less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-8, the distance between SRRAs and nearby ASOs is essentially in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Sunbeam EB and WB is estimated to be 518 and 362 vehicles, respectively. Sunbeam EB and WB rank as having the

63rd and 70th highest recorded average daily traffic levels of all 87 SRRAs statewide. This level of use translates into stopping factors of 7.8% and 5.5% for Sunbeam EB and WB, respectively. The stopping factors for Sunbeam EB and WB are close to the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Sunbeam EB and WB rank as the 31st and 54th highest of all 87 SRRAs statewide, respectively. The relatively lower stopping factor of Sunbeam WB might be explained by the close proximity of nearby ASOs that are 6 miles west of the rest area. Given that the region to the west of Sunbeam is more remote, with fewer ASOs and larger spacing between ASOs and SRRAs, this might explain a greater propensity for eastbound travelers to stop at Sunbeam EB.

On average, approximately 83% of the vehicles entering Sunbeam EB are autos and 17% are trucks/buses, while 71% of the traffic entering Sunbeam WB are autos and 29% are trucks/buses. Sunbeam EB has a substantially lower proportion of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26% and as compared to Sunbeam WB.

Sunbeam EB and WB are judged to represent SRRAs that provide a moderate degree of value to the traveling public and should remain within the rest area system.

3. Sand Hills SRRA.

Sand Hills SRRA is located in a remote region of southern Imperial County lying roughly 17 miles west of Yuma, Arizona at the California/Arizona border and just north of the California/Mexico border. The nearest community to the west is the city of El Centro, at a distance of 40 miles. There are essentially no communities between El Centro and Yuma making this segment of I-8 quite remote. Sand Hills consists of a single SRRA unit serving both eastbound and westbound directions of travel. AADT on I-8 near the Sand Hills SRRA is moderate, at 14,650 vehicles per day.

Sand Hills has a total of 12 parking spaces including 10 auto and 2 truck/bus spaces. Based on estimates of parking demand, the SRRA has a current parking deficiency of 13 auto and 5 truck/bus spaces and a projected future parking deficiency of 20 auto and 6 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated there appears to be insufficient right-of-way at Sand Hills to develop the required additional parking and an estimated 1.4 acres would be required to develop the new parking at an off-site location. Caltrans has also indicated that the facilities at Sand Hills are relatively primitive and were designed for temporary purposes, particularly the rest room and wastewater facilities. Furthermore, since the SRRA is located within the median of I-8 with relatively small entry/exit ramps, there may also be some concern regarding the safety of vehicle ingress and egress at this location. For these reasons, the current Sand Hills SRRA may be inadequate to satisfy the future needs of travelers on I-8.

Caltrans presently owns approximately 24 acres of vacant land on the northeast side of the Sidewinder Road/I-8 interchange located 9 miles east of the Sand Hills SRRA. This property has been the focus of past efforts to develop a public/private partnership SRRA at this location and is judged to continue to represent a suitable location for such a project. ***For these reasons, it is recommended that Caltrans close Sand Hills SRRA and develop a public/private partnership SRRA on right-of-way owned by Caltrans at the Sidewinder Road interchange. Closing the Sand Hills SRRA and developing a public/private partnership SRRA would have the potential to not only yield cost savings to the state but could even potentially generate income to the state in the***

form of lease/rental payments from the private partner. Note that if developing a public/private partnership SRRA ultimately proves unfeasible, this location would still represent a suitable site on which to develop a traditional SRRA.

The closest rest area to the west of Sand Hills SRRA is Sunbeam SRRA, at a distance of 48 miles or a 45-minute drive. There is no SRRA to the east of Sand Hills on I-8 in California. However, Ligurta SRRA on I-8 in Arizona is located 39 miles to the east of Sand Hills SRRA or slightly greater than a half-hour drive. The nearest ASOs from Sand Hills are located 40 miles east and 9 miles west. There are very low levels of ASOs along this segment of I-8, particularly to the west of the SRRA. The spacing between Sand Hills, Sunbeam, and Ligurta SRRA in Arizona is less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs and SRRAs along this segment of I-8, the distance between SRRAs/ASOs west of Sand Hills is *greater* than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code, while spacing of SRRAs/ ASOs to the east of the Sand Hills are in line with Subsection 219(a) recommendations. ***If Sand Hills SRRA were closed and an SRRA developed at the Sidewinder Road interchange location, then the new distance between this location and Sunbeam SRRA – the closest SRRA on I-8 in California - would be 57 miles and the distance to Ligurta SRRA in Arizona would be 30 miles, both of which are still below the FHWA and AASHTO spacing guidelines.***

Based on traffic surveys performed as part of this analysis, average daily traffic at Sand Hills is estimated to be 616 vehicles. Sand Hills ranks as having the 60th highest recorded average daily traffic levels of all 87 SRRAs statewide. This level of use translates into a stopping factor of 4.2%. The stopping factor for Sand Hills is substantially below the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Sand Hills ranks as the 62nd highest of all 87 SRRAs statewide.

On average, approximately 78% of the vehicles entering San Hills SRRA are autos and 22% are trucks/buses. Sand Hills has a slightly lower proportion of truck/bus traffic as compared to the statewide average for all 87 SRRAs of 26%.

Sand Hills is judged to represent an SRRA location that provides a moderate degree of value to the traveling public and should remain within the rest area system. However, as discussed previously, given the limited parking expansion possibilities and primitive facilities onsite at Sand Hills, it is recommended that the SRRA be closed and replaced with a public/private partnership SRRA at the Sidewinder Road interchange location.

D. INTERSTATE 10

Exhibit 3 summarizes key use, traffic, and geographical information for each of the seven rest areas located on I-10. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 3. Key Statistics for SRRAs on Interstate 10

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Wildwood	106,500	1,323	2.5%	27 E/None W	1 E/3 W	High	Urban	None	None
Brookside	94,000	792	1.7%	22 E/None W	3 E/5 W	High	Urban	7	Oases
Whitewater EB	81,000	1,158	2.9%	45 E/27 W	7 E/7 W	High	Urban	None	None
Whitewater WB	81,000	1,089	2.7%	45 E/22 W	7 E/7 W	High	Urban	6	Onsite or Oases
Cactus City EB	22,500	890	7.9%	63 E/45 W	14 E/12 W	Low	Rural	41	New ROW Adjacent and/or Oases
Cactus City WB	22,500	952	8.5%	63 E/45 W	14 E/12 W	Low	Rural	45	New ROW Adjacent and/or Oases
Wiley's Well	22,400	558	2.5%	None E/63 W	10 E/30 W	Low	Rural	6	Onsite

1. Wildwood SRRA.

Wildwood SRRA is located in a relatively urban area of San Bernardino County, lying approximately 7 miles east of the city of Redlands and 9 miles west of the city of Beaumont. Wildwood consists of a single SRRA unit serving only the eastbound direction of travel on I-10. AADT on I-10 near the Wildwood SRRA is very high at 106,500 vehicles per day.

Wildwood has a total of 76 parking spaces including 55 auto and 21 truck/bus spaces. Based on estimates of parking demand, Wildwood SRRA has no current or projected future parking deficiencies. ***Therefore, the current number and mix of parking spaces at Wildwood SRRA are judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary.***

There are no SRRAs to the west of Wildwood SRRA on I-10 and the closest rest area serving the eastbound direction of travel on I-10 is Whitewater EB SRRA, at a distance of 27 miles or less than a half-hour drive. The nearest ASOs from Wildwood are located 1 mile east and 3 miles west. There are a high number of ASOs to the east and west of Wildwood SRRA. The spacing between Wildwood and Whitewater SRRA is less than half the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-10, the distance between SRRAs and nearby ASOs is substantially less than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Wildwood is estimated to be 1,323 vehicles. Wildwood ranks as having the 13th highest recorded average daily traffic levels of all 87 SRRAs statewide and this level of use translates into a stopping factor of 2.5% which is nearly one-third of the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Wildwood ranks as the 77th highest of all 87 SRRAs statewide.

On average, approximately 65% of the vehicles entering Wildwood are autos and 35% are trucks/buses. The SRRA has a substantially higher proportion of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Wildwood is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

2. Brookside SRRA.

Brookside is located in a relatively urban area of Riverside County, lying approximately 11 miles east of the city of Redlands and 3 miles west of the city of Beaumont. Wildwood consists of a single SRRA unit serving only the westbound direction of travel on I-10. AADT on I-10 near the Brookside SRRA is very high at 94,000 vehicles per day.

Brookside has a total of 20 parking spaces including 16 auto and 4 truck/bus spaces. Based on estimates of parking demand, Brookside SRRA has a current parking deficiency of 1 truck/bus space and a projected future parking deficiency of 1 auto and 6 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated that there is insufficient right-of-way at Brookside to develop the required additional parking. In addition, there is limited vacant land adjacent the SRRA which might be acquired by Caltrans for parking expansion. Therefore, the additional parking would need to be provided at a new SRRA or Interstate Oasis in the region. An estimated 1.1 acres would be needed to provide the additional required parking at a new location. However, as an alternative to acquiring additional right-of-way, Caltrans could develop Interstate Oases in the region. The following nearby ASO is a potential candidate commercial enterprise with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Brookside SRRA:

- **Cabazon Truck and Auto Stop** - 50876 Seminole Drive, Cabazon, CA 92230, (951) 849-3995; Located off Exit 106 at Main St./I-10 interchange, 15 miles east of Brookside SRRA (33.919897, -116.773955); Site can accommodate roughly at least 12 auto and 35 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-10. Currently meets Interstate Oasis requirements.

To provide the additional parking required at Brookside SRRA, it is recommended that Caltrans attempt to develop an Interstate Oasis in the region.

Although Wildwood SRRA is located 5 miles to the west of Brookside SRRA, there are no SRRAs to the west of Brookside on I-10 serving westbound traffic. The closest rest area serving the westbound direction of travel on I-10 is Whitewater WB SRRA lying 22 miles east or less than a half-hour drive. The nearest ASOs from Brookside are located 3 miles east and 5 miles west. There are high volumes of ASOs to the east and west of Brookside SRRA. The spacing between Brookside and Whitewater SRRA is less than half the 1-hour drive/60-mile maximum spacing

recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-10, the distance between SRRAs and nearby ASOs is substantially less than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Brookside is estimated to be 792 vehicles. Brookside ranks as having the 44th highest recorded average daily traffic levels of all 87 SRRAs statewide and this level of use translates into a stopping factor of 1.7% which is nearly one-quarter of the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Brookside ranks as the 84th highest of all 87 SRRAs and is among the lowest in the state.

On average, approximately 64% of the vehicles entering Wildwood are autos and 36% are trucks/buses. The SRRA has a substantially higher proportion of truck/bus traffic as compared to the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Brookside is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

3. Whitewater SRRA.

Whitewater SRRA is located in an increasingly urban region of Riverside County approximately 13 miles east of the city of Banning and 12 miles northwest of Palm Springs. Whitewater consists of two SRRA units serving the westbound and eastbound directions of travel on I-10. AADT on I-10 near the Whitewater SRRA is very high at 81,000 vehicles per day.

Whitewater EB has a total of 93 parking spaces including 74 auto and 19 truck/bus spaces. Whitewater WB has a total of 85 parking spaces, including 73 auto and 12 truck/bus spaces. Based on estimates of parking demand, Whitewater EB has no current or projected future parking deficiencies, while Whitewater WB has a current parking deficiency of 1 truck/bus space and a projected future parking deficiency of 6 truck/bus spaces. After reviewing the configuration of the SRRA, there appears to be sufficient right-of-way at Whitewater WB to develop the required additional truck/bus parking. However, as an alternative to developing the additional parking onsite, Caltrans could develop an Interstate Oasis in the region. The following nearby ASOs represent potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Whitewater EB:

- **Pilot Travel Center** - 6605 N Indian Canyon Drive, Palm Springs, CA 92240, (760) 329-5562; Located off Exit 120 at Indian Canyon Dr/I-10 interchange, 7 miles east of Whitewater SRRA (33.903001,-116.546201); Site has roughly 49 auto and 51 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-10. Currently meets Interstate Oasis requirements.
- **Arco/AmPm Station** - 22755 Palm Drive, Desert Hot Springs, CA 92240, (760) 251-4134; Located off Exit 123 at N Gene Autry Trail/I-10 interchange, 10 miles east of Whitewater SRRA (33.882723, -116.502238); Site can has roughly 21 auto and no truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-10. Does ***not*** currently meet Interstate Oasis requirements, as facility does not offer truck/bus parking.

Therefore, it is recommended that Caltrans develop the required additional parking onsite, within the existing right-of-way of the Whitewater WB. However, if this is not possible, it is recommended that Caltrans develop an Interstate Oasis in the region to provide the additional parking required at Whitewater WB.

The closest rest area to the west of Whitewater SRRA is Wildwood SRRA, at a distance of 27 miles or a roughly a half-hour drive. The closest SRRA east of Whitewater is Cactus City SRRA, at a distance of 45 miles or roughly a 45-minute drive. The nearest ASOs from Whitewater are located 7 miles east and 7 miles west. There are high levels of ASOs to the east and west of Whitewater SRRA. The spacing between Whitewater, Wildwood, and Cactus City SRRA is less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-10, the distance between SRRAs and nearby ASOs is in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Whitewater EB and WB is estimated to be 1,158 and 1,089 vehicles, respectively. Whitewater EB and WB rank as having the 22nd and 25th highest recorded average daily traffic levels of all 87 SRRAs statewide. This level of use translates into stopping factors of 2.9% and 2.7% for Whitewater EB and WB, respectively. The stopping factors for Whitewater EB and WB are less than half the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Whitewater EB and WB rank as the 71st and 74th highest of all 87 SRRAs statewide, respectively.

On average, approximately 65% of the vehicles entering Whitewater EB are autos and 35% are trucks/buses, while 62% of the traffic entering Whitewater WB are autos and 38% are trucks/buses. Both SRRA units have greater proportions of truck/bus traffic as compared to the statewide average of 26%.

Considering the high average daily traffic entering the rest area, high volumes of mainline AADT along this segment of I-8, and the spacing of SRRAs and ASOs in the region, ***Whitewater EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.***

4. Cactus City SRRA.

Cactus City SRRA is located in a rural region of Riverside County, approximately 14 miles east of the city of Indio and 80 miles west of the community of Blythe near the California/Arizona border. Cactus City consists of two SRRA units serving the westbound and eastbound directions of travel on I-10. AADT on I-10 near the Cactus City SRRA is moderate, at 22,500 vehicles per day.

Cactus City EB and WB each have a total of 18 parking spaces including 12 auto and 6 truck/bus spaces. Based on estimates of parking demand, Cactus City EB has a current parking deficiency of 8 auto and 7 truck/bus spaces and a projected future parking deficiency of 23 auto and 18 truck/bus spaces. Cactus City WB has a current parking deficiency of 10 auto and 8 truck/bus spaces and a projected future parking deficiency of 26 auto and 19 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated there appears to be insufficient right-of-way at Cactus City EB and WB to develop the required additional parking. Caltrans has indicated that vacant land adjacent to each SRRA unit may be suitable for developing the additional parking. If

Caltrans were to purchase land adjacent to each SRRA unit as new right-of-way for parking expansion, an estimated 2.4 acres would be required at the EB unit and 2.5 acres would be required at the WB unit. However, as an alternative acquiring land adjacent to the SRRA units, Caltrans could develop Interstate Oases in the region. The following nearby ASOs represent potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Cactus City EB and WB:

- **Love's Travel Stop** - 45761 Dillon Road, Coachella, CA 92236, (760) 775-3401; Located off Exit 146 at Dillon Road/I-10 interchange, 12 miles west of Cactus City SRRA (33.717424, -116.171346); Site has roughly 45 auto and 50 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-10. Currently meets Interstate Oasis requirements.
- **Travel Centers of America** - 46155 Dillon Road, Coachella, CA 92236, (760) 342-6200; Located off Exit 146 at Dillon Road/I-10 interchange, 12 miles west of Cactus City SRRA (33.713716, -116.175598); Site has approximately 200 auto and 205 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-10. Currently meets Interstate Oasis requirements.
- **Chevron Station** - 62450 Chiriaco Road, Chiriaco Summit, CA 92201, (760) 227-3227; Located off Exit 173 at Summit Rd/I-10 interchange, 14 miles east of Cactus City SRRA (33.660792,-115.721248); Site has approximately 50 auto and 30 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-10. Currently meets Interstate Oasis requirements.

It is recommended that Caltrans acquire and develop additional right-of-way and/or develop Interstate Oases to provide the additional parking required at Cactus City EB and WB. Indeed, recognizing the large number of auto and truck/bus parking deficiencies at both the EB and WB units, providing all of the additional parking spaces on additional right-of-way or from a single Interstate Oasis might not be possible. Therefore, multiple solutions might be necessary.

The closest rest area to the west of Cactus City SRRA is Whitewater SRRA, at a distance of 45 miles or roughly a 45-minute drive. The nearest SRRA to the east of Cactus City is Wiley's Well SRRA, at a distance of 63 miles or roughly a 1-hour drive. The nearest ASOs from Cactus City are located 14 miles east and 12 miles west. There are low levels of ASOs to the east and west of Cactus City SRRA. The spacing between Cactus City and Wiley's Well SRRA is close to the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-10, the distance between SRRAs and nearby ASOs is slightly greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Cactus City EB and WB is estimated to be 890 and 952 vehicles, respectively. Cactus City EB and WB rank as having the 39th and 32nd highest recorded average daily traffic levels of all 87 SRRAs statewide. This level of use translates into stopping factors of 7.9% and 8.5% for Cactus City EB and WB, respectively. The stopping factors for Cactus City EB and WB are slightly greater than the average stopping factor for all SRRAs in California of 7.0%. The stopping factors for Cactus City EB and WB rank as the 30th and 25th highest of all 87 SRRAs statewide, respectively.

On average, approximately 60% of the vehicles entering both Cactus City EB and WB are autos and 40% are trucks/buses. Both of the SRRA units have substantially greater proportions of truck/bus traffic as compared to the statewide average of 26%.

Cactus City EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

5. Wiley's Well SRRA.

Wiley's Well SRRA is located in a rural region of Riverside County approximately 77 miles east of the city of Indio and 17 miles west of the city Blythe. Wiley's Well consists of a single SRRA units serving both the westbound and eastbound directions of travel on I-10. AADT on I-10 near the Wiley's Well SRRA is moderate at 22,400 vehicles per day.

Wiley's Well has a total of 40 parking spaces including 33 auto and 7 truck/bus spaces. Based on estimates of parking demand, Wiley's Well SRRA has a current parking deficiency of 1 truck/bus space and a projected future parking deficiency of 6 truck/bus spaces. After reviewing the configuration of the SRRA, there appears to be sufficient right-of-way at Wiley's Well to develop all of the required additional parking onsite. ***Considering the low parking deficiencies and expansion potential at the SRRA, it is recommended that Caltrans attempt to develop the additional parking onsite within the existing right-of-way at Wiley's Well.***

The closest SRRA to the west of Wiley's Well is Cactus City SRRA, at a distance of 63 miles or a 1-hour drive. Although there are no rest areas east of Wiley's Well on I-10 in California, Ehrenberg SRRA locate is located approximately 26 miles east on I-10 in Arizona or roughly a half-hour drive. The nearest ASOs from Wiley's Well are located 10 miles east and 30 miles west. There are low volumes of ASOs to the east and west of Wiley's Well SRRA. The spacing between Cactus City and Wiley's Well SRRA is nearly the same as the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO, while the distance to the Ehrenberg SRRA to the east in Arizona is about half the recommended spacing. Considering the location of ASOs along this segment of I-10, the distance between SRRAs ASOs is close to the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Wiley's Well is estimated to be 558 vehicles. Wiley's Well ranks as having the 62nd highest recorded average daily traffic levels of all 87 SRRAs statewide and this level of use translates into a stopping factor of 2.5% which is substantially lower than the average stopping factor for all SRRAs in California of 7.0%. The stopping factor for Wiley's Well SRRA ranks as the 76th highest of all 87 SRRAs statewide.

On average, approximately 69% of the vehicles entering Wildwood are autos and 31% are trucks/buses, which is slightly higher than the average proportion of truck/bus traffic for all 87 SRRAs of 26%.

Wiley's Well is judged to represent an SRRA that provides a moderate to high degree of value to the traveling public and should remain within the rest area system.

E. INTERSTATE 15

Exhibit 4 summarizes key use, traffic, and geographical information for each of the four rest areas located on I-15. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 4. Key Statistics for SRRAs on Interstate 15

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Clyde V. Kane NB	37,250	1,828	9.8%	54 N/None S	29 E/11 W	Very Low	Remote	30	Onsite
Clyde V. Kane SB	37,250	1,304	7.0%	54 N/None S	29 E/11 W	Very Low	Remote	1	None
Valley Wells EB	36,000	1,905	10.6%	None N/54 S	25 E/2 W	Very Low	Remote	54	Onsite
Valley Wells WB	36,000	1,508	8.4%	None N/54 S	25 E/2 W	Very Low	Remote	31	Onsite

1. Clyde V. Kane SRRA.

Clyde V. ("C.V.") Kane SRRA is located in a remote desert region of San Bernardino County directly west of Mojave National Preserve and approximately 34 miles east of Barstow and 29 miles west of the small community of Baker. C.V. Kane consists of a two SRRA units serving the northbound (or eastbound) and westbound (or southbound) directions of travel on I-15. AADT on I-15 near the C.V. Kane SRRA is moderate, at 37,250 vehicles per day.

C.V. Kane NB and SB each have a total of 80 parking spaces including 57 auto and 23 truck/bus spaces. Based on estimates of parking demand, C.V. Kane NB has a current parking deficiency of 14 auto spaces and a projected future parking deficiency of 30 auto spaces. C.V. Kane SB has no current parking deficiency and a projected future parking deficiency of only one auto space. After reviewing the configuration of the SRRA, Caltrans has indicated there appears to be sufficient right-of-way at C.V. Kane NB and SB to develop the required additional parking. ***It is recommended that Caltrans develop the additional parking onsite within the existing right-of-way at C.V. Kane NB. The current number and mix of parking spaces at C.V. Kane SB are judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary.***

There are no SRRAs south (or west) of C.V. Kane on I-15 and the nearest SRRA to the north (or east) is Valley Wells SRRA, at a distance of 54 miles or slightly less than 1-hour drive. The nearest ASOs from C.V. Kane are located 11 miles south and 17 miles north. There are very low volumes of ASOs to the east and west of C.V. Kane SRRA, with most ASOs in the region located in the town of Baker to the northeast of the SRRA. The spacing between C.V. Kane and Valley Wells SRRA is slightly less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-15, the distance between SRRAs and ASOs is close to the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at C.V. Kane NB and SB is estimated to be 1,828 and 1,304 vehicles, respectively. C.V. Kane NB and SB rank as

having the 5th and 15th highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 9.8% at C.V. Kane NB and 7.0% at C.V. Kane SB. C.V. Kane NB has a stopping factor higher than the statewide average of 7.0% which is the same as C.V. Kane SB. The stopping factor for C.V. Kane NB and SB rank as the 19th and 36th highest of all 87 SRRAs statewide, respectively.

On average, approximately 84% of the vehicles entering C.V. Kane NB are autos and 16% are trucks/buses, while 78% of the vehicles entering C.V. Kane SB are autos and 22% are trucks/buses. C.V. Kane NB has substantially lower proportions of trucks/buses as compared to the statewide average proportion of truck/bus traffic of 26% while C.V. Kane SB has only slightly lower than average proportion of trucks/buses.

C.V. Kane NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

2. Valley Wells SRRA.

Valley Wells SRRA is located in a remote desert region of San Bernardino County along the northern border of Mojave National Preserve, lying approximately 87 miles east of Barstow and 25 miles west of the small community of Primm, Nevada at the California/Nevada border. Valley Wells consists of a two SRRA units serving the eastbound and westbound directions of travel on I-15. AADT on I-15 near the Valley Wells SRRA is moderate, at 36,000 vehicles per day.

Valley Wells EB and WB each have a total of 55 parking spaces including 38 auto and 17 truck/bus spaces. Based on estimates of parking demand, Valley Wells EB has a current parking deficiency of 35 auto spaces and a projected future parking deficiency of 52 auto spaces and 2 truck/bus spaces. Valley Wells WB has a current parking deficiency of 18 auto spaces and a projected future parking deficiency of 31 auto spaces. After reviewing the configuration of the SRRA, Caltrans has indicated there appears to be sufficient right-of-way at Valley Wells EB and WB to develop the required additional parking onsite. ***It is recommended that Caltrans develop the additional parking onsite within the existing right-of-way at Valley Wells EB and WB.***

The nearest rest area west of Valley Wells on I-15 is C.V. Kane, at a distance of 54 miles. There is no SRRA east of Valley Wells on I-15 in California. However, the Nevada Welcome Center rest area is located 25 miles east on I-15 in Primm, Nevada. The nearest ASOs from Valley Wells are located 2 miles east and 25 miles west. There are very low volumes of ASOs to the east and west of Valley Wells SRRA. The spacing between Valley Wells and C.V. Kane SRRA is slightly less than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-15, the distance between SRRAs and ASOs is close to the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Valley Wells EB and WB is estimated to be 1,905 and 1,508 vehicles, respectively. Valley Wells NB and SB rank as having the 4th and 9th highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 10.6% at Valley Wells EB and 8.4% at Valley Wells WB. Both Valley Wells NB and SB have stopping factors higher than the statewide average

of 7.0%. The stopping factor for Valley Wells EB and WB rank as the 17th and 26th highest of all 87 SRRAs statewide, respectively.

On average, approximately 82% of the vehicles entering Valley Wells EB are autos and 18% are trucks/buses, while 80% of the vehicles entering Valley Wells WB are autos and 22% are trucks/buses. Both Valley Wells EB and WB have lower proportions of trucks/buses as compared to the statewide average proportion of truck/bus traffic of 26%.

Valley Wells EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

F. INTERSTATE 40

Exhibit 5 summarizes key use, traffic, and geographical information for each of the four rest areas located on I-40. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 5. Key Statistics for SRRAs on Interstate 40

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Desert Oasis EB	12,600	925	14.7%	77 E/None W	22 E/5 W	Low	Remote	11	Onsite
Desert Oasis WB	12,600	1,085	17.2%	77 E/None W	22 E/5 W	Low	Remote	18	Onsite
John Wilkie EB	11,750	1,135	19.3%	None E/77 W	2 E/55 W	Very Low	Remote	28	Onsite
John Wilkie WB	11,750	955	16.3%	None E/77 W	2 E/55 W	Very Low	Remote	21	Onsite

1. Desert Oasis SRRA.

Dessert Oasis SRRA is located in a relatively remote desert region of San Bernardino County, approximately 29 miles east of Barstow and 114 miles west of the small community of Needles located near the California/Arizona border. The SRRA is directly west of the Mojave National Preserve. The SRRA consists of two units, each serving a given direction of travel on I-40. AADT on I-40 near the Desert Oasis SRRA is relatively low at 12,600 vehicles per day.

Desert Oasis EB has a total of 37 parking spaces including 22 auto and 15 truck/bus spaces, while Desert Oasis WB has 43 parking spaces including 25 auto and 18 truck/bus spaces. Based on estimates of parking demand, Desert Oasis EB has a current parking deficiency of 7 truck/bus spaces and a projected future parking deficiency of 11 truck/bus spaces. Desert Oasis WB has current parking deficiency of 10 truck/bus spaces and a projected future parking deficiency of only 4 auto and 14 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans judges that existing right-of-way at Desert Oasis NB and SB is likely sufficient develop the additional parking onsite. ***It is recommended that Caltrans develop the additional parking onsite within the existing right-of-way at Desert Oasis EB and WB.***

There are no rest areas to the west of Desert Oasis SRRA on I-40 and the nearest SRRA to the east is John Wilkie SRRA, at a distance of 77 miles. The nearest ASOs from Desert Oasis are located 22 miles east and 5 miles west. There are low volumes of ASOs to the east and west of Desert Oasis

SRRA, particularly to the east of the SRRA. The spacing between Desert Oasis and John Wilkie SRRA is slightly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-15, the drive time between SRRAs and ASOs is greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Desert Oasis EB and WB is estimated to be 925 and 1,085 vehicles, respectively. Desert Oasis EB and WB rank as having the 26th and 34th highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 14.7% at Desert Oasis EB and 17.2% at Desert Oasis WB. Both Desert Oasis EB and WB have stopping factors more than double the statewide average of 7.0%. The stopping factors for Desert Oasis EB and WB rank as the 6th and 3rd highest of all 87 SRRAs statewide, respectively.

On average, approximately 59% of the vehicles entering both Desert Oasis EB and WB are autos and 41% are trucks/buses. Both Desert Oasis EB and WB have substantially higher proportions of trucks/buses as compared to the statewide average proportion of truck/bus traffic of 26%.

Desert Oasis EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

2. John Wilkie SRRA.

John Wilkie SRRA is located in a remote desert region of San Bernardino County, lying approximately 105 miles east of Barstow and 36 miles west of the small community of Needles. The SRRA is located adjacent to the southern boundary of Mojave National Preserve. The SRRA consists of two units, each serving a given direction of travel on I-40. AADT on I-40 near the John Wilkie SRRA is relatively low at 11,750 vehicles per day.

John Wilkie EB has a total of 28 parking spaces including 19 auto and 9 truck/bus spaces, while John Wilkie WB has 27 parking spaces including 18 auto and 9 truck/bus spaces. Based on estimates of parking demand, John Wilkie EB has a current parking deficiency of 11 auto and 7 truck/bus spaces and a projected future parking deficiency of 18 auto and 10 truck/bus spaces. John Wilkie WB has current parking deficiency of 6 auto and 6 truck/bus spaces and a projected future parking deficiency of 11 auto and 10 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated that existing right-of-way at John Wilkie EB and WB is likely sufficient develop the additional parking onsite. ***It is recommended that Caltrans develop the additional parking onsite within the existing right-of-way at John Wilkie EB and WB.***

The nearest rest area to the west of John Wilkie is Desert Oasis SRRA, at a distance of 77 miles. There are no rest areas to the east of John Wilkie on I-40 in California. However, Haviland SRRA in Arizona is located approximately 72 miles west on I-40 and serves both eastbound and westbound directions of travel. The nearest ASOs from John Wilkie are located 2 miles east and 55 miles west. There are very low volumes of ASOs to the east and west of John Wilkie SRRA, particularly to the west of the SRRA. The spacing between Desert Oasis and John Wilkie SRRA is slightly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. Considering the location of ASOs along this segment of I-15, the drive time

between SRRAs and ASOs is greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at John Wilkie EB and WB is estimated to be 1,135 and 955 vehicles, respectively. John Wilkie EB and WB rank as having the 24th and 31st highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 19.3% at John Wilkie EB and 16.3% at John Wilkie WB. Both John Wilkie EB and WB have stopping factors more than double the statewide average of 7.0%. The stopping factors for John Wilkie EB and WB rank as the 2nd and 4th highest of all 87 SRRAs statewide, respectively.

On average, approximately 66% of the vehicles entering John Wilkie EB are autos and 34% are trucks/buses, while at John Wilkie WB 61% are autos and 39% are trucks/buses. Both SRRA units have substantially higher proportions of trucks/buses as compared to the statewide average proportion of truck/bus traffic of 26%.

John Wilkie EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

G. INTERSTATE 80

Exhibit 6 summarizes key use, traffic, and geographical information for each of the five rest areas located on I-80. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 6. Key Statistics for SRRAs on Interstate 80

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Hunter Hill	114,000	1,220	2.1%	109 E/None W	5 E/2 W	High	Urban	10	Oases and/or APF
Gold Run EB	26,250	1,400	10.7%	34 E/None W	2 E/9 W	Moderate	Rural	33	Oases
Gold Run WB	26,250	928	7.1%	34 E/109 W	2 E/9 W	Moderate	Rural	7	Oases
Donner Summit EB	26,000	684	5.3%	None E/34 W	6 E/7 W	Moderate	Rural	2	None
Donner Summit WB	26,000	837	6.4%	None E/34 W	6 E/7 W	Moderate	Rural	22	Oases

1. Hunter Hill SRRA.

Hunter Hill SRRA is located in a relatively urban area of Solano County lying roughly 3 miles north of central Vallejo and 11 miles southwest of the city of Fairfield. Hunter Hills consists of a single SRRA unit serving the westbound direction of travel on I-80. AADT on I-80 near the Hunter Hill SRRA is extremely high 114,000 vehicles per day.

Hunter Hill has a total of 33 parking spaces including 30 auto and 3 truck/bus spaces. Based on estimates of parking demand, Hunter Hill SRRA has a current parking deficiency of 1 truck/bus space and a projected future parking deficiency of 6 auto and 4 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans has indicated the existing right-of-way will likely be insufficient for developing the additional parking. Therefore, the additional parking will need to be provided via a new SRRA, Interstate Oasis, or APF. The following nearby ASOs represent potential candidate commercial enterprises with which Caltrans might partner with to provide some or all of the required additional parking at Hunter Hill SRRA:

- **Chevron Station** - 10 Sage St # B Vallejo, CA 94589, (707) 654-1944; Located off Exit 33B at State Highway 37/I-80 interchange, 1 mile south of Hunter Hill SRRA (38.140794,-122.230352); Site has 33 auto parking spaces and no truck/bus spaces. Open 5:00 a.m. to midnight, 7-days per week; Site is accessible from both directions of travel on I-80. Does *not* currently meet Interstate Oasis requirements, as operation is not open 24/7 and no truck/bus parking is provided.
- **Solano County Fairgrounds** - 900 Fairgrounds Drive, Vallejo, CA 94589, (707) 551-2000; Located off Exit 33B at State Highway 37/I-80 interchange, 1 mile south of Hunter Hill SRRA (38.138882,-122.227968); Site has large open parking area able to accommodate numerous autos and trucks; Open seasonally, not daily; Site is accessible from both directions of travel on I-80. Does *not* currently meet qualifications to be considered as an Interstate Oasis.
- **Vallejo Auto Mall –** Multiple big-box retail stores and auto dealerships located off Exit 33/33A at State Highway 37 (Columbus Parkway)/I-80 interchange in Vallejo, CA 94591, 1 mile south of Hunter Hill SRRA (38.133920, -122.216896); Site has numerous auto parking spaces and no dedicated truck parking spaces; Site is accessible from both directions of travel on I-80. Does *not* currently meet qualifications to be considered as an Interstate Oasis, as most operators at this location are not open 24/7 and do not provide truck/bus parking.

Considering the relatively small number of additional parking spaces required at Hunter Hill SRRA and the high cost of vacant land in this area, it is recommended that the additional parking be provided via an Interstate Oasis or an APF. However, since truck/bus parking spaces are limited at ASOs in the region, Caltrans might consider developing an APF separately to provide the additional truck/bus parking. An APF might be provided via an agreement with Solano County Fairgrounds where there is significant amount of vacant land presumably not in use on a daily basis or perhaps at the Vallejo Auto Mall which has a number of big-box retail outlets with large parking areas.

There are no rest areas to the west of Hunter Hill SRRA and nearest rest area east on I-80 is Gold Run West Bound (WB), at a distance of 109 miles or roughly a 2-hour drive. The nearest ASOs from Hunter Hill are located approximately 1 mile south east and 5 miles east. There are high volumes of ASOs to the east and west of Hunter Hill SRRA. The spacing between Hunter Hill and Gold Run WB is substantially greater than the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. However considering the volumes and close spacing of ASOs along this segment of I-80, the drive time between SRRAs and ASOs is within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Hunter Hill is estimated to be 1,220 vehicles and ranks as having the 19th highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into a stopping factor of 2.1% and ranks as the 81st highest of all 87 SRRAs, among the lowest stopping factor in the state.

On average, approximately 83% of the vehicles entering Hunter Hill are autos and 17% are trucks/buses. Hunter Hill has lower proportions of average daily truck/bus traffic as compared to the statewide average proportion of 26%.

Hunter Hill is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

2. Gold Run SRRA.

Gold Run SRRA is located in a rural area of Placer County in the Sierra Nevada mountain range, approximately 43 miles west of Truckee and 25 miles east of the community of Auburn. The SRRA consists of two units serving dedicated east and westbound directions of travel on I-80. The mountainous driving along this segment of I-80 often creates challenging driving conditions, particularly during the winter months when snow and ice can generate hazardous conditions. AADT on I-80 near the Gold Run SRRA is moderate, at 26,250 vehicles per day.

Gold Run EB has a total of 78 parking spaces including 54 auto and 24 truck/bus spaces, while Gold Run WB has 70 parking spaces including 54 auto and 16 truck/bus spaces. Based on estimates of parking demand, Gold Run EB has a current parking deficiency of 4 auto spaces and a projected future parking deficiency of 33 auto spaces, with no current or projected deficiencies in truck/bus parking. Gold Run WB has no current parking deficiencies and a projected future parking deficiency of 7 auto spaces. After reviewing the configuration of the SRRA, Caltrans judges that existing right-of-way at Gold Run EB and WB is likely insufficient to develop the additional parking onsite. In addition, Caltrans judges that the land adjacent to both the EB and WB units would not be suitable for acquisition as additional right-of-way for parking expansion. Therefore, the additional parking will need to be provided at a new SRRA, Interstate Oasis, or APF in the region. An estimated total of approximately 0.7 acres would be required to develop the additional required parking at an offsite location. However, an alternative to purchasing additional right-of-way would be to develop Interstate Oases in the region. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Gold Run EB and WB:

- **Tesoro Station** - 25 Canyon Creek Road, Dutch Flat, CA 95714, (530) 389-8251; Located off Exit 145 at Ridge Road/I-80 interchange, 1.5 miles east of Gold Run SRRA (39.187440, -120.832445); Site has approximately 20 auto and 10 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-80. Currently meets Interstate Oasis requirements.
- **Shell Station** – 41965 Nyack Road, Alta, CA 95715, (530) 389-8212; Located off Exit 156 at Nyack Road/I-80 interchange, 13 miles east of Gold Run SRRA (39.291943, -120.678448); Site has approximately 40 auto and 10 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-80. Currently meets Interstate Oasis requirements.

It is recommended that Caltrans seek to acquire and develop additional right-of-way and/or develop Interstate Oases in the region to provide the additional parking required at Gold Run EB and WB. Indeed, recognizing the large number of auto parking deficiencies at Gold Run EB and the possible limitation for parking expansion at nearby ASOs, providing all of the additional parking spaces using Interstate Oases might not be possible. Therefore, multiple solutions could be necessary.

The nearest rest area to the west of Gold Run is Hunter Hill SRRA, at a distance of 109 miles. However, Hunter Hill only serves the westbound direction of travel on I-80, and there are no rest areas to the west of Gold Run serving the eastbound direction of travel. The closest SRRA to the east of Gold Run is Donner Summit, at a distance of 34 miles. The nearest ASOs from Gold Run are located 2 miles east and 9 miles west. There are moderate volumes of ASOs to the east and west of Gold Run SRRA. The spacing between Gold Run and Donner Summit SRRA is roughly one-half of the 1-hour drive/60-mile maximum spacing recommendations provided by FHWA and AASHTO. However, the distance to Hunter Hill SRRA to the west on I-80 is substantially greater than the FHWA/AASHTO spacing/drive time recommendations. Considering the location of ASOs along this segment of I-80, the drive time between SRRAs and ASOs is the same or less than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed previously by Caltrans, average daily traffic at Gold Run EB and WB is estimated to be 1,400 and 928 vehicles, respectively. Gold Run EB and WB rank as having the 12th and 33rd highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 10.7% at Gold Run EB and 7.1% at Gold Run WB. Gold Run SRRA has stopping factors roughly the same or greater than the statewide average of 7.0%. The stopping factors for Gold Run EB and WB rank as the 16th and 34th highest of all 87 SRRAs statewide, respectively.

On average, approximately 80% of the vehicles entering Gold Run EB are autos and 20% are trucks/buses, while at Gold WB 85% are autos and 15% are trucks/buses. Both SRRA units have lower proportions of trucks/buses as compared to the statewide average proportion of truck/bus traffic of 26%.

Gold Run EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

3. Donner Summit SRRA.

Donner Summit SRRA is located in a rural area of Nevada County in the Sierra Nevada mountain range, approximately 9 miles west of Truckee and 58 miles east of the community of Auburn. The SRRA consists of two units serving dedicated east and westbound directions of travel on I-80. Similar to Gold Run SRRA, the mountainous driving along this segment of I-80 often creates challenging driving conditions, particularly during the winter months when snow and ice can generate hazardous conditions. AADT on I-80 near the Donner Summit SRRA is moderate, at 26,000 vehicles per day.

Donner Summit EB has a total of 62 parking spaces including 50 auto and 12 truck/bus spaces, while Donner Summit WB has 40 parking spaces including 31 auto and 9 truck/bus spaces. Based

on estimates of parking demand, Donner Summit EB has no current parking deficiencies and a projected future parking deficiency of only 2 truck/bus spaces. Donner Summit WB has a current parking deficiency of 1 truck/bus space and a projected future parking deficiency of 16 auto and 6 truck/bus spaces. Donner Summit EB is judged to have sufficient right-of-way to develop the minor additional parking onsite. After reviewing the configuration of the SRRA, Caltrans judges that existing right-of-way at Donner Summit WB would be insufficient to develop the additional parking onsite within the rest area. In addition, Caltrans judges that the land adjacent to Donner Summit WB would not be suitable for acquisition as additional right-of-way for parking expansion. Therefore, the additional parking will need to be provided at a new SRRA, Interstate Oasis, or APF in the region. An estimated total of approximately 1.3 acres would be required to develop the additional required parking at an offsite location. An alternative to acquiring additional right-of-way would be to develop Interstate Oases in the region. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an Interstate Oasis to provide some or all of the required additional parking at Donner Summit WB:

- **Valero Station** – 85 Cisco Road, Norden, CA 95724, (530) 426-3221; Located off Exit 165 at Cisco Road/I-80 interchange, 12 miles west of Donner Summit SRRA (39.308724, -120.545285); Site has approximately 60 auto parking spaces and can accommodate up to 20 trucks/buses onsite; Open 24/7; Site is accessible from both directions of travel on I-80. Currently meets Interstate Oasis requirements.
- **Shell Station** - 53102 Donner Pass Road, Soda Springs, CA 95728, (530) 426-3477; Located off Exit 171, 6 miles west of Donner Summit SRRA (39.313524, -120.445049); Site has approximately 10 auto and no truck/bus parking spaces; Operating hours are unknown; Site is accessible from both directions of travel on I-80. Does *not* currently meet qualifications to be considered as an Interstate Oasis as truck/bus parking not provided at this location.
- **Multiple Commercial Operators** – South side of Donner Pass Road/I-80 interchange off Exit 184, adjacent to Donner Memorial State Park, 7 miles east of Donner Summit SRRA (39.323096,-120.227768); Small amounts of auto parking at each operators location; Some operators open 24/7; Site is accessible from both directions of travel on I-80. Does *not* currently meet qualifications to be considered as an Interstate Oasis as truck/bus parking not provided at this location.

It is recommended that Caltrans acquire and develop additional right-of-way and/or develop Interstate Oases in the region to provide the additional parking required at Donner Summit WB. The current number and mix of parking spaces at Donner Summit EB are judged to be sufficient to meet current and future parking needs over the next 20 years and no parking expansion is necessary. However, to serve the WB traffic, even the modest number of auto parking deficiencies might not be provided by the limited parking expansion potential at nearby ASOs. Therefore, to provide all of the additional parking spaces needed, multiple solutions might be necessary.

The nearest rest area to the west of Donner Summit is Gold Run SRRA, at a distance of 34 miles and there are no SRRAs east of Donner Summit on I-80 in California. The nearest ASOs from Donner Summit are located 7 miles east and 3 miles west. There are moderate volumes of ASOs in the region, primarily to the east of Donner Summit SRRA. The communities of Truckee and Reno, Nevada, located 30 miles apart, provide a range of ASOs for travelers on I-80. The spacing

between Gold Run and Donner Summit SRRA is roughly one-half of the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA/ AASHTO and in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed previously by Caltrans, average daily traffic at Donner Summit EB and WB is estimated to be 684 and 837 vehicles, respectively. Donner Summit EB and WB rank as having the 54th and 41st highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 5.3% at Donner Summit EB and 6.4% at Donner Summit WB. Donner Summit SRRA has stopping factors slightly below the statewide average of 7.0%. The stopping factors for Donner Summit EB and WB rank as the 56th and 42nd highest of all 87 SRRAs statewide, respectively.

On average, approximately 73% of the vehicles entering Donner Summit EB are autos and 27% are trucks/buses, while at Donner Summit EB 76% are autos and 24% are trucks/buses. Both SRRA units have nearly the same proportions of trucks/buses as compared to the statewide average proportion of truck/bus traffic of 26%.

Donner Summit EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

H. INTERSTATE 280

Exhibit 7 summarizes key use, traffic, and geographical information for the single rest area located on I-280. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 7. Key Statistics for SRRAs on Interstate 280

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Crystal Springs	106,000	758	1.4%	None N/None S	8 N/24 S	Moderate	Urban	None	None

1. Crystal Springs SRRA.

Crystal Springs SRRA is located in a relatively urban region of San Mateo County on the San Francisco Peninsula, directly southwest of the city of San Mateo and 10 miles northwest of Redwood City. Crystal Springs consists of a single SRRA units serving the only the northbound direction of travel on I-280. AADT on I-280 near the Crystal Springs SRRA is very high at 106,000 vehicles per day.

Crystal Springs has a total of 42 parking spaces including 38 auto and 4 truck/bus spaces. Based on estimates of parking demand, Crystal Springs SRRA has no current or projected future parking deficiencies. ***The current levels and mix of parking at Crystal Springs SRAA are judged to be sufficient to meet parking demand over the 20-year planning period and no parking expansion is required.***

There are no rest areas to the north or south of Crystal Springs SRRA on I-280. The nearest ASOs from Crystal Springs are located approximately 4 miles north and 16 miles south. There are moderate volumes of ASOs to the north and south of Crystal Springs SRRA. The spacing/drive times between Crystal Springs SRRA and nearby ASOs along this segment of I-280 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Crystal Springs is estimated to be 758 vehicles and ranks as having the 48th highest recorded average daily traffic levels of all 87 SRRAs. This level of use translates into a stopping factor of 1.4% and ranks as the 85th highest of all 87 SRRAs, among the lowest stopping factor in the state.

On average, approximately 93% of the vehicles entering Crystal Springs are autos and 7% are trucks/buses. Hunter Hill has significantly lower proportions of average daily truck/bus traffic as compared to the statewide average proportion of 26%.

Crystal Springs SRRA is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

I. U.S. HIGHWAY 97

Exhibit 8 summarizes key use, traffic, and geographical information for each of the single rest area located on U.S. 97. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 8. Key Statistics for SRRAs on U.S. Highway 97

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Grass Lake	2,750	347	12.6%	None	18 N/17 S	Low	Remote	None	None

1. Grass Lake SRRA.

Grass Lake SRRA is located in a remote region of Siskiyou County, approximately 22 miles northeast of the community of Weed and 32 miles south of the California/Oregon border. Grass Lake consists of a single SRRA unit serving both the north and south directions of travel on U.S. 97. AADT on U.S. 97 near the Grass Lake SRRA is very low at 2,750 vehicles per day.

Grass Lake has a total of 29 parking spaces including 18 auto and 11 truck/bus spaces. Based on estimates of parking demand, Grass Lake SRRA has no current or projected future parking deficiencies. ***The current levels and mix of parking at Grass Lake SRAA are judged to be sufficient to meet parking demand over the 20-year planning period and no parking expansion is required.***

There are no rest areas to the north or south of Grass Lake SRRA on U.S. 97 in California. However, Midland Falls SRRA/welcome center is located approximately 42 miles north near

Midland, Oregon on U.S. 97 or just under a 1-hour drive. The nearest ASOs from Grass Lake are located approximately 18 miles north and 17 miles south. There are low volumes of ASOs to the north and south of Grass Lake SRRA. The spacing/drive times between Grass Lake SRRA and nearby ASOs along this segment of U.S. 97 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Grass Lake SRRA is estimated to be 347 vehicles and ranks as having the 71st highest recorded average daily traffic levels of all 87 SRRAs. This level of use translates into a stopping factor of 12.6% and ranks as the 7th highest of all 87 SRRAs, among the highest stopping factors in the state.

On average, approximately 79% of the vehicles entering Grass Lake are autos and 21% are trucks/buses. Grass Lake has slightly lower proportions of average daily truck/bus traffic as compared to the statewide average proportion of 26%.

Grass Lake SRRA is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

J. U.S. HIGHWAY 101

Exhibit 9 summarizes key use, traffic, and geographical information for each of the ten rest areas located on U.S. 101. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 9. Key Statistics for SRRAs on U.S. Highway 101

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Gaviota NB	25,750	719	5.6%	117 N/None S	10 N/26 S	Moderate	Rural	39	New SRRA
Gaviota SB	25,750	729	5.7%	118 N/None S	10 N/26 S	Moderate	Rural	39	New SRRA
Camp Roberts NB	16,950	678	8.0%	196 N/117 S	36 N/7 S	Low	Rural	34	New ROW Adjacent and/or ARASO
Camp Roberts SB	16,950	597	7.0%	331 N/118 S	36 N/7 S	Low	Rural	12	New ROW Adjacent and/or ARASO
H. Dana Bower	111,500	1,442	2.6%	145 N/117 S	5 N/4 S	High	Urban	None	None
Moss Cove	6,700	410	12.2%	28 N/331 S	12 N/11 S	Low	Rural	6	Onsite
Irvine Lodge	6,700	294	8.8%	21 N/145 S	8 N/15 S	Very Low	Rural	None	None
Empire Camp	6,400	210	6.6%	126 N/25 S	9 N/13 S	Very Low	Remote	None	None
Trinidad NB	5,000	272	10.9%	None N/126 S	19 N/5 S	Low	Rural	None	None
Trinidad SB	5,000	243	9.7%	None N/126 S	18 N/2 S	Low	Rural	None	None

1. Gaviota SRRA.

Gaviota SRRA is located in a rural region of Santa Barbara County adjacent to Gaviota State Park, approximately 10 miles south of the community of Buellton and 24 miles west of the city of Goleta.

Gaviota consists of a two SRRA units serving dedicated north and southbound directions of travel on U.S. 101. AADT on U.S. 101 near the Gaviota SRRA is moderate at 25,750 vehicles per day.

Gaviota NB has a total of 18 parking spaces including 15 auto and 3 truck/bus spaces, while Gaviota SB has 19 parking spaces including 15 auto and 4 truck/bus spaces. Based on estimates of parking demand, Gaviota NB has a current parking deficiency of 5 auto and 1 truck/bus spaces and a projected future parking deficiency of 32 auto and 7 truck/bus spaces. Gaviota SB has a current parking deficiency of 7 auto spaces and a projected future parking deficiency of 36 auto and 3 truck/bus spaces. The large future parking deficiencies are due to high forecasted growth in AADT along this segment of U.S. 101 over the next 20-years. After reviewing the configuration of the SRRA, Caltrans judges that existing right-of-way at Gaviota NB and SB would be insufficient to develop the additional parking onsite within the rest area units. Caltrans also judges that vacant land adjacent to the NB and SB units would either be unavailable or unsuitable for developing the required additional parking. Therefore, the additional parking will need to be provided at a new SRRA, ARASO, or an APF in the region. An estimated total of 3.0 acres would be required to provide all of the additional required parking at both Gaviota NB and SB at an offsite location. Note that there is a Caltrans Truck Parking Area (at 34.528437,-120.196643) serving the northbound direction of travel located 4 miles north of the Gaviota SRRA and which can accommodate roughly 5 to 7 trucks. This Truck Parking Area should be considered to offset some of the truck/bus parking shortages at Gaviota and reduce the overall total need for truck/bus parking in the region. An alternative to acquiring additional right-of-way would be to develop an ARASO in the region. However, given the large number of additional parking spaces required to meet expected future parking demand and the limited number of nearby ASOs with evident expansion potential, the additional parking would most likely need to be provided by Caltrans developing a new SRRA.

The following are potential alternatives to Caltrans purchasing new right-of-way to develop the additional required parking:

- **Develop nearby Vista Point into a basic SRRA facility.** The Vista Point located 6 miles south of Gaviota SRRA on U.S. 101 (34.473902,-120.138461) could be converted into a basic SRRA facility to provide some of the additional parking required. The facility only serves the southbound direction of travel on U.S. 101 and there is little room for expansion onsite.
- **Work with local communities to provide parking facility.** Caltrans might inquire whether the City of Buellton would be interested in providing a location that could supply some or all of the required parking. For example, the city might provide or lease vacant land near U.S. 101 to Caltrans or broker a parking agreement with local organizations and/or businesses, such as the chamber of commerce or travel information organizations. The potential benefits to the city include increases in local economic activity – i.e. local spending, sales tax revenues, and jobs - due to higher numbers of vehicles stopping in the city to access the parking facility and any revenues generated from land lease/rental payments. Currently there is a three acre vacant land parcel on the northeast quadrant of the Damassa Road interchange which could be a suitable location within the City of Buellton on which to develop a parking facility (34.619367, -120.188479).
- **Work with California Department of Parks and Recreation (Cal Parks) to provide a parking facility.** Gaviota State Park and Refugio State Beach are located within approximately 10 miles to the south of Gaviota SRRA. Caltrans might inquire into whether

Cal Parks would be interested in providing land on which the additional required parking might be developed, either on land adjacent to Gaviota NB and SB units or on vacant park lands elsewhere the in region. It is important to recognize that Cal Parks would likely be uninterested in any parking arrangement that required the Department to make any funding contributions towards the project.

To summarize, Gaviota does not have sufficient right-of-way for parking expansion, there appears to be little suitable vacant land adjacent to the site which could be acquired for parking expansion, and there are few suitable ASOs in the area to develop an ARASO. Vacant land to the south of this location will be very expensive, since it would all be coastal property.

Therefore, it is recommended that prior to Caltrans seeking to acquire new right-of-way on which to develop the additional parking needed at Gaviota NB and SB that the Department first investigates the possibility of developing a parking arrangement with the City of Buellton and Cal Parks. It is also recommended that Caltrans investigate converting the nearby Vista Point into a basic SRRA facility by adding restroom facilities onsite. However, if these options are not available then it is recommended that Caltrans develop a new SRRA to the north of Gaviota SRRA.

The nearest rest area to the north of Gaviota is Camp Roberts SRRA, at a distance of 117 miles and there are no SRRAs south of Gaviota on U.S. 101. The nearest ASOs from Gaviota are located 10 miles north and 26 miles south. There are moderate volumes of ASOs in the region. The spacing between Gaviota and Camp Roberts SRRA is nearly double the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. However, the drive time/spacing of ASOs between Camp Roberts and Gaviota, are in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Gaviota NB and SB is estimated to be 719 and 729 vehicles, respectively. Gaviota NB and SB rank as having the 51st and 50th highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 5.6% at Gaviota NB and 5.7% at Gaviota SB. Gaviota SRRA has stopping factors slightly below the statewide average of 7.0%. The stopping factors for Gaviota NB and SB rank as the 51st and 49th highest of all 87 SRRAs statewide, respectively.

On average, approximately 83% of the vehicles entering Gaviota NB are autos and 17% are trucks/buses, while at Gaviota SB 87% are autos and 13% are trucks/buses. Both SRRA units have lower proportions of trucks/buses as compared to the statewide average proportion of truck/bus traffic of 26%.

Gaviota NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

2. Camp Roberts SRRA.

Camp Roberts SRRA is located in a rural region of Monterey County, within the boundary of Camp Roberts, a California National Guard facility. The SRRA is located approximately 36 miles south of King City and 16 miles north of the city of Paso Robles. Camp Roberts consists of a two SRRA

units serving dedicated north and southbound directions of travel on U.S. 101. AADT on U.S. 101 near the Camp Roberts SRRA is moderate, at 16,950 vehicles per day.

Camp Roberts NB has a total of 29 parking spaces including 21 auto and 8 truck/bus spaces, while Camp Roberts SB has 43 parking spaces including 27 auto and 16 truck/bus spaces. Based on estimates of parking demand, Camp Roberts NB has a current parking deficiency of just 1 auto space and a projected future parking deficiency of 27 auto and 7 truck/bus spaces. Camp Roberts SB has no current parking deficiency and a projected future parking deficiency of 10 auto and 2 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans judges that existing right-of-way at Camp Roberts NB and SB would be insufficient to develop the additional parking onsite within the rest area. Caltrans has indicated that purchasing the vacant land adjacent to each SRRA unit could be an option for providing the additional parking. If Caltrans were to acquire new right-of-way in the region to develop this parking, a total of approximately 1.1 acres at Camp Roberts NB and 0.4 acres at Camp Roberts SB would be needed to develop the additional parking required. An alternative to acquiring additional right-of-way would be to develop an ARASO in the region. The following nearby ASO in the region is potential candidate commercial enterprise with which Caltrans might partner to develop an ARASO to provide some or all of the required additional parking at Camp Roberts NB and SB:

- **San Paso Truck & Auto** - 81 Wellsona Road, Paso Robles, CA 93446, (805) 467-9999; Located 11 miles south of Camp Roberts SRRA (35.695478, -120.698052); Site has approximately 30 auto and 30 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 101. Currently meets basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

It is recommended that Caltrans acquire and develop additional right-of-way adjacent to the Camp Roberts EB and WB units and/or develop ARASOs to provide the additional parking required at Camp Roberts NB and SB. Recognizing the relatively large amount of parking deficiencies and the small number of suitable potential partners in the region, providing all of the additional parking spaces using ARASOs might not be possible. Therefore, multiple solutions might be necessary.

The closest SRRA to the north of Camp Roberts is H. Dana Bower, at a distance of 196 miles. However, H. Dana Bower only serves northbound traffic and the next SRRA north of Camp Roberts serving southbound traffic is Moss Cove, at a distance of 331 miles. The nearest SRRA south of Camp Roberts is Gaviota, at a distance of 117 miles. The nearest ASOs from Camp Roberts are located approximately 36 miles north and 7 miles south. There are low volumes of ASOs to the north and south of Camp Roberts SRRA, with most ASOs located in the region directly south of the SRRA. The spacing/drive times between Camp Roberts SRRA and nearby SRRAs is significantly greater than 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. However, between Camp Roberts and H. Dana Bower/Moss Cove, there are significant levels of ASOs due to urban regions through which U.S. 101 passes, including the communities of Salinas, Morgan Hill/Gilroy, San Jose, Red Wood City, San Francisco and others. Therefore, the drive time/spacing of ASOs between Camp Roberts, H. Dana Bower, Moss Cove, and Gaviota are typically a half-hour or less and is in line with the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Camp Roberts NB and SB are estimated to be 678 and 597 vehicles, respectively. Camp Roberts NB and SB rank as having the 56st and 61st highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factor of 8.0% at Camp Roberts NB and 7.0% at Camp Roberts SB, which rank as the 28th and 35th highest stopping factors of all 87 SRRAs, respectively.

On average, approximately 77% of the vehicles entering Camp Roberts NB are autos and 23% are trucks/buses, while 68% of vehicles entering Camp Roberts SB are autos and 32% are trucks/buses. Camp Roberts NB has slightly lower proportions and Camp Roberts SB higher proportions of truck/bus traffic than the statewide average proportion of SRRA truck/bus traffic of 26%.

Camp Roberts SRRA is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

3. H. Dana Bower SRRA.

H. Dana Bower SRRA is located in an urban region of Marin County adjacent to the northern side of the Golden Gate, just north of San Francisco and directly south of Sausalito. The SRRA is a very popular location from which to experience panoramic views of San Francisco and the Golden Gate Bridge and is a popular location with tourists. H. Dana Bower consists of a single SRRA unit serving only the northbound direction of travel on U.S. 101. AADT on U.S. 101 near the H. Dana Bower SRRA is very high, at 111,500 vehicles per day.

H. Dana Bower SRRA has a total of 112 auto and 5 truck/bus parking spaces. Based on estimates of parking demand, H. Dana Bower has no current or projected future parking deficiencies. ***The current levels and mix of parking at H. Dana Bower SRRA are judged to be sufficient to meet parking demand over the 20-year planning period and no parking expansion is required.***

The closest SRRA to the north serving the northbound direction of travel on U.S. 101 is Irvine Lodge SRRA, at a distance of 145 miles. The nearest SRRA serving northbound traffic to the south of H. Dana Bower is Camp Roberts NB, at a distance of 196 miles. There are large urban areas with high volumes of ASOs to the north and south of H. Dana Bower on U.S. 101 that provide numerous stopping opportunities in this region. The nearest ASOs from H. Dana Bower are located approximately 5 miles north and 4 miles south. The spacing/drive times between H. Dana Bower SRRA and nearby SRRAs is significantly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The close spacing and high volumes of ASOs in the region help to offset the large distances between SRRAs north and south of H. Dana Bower. Also, this corridor of U.S. 101 has high volumes of commuter traffic that are less likely to utilize rest area services. The spacing/drive times between Grass Lake SRRA and nearby ASOs along this segment of U.S. 97 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at H. Dana Bower SRRA is estimated to be 1,442 vehicles and ranks as having the 11th highest recorded average daily traffic levels of all 87 SRRAs. This level of use translates into a stopping factor of 2.6% and ranks as the 75th highest of all 87 SRRAs, among the lowest stopping factor in the state.

On average, approximately 96% of the vehicles entering H. Dana Bower are autos and 4% are trucks/buses. H. Dana Bower has significantly lower proportions of average daily truck/bus traffic as compared to the statewide average proportion of 26%.

H. Dana Bower SRRA is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

4. Moss Cove SRRA.

Moss Cove SRRA is located in a rural region of Mendocino County, approximately 12 miles north of the community of Willits and 11 miles south of the town of Laytonville. Moss Cove consists of a single SRRA unit serving only the southbound direction of travel on U.S. 101. AADT on U.S. 101 near the Moss Cove SRRA is low, at 6,700 vehicles per day.

Moss Cove SRRA has a total of 19 parking spaces including 13 auto and 6 truck/bus parking spaces. Based on estimates of parking demand, Moss Cove has a current parking deficiency of just 1 auto space and a projected future parking deficiency of 6 auto parking spaces. After reviewing the configuration of the SRRA, Caltrans judges that sufficient right-of-way exists at Moss Cove to develop the additional parking required onsite. ***It is recommended that Caltrans develop the required additional parking onsite, within the existing right-of-way at Moss Cove SRRA.***

The closest SRRA to the north serving the southbound direction of travel on U.S. 101 is Trinidad SB, at a distance of 147 miles. The nearest SRRA serving southbound traffic to the south of Moss Cove is Camp Roberts SB, at a distance of 331 miles. The nearest ASOs from Moss Cove are located approximately 12 miles north and 11 miles south. The spacing/drive times between Moss Cove SRRA and nearby SRRAs is significantly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. However, the close spacing and often high volumes of ASOs in the regions between SRRAs help to offset the large distances between SRRAs north and south of Moss Cove by providing travelers with alternative locations to stop and refresh themselves. The spacing/drive times between Moss Cove SRRA and nearby ASOs along this segment of U.S. 101 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Moss Cove SRRA is estimated to be 410 vehicles and ranks as having the 67th highest recorded average daily traffic levels of all 87 SRRAs. This level of use translates into a stopping factor of 12.2% and ranks as the 13th highest of all 87 SRRAs, among the highest stopping factor in the state.

On average, approximately 85% of the vehicles entering Moss Cove are autos and 15% are trucks/buses. Moss Cove has lower proportions of average daily truck/bus traffic as compared to the statewide average proportion of 26%.

Moss Cove SRRA is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

5. Irvine Lodge SRRA.

Irvine Lodge SRRA is located in a rural region of Mendocino County, approximately 15 miles north of the community of Willits and 8 miles south of the town of Laytonville. Irvine Lodge consists of

a single SRRA unit serving only the northbound direction of travel on U.S. 101. AADT on U.S. 101 near the Irvine Lodge SRRA is low, at 6,700 vehicles per day.

Irvine Lodge SRRA has a total of 25 parking spaces including 16 auto and 9 truck/bus parking spaces. Based on estimates of parking demand, Irvine Lodge has no current or projected future parking deficiencies.

The current levels and mix of parking at Irvine Lodge SRAA are judged to be sufficient to meet parking demand over the 20-year planning period and no parking expansion is necessary.

The closest SRRA to the north serving the northbound direction of travel on U.S. 101 is Empire Camp, at a distance of 21 miles. The nearest SRRA serving northbound traffic to the south of Irvine Lodge is H. Dana Bower SRRA, at a distance of 145 miles. The nearest ASOs from Irvine Lodge are located approximately 8 miles north and 14 miles south. There are very few ASOs in the region surrounding Irvine Lodge. The small spacing/drive time between Irvine Lodge and Empire Camp raises the issue of whether both SRRAs are needed. The distance between Irvine Lodge and H. Dana Bower is significantly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. However, the close spacing and often high volumes of ASOs in the regions between these Irvine Lodge and H. Dana Bower helps to augment the shortage of rest area services by providing travelers with alternative locations to stop and refresh themselves. The spacing/drive times between Irvine Lodge SRRA and nearby ASOs along this segment of U.S. 101 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Irvine Lodge SRRA is estimated to be 294 vehicles and ranks as having the 73rd highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 8.8% and ranks as the 23rd highest of all 87 SRRAs statewide.

On average, approximately 85% of the vehicles entering Irvine Lodge are autos and 15% are trucks/buses. Irvine Lodge has lower proportions of average daily truck/bus traffic as compared to the statewide average proportion of 26%.

Irvine Lodge is judged to represent an SRRA that provides a low to moderate degree of value to the traveling public on U.S. 101. It is recommended that Caltrans consider closing either Irvine Lodge SRRA or Empire Camp SRRA due to the close proximity of these two SRRAs, which both serve only the northbound direction of travel on U.S. 101. The closure of Irvine Lodge may be preferable to the closure of Empire Camp, as Empire Camp is located in a relatively more remote region than Irvine Lodge, which is closer to ASOs in the community of Willits located to the south, where travelers have an opportunity to stop, rest, and refresh themselves. Empire Camps' relatively lower stopping factor and vehicle counts, as compared to Irvine Lodge, are possibly the result of travelers having already stopped in either Willits or at Irvine Lodge to rest and opt to bypass the Empire Camp SRRA.

6. Empire Camp SRRA.

Empire Camp SRRA is located in a relatively remote region of Mendocino County, approximately 14 miles north of the community of Laytonville and 32 miles south of the town of Garberville.

Empire Camp consists of a single SRRA unit serving only the northbound direction of travel on U.S. 101. AADT on U.S. 101 near the Empire Camp SRRA is low, at 6,400 vehicles per day.

Empire Camp SRRA has a total of 23 parking spaces including 18 auto and 5 truck/bus parking spaces. Based on estimates of parking demand, Empire Camp has no current or projected future parking deficiencies.

Therefore, no parking expansion is necessary at Empire Camp and the current level and mix of parking is judged sufficient to meet expected future parking demand.

The closest SRRA to the north serving the northbound direction of travel on U.S. 101 is Trinidad NB, at a distance of 125 miles. The nearest SRRA serving northbound traffic to the south of Empire Camp is Irvine Lodge SRRA, at a distance of 21 miles. The nearest ASOs from Empire Camp are located approximately 9 miles north and 13 miles south. There are very few ASOs in the region surrounding Empire Camp. As discussed in the preceding subsection for Irvine Lodge, the small spacing/drive time between Irvine Lodge and Empire Camp raises the issue of whether both SRRAs are necessary. The distance between Empire Camp and Trinidad NB is more than double the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times of ASOs located between Empire Camp and Trinidad NB along this segment of U.S. 101 are in several locations greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Empire Camp SRRA is estimated to be 210 vehicles and ranks as having the 77th highest recorded average daily traffic level of all 87 SRRAs, among the lowest in the state. This level of use translates into a stopping factor of 6.6% and ranks as the 40th highest of all 87 SRRAs statewide.

On average, approximately 91% of the vehicles entering Irvine Lodge are autos and 9% are trucks/buses. Irvine Lodge has significantly lower proportions of average daily truck/bus traffic as compared to the statewide average proportion of 26%.

Empire Camp is judged to represent an SRRA that provides a moderate degree of value to the traveling public on U.S. 101. It is recommended that Caltrans consider closing either Empire Camp SRRA or Irvine Lodge SRRA due the close proximity of these two SRRAs, which both serve only the northbound direction of travel on U.S. 101.

7. Trinidad SRRA.

Trinidad SRRA is located in a rural region of Humboldt County, approximately 25 miles north of the city of Eureka and 60 miles south of Crescent City. Trinidad consists of a two SRRA units serving dedicated north and southbound directions of travel on U.S. 101. AADT on U.S. 101 near the Trinidad SRRA is low, at just 5,000 vehicles per day.

Trinidad NB has a total of 27 parking spaces including 20 auto and 7 truck/bus spaces, while Trinidad SB has 26 parking spaces including 18 auto and 6 truck/bus spaces. Based on estimates of parking demand, neither Trinidad NB nor Trinidad SB have current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Trinidad NB or SB and the current level and mix of parking at both units is judged sufficient to meet expected future parking demand.***

There are no rest areas located to the north of Trinidad SRRA on U.S. 101 in California and the closest SRRAs to the south are Empire Camp SRRA (serving northbound traffic) and Moss Cove (serving southbound traffic), at distances of 125 and 147 miles, respectively. The Brookings SRRA in Brookings, Oregon is located north of Trinidad SRRA on U.S. 101, at a distance of 84 miles. The nearest ASOs from Trinidad SRRA are located approximately 19 miles north and 5 miles south. There are low volumes of ASOs to the north and south of Trinidad SRRA. The spacing/drive times between Trinidad SRRA and nearby SRRAs is significantly greater than 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times of ASOs located between Trinidad, Empire Camp, and Moss Cove along this segment of U.S. 101 are, in several locations, greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed previously by Caltrans, average daily traffic at Trinidad NB and SB are estimated to be 272 and 243 vehicles, respectively. Trinidad NB and SB rank as having the 75th and 76st highest recorded average daily traffic levels of all 87 SRRAs, respectively. This level of use translates into stopping factors of 10.9% at Trinidad NB and 9.7% at Trinidad SB which rank as the 15th and 20th highest stopping factors of all 87 SRRAs, respectively.

On average, approximately 86% of the vehicles entering Trinidad NB are autos and 14% are trucks/buses, while 84% of vehicles entering Trinidad SB are autos and 16% are trucks/buses. Trinidad NB and SB both have slightly lower proportions of truck/bus traffic as compared to the average of 26% for all SRRAs statewide.

Trinidad is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

K. U.S. HIGHWAY 199

Exhibit 10 summarizes key use, traffic, and geographical information for the single rest area located on U.S. 199. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 10. Key Statistics for SRRAs on U.S. Highway 199

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Collier Tunnel	3,000	376	12.5%	None/None	8 N/28 S	Very Low	Remote	4	Onsite

1. Collier Tunnel SRRA.

Collier Tunnel SRRA is located in a remote region of Del Norte County, approximately 37 miles northeast of Crescent City, 3 miles south of the California/Oregon border, and 16 miles south of Cave Junction, Oregon. Collier Tunnel consists of a single SRRA unit serving both the northbound and southbound directions of travel on U.S. 199. AADT on U.S. 199 near the Collier Tunnel SRRA is very low, at 3,000 vehicles per day.

Collier Tunnel SRRA has a total of 18 parking spaces including 14 auto and 8 truck/bus parking spaces. Based on estimates of parking demand, Collier Tunnel has a current parking deficiency of just 1 auto space and a projected future parking deficiency of 4 auto parking spaces. After reviewing the configuration of the SRRA, Caltrans judges that sufficient right-of-way exists at Collier Tunnel to develop the additional required parking. ***It is recommended that Caltrans develop the required additional parking onsite, within the existing right-of-way at Collier Tunnel SRRA.***

There are no SRRAs north or south of Collier Tunnel on U.S. 199 in California (or Oregon). The nearest ASOs from Collier Tunnel are located approximately 8 miles or a 10-minute drive north and 28 miles or a 45minute drive south. There are very low numbers of ASOs in the region surrounding Collier Tunnel. The spacing/drive times between Collier Tunnel SRRA and ASOs along this segment of U.S. 199 are slightly greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Collier SRRA is estimated to be 376 vehicles and ranks as having the 69th highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 12.5% and ranks as the 8th highest of all 87 SRRAs statewide, among the highest in the state.

On average, approximately 87% of the vehicles entering Collier Tunnel are autos and 13% are trucks/buses. Collier Tunnel has substantially lower proportions of average daily truck/bus traffic as compared to the statewide average of 26%.

Collier Tunnel is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

L. U.S. HIGHWAY 395

Exhibit 11 summarizes key use, traffic, and geographical information for each of the five rest areas located on U.S. 395. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 11. Key Statistics for SRRAs on U.S. Highway 395

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Coso Junction	5,700	687	12.1%	73 N/None S	0.5 N/18 S	Low	Remote	13	Onsite or ARASO
Division Creek	6,275	177	2.8%	77 N/73 S	16 N/11 S	Low	Remote	None	None
Crestview	6,400	380	5.9%	227 N/77 S	19 N/19 S	Very Low	Remote	1	None
Honey Lake	5,400	290	5.4%	47 N/227 S	5 N/15 S	Low	Rural	1	None
Secret Valley	1,200	95	7.9%	None N/47 S	33 N/26 S	Very Low	Remote	None	None

1. Coso Junction.

Coso Junction SRRA is located in a remote region of Inyo County, approximately 28 miles south of the small community of Olancha and 49 miles north of the city of Inyokern. Coso Junction consists of a single SRRA unit serving both the northbound and southbound directions of travel on U.S 395. AADT on U.S. 395 near the Coso Junction SRRA is low, at 5,700 vehicles per day.

Coso Junction SRRA has a total of 33 parking spaces including 22 auto and 11 truck/bus parking spaces. Based on estimates of parking demand, Coso Junction has a current parking deficiency of just 10 auto spaces and a projected future parking deficiency of 13 auto parking spaces. After reviewing the configuration of the SRRA, Caltrans judges that sufficient right-of-way exists at Coso Junction to develop the additional required parking. However, an alternative to developing the additional parking onsite would be to develop an ARASO to provide the additional required parking. The following nearby ASO in the region is a potential candidate commercial enterprise with which Caltrans might partner to develop an ARASO:

- **Chevron Station** – U.S. 395 and Gill Station Road, Olancha, CA 93549, located directly north of the entrance to Coso Junction SRRA (36.047612, -117.945623); Site has approximately 15 auto and an estimated 40 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 395. Note that this operation is currently for sale. Location currently meets basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO

Although Caltrans has indicated that there is sufficient right-of-way at Coso Junction to develop the required parking, utilizing a public/private partnership to provide the parking could save Caltrans the expense of having to develop the new parking within the SRRA. ***It is recommended that Caltrans develop the additional required parking onsite, within the existing right-of-way at Coso Junction SRRA. However, as an alternative to developing the additional parking onsite, Caltrans might investigate the potential for developing an ARASO to provide the required additional parking.***

There are no SRRAs south of Coso Junction on U.S. 395 and the nearest SRRA to the north is Division Creek, at a distance of 67 miles. An ASO is located directly across the main entrance of Coso Junction and the next closest ASO is located 18 miles to the south. There are low numbers of ASOs in the region surrounding Coso Junction. The spacing/drive times between Coso Junction and Division Creek is slightly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Coso Junction and ASOs along this segment of U.S. 395 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Coso Junction SRRA is estimated to be 687 vehicles and ranks as having the 53rd highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 12.1% and ranks as the 12th highest of all 87 SRRAs statewide, among the highest in the state.

On average, approximately 84% of the vehicles entering Coso Junction are autos and 16% are trucks/buses. Coso Junction has lower proportions of average daily truck/bus traffic as compared to the statewide average of 26%.

Coso Junction is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

2. Division Creek SRRA.

Division Creek SRRA is located in a remote region of Inyo County, approximately 16 miles south of the small community of Big Pine and 11 miles north of the city of Independence. Division Creek consists of a single SRRA unit serving both the northbound and southbound directions of travel on U.S 395. AADT on U.S. 395 near the Division Creek SRRA is low, at 6,275 vehicles per day.

Division Creek SRRA has a total of 28 parking spaces including 19 auto and 8 truck/bus parking spaces. Based on estimates of parking demand, Division Creek has no current parking or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Division Creek SRRA and the current level and mix of parking is judged sufficient to meet current and expected future parking demand.***

The closest SRRA to the north of Division Creek on U.S. 395 is Crestview, at a distance of 77 miles and the nearest SRRA to the south is Coso Junction, at a distance of 67 miles. The closest ASOs are located 16 miles north and 11 miles south. There are low numbers of ASOs in the region surrounding Division Creek. The spacing/drive times between Division Creek, Crestview, and Coso Junction is slightly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between these SRRAs and ASOs along this segment of U.S. 395 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Division Creek SRRA is estimated to be 177 vehicles and ranks as having the 79th highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 2.8% and ranks as the 73rd highest of all 87 SRRAs statewide.

On average, approximately 89% of the vehicles entering Division Creek are autos and 11% are trucks/buses. Division Creek has lower proportions of average daily truck/bus traffic as compared to the statewide average of 26%.

Division Creek SRRA has substantially lower average daily use levels and stopping factors as compared to Crestview SRRA and Coso Junction SRRA. This indicates that the demand for rest area services at the Division Creek location is substantially lower than at other locations nearby on U.S. 395. Given this finding, one possibility to help reduce Caltrans' SRRA operating expenses would be to close the SRRA or convert it to a Vista Point and develop an ARASO facility in the region. Simply closing Division Creek SRRA without providing a nearby alternative parking option is not recommended as it would create a gap between SRRAs on U.S. 395 of 144 miles or nearly a 3-hour drive, which would be significantly greater then FHWA/AASHTO and state spacing recommendations.

Although there are a number of ASOs in the region, most of these have relatively limited amounts of parking and appear not to have much parking expansion potential. Caltrans might investigate whether nearby communities such as Big Pine or Independence would be interested in providing an ARASO facility that would replace Division Creek SRRA. For example, the community might be

willing to provide parking and rest room facilities on city-owned land or broker a parking agreement with local organizations and/or businesses, such as the chamber of commerce or tourism-related organizations. The potential benefits to the city include increases in local economic activity – i.e., local spending, sales tax revenues, and jobs - due to higher numbers of vehicles stopping in the city to access the parking facility.

Division Creek is judged to represent an SRRA that provides a relatively low degree of value to the traveling public on U.S. 395 and should be considered as a potential candidate for closure or conversion to a Vista Point. It is recommended that Caltrans investigate whether local ASOs or nearby communities such as Big Pine and Independence might be interested in working with the Department to develop an ARASO facility in the region. However, considering the remoteness of this segment of U.S. 395, it is recommended that Division Creek SRRA only be closed if a suitable ARASO facility can be developed to replace the SRRA.

3. Crestview SRRA.

Crestview SRRA is located in a remote region of Mono County, approximately 19 miles south of the small community of Lee Vining and 10 miles north of the town of Mammoth Lakes. Crestview consists of a single SRRA unit serving both the northbound and southbound directions of travel on U.S 395. AADT on U.S. 395 near the Crestview SRRA is low, at 6,400 vehicles per day.

Crestview SRRA has a total of 32 parking spaces including 23 auto and 9 truck/bus parking spaces. Based on estimates of parking demand, Crestview has no current parking and a projected future parking deficiency of just one auto space. After reviewing the configuration of the SRRA, and considering the minor amount of additional parking required, it is judged that sufficient right-of-way exists at Crestview to develop the additional required parking. ***Therefore, no parking expansion is necessary at Crestview SRRA and the current level and mix of parking is judged sufficient to meet current and expected future parking demand.***

The closest SRRA to the north of Crestview on U.S. 395 is Honey Lake SRRA, at a distance of 227 miles and the nearest SRRA to the south is Division Creek, at a distance of 77 miles. The Mountain House SRRA just across the state line in Nevada is located approximately 92 miles to the north of Crestview on U.S. 395. The closest ASOs are located 19 miles north and 19 miles south. There are very low numbers of ASOs in the region surrounding Crestview. The spacing/drive times between Crestview, Division Creek, and Honey Lake are substantially greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between these SRRAs and ASOs along this segment of U.S. 395 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Crestview SRRA is estimated to be 380 vehicles and ranks as having the 68th highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 5.9% and ranks as the 47th highest of all 87 SRRAs statewide.

On average, approximately 82% of the vehicles entering Crestview are autos and 18% are trucks/buses. Crestview has lower proportions of average daily truck/bus traffic as compared to the statewide average of 26%.

Crestview is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

4. Honey Lake SRRA.

Honey Lake SRRA is located in a remote region of Lassen County, approximately 16 miles south of the community of Susanville and 54 miles northwest of the of California/Nevada border. Honey Lake consists of a single SRRA unit serving both the northbound and southbound directions of travel on U.S 395. AADT on U.S. 395 near the Honey Lake SRRA is low, at 5,400 vehicles per day.

Honey Lake SRRA has a total of 20 parking spaces including 14 auto and 6 truck/bus parking spaces. Based on estimates of parking demand, Honey Lake has no current parking deficiencies and a projected future parking deficiency of just one auto space. ***Therefore, no parking expansion is necessary at Honey Lake SRRA and the current level and mix of parking is judged sufficient to meet current and expected future parking demand.***

The closest SRRA to the north of Honey Lake on U.S. 395 is Secret Valley SRRA, at a distance of 47 miles and the nearest SRRA to the south is Crestview, at a distance of 227 miles. The closest ASOs are located 5 miles north and 15 miles south. There are low volumes of ASOs in the area surrounding Honey Lake. The spacing/drive times between Honey Lake and Secret less than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. However, the spacing between Honey Lake and Crestview are significantly larger than the FHWA/AASHTO spacing/drive time recommendations. The spacing/drive times between these SRRAs and ASOs along this segment of U.S. 395 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Honey Lake SRRA is estimated to be 290 vehicles and ranks as having the 74th highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 5.4% and ranks as the 55th highest of all 87 SRRAs statewide.

On average, approximately 77% of the vehicles entering Honey Lake are autos and 23% are trucks/buses. Honey Lake has nearly the same proportion of average daily truck/bus traffic as the statewide average of 26%.

Honey Lake is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

5. Secret Valley SRRA.

Secret Valley SRRA is located in a remote region of Lassen County, approximately 64 miles south of the community of Alturas and 40 miles northeast of city of Susanville. Secret Valley consists of a single SRRA unit serving both the northbound and southbound directions of travel on U.S 395. AADT on U.S. 395 near the Secret Valley SRRA is very low, at 1,200 vehicles per day.

Secret Valley has a total of 12 parking spaces including 8 auto and 4 truck/bus parking spaces. Based on estimates of parking demand, Secret Valley has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Secret Valley SRRA and the***

current level and mix of parking is judged sufficient to meet current and expected future parking demand.

There are no SRRAs north of Secret Valley on U.S. 395, either in California or Oregon, and the closest SRRA to the south is Honey Lake SRRA, at a distance of 47 miles. The nearest ASOs are located 33 miles north and 26 miles south. There are very low volumes of ASOs in the area surrounding Secret Valley. The spacing/drive times between Secret Valley and Honey Lake are less than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between these SRRAs and ASOs along this segment of U.S. 395 are within or slightly greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Secret Valley SRRA is estimated to be 95 vehicles and ranks as having the 83rd highest recorded average daily traffic level of all 87 SRRAs, among the very lowest in the state. This level of use translates into a stopping factor of 7.9% and ranks as the 29th highest of all 87 SRRAs statewide.

On average, approximately 74% of the vehicles entering Secret Valley are autos and 26% are trucks/buses, the same proportion of truck/bus traffic as the average for all SRRAs statewide.

Secret Valley is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

M. STATE HIGHWAY 36

Exhibit 12 summarizes key use, traffic, and geographical information for the single rest area located on SR 36. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 12. Key Statistics for SRRAs on State Highway 36

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Lake Almanor	3,650	68	1.9%	None/None	9 E/4 W	Low	Remote	None	None

1. Lake Almanor SRRA.

Lake Almanor SRRA is located in a remote region of Plumas County approximately 4 miles east of the town of Chester and 9 miles west of the community of Westwood. The SRRA is situated along the northern shoreline of Lake Almanor and provides scenic views of the lake. Lake Almanor consists of a single SRRA unit serving both the eastbound and westbound directions of travel on State 36. AADT on State 36 near the Lake Almanor SRRA is low, at 3,650 vehicles per day.

Lake Almanor has a total of 13 parking spaces including 8 auto and 5 truck/bus parking spaces. Based on estimates of parking demand, Lake Almanor has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Lake Almanor SRRA and the***

current level and mix of parking is judged sufficient to meet current and expected future parking demand.

There are no SRRAs west or east of Lake Almanor on State 36. The nearest ASOs are located 9 miles east and 4 miles west. There are low volumes of ASOs in the area surrounding Lake Almanor. The spacing/drive times between Lake Almanor and ASOs along this segment of State 36 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Lake Almanor SRRA is estimated to be 65 vehicles and ranks as having the 86th highest recorded average daily traffic level of all 87 SRRAs, the second lowest in the state. This level of use translates into a stopping factor of 1.9% and ranks as the 83rd highest of all 87 SRRAs statewide, among the very lowest in the state.

On average, approximately 87% of the vehicles entering Lake Almanor are autos and 13% are trucks/buses, which is substantially lower than the state wide average for truck/bus traffic of 26%.

The low average vehicle traffic volumes and stopping factor at Lake Almanor suggest minimal demand for rest area services at this location. One explanation for low use at Lake Almanor could be that travelers are stopping at ASOs in the nearby communities of Chester and Westwood instead of at the rest area. Given the low use of Lake Almanor, Caltrans might consider this SRRA as a potential candidate for closure or conversion to a Vista Point without restroom facilities. Caltrans might simultaneously close Lake Almanor and replace the rest area with an ARASO. However, there appear to be few ASOs in the region that currently meet the minimum requirements of an ARASO as specified under the PDPM and most ASOs have limited parking and parking expansion potential. The following nearby ASO in the region is a potential candidate commercial enterprise with which Caltrans might partner to develop an ARASO to replace the Lake Almanor SRRA:

- **Shell Station** – County Highway A1/State 36 junction, Westwood, CA 96137, 530-256-3668; Site is approximately 9 miles east of Lake Almanor SRRA (40.315467, -120.992659); Site can accommodate up to 12 autos and 6 trucks/buses onsite; Open 5:00 a.m. to 8:00 p.m., 7 days per week; Site is accessible from both directions of travel on State 36. Location does ***not*** currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an alternative rest area stopping opportunity, as the operation is not open 24/7.

Although this ASO does not meet the 24/7 operating requirement to be signed as an alternative rest area stopping opportunity, it is possible that the operator might consider providing 24-hour access to parking and restroom facilities. In addition, Caltrans might investigate whether the communities of Chester or Westwood would be interested in working with the Department to develop rest area parking facilities in the region. Caltrans might work with the local chambers of commerce to understand the level of interest in providing an ARASO in these communities. The potential benefits to the community include increases in local economic activity – i.e., local spending, sales tax revenues, and jobs - due to higher numbers of vehicles stopping in town to access the parking facility.

Lake Almanor is judged to represent an SRRA that provides a relatively low degree of value to the traveling public and might be a candidate for closure or conversion to a Vista Point. It is recommended that Caltrans investigate whether local nearby communities such as Chester and Westwood might be interested in working with Caltrans to develop an ARASO in the region.

N. STATE HIGHWAY 44

Exhibit 13 summarizes key use, traffic, and geographical information for each of the two rest areas located on SR 44. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 13. Key Statistics for SRRAs on State Highway 44

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Bogard	1,675	333	19.9%	None E/44 W	28 E/24 W	Very Low	Remote	6	Onsite
Shingletown	4,300	106	2.5%	44 E/None W	28 E/3 W	Very Low	Remote	None	None

1. Bogard SRRA.

Bogard SRRA is located in a remote region of Lassen County approximately 28 miles west of the town of Susanville and 55 miles east of the community of Shingletown. The SRRA is surrounded by Lassen National Forest and lies directly east of Lassen Volcanic National Park. Bogard consists of a single SRRA unit serving both the eastbound and westbound directions of travel on State 44. AADT on State 44 near the Bogard SRRA is very low, at 1,675 vehicles per day.

Bogard SRRA has a total of 23 parking spaces including 14 auto and 9 truck/bus parking spaces. Based on estimates of parking demand, Bogard has a current parking deficiency of 3 auto spaces and a projected future parking deficiency of 6 auto spaces. After reviewing the configuration of the SRRA, it is judged that sufficient right-of-way exists at Bogard to develop the additional required parking onsite. ***It is recommended that Caltrans develop the required additional parking onsite, within the existing right-of-way at Bogard SRRA***.

There are no SRRAs east of Bogard on State 44 and the nearest SRRA to the west is Shingletown SRRA, at a distance of 52 miles. The nearest ASOs are located 28 miles east and 24 miles west. There are very low volumes of ASOs in the area surrounding Bogard SRRA. The spacing/drive times between Bogard and Shingletown are nearly the same as the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Bogard and ASOs along this segment of State 44 are roughly the same as the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Bogard SRRA is estimated to be 333 vehicles and ranks as having the 72rd highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 19.9% and ranks as the highest stopping factor of all 87 SRRAs statewide.

On average, approximately 79% of the vehicles entering Bogard are autos and 21% are trucks/buses, slightly lower than the statewide average proportion of SRRA truck/bus traffic of 26%.

Bogard is judged to represent an SRRA that provides a high degree of value to the traveling public and should remain within the rest area system.

2. Shingletown SRRA.

Shingletown SRRA is located in a remote region of Shasta County approximately 29 miles east of the city of Redding, and 80 miles west of the community of Susanville. The SRRA lies within the very small community of Shingletown. Shingletown consists of a single SRRA unit serving both the eastbound and westbound directions of travel on State 44. AADT on State 44 near the Shingletown SRRA is low, at 4,300 vehicles per day.

Shingletown has a total of 23 parking spaces including 17 auto and 6 truck/bus parking spaces. Based on estimates of parking demand, Shingletown has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Shingletown SRRA and the current level and mix of parking is judged sufficient to meet current and expected future parking demand.***

There are no SRRAs west of Shingletown on State 44 and the nearest SRRA to the east is Bogard SRRA, at a distance of 52 miles. The nearest ASOs are located 28 miles east and 3 miles west. There are very low volumes of ASOs in the area surrounding Bogard SRRA, particularly to the east of the rest area. The spacing/drive times between Shingletown and Bogard are nearly the same as the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Shingletown and nearby ASOs along this segment of State 44 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Shingletown SRRA is estimated to be 106 vehicles and ranks as having the 81st highest recorded average daily traffic level of all 87 SRRAs, among the lowest in the state. This level of use translates into a stopping factor of 2.5% and ranks as having the 78th highest recorded average daily traffic level of all 87 SRRAs.

On average, approximately 75% of the vehicles entering Shingletown are autos and 25% are trucks/buses, nearly the same as the statewide average proportion of SRRA truck/bus traffic of 26%.

The low average vehicle traffic volumes and stopping factor at Shingletown indicate a low level of demand for rest area services at this location. One explanation for this low level of use at Shingletown could be that travelers are stopping at ASOs to the west, in communities of Red Bluff and Shingletown, instead of at the rest area. Given the low use of Shingletown, Caltrans might consider this SRRA as a potential candidate for closure or conversion to a Vista Point. Caltrans might simultaneously close Shingletown and replace the SRRA with an ARASO. However, there appear to be few ASOs in the region that currently meet the minimum requirements of an ARASO as specified in the PDPM and most ASOs have limited parking and parking expansion potential.

The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an ARASO to replace the Shingletown SRRA:

- **76 Station/Reed's Market** - 7007 Shingle Glen Trail, Shingletown, CA 96088, (530) 474-1212; Site is approximately 3 miles west of Shingletown SRRA (40.491929, -121.891911); Site has approximately 35 autos spaces and no truck/bus spaces onsite; Open 7:00 a.m. to 8:00 p.m. daily; Site is accessible from both directions of travel on State 44. Location does ***not*** currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as the operation is not open 24/7 and does not provide truck/bus parking.
- **Chevron Station** - 31268 State Highway 44, Shingletown, CA 96088, (530) 474-3161; Site is approximately 3 miles west of Shingletown SRRA (40.492578, -121.888897); Site can accommodate up to 12 autos and few trucks/buses onsite; Open 5:00 a.m. to 9:00 p.m. daily; Site is accessible from both directions of travel on State 44. Location does ***not*** currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as the operation is not open 24/7 and does not provide truck/bus parking.

Although these ASOs do not meet the minimum requirements to be designated as an ARASO, it is possible that the operator might consider providing these requirements in exchange for such designation. In addition, Caltrans might investigate whether the community of Shingletown or Shasta County would be interested in working with the Department to develop rest area parking facilities in the region. Caltrans might also work with the local/regional chambers of commerce to understand the level of interest in providing an ARASO in this region. The potential benefits to the community include increases in local economic activity – i.e., local spending, sales tax revenues, and jobs - due to higher numbers of vehicles stopping in town to access the parking facility.

Shingletown is judged to represent an SRRA that provides a relatively low degree of value to the traveling public and an SRRA that might be considered as a candidate for closure or conversion to a Vista Point. It is recommended that Caltrans investigate whether local ASOs, the community of Shingletown, or Shasta County might be interested in working with the Department to develop an ARASO in the region. However, considering the remoteness of this segment of State 44, it is recommended that Shingletown SRRA only be closed if an ARASO can be developed to replace the SRRA.

O. STATE HIGHWAY 46

Exhibit 14 summarizes key use, traffic, and geographical information for the single rest area located on SR 46. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 14. Key Statistics for SRRAs on State Highway 46

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Shandon	16,400	484	3.0%	None E/None W	32 E/18 W	Very Low	Rural	14	Onsite

1. Shandon SRRA.

Shandon SRRA is located in a rural region of San Luis Obispo County, approximately 19 miles east of the city of Paso Robles, and 43 miles west of the small community of Lost Hills, at the junction of I-5 and State 46. The SRRA lies just northeast the small community of Shandon. Shandon consists of a single SRRA unit serving both the eastbound and westbound directions of travel on State 46. AADT on State 46 near the Shandon SRRA is moderate, 16,400 vehicles per day.

Shandon SRRA has a total of 33 parking spaces including 16 auto and 17 truck/bus parking spaces. Based on estimates of parking demand, Shandon has a current parking deficiency of just 1 auto space and a projected future parking deficiency of 14 auto spaces. After reviewing the configuration of the SRRA, it is judged that sufficient right-of-way exists at Shandon to develop the additional required parking onsite. ***It is recommended that Caltrans develop the required additional parking onsite, within the existing right-of-way at Shandon SRRA***.

There are no SRRAs to the east or west of Shandon on State 46. The nearest ASOs are located 18 miles west and 4 miles east. There are very low volumes of ASOs in the area surrounding Shandon SRRA, particularly to the east of the rest area. The spacing/drive times between Shandon and nearby ASOs along this segment of State 46 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Shandon SRRA is estimated to be 484 vehicles and ranks as having the 64th highest recorded average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of 3.0% and ranks as having the 70th highest recorded average stopping factor of all 87 SRRAs.

On average, approximately 73% of the vehicles entering Shingletown are autos and 27% are trucks/buses, nearly the same as the statewide average proportion of SRRA truck/bus traffic of 26%.

Shandon is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

P. STATE HIGHWAY 58

Exhibit 15 summarizes key use, traffic, and geographical information for each of the two rest areas located on SR 58. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 15. Key Statistics for SRRAs on State Highway 58

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Boron EB	14,150	1,084	15.3%	None E/None W	10 E/44 W	Very Low	Remote	1	None
Boron WB	14,150	679	9.6%	None E/None W	10 E/44 W	Very Low	Remote	None	None

1. Boron SRRA.

Boron SRRA is located in a remote region of Kern County, approximately 44 miles west of the city of Barstow and 28 miles east of the small community of Mojave. The SRRA is just west of the small community of Boron, along the northern border of Edwards Air Force Base. Boron consists of two SRRA units serving dedicated eastbound and westbound directions of travel on State 58. AADT on State 58 near the Boron SRRA is moderate, 14,150 vehicles per day.

Boron EB and WB each have a total of 65 parking spaces including 48 auto and 17 truck/bus spaces. Based on estimates of parking demand, Boron EB has no current parking deficiency and a projected future parking deficiency of just one truck/bus space. Boron WB has no current or projected future parking deficiencies. After reviewing the configuration of the SRRA, it is judged that there is sufficient space at Boron EB to accommodate the additional parking needed. ***Therefore, no parking expansion is necessary at Boron EB and WB and the current level and mix of parking is judged sufficient to meet expected future parking demand.***

There are no SRRAs to the east or west of Boron on State 58. The nearest ASOs are located 10 miles east and 44 miles west. There are low volumes of ASOs in the area surrounding Boron SRRA. The spacing/drive times between Boron and nearby ASOs to the west along this segment of State 58 are slightly greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed previously by Caltrans, average daily traffic at Boron EB and WB are estimated to be 1,084 and 679 vehicles, respectively. Boron EB and WB rank as having the 27th and 55th highest recorded average daily traffic levels of all 87 SRRAs. This level of use translates into stopping factors of 15.3% at Boron EB and 9.6% at Boron WB, which rank as the 5th and 21st highest recorded stopping factors of all 87 SRRAs.

On average, approximately 60% of the vehicles entering Boron EB are autos and 40% are trucks/buses, while 57% of the vehicles are autos at Boron WB and 43% are trucks/buses. The volumes of trucks/buses entering Boron EB and WB are significantly higher as compared to the statewide average of 26%.

Boron EB and WB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

Q. STATE HIGHWAY 70

Exhibit 16 summarizes key use, traffic, and geographical information for each of the two rest areas located on SR 70. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking

expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 16. Key Statistics for SRRAs on State Highway 70

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Massack	3,750	106	2.8%	33 E/None W	18 E/4 W	Low	Remote	None	None
L.T. Davis	3,425	69	2.0%	None E/33 W	15 E/3 W	Low	Remote	None	None

1. Massack SRRA.

Massack SRRA is located in a remote region of Plumas County, approximately 4 miles east of the town of Quincy and 26 miles west of the community of Portola. Massack SRRA is surrounded by Plumas National Forest. Massack consists of a single SRRA unit serving both the eastbound and westbound directions of travel on State 70. AADT on State 70 near the Massack SRRA is low, at 3,750 vehicles per day.

Massack SRRA has a total of 18 parking spaces including 13 auto and 5 truck/bus parking spaces. Based on estimates of parking demand, Massack has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Massack SRRA and the current level and mix of parking is judged sufficient to meet current and expected future parking demand.***

There are no SRRAs west of Massack on State 70 and the nearest SRRA to the east is L.T. Davis SRRA, at a distance of 33 miles. The nearest ASOs are located 18 miles east and 4 miles west. There are low volumes of ASOs in the area surrounding Massack SRRA, particularly to the east of the rest area. The spacing/drive times between Massack and L.T. Davis SRRA are roughly one half of the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Massack, L.T. Davis SRRA and nearby ASOs along this segment of State 70 is within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Massack SRRA is estimated to be 106 vehicles and ranks as having the 82nd highest recorded average daily traffic level of all 87 SRRAs, among the lowest in the state. This level of use translates into a stopping factor of 2.8% and ranks as having the 72nd highest recorded average daily traffic level of all 87 SRRAs.

On average, approximately 85% of the vehicles entering Massack are autos and 15% are trucks/buses, which is lower than the average statewide proportion of truck/bus traffic of 26%.

The low average vehicle traffic volumes and stopping factor at Massack indicate a low level of demand for rest area services at this location. One explanation for this low level of use at Massack could be that travelers are stopping at ASOs to the west, in the community of Quincy, instead of at the rest area. Given the low use of Massack, Caltrans might consider this SRRA as a potential candidate for closure or conversion to a Vista Point. Caltrans might simultaneously close Massack and replace the SRRA with an ARASO. However, there appear to be few ASOs in the region that

currently meet the minimum requirements of an ARASO as specified in the PDPM and most ASOs appear to have limited parking and parking expansion potential.

In addition, Caltrans might investigate whether the community of Quincy would be interested in working with the Department to develop an ARASO in the region. Caltrans might work with the local chamber of commerce to understand the level of interest in providing an ARASO facility in these communities. The potential benefits to the community include increases in local economic activity – i.e., local spending, sales tax revenues, and jobs - due to higher numbers of vehicles stopping in town to access the parking facility.

Massack is judged to be an SRRA that provides a relatively low degree of value to the traveling public and represents an SRRA that might be considered as a candidate for closure or conversion to a Vista Point. It is recommended that Caltrans investigate whether ASOs and local communities such as Quincy might be interested in working with the Department to develop an ARASO. However, considering the remoteness of this segment of State 70, it is recommended that Massack SRRA be closed only if a suitable ARASO facility can be developed to replace the SRRA.

2. L.T. Davis SRRA.

L.T. Davis SRRA is located in a remote region of Plumas County, approximately 3 miles east of the town of Portola and 20 miles west of the State 70 and U.S. 395 junction. L.T. Davis consists of a single SRRA unit serving both the eastbound and westbound directions of travel on State 70. AADT on State 70 near the L.T. Davis SRRA is low, at 3,425 vehicles per day.

L.T. Davis SRRA has a total of 24 parking spaces including 15 auto and 9 truck/bus parking spaces. Based on estimates of parking demand, L.T. Davis has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at L.T. Davis SRRA and the current level and mix of parking is judged sufficient to meet current and expected future parking demand.***

There are no SRRAs east of L.T. Davis on State 70 and the nearest SRRA to the west is Massack SRRA, at a distance of 33 miles. The nearest ASOs are located 15 miles east and 3 miles west. There are low volumes of ASOs in the area surrounding L.T Davis SRRA, particularly to the east of the rest area. The spacing/drive times between L.T. Davis and Massack SRRA are roughly one half of the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between, L.T. Davis SRRA, Massack SRRA and nearby ASOs along this segment of State 70 is within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at L.T Davis SRRA is estimated to be 66 vehicles and ranks as having the 85th highest recorded average daily traffic level of all 87 SRRAs, among the lowest in the state. However, because L.T. Davis was closed early for construction, the traffic data collected from the vehicle count survey being conducted was only for a period of three days instead of the full week-long count. Therefore, it is possible that the average daily traffic reported in this analysis for L.T. Davis is lower than the true average. Regardless, this level of use translates into a stopping factor of 2.0% and ranks as having the 82nd

highest recorded average daily traffic level of all 87 SRRAs. This stopping factor is in-line with the stopping factor at Massack SRRA, also on State 70, of 2.8%.

On average, approximately 84% of the vehicles entering L.T. Davis are autos and 16% are trucks/buses, which is lower than the average statewide proportion of truck/bus traffic of 26%.

As a result of the limited traffic count data for L.T. Davis, it is difficult to make accurate judgments regarding the demand and need for rest area services at this location and therefore it is recommended that L.T. Davis remain within the rest area system.

R. STATE HIGHWAY 99

Exhibit 17 summarizes key use, traffic, and geographical information for each of the five rest areas located on SR 99. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 17. Key Statistics for SRRAs on State Highway 99

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Phillip S. Raine NB	45,000	1,251	5.6%	30 N/None S	3 N/3 S	High	Rural	None	None
Phillip S. Raine SB	45,000	1,259	5.6%	30 N/None S	3 N/3 S	High	Rural	None	None
C. H. Warlow	49,500	638	1.3%	101 N/None S	2 N/11 S	High	Rural	1	None
E. Christoffersen NB	63,500	1,035	3.3%	None N/101 S	1 N/3 S	High	Rural	10	Onsite or ARASO
E. Christoffersen SB	63,500	999	3.1%	None N/101 S	1 N/3 S	High	Rural	6	Onsite or ARASO

1. Phillip S. Raine SRRA.

Phillip S. Raine SRRA is located in a rural area of Tulare County, 7 miles south of the town of Tulare and 58 miles north of the city of Bakersfield. Phillip S. Raine consists of two SRRA units each serving dedicated northbound and southbound directions of travel on State 99. AADT on State 99 near the Phillip S. Raine SRRA is high, at 45,000 vehicles per day.

Phillip S. Raine NB has a total of 117 parking spaces including 79 auto and 38 truck/bus spaces, while Phillip S. Raine SB has 110 parking spaces including 72 auto and 38 truck/bus spaces. Based on estimates of parking demand, Phillip S. Raine NB and SB have no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Phillip S. Raine NB or SB and the current level and mix of parking is judged sufficient to meet expected future parking demand.***

There are no SRRAs to the south of Phillip S. Raine on State 99 and the nearest SRRA to the north is C.H. Warlow SRRA, at a distance of 30 miles. The nearest ASOs are located 3 miles north and 3 miles south. There are high volumes of ASOs in the area surrounding Phillip S. Raine SRRA. The

spacing/drive time between Phillip S. Raine and C.H. Warlow SRRA is roughly one half of the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Phillip S. Raine and nearby ASOs to the north and south along this segment of State 99 are less than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed previously by Caltrans, average daily traffic at Phillip S. Raine NB and SB are estimated to be 1,251 and 1,259 vehicles, respectively. Phillip S. Raine NB and SB rank as having the 18th and 17th highest recorded average daily traffic levels of all 87 SRRAs. This level of use translates into stopping factors of 5.6% at both Phillip S. Raine NB and SB. On average, approximately 72% of the vehicles entering Phillip S. Raine NB are autos and 28% are trucks/buses, while 56% of the vehicles entering Phillip S. Raine SB are and 44% are trucks/buses. The proportion of trucks/buses entering Phillip S. Raine SB is significantly larger as compared to the proportions of trucks/buses entering Phillip S. Raine NB and as compared to the statewide average of 26%.

Phillip S. Raine NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

2. C.H. Warlow SRRA.

C.H. Warlow SRRA is located in a rural area of Tulare County, 22 miles south of the city of Fresno and 16 miles north of the city of Visalia. C.H. Warlow consists of a single SRRA unit serving both the northbound and southbound directions of travel on State 99. AADT on State 99 near the C.H. Warlow SRRA is high, at 49,500 vehicles per day.

C.H. Warlow has a total of 34 parking spaces including 25 auto and 9 truck/bus spaces. Based on estimates of parking demand, Phillip S. Raine NB and SB have no current deficiencies and a projected future parking deficiency of just one auto space. After reviewing the configuration of the SRRA and the small additional parking required, it is judged that there is sufficient space at C.H. Warlow to accommodate the additional parking needed. ***Therefore, no parking expansion is necessary at C.H. Warlow and the current level and mix of parking is judged sufficient to meet current and expected future parking demand.***

The nearest SRRA to the south of C.H. Warlow on State 99 is Phillips S. Raine, at a distance of 30 miles while the nearest SRRA north is Enoch Christoffersen SRRA, at a distance of 101 miles. The nearest ASOs are located 2 miles north and less than 1 mile south. There are high volumes of ASOs in the area surrounding C.H. Warlow SRRA. The spacing/drive time between C.H. Warlow and Phillip S. Raine SRRA is roughly one half of the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. However, the distance/drive time to Enoch Christoffersen SRRA is substantially larger than the FHWA/AASHTO maximum drive time/spacing recommendations. The spacing/drive times between C.H Warlow, Phillip S. Raine, Enoch Christoffersen SRRA and ASOs to the north and south along this segment of State 99 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at C.H Warlow is estimated to be 638 vehicles and ranks as having the 57th highest recorded average daily traffic

levels of all 87 SRRAs. This level of use translates into a stopping factor of 1.3% and ranks as the 86th highest stopping factor of all 87 SRRAs or the second lowest in the state. On average, approximately 78% of the vehicles entering C.H. Warlow are autos and 22% are trucks/buses, which is slightly lower than the statewide average proportion of truck/bus traffic of 26%.

Given the relatively low stopping factor and moderately average daily use at C.H. Warlow, the high numbers of ASOs in this region, and close spacing to Phillip S. Raine SRRA, Caltrans might consider replacing C.H. Warlow with an ARASO facility. This would be an opportunity to generate cost savings to the state by replacing the SRRA. The following nearby ASOs in the region are potential candidate commercial enterprises with which Caltrans might partner to develop an ARASO to replace the C.H. Warlow SRRA:

- **Shell Station** - 2747 East Manning Avenue, Fowler CA 93625, (559) 834-3634; Site is approximately 11 miles north of C.H. Warlow SRRA (36.605865, -119.657547); Site has approximately 25 auto and 90 truck/bus parking spaces onsite; Open 24/7; Site is accessible from both directions of travel on State 99. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Arco/AmPm Station** - 3000 Floral Avenue, Selma, CA 93662, (559) 896-2744; Site is approximately 9 miles north of C.H. Warlow SRRA (36.576721, -119.631901); Site has approximately 25 auto and 26 truck/bus parking spaces onsite; Location may be for sale and be temporarily closed; Site is accessible from both directions of travel on State 99. Unknown whether location is currently open 24/7 and therefore whether location meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Valero Station** - 38440 Highway 99, Dinuba, CA, (559) 897-3015; Site is located less than 0.5 miles south of the C.H. Warlow SRRA at the same interchange location (36.489274,-119.516474); Site has approximately 15 auto and 5 truck/bus parking spaces onsite; Open 24/7; Site is accessible from both directions of travel on State 99. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

C.H. Warlow is judged to represent an SRRA that provides a moderate degree of value to the traveling public. It is recommended that Caltrans consider the potential for replacing C.H. Warlow with an ARASO facility in the region.

3. Enoch Christoffersen SRRA.

Enoch Christoffersen SRRA is located a rural area of Tulare County, 16 miles south of the city of Modesto and 22 miles north of the city of Merced. Enoch Christoffersen consists of two SRRA units serving dedicated northbound and southbound directions of travel on State 99. AADT on State 99 near the Enoch Christoffersen SRRA is high, at 63,500 vehicles per day.

Enoch Christoffersen NB has a total of 63 parking spaces including 40 auto and 23 truck/bus spaces, while Enoch Christoffersen SB has a total of 64 parking spaces including 40 auto and 24 truck/bus spaces. Based on estimates of parking demand, Enoch Christoffersen NB has no current parking deficiencies and a projected future parking deficiency of 6 auto and 4 truck/bus spaces. Enoch Christoffersen SB also has no current parking deficiencies and a projected future parking deficiency of 6 truck/bus spaces. After reviewing the configuration of the SRRA, Caltrans judges

that existing right-of-way at Enoch Christoffersen NB and SB is likely sufficient for developing the additional parking onsite. However, as an alternative to developing the additional parking onsite, Caltrans could develop ARASOs in the region. The following nearby ASOs represent potential candidate commercial enterprises with which Caltrans might partner to develop ARASOs to provide some or all of the required additional parking at Enoch Christoffersen NB and SB:

- **Delhi Five Star Truck Stop** - 15406 August Avenue, Delhi, CA 95315, (209) 669-7620; Site is approximately 5 miles south of Enoch Christoffersen SRRA (37.419895, -120.765149); Site has approximately 30 autos parking spaces and can accommodate up to 20 trucks/buses onsite; Open 24/7; Site is accessible from both directions of travel on State 99. Location currently meets basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Travel Centers of America** - 435 Winton Parkway, Livingston, CA 95334, (209) 394-4418; Site is approximately 8 miles south of Enoch Christoffersen SRRA (37.387328, -120.737972); Site has approximately 120 auto and 100 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on State 99. Location currently meets basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

It is recommended that Caltrans develop the additional parking onsite within the existing right-of-way at Enoch Christoffersen NB and SB. As an alternative to developing the additional parking onsite, Caltrans might investigate the potential for developing ARASOs in the region.

There are no SRRAs to the north of Enoch Christoffersen SRRA on State 99 and the nearest SRRA to the south is C.H. Warlow, at a distance of 30 miles. The nearest ASOs are located 1 mile north and 3 miles south. There are high volumes of ASOs in the area surrounding the Enoch Chirstoffersen SRRA. The spacing/drive time between Enoch Chirstoffersen and C.H. Warlow and SRRA is substantially greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Enoch Christoffersen, C.H Warlow SRRA and ASOs to the north and south along this segment of State 99 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Enoch Christoffersen NB and SB are estimated to be 1,035 and 1,000 vehicles, respectively. Enoch Christoffersen NB and SB rank as having the 28th and 29th highest recorded average daily traffic levels of all 87 SRRAs. This level of use translates into stopping factors of 3.3% at Enoch Christoffersen NB and 3.1% at Enoch Christoffersen SB, which rank as the 68th and 69th highest stopping factor of all 87 SRRAs. On average, approximately 63% of the vehicles entering Enoch Christoffersen NB are autos and 37% are trucks/buses, as compared to 56% autos and 44% trucks/buses at Enoch Christoffersen SB. The proportions of truck/bus traffic at both the NB and SB units are higher than the statewide average proportion of truck/bus traffic of 26%.

Enoch Christoffersen NB and SB are judged to represent SRRAs that provide a high degree of value to the traveling public and should remain within the rest area system.

S. STATE HIGHWAY 111

Exhibit 18 summarizes key use, traffic, and geographical information for the single rest area located on SR 111. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 18. Key Statistics for SRRAs on State Highway 111

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Two Rivers	7,150	56	0.8%	None N/None S	4 N/8 S	Low	Rural	None	None

1. Two Rivers SRRA.

Two Rivers SRRA is located in a remote region of Imperial County, approximately 3 miles south of the community of Calipatria and 7 miles north of the town of Brawley. Two Rivers consists of a single SRRA unit serving both the northbound and southbound directions of travel on State 111. AADT on State 111 near the Two Rivers RRA is low, at 7,150 vehicles per day.

Two Rivers has a total of 19 parking spaces including 14 auto and 5 truck/bus parking spaces. Based on estimates of parking demand, Two Rivers SRRA has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Two Rivers SRRA and the current level and mix of parking is judged sufficient to meet expected future parking demand.***

There are no SRRAs to the north or south of Two Rivers SRRA on State 111. The nearest ASOs are located 4 miles north and 8 miles south. There are low volumes of ASOs in the area surrounding the Two Rivers SRRA. The spacing/drive times between Two Rivers SRRA and ASOs to the north and south along this segment of State 11 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Two Rivers is estimated to be 56 vehicles and ranks as having the lowest average daily traffic level of all 87 SRRAs. This level of use translates into a stopping factor of just 0.8% and ranks as having the lowest stopping factor of all 87 SRRAs. On average, approximately 87% of the vehicles entering Two Rivers are autos and 13% are trucks/buses, which is one-half of the statewide average proportion of truck/bus traffic of 26%.

The very low average vehicle traffic volumes and stopping factor at Two Rivers indicate a low level of demand for rest area services at this location. One explanation for this low level of use at Two Rivers could be that travelers are stopping at ASOs to the north and south in the communities of Calipatria and Brawley, instead of at the rest area. Given the low use of Two Rivers, Caltrans might consider this SRRA as a potential candidate for closure or conversion to a Vista Point. Caltrans might simultaneously close Two Rivers and replace the SRRA with an ARASO. However, there appear to be few ASOs in the region that currently meet the minimum requirements of an ARASO as specified in the PDPM and most ASOs have limited parking and parking expansion potential.

The following nearby ASO represents a potential candidate commercial enterprise with which Caltrans might partner to develop an ARASO to replace the Two Rivers SRRA:

- **Oasis Oil Service Station** - 6401 California 111, Calipatria, CA (760) 348-9900; Site is approximately 3 miles north of Two Rivers SRRA (33.130486, -115.514916); Site has approximately 20 auto and sufficient space to accommodate an estimated 10 trucks/buses; This enterprise is currently for sale and is temporarily closed; Site is accessible from both directions of travel on State 111. Location does ***not*** currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an alternative rest area stopping opportunity, as the operation is not open 24/7.

In addition, Caltrans might investigate whether the communities of Calipatria or Brawley would be interested in working with the Department to develop an ARASO parking facility in the region. Caltrans might also work with local chambers of commerce to understand the level of interest in providing an ARASO facility in these communities. The potential benefits to the community include increases in local economic activity – i.e., local spending, sales tax revenues, and jobs - due to higher numbers of vehicles stopping in town to access the parking facility.

Two Rivers is judged to represent an SRRA that provides a relatively low degree of value to the traveling public and represents an SRRA that might be considered as a candidate for closure or conversion to a Vista Point. It is recommended that Caltrans investigate whether local ASO's and nearby communities such as Calipatria and Brawley might be interested in working with the Department to develop an ARASO facility in the region.

T. STATE HIGHWAY 299

Exhibit 19 summarizes key use, traffic, and geographical information for each of the three rest areas located on SR 299. The data summarized in the exhibit has been used to make judgments regarding whether the rest area should remain open, is a candidate for potential closure, whether parking expansion is required, and whether the SRRA can accommodate the required parking expansion or whether a new rest area facility is required.

Exhibit 19. Key Statistics for SRRAs on State Highway 299

SRRA List By Route	Route AADT	SRRA AADT	Stop. Factor	Distance to Next SRRA (Miles)	Distance to Next ASO (Miles)	ASO Volume in Region	Urban, Rural, or Remote Location	2030 Parking Deficiency (Spaces)	Type of Parking Expansion
Hillcrest	3,100	76	2.5%	None E/77 W	15 E/7 W	Low	Remote	None	None
Francis B. Mathews	3,275	210	6.4%	53 E/None W	8 E/48 W	Very Low	Remote	7	Onsite
Moon Lim Lee	4,100	154	3.8%	77 E/53 W	39 E/5 W	Low	Remote	None	None

1. Hillcrest SRRA.

Hill Crest SRRA is located in a remote area of Shasta County, approximately 35 miles east of the city of Redding and of the community of Calipatria and 15 miles west of the small community of Burney. Hillcrest consists of a single SRRA unit serving both the northbound and southbound

directions of travel on State 299. AADT on State 299 near the Hillcrest SRRA is low, at 3,100 vehicles per day.

Hillcrest has a total of 16 parking spaces including 12 auto and 4 truck/bus parking spaces. Based on estimates of parking demand, Hillcrest SRRA has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Hillcrest SRRA and the current level and mix of parking is judged sufficient to meet expected future parking demand.***

There are no SRRAs to the east of Hillcrest and closest SRRA to the west is Moon Lim Lee SRRA, at a distance of 77 miles. The nearest ASOs are located 15 miles east and 7 miles west. There are low volumes of ASOs in the area surrounding the Hillcrest SRRA. The spacing/drive time between Hillcrest and Moon Lim Lee SRRA are greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Hillcrest SRRA and ASOs to the east and west along this segment of State 299 are within the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Hillcrest is estimated to be 76 vehicles, which ranks as the SRRA with the 84th highest vehicle traffic of all 87 SRRAs, among the lowest in the state. This level of use translates into a stopping factor of just 2.5% and ranks as the 79th highest stopping factor of all 87 SRRAs. On average, approximately 83% of the vehicles entering Hillcrest are autos and 17% are trucks/buses, which is less than the statewide average proportion of truck/bus traffic of 26%.

Hillcrest is judged to represent an SRRA that provides a low to moderate degree of value to the traveling public and should remain within the rest area system.

2. Francis B. Matthews SRRA.

Francis B. Matthews is located in a remote area of Trinity County, roughly 46 miles east of the city of Arcata and 48 miles east of the town of Weaverville. The SRRA is surrounded by Trinity National Forest lands and is located adjacent to the Klamath River. The SRRA consists of a single unit serving both the eastbound and westbound directions of travel on State 299. AADT near the Francis B. Matthews SRRA on State 299 is low, at 3,275 vehicles per day.

Francis B. Matthews has a total of 16 parking spaces including 11 auto and 5 truck/bus spaces. Based on estimates of parking demand, Francis B. Matthews SRRA has no current parking deficiencies and a projected future parking deficiency of 7 auto spaces. After reviewing the configuration of the SRRA, Caltrans judges that existing right-of-way at Francis B. Matthews is likely sufficient for developing the additional parking onsite. ***It is recommended that Caltrans develop the required additional parking within the existing right-of-way at Francis B. Matthews***.

There are no SRRAs to the west of Francis B. Matthews and closest SRRA to the east is Moon Lim Lee SRRA, at a distance of 53 miles. The nearest ASOs are located 48 miles east and 8 miles west. There are very low volumes of ASOs in the area surrounding the Francis B. Matthews SRRA. The spacing/drive time between Francis B. Matthews and Moon Lim Lee SRRA is roughly the same as the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Francis B. Matthews and ASOs to the east along this

segment of State 299 are greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Francis B. Matthews is estimated to be 210 vehicles, which ranks as the SRRA with the 78th highest vehicle traffic of all 87 SRRAs, among the lowest in the state. This level of use translates into a stopping factor of 6.4% and ranks as the 43rd highest stopping factor of all 87 SRRAs. On average, approximately 87% of the vehicles entering Francis B. Matthews are autos and 13% are trucks/buses, which is half of the statewide average proportion of truck/bus traffic of 26%.

Francis B. Matthews is judged to represent an SRRA that provides a moderate degree of value to the traveling public and should remain within the rest area system.

3. Moon Lim Lee SRRA.

Moon Lim Lee SRRA is located in a rural region of Trinity County, approximately 5 miles south of the community of Weaverville and 39 miles west of the city of Redding. The SRRA lies 23 miles to the east of Whiskytown National Recreation Area. The SRRA consists of a single unit serving both the eastbound and westbound directions of travel on State 299. AADT near the Moon Lim Lee SRRA on State 299 is low, at 4,100 vehicles per day.

Moon Lim Lee has a total of 18 parking spaces including 13 auto and 5 truck/bus spaces. Based on estimates of parking demand, Moon Lim Lee SRRA has no current or projected future parking deficiencies. ***Therefore, no parking expansion is necessary at Moon Lim Lee SRRA and the current level and mix of parking is judged sufficient to meet expected future parking demand.***

The closest SRRA to the east of Moon Lim Lee is Hillcrest SRRA, at a distance of 77 miles, while the nearest SRRA to the west is Francis B. Matthews, at a distance of 53 miles. The nearest ASOs are located 39 miles east and 5 miles west. There are low volumes of ASOs in the area surrounding the Moon Lim Lee SRRA. The spacing/drive time between Moon Lim Lee SRRA, Hill Crest, and Francis B. Matthews is the same or slightly greater than the 1-hour drive/60-mile maximum spacing recommendations provided by the FHWA and AASHTO. The spacing/drive times between Moon Lim Lee and ASOs to the east along this segment of State 299 are greater than the half-hour drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code.

Based on traffic surveys performed as part of this analysis, average daily traffic at Moon Lim Lee is estimated to be 154 vehicles, which ranks as the SRRA with the 80th highest vehicle traffic of all 87 SRRAs, among the lowest in the state. This level of use translates into a stopping factor of 3.8% and ranks as the 64th highest stopping factor of all 87 SRRAs. On average, approximately 87% of the vehicles entering Moon Lim Lee SRRA are autos and 13% are trucks/buses, which is half of the statewide average proportion of truck/bus traffic of 26%.

Given the relatively low use levels at Moon Lim Lee and close proximity to ASOs in the communities of Weaverville and Douglas City, Caltrans might consider the SRRA as a potential candidate for closure or conversion to a Vista Point. Caltrans might consider simultaneously closing the SRRA and developing an ARASO facility in the region. The following nearby ASO

represents a potential candidate commercial enterprise with which Caltrans might partner to develop an ARASO to replace the Moon Lim Lee SRRA:

- **Douglas City Store** - 1 Steiner Flat Road, Douglas City, CA 96024, (530) 623-6376; Site is approximately 1 mile south of Moon Lim Lee SRRA (40.652392, -122.943686); Site can accommodate approximately 50 autos and 2 trucks/buses; Large parking across from the store, adjacent to the fire station is BLM owned land and is where trucks often park. There is also a park and ride lot adjacent to the store owned by Shasta County; Open from 7:00 a.m. to 8:00 p.m. daily; Site is accessible from both directions of travel on State 299. Location does ***not*** currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as the operation is not open 24/7.

In addition, Caltrans might investigate whether the communities of Weaverville or Douglas City would be interested in working with the Department to develop an ARASO facility in the region. Caltrans might work with the local chamber of commerce to understand the level of interest in providing an ARASO facility in these communities. The potential benefits to the community include increases in local economic activity – i.e., local spending, sales tax revenues, and jobs - due to higher numbers of vehicles stopping in town to access the parking facility.

Moon Lim Lee is judged to represent an SRRA that provides a relatively low to moderate degree of value to the traveling public and represents an SRRA that might be considered as a candidate for closure or conversion to a Vista Point. It is recommended that Caltrans investigate whether local ASO's and nearby communities such as Weaverville or Douglas City might be interested in working with the Department to develop an ARASO facility in the region.

IV. RECOMMENDATIONS FOR PROPOSED NEW STOPPING OPPORTUNITIES

A. CRITERIA USED TO IDENTIFY NEW STOPPING OPPORTUNITY LOCATIONS

The following criteria were used to identify and analyze locations where new SRRAS are judged to be needed on the highways considered in this study.

1. Unauthorized Truck Parking

Unauthorized truck parking along highway routes is considered to be indicative of areas that are potentially in need of additional truck parking, and therefore could benefit from the provision of new rest area services. Chapter 29, Section 3, Article 1 of the California Project Development Procedures Manual (PDPM) recommends that in identifying the locations where new SRRAs might be developed that the Department should identify locations where *"…unauthorized [truck] roadside parking is frequently observed."*

This analysis identified unauthorized truck parking locations along highway routes by interviewing California Highway Patrol (CHP) officers with responsibility for patrolling the various highway segments and by reviewing satellite imagery of the route segments on Google Earth.

In the CHP interviews, officers were asked to report the location and magnitude of unauthorized truck parking within their jurisdictions. Google Earth's satellite imagery was examined for images of parked trucks and evidence of truck parking at interchanges, on/off ramps, and mainline pullouts. Evidence of truck parking typically involved tire tracks on dirt pullouts. CHP indications of unauthorized truck parking locations were also verified using Google Earth. However, the locations indicated using Google Earth that were *not* also identified by the CHP might not have the frequency or volumes of unauthorized truck parking as those locations provided by the CHP. Therefore, locations identified using only Google Earth were judged to be of lower significance than locations identified by the CHP.

The number of trucks illegally parked at a single location at any one time was found to range from as few as a single truck to as many as 20 trucks. Unauthorized truck parking occurs more frequently, and in greater numbers, along Interstate routes compared to State and U.S. routes, with Interstates 5 and 15 having some of the heaviest unauthorized truck parking levels statewide. In addition, unauthorized truck parking on Interstate routes tends to be for longer durations compared to State and U.S. routes.

There may be a number of reasons why truckers park at unauthorized locations. Regardless, this analysis assumes that trucks park at unauthorized locations due to a shortage of truck parking and would otherwise park in authorized locations if adequate parking were made available.

2. Spacing Between SRRAs

The spacing between SRRAs was considered when identifying locations where new SRRAs might be needed. Chapter 29, Section 3, Article 1 of the California PDPM recommends that in identifying locations where new SRRAs are needed that the Department should consider locations where *"…there are gaps of more than 100 miles between existing SRRAs."* In addition, this analysis also considered the SRRA spacing recommendations provided by the FHWA of a 1-hour drive, AASHTOs spacing recommendation of 60-miles, and Subsection 219(a) of the California Streets

and Highways Code recommendation that "*Safety roadside rests should be provided so that, in combination with other stopping facilities, there shall be facilities available at intervals of approximately one-half hour's normal driving time.*" This translates to spacing between SRRAs and "other stopping facilities" such as Alternative Stopping Opportunities (ASOs), of approximately 30 miles, assuming an average speed limit of 60 miles per hour.

The current spacing between SRRAs on the same route ranges from a maximum of 331 miles between Camp Roberts (South Bound) and Moss Cove on U.S. Highway 101, to a minimum of 21 miles between Irvine Lodge and Empire Camp also on U.S. Highway 101. The average spacing between SRRAs on the same route is 71 miles, slightly greater than the 60 mile/one-hour spacing recommendations by AASHTO and FHWA.

3. Availability of Alternative Stopping Opportunities & Site Remoteness

The location and numbers of alternative stopping opportunities (ASOs) and the remoteness of highway segments were also considered in identifying locations where new SRRAs are needed. ASOs provide travelers with a basic opportunity to stop and refresh themselves, often in locations where there are no SRRAs. Note, however, that an ASO does not necessarily offer *all* of the services considered important for a rest area, such as being opened 24 hours/day-7 days/week. Highway segments where there are few ASOs, or the distance between ASOs and/or existing SRRAs is great, represent regions where rest area services are likely needed. Urban areas generally have higher concentrations of ASOs compared with remote areas having low population densities. Moreover, highway segments in more remote areas also typically have lower volumes of commuter traffic relative to long distance travelers, the latter often having driven for longer periods of time and therefore might be in relatively greater need for a rest – and therefore rest area services.

Google Maps were used to identify the locations, type, and number of ASOs along the highways considered in this analysis. Spacing between SRRAs, discussed in the preceding section, was considered, as well as the concentrations and spacing of ASOs, to understand the stopping opportunities of travelers on a particular highway segment. Therefore, highway segments in remote areas with greater spacing between SRRAs (or where no SRRAs exist), *and* where few ASOs exist, were considered to represent regions in need of new rest area services.

4. SRRAs with Parking Deficiencies

Chapter 29, Section 3, Article 1 of the California PDPM recommends that in identifying locations where new SRRAs are needed, the Department should consider locations where, "*The closest SRRAs are significantly in need of additional parking capacity.*" When judging the need for new SRRAs, parking deficiencies at individual SRRAs, and gaps in the system were considered, as described above. However, we also recognized that parking shortages at *consecutive* SRRAs indicate a cumulative need, and therefore that the magnitude of such consecutive deficiencies should indicate the need for new rest area services.

5. Routes with High AADT

Recognizing that SRRAs provide a valued public service to travelers, an important objective of the SRRA system is to maximize the number of individuals served. Thus, an SRRA serving 1,000

visitors per day was considered to have a relatively greater public value than an SRRA serving 250 travelers per day, all else being equal.

Since the potential use of an SRRA is typically higher on highways with higher volumes (expressed as Average Annual Daily Traffic or AADT), developing SRRAs on routes with higher levels of AADT was be considered to be a priority over routes with lower AADTs, again all else being equal.

This study also recognized that routes in more urbanized areas, having higher AADTs also typically have more ASOs, compared to highway segments in more remote areas, which have lower AADTs but also fewer ASOs. Thus, routes in areas where the *value* of SRRAs is greater are also routes where more ASOs are available to provide that value. Therefore, when identifying locations where new SRRAs are most valuable, we also investigated the potential for that value to be conveyed through alternatives to traditional SRRAs including Interstate Oases, ARASOs, and APFs.

Considering the high cost of developing and maintaining a traditional SRRA and that Interstate Oases, ARASOs, and APFs are very low cost alternatives, this approach of considering the potential for adding Interstate Oases, ARASOs, or APFs instead of traditional SRRAs, or replacing existing SRRAs with Interstate Oases, ARASOs, or APFs is a particularly cost-effective approach.

6. Input from Caltrans Staff and Department Publications

Caltrans staff indicated the general locations where it felt new SRRAs might be needed. In addition, this analysis referenced Chapter 29, Section 3 of the California PDPM which states that the following route segments should be considered as high priority areas:

- Interstate 5 between Sacramento and San Diego,
- Interstate 80 between Sacramento and Oakland, and
- Interstate 8, 10, 15, and 40 in the dessert areas.

Analysis applying the previous five criteria to identify where new SRRAs are needed mostly confirmed that the areas indicated by Caltrans staff and in the PDPM are indeed regions where new rest are services are needed.

B. RECOMMENDATIONS FOR HIGH NEED AREAS

This section summarizes the locations identified as being areas that have a high need for new SRRAs based on the criteria discussed in the preceding section. At these high priority locations, developing a traditional SRRA might be preferable to developing Interstate Oases, ARASOs, and APFs under public/private partnerships. The reason is that a traditional state-owned SRRA offers a *long-term guarantee* that those rest area services will be provided indefinitely, whereas *indefinite control* of rest area facilities is not guaranteed under a public/private partnership agreement. The regions identified as being in need of new rest area services have been prioritized and are presented in order of priority based on level of need for new rest area services, considering the evaluation criteria discussed in the preceding section.

1. I-5 between John "Chuck" Erreca SRRA and Coalinga-Avenal SRRA.

Unauthorized Truck Parking. There are relatively large volumes of unauthorized truck parking occurring between John "Chuck" Erreca SRRA and Coalinga-Avenal SRRA. Nine such

unauthorized truck parking locations were identified in this region. The CHP reports that up to six trucks are typically parked at these locations, with most unauthorized parking occurring at the on/off ramps of highway interchanges. The unauthorized truck parking at these locations occurs year-round.

Spacing Between SRRAs. The John "Chuck" Erreca SRRA is 66 miles from the Coalinga-Avenal SRRA, which is nearly the same as the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing. However, this distance is less than the 100-mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities & Site Remoteness. There are few ASOs along this stretch of I-5, which is situated within a rural region Fresno County. Yet for the ASOs which do exist, the spacing between SRRAs and ASOs along this segment of I-5 is only slightly greater than a 30-minute drive, which essentially conforms to the 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Although John "Chuck" Erreca does not have any forecasted future parking deficiencies, the Coalinga-Avenal SRRA has the highest projected parking deficiencies of any SRRA in the state with a forecasted total parking deficiency of 147 spaces. This large parking shortage indicates the need for additional rest area parking along this segment of I-5.

Route AADT. AADT along this segment of I-5 is moderate, ranging between 29,000 and 34,000 vehicles, with median AADT of 32,500 vehicles. The AADT volumes along this segment of I-5 indicate that any SRRA developed in this region would need to serve a large number of highway travelers.

Recommended Location for New SRRA. Based on the large numbers of unauthorized truck parking locations in this rural region, the moderate spacing between SRRAs, limited ASOs, and extremely high parking deficiencies at Coalinga-Avenal SRRA, it is judged that this segment of I-5 is in need of additional rest area services. It is recommended that a new SRRA be developed near the midpoint between John "Chuck" Erreca SRRA and Coalinga-Avenal SRRA on I-5, just south of the community of Mendota, near the State Route 33/I-5 interchange (36.481472,-120.436038). Since there are no suitable ASOs in the immediate area with which Caltrans might partner to provide an Interstate Oasis, it is recommended that the Department develop either a traditional state owned/operated SRRA or a public/private partnership SRRA on state owned/controlled property at the State Highway 33/I-5 interchange.

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 229 parking spaces, consisting of 160 auto and 69 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the John "Chuck" Erreca and Coalinga-Avenal SRRAs, of 147 spaces, and the 229 spaces derived from the HDM calculation method. Given that the John "Chuck" Erreca SRRA is only 66 miles from the Coalinga-Avenal SRRA, the additional parking demand is likely closer to the combined deficit at the two SRRAs.

As a lower cost alternative to constructing a new SRRA at this location, Caltrans might consider entering into an agreement with one or more ASOs in region to provide rest area services utilizing an Interstate Oasis. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases in the region:

- **Multiple Commercial Operators** - Westside of the West Panoche Road/I-5 interchange, in Firebaugh, CA 93622; Site is located off Exit 368, approximately 18 miles south John "Chuck" Erreca SRRA (36.638199, -120.626217); Moderate amounts of auto and no truck/bus parking available; Gas stations, convenience stores, restaurants, and other highway commercial services are available at this location. A number of operators are open 24/7; Site is accessible from both directions of travel on I-5; Operators at this location do *not* currently meet Interstate Oasis requirements, as no truck/bus parking is provided.
- **Shell Station** - 24505 West Dorris Ave., Coalinga, CA 93210, (559) 935-0717; Site is located off Exit 334 at West Dorris Ave (Route 198)/I-5 interchange approximately 14 miles north of the Coalinga-Avenal SRRA (36.253212,-120.238962). The site has approximately 40 auto spaces and can accommodate up to 50 trucks/buses. Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Multiple Commercial Operators** - Westside of the West Dorris Avenue (Route 198)/I-5 interchange, Coalinga, CA 93210; Site is located off Exit 368, approximately 14 miles north of the Coalinga-Avenal SRRA (36.254295,-120.249987); Moderate levels of auto and low amounts of truck/bus parking available; vacant land adjacent to commercial operations; Gas stations, convenience stores, restaurants, and other highway commercial services are available at this location. A number of operators are open 24/7; Site is accessible from both directions of travel on I-5; One or more operators at this location currently meet Interstate Oasis requirements.

2. I-15 between Clyde V. Kane SRRA and Valley Wells SRRA.

Unauthorized Truck Parking. The CHP reported are few locations where they observed unauthorized truck parking east of Barstow on I-15. Their reported low level of unauthorized truck parking was confirmed by Google Earth satellite images, which indicated only three locations in the region between Clyde V. Kane SRRA and Valley Wells SRRA which displayed evidence of unauthorized truck parking. Each location identified appeared capable of accommodating between two and five trucks at one time.

Spacing Between SRRAs. The distance between Clyde V. Kane and Valley Wells SRRA is 54 miles, and slightly less than the maximum recommended by FHWA and AASHTO of one-hour drive/60-mile spacing and substantially less than the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are very few ASOs along this segment of I-15, which lies in a remote desert region of San Bernardino County. The spacing between SRRAs and ASOs along this segment of I-15 is roughly 30 minutes, the same as the 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities. There are virtually no communities along I-15 west of Barstow to serve the

large volumes of travelers on this route traveling between the Los Angeles and surrounding metropolitan areas and Las Vegas, Nevada. One of the only locations where ASOs exist along this segment of I-15 is the small community of Baker, located at the junction of I-15 and State Highway 127.

SRRA Parking Deficiencies. Clyde V. Kane SRRA has an estimated future parking deficiency of 31 spaces while Valley Wells SRRA has a projected total parking deficiency of 85 spaces, which is among the highest parking deficiency of any SRRA statewide. The large parking deficiency at these SRRAs indicates the need for additional parking in this region of I-15.

Route AADT. AADT along the segment of I-15 between Clyde V. Kane SRRA and Valley Wells SRRA is moderate, ranging from 30,250 to 37,500 vehicles, with a median AADT of 36,000 vehicles. The moderate volumes of mainline AADT along this segment of I-15 indicates that an SRRA developed in this region would potentially serve a significant number of highway travelers, especially considering the remoteness of and lack of ASOs in the region which would contribute to higher SRRA stopping factors.

Recommended Location for New SRRA. Due to the remoteness of the region, lack of ASOs, moderate AADT, and very large parking deficiencies at both Clyde V. Kane and Valley Wells SRRA, it is recommended that Caltrans develop an SRRA near the midpoint between Clyde V. Kane SRRA and Valley Wells SRRA, possibly near the junction of State Route 127 and I-15, and near Baker (35.194841, -116.139654).

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking of 185 parking spaces, comprised of 148 auto and 37 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Clyde V. Kane and Valley Wells SRRAs, of 116 spaces and the 185 parking spaces derived from the HDM calculation method. Given that the two SRRAs are 54 miles apart, the additional parking demand is likely closer to the combined deficit at the two SRRAs.

As a lower cost alternative to constructing a new SRRA at this location, Caltrans might consider entering into an agreement with one or more ASOs in region to provide rest area services utilizing an Interstate Oasis. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases in the region:

- **Multiple Commercial Operators** – North side of the State Highway 127 (Kelbaker Rd.)/I-15 interchange, Baker, CA 92309; Site is located off Exit 246, approximately 25 miles west of the Valley Wells SRRA (35.264686,-116.074646); Large amounts of auto and moderate amounts truck parking available and large areas of vacant land adjacent to commercial operations; Gas stations, convenience stores, restaurants, and other highway commercial services are available at this location. A number of operators are open 24/7; Site is accessible from both directions of travel on I-15; A number of operators at this location currently meet Interstate Oasis requirements.

The location of Baker roughly corresponds to the midpoint between Clyde V. Kane and Valley Wells SRRA and is therefore well situated with respect to the region identified as in need of rest

area services. Given the concentration of ASOs in Baker and the relatively large amount of vacant land which could potentially be developed into additional parking, it is recommended that Caltrans first attempt to develop an Interstate Oasis in the community of Baker before considering the development of a traditional SRRA in the region.

3. I-40 between Desert Oasis SRRA and John Wilkie SRRA.

Unauthorized Truck Parking. The CHP reported that there are very few locations where unauthorized truck parking occurs on a regular basis or in significant numbers along this segment of I-40. A review of satellite images available on Google Earth generally confirmed the CHP's report.

Spacing Between SRRAs. The two rest areas serving this segment of I-40 include John Wilkie SRRA and Desert Oasis SRRA which are spaced 77 miles apart, which is slightly greater than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing, yet less than the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are very few ASOs along the 77 mile remote stretch of I-40 between John Wilkie SRRA and Desert Oasis SRRA, and the drive times are significantly greater than the 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. There are large parking deficiencies at the SRRAs in this region. Desert Oasis SRRA is estimated to have a future parking deficiency of 29 spaces, which includes a deficit of 11 truck/bus spaces EB and 14 truck/bus spaces WB. The John Wilkie SRRA is estimated to have future parking deficiency of 49 spaces, of which 10 are truck/bus spaces in both EB and WB directions. The relatively large parking deficiencies at these SRRAs indicate the need for additional rest area parking in the region.

Route AADT. AADT along this segment of I-40 is relatively constant at roughly 12,000 vehicles. Considering the very low numbers of ASOs and general remoteness of the region, both of which tend to translate into greater SRRA stopping factors, even the moderate traffic volume suggests that an SRRA developed in this region would serve a significant number of highway travelers.

Recommended Location for New SRRA. Based on the large distances between SRRAs along this segment of I-40, the low number of ASOs, the remoteness of the region and substantial SRRA parking deficiencies, this area is judged to be in need of new rest area services. It is recommended that Caltrans develop a new SRRA near the midpoint between John Wilkie SRRA and Desert Oasis SRRA, preferably in the region roughly 10 miles west of the Kelbaker Road/I-5 interchange (34.730597, -115.843753). The lack of ASOs and the remoteness of this area, which traverses a sparsely populated desert region of San Bernardino County, are key factors indicating the need for additional rest area services on this segment of I-40. In addition, extreme temperatures in the summer months can represent a safety issue for travelers who experience vehicle overheating, breakdowns, water shortages, etc. The provision of a secure SRRA, where travelers can stop, rest, have access to water, and make emergency calls would offer valuable services in this area.

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 100 parking spaces, consisting of 52 auto and 48 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the John Wilkie and Desert Oasis SRRAs, of 78 spaces and the 100 parking spaces derived from the HDM calculation method. Given that the two SRRAs are 77 miles apart, the additional parking demand is likely closer to the combined deficit at the two SRRAs.

There are no ASOs in the immediate vicinity that are suitable for developing an Interstate Oasis. Therefore, at this location it would be necessary for Caltrans to develop either a traditional state owned/operated SRRA or a public/private partnership SRRA on state owned/controlled property.

4. I-15 and State Highway 76.

Unauthorized Truck Parking. Large concentrations of unauthorized truck parking were identified between the cities of San Marcos and Temecula on I-15. Approximately 18 locations were identified based on input from the CHP, Caltrans District 11 staff, and review of Google Earth satellite imagery. Most locations have two to five trucks at any one time, although several were observed to have as many as ten trucks at one time. Caltrans District 11staff and the CHP indicated that truck parking is particularly heavy along the on/off ramps of the State Highway 76/I-15 interchange.

Spacing Between SRRAs. There are no SRRAs on I-15 south of Clyde V. Kane SRRA (about 40 miles northeast of Barstow), a distance of nearly 210 miles. Although I-15 does pass through a number of metropolitan areas, this distance is 3 ½ times the maximum spacing recommended by FHWA and AASHTO of one-hour drive/60-mile spacing and more than double the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are moderate numbers of ASOs along this rural segment of I-15 between San Marcos and Temecula. The drive time/spacing between ASOs in this region of I-15 is typically 30 minutes or less.

SRRA Parking Deficiencies. As previously discussed, there are no SRRAs for 210 miles in this region of I-15.

Route AADT. AADT along this segment of I-15 is very high, ranging from 113,000 to 173,500 vehicles, with median AADT of 126,500 vehicles between San Marcos and Temecula. The high volumes of mainline AADT along this segment of I-15 suggests that any SRRA developed in this region would likely serve a very substantial number of highway travelers.

Recommended Location for New SRRA. According to input provided by Caltrans District 11 staff, Caltrans currently owns a 22 acre parcel of vacant land located at the southwest quadrant of the State Route 76/I-15 interchange. Caltrans also owns roughly 5 acres of land in the northwest quadrant of the interchange which includes a park and ride facility. District 11 has expressed an interest in potentially developing a public/private SRRA at this location. Given the high concentration of unauthorized truck parking that occurs at this and other interchanges in the region, the lack of nearby SRRAs, moderate numbers of ASOs, and the extremely high volumes of AADT

along this segment of I-15, the State Route 76/I-15 interchange is judged to represent an ideal location for a new SRRA public/private partnership. Therefore, it is recommended that Caltrans either develop a traditional or public/private partnership SRRA at the State Route76/I-15 interchange on the land currently owned by the Department (33.328293,-117.161168).

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 180 parking spaces, consisting of 162 auto and 18 truck/bus spaces. As noted above, there are no SRRAs on I-15 south of Clyde V. Kane SRRA (about 40 miles northeast of Barstow), a distance of nearly 210 miles. Therefore, the parking demand at a new SRRA in the recommended location is likely at the level estimated using the HDM calculation method.

5. I-5 between Coalinga-Avenal SRRA and Buttonwillow SRRA.

Unauthorized Truck Parking. There are moderate to high levels of unauthorized truck parking between the Coalinga-Avenal SRRA and Buttonwillow SRRA on I-5. A total of six interchanges in this region were identified as having unauthorized truck parking occurring on a regular basis. The CHP reports that parking at these locations occurs mostly at night and is consistent throughout the year. Trucks typically park along the shoulders of the on/off ramps at these interchange locations and some locations have large dirt pullouts which offer convenient truck parking locations. According to the CHP, typically one to two trucks are parked at each interchange location at any one time, and between 10 and 15 trucks are often parked near the State Route 41/I-5 interchange.

Spacing Between SRRAs. The SRRAs serving this segment of I-5 include Coalinga-Avenal SRRA to the north and Buttonwillow to the south. The distance between these two SRRAs is 61 miles, which is same as the maximum spacing recommendation by FHWA and AASHTO of one-hour drive/60-mile spacing. However, the distance between Coalinga-Avenal and Buttonwillow SRRA is less than the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities & Site Remoteness. The segment of I-5 between Coalinga-Avenal SRRA and Buttonwillow SRRA is a rural area of Kings and Kern County with moderate numbers of ASOs, spaced to provide drive times between stopping opportunities of 30 minutes or less, and therefore conforming to the 30-minute drive time spacing stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. There is a substantial projected parking deficiency at Coalinga-Avenal SRRA of 147 spaces, the highest of any SRRA statewide. Buttonwillow SRRA to the south has a minor projected future parking deficiency of just 5 spaces. The parking deficiencies at these SRRAs indicate the need for additional rest area parking in the region.

Route AADT. AADT on I-5 between Coalinga-Avenal SRRA and Buttonwillow SRRA is moderate and ranges from roughly 27,000 to 30,000 vehicles, with median AADT along this segment of 28,000 vehicles. The moderate volumes of mainline AADT along this segment of I-5 indicate that any SRRA developed in this region would have the potential to serve a large number of highway travelers.

Recommended Location for New SRRA. Considering the moderate to high levels of unauthorized truck parking in the region, moderate spacing between SRRAs, moderate numbers of ASOs, and large parking deficiencies at SRRAs in the area, this segment of I-5 is judged to be in need of new rest area services. It is recommended that Caltrans develop a new SRRA near the midpoint between Coalinga-Avenal SRRA and Buttonwillow SRRA on I-5. A suitable location would be to the north of the community of Lost Hills at the junction with State Route 46 and south of Kettleman City near the junction of State Route 41 (35.744304, -119.751763).

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 224 parking spaces, consisting of 155 auto and 69 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Coalinga-Avenal and Buttonwillow SRRAs, of 147 spaces, and the 224 spaces derived from the HDM calculation method. Given that the two SRRAs are only 61 miles apart, the additional parking demand is likely closer to the combined deficit at the two SRRAs.

As a lower cost alternative to constructing a new SRRA at this location, Caltrans might consider entering into an agreement with one or more ASOs in the region to develop Interstate Oases. This option has the potential to generate significant cost savings to the state by avoiding the costs associated with acquiring new right-of-way and designing/building a traditional SRRA. However, there are no currently existing ASOs in the immediate area suitable for developing an Interstate Oasis. The closest candidate ASOs are located at the State Route 46/I-5 interchange 11 miles south or at the State Route 41/I-5 interchange 20 miles to the north. The following commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases in the region:

- **Love's Travel Stop** - 21948 California 46, Lost Hills, CA 93249, (661) 797-1800; Site is located at State Highway 46/I-5 interchange approximately 19 miles north of Buttonwillow SRRA (35.616928, -119.658931); Site has approximately 50 auto and 60 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Pilot Travel Center** - 14808 Warren Street, Lost Hills, CA 93249, (661) 797-2122; Site is located at State Highway 46/I-5 interchange approximately 19 miles north of Buttonwillow SRRA (35.615446, -119.658939); Site has approximately 50 auto and 60 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Lost Hills Travel Center** - 14814 Aloma Street, Lost Hills, California 93249, (661) 797-2354; Site is located at State Highway 46/I-5 interchange approximately 19 miles north of Buttonwillow SRRA (35.614943, -119.657092); Site has approximately 12 auto and 30 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

Considering the moderate to high levels of unauthorized truck parking along this route segment and the large amounts of truck parking available at the ASO sites listed above, these ASOs would also represent suitable operators with which Caltrans might partner to develop APFs to provide longer-duration truck parking.

6. I-10 between Cactus City SRRA and Wiley's Well SRRA.

Unauthorized Truck Parking. Three unauthorized truck parking locations were identified along this segment of I-10. The CHP reported that at two of the interchange locations identified, as many as ten trucks have been observed in unauthorized areas at a single time and that such parking occurs year-round at these locations.

Spacing Between SRRAs. The Cactus City SRRA is 63 miles from the Wiley's Well SRRA, a distance only slightly greater than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and substantially less than the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are few ASOs along this segment of I-10, which is located in a remote desert region of Riverside County. The spacing between SRRAs and ASOs along this segment of I-10 is roughly 30 minutes, the same as the 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Cactus City SRRA has a total projected future parking deficiency of 86 spaces, while Wiley's Well SRRA has an estimated future parking deficiency of 6 spaces. The forecasted parking deficiencies at the Cactus City SRRA are among the highest in the state, and the relatively large truck/bus parking deficiencies at these SRRAs indicate the unauthorized parking problem will only get worse if not relieved by the provision of additional rest area facilities in this region of I-10.

Route AADT. AADT along this segment of I-10 is moderate, ranging from 21,000 to 23,000 vehicles, with a median AADT of 22,500 vehicles. The moderate level of AADT, the limited number of ASOs along this segment of I-10 and the remoteness of the area indicate that an SRRA developed in this region would likely serve a substantial number of highway travelers.

Recommended Location for New SRRA. It is recommended that Caltrans develop a new SRRA near the midpoint between Cactus City SRRA and Wiley's Well SRRA, preferably near the State Route 177/I-10 interchange and the small community of Desert Center (33.711673,-115.400008). The large number of parking deficiencies at Cactus City SRRA, moderate levels of unauthorized truck parking, the low number of ASOs and remoteness of the region, moderate spacing between SRRAs, and moderate AADT volumes in the region reflect the need for additional rest area services along this segment of I-10.

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking of 112 parking spaces, comprised of 66 auto and 46 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Cactus City and Wiley's Well SRRAs of 92 spaces and the 112 parking spaces derived from the HDM calculation method. Given that the two SRRAs are 63 miles apart, the additional parking demand is likely closer to the combined deficit at the two SRRAs.

Developing a new SRRA at this location would have the additional benefit of serving travelers heading southbound on State Route 177. There are no ASOs in the immediate vicinity that are suitable for developing an Interstate Oasis. Therefore, at this location it would be necessary for Caltrans to develop either a traditional state owned/operated SRRA or a public/private partnership SRRA on state owned/controlled property.

7. I-5 between Westley SRRA and Sacramento.

Unauthorized Truck Parking. There are high levels of unauthorized truck parking near ten interchange locations between the Westley SRRA and Sacramento. According to the CHP, unauthorized truck parking occurs at interchange on/off ramps in this region and is relatively constant throughout the year. Roughly three to four trucks park at each location at any time and at the State Route 120/I-5 junction as many as ten trucks may be parked at a given time.

Spacing Between SRRAs. The rest areas which serve this region include Westley SRRA to the south and Elkhorn and Dunnigan SRRA to the north. Note that Elkhorn SRRA only serves the southbound direction of travel on I-5 – at a distance of 85 miles. However, the next closest SRRA which serves the northbound direction of travel on I-5, north of Westley SRRA, is Dunnigan SRRA at a distance of 112 miles. These distances are greater than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing. In addition, the distance between Westley SRRA and Dunnigan SRRA exceeds the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities & Site Remoteness. The segment of I-5 between Westley SRRA and Sacramento is a relatively rural region of San Joaquin and Sacramento County with few ASOs. However the existing ASOs are spaced so as to offer 30-minute drive times or less from Westley SRRA and therefore conform to the 30-minute drive time spacing recommendation stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Substantial parking deficiencies were forecasted for the Westley SRRA of 91 spaces by 2030. In fact, Westley SB has the 3rd largest projected parking deficiency of all 87 SRRAs statewide, including sizeable amounts of truck/bus parking deficiencies indicating that the unauthorized truck parking problem will grow worse unless alleviated. Elkhorn SRRA to the north of Westley has no projected parking deficiencies, while Dunnigan NB has a relatively small projected parking deficiency of 10 spaces. The combined parking deficiencies at these SRRAs indicate a need for additional parking in the region.

Route AADT. AADT on I-5 between Westley SRRA and Sacramento is high and ranges from roughly 21,150 to 135,500 vehicles, with median AADT along this segment of 83,500 vehicles. The large volumes of mainline AADT along this segment of I-5 indicate that any SRRA developed in this region would need to serve a large number of highway travelers.

Recommended Location for New SRRA. Considering the high levels of unauthorized truck parking, the wide spacing between SRRAs, high route AADT, and the significant projected parking deficiencies at the SRRAs, additional rest area services are judged to be needed in this region. It is recommended that Caltrans consider developing a new SRRA somewhere near the midpoint between Westley SRRA and Sacramento on I-5. A desirable location would be north of Stockton,

possibly near Lodi, and near the junction of State Route 12 and I-5 (38.077497,-121.378419). Using the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 143 spaces, including 114 auto and 29 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Westley and Dunnigan SRRAs of 101 spaces, and the 143 spaces derived from the HDM calculation method.[14]

As a lower cost alternative to constructing a new SRRA at this location, Caltrans might consider entering into an agreement with one or more ASOs in the region to provide rest area services utilizing an Interstate Oasis. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases in the region:

- **Flying J Travel Plaza** - 15100 North Thornton Road, Lodi, CA 95242, (209) 339-4066; Site is located off Exit 485 at the State Route 12/I-5 interchange, approximately 40 miles north of Westley SRRA (38.117275, -121.394405); Site has approximately 150 auto and 170 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **3 B's Truck & Auto Plaza** - 14749 North Thornton Road, Lodi, CA 95242, (209) 368-8100; Site is located off Exit 485 at the State Route 12/I-5 interchange, approximately 40 miles north of Westley SRRA (38.113226, -121.394829); Site has approximately 50 auto and 25 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.

Considering the high levels of unauthorized truck parking along this route segment and the large amounts of truck parking available at the ASO sites listed above, these ASOs would also represent suitable operators with which Caltrans might partner to develop APFs to provide longer-duration truck parking.

8. I-15 from Fontana to Apple Valley.

Unauthorized Truck Parking. Relatively high concentrations of unauthorized truck parking were identified along the segment of I-15 between Fontana and Apple Valley. Nine locations were identified within this section of I-15, where trucks consistently park in unauthorized areas throughout the year. At most of those locations, trucks were observed to typically park along the shoulder of interchange on/off ramps as well as at several locations along the shoulder of the highway mainline. The CHP reported that up to three trucks are parked at most of the locations, but as many as 12 parked trucks have been observed in unauthorized areas at a given time.

[14] There appear to be several shortcomings associated with the rest area parking demand calculation presented in the HDM. First, the calculation does not take into consideration parking available at nearby SRRAs or the distance between SRRAs. Since the FHWA/AASHTO call for 1-hour/60-mile spacing, it seems that the parking need for any new SRRA that is located within the 1-hour/60-mile distance from two rest areas on either side should be closer to the combined deficits of those two rest areas instead of the parking estimates found using the HDM calculation. Second, the HDM assumes a 20-minute average length of stay for all vehicles. However, variations in length of stay can result in substantial changes in the amount of parking estimated. Lastly, the calculation does not take into account unauthorized truck parking levels in the region.

Spacing Between SRRAs. There are no SRRAs on I-15 south of Clyde V. Kane SRRA, representing a distance of nearly 210 miles. This distance is significantly greater than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and more than double the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. Much of this section of I-15 is within a relatively rural area of San Bernardino County with moderate numbers of ASOs. The drive time/spacing between ASOs in this region of I-15 is typically 30 minutes or less.

SRRA Parking Deficiencies. As previously discussed there are no SRRAs between Fontana and Apple Valley in this region of I-15. And, the nearest SRRA, Clyde V. Kane, has a total projected future parking deficiency of 31 spaces.

Route AADT. AADT along this segment of I-15 between Fontana and Apple Valley (through Victorville) is very high, ranging from 82,000 to 154,500 vehicles, with median AADT of 133,500 vehicles. The extremely high volumes of mainline AADT along this segment of I-15 suggests that an SRRA developed in this region would serve a significant number of highway travelers.

Recommended Location for New SRRA. Considering the lack of rest area services along this rural segment of I-15, very high AADT, and the relatively large number of unauthorized truck parking locations, it is recommended that Caltrans develop a new SRRA in the region near the U.S. 395/I-15 junction in Hesperia (34.374972,-117.423059). This location would provide the benefit of serving numerous travelers, especially truckers, both using I-15 as well as U.S. Highway 395. I-15 winds through the Cajon Pass in this region where hazardous driving conditions can occur during the winter months. Providing an SRRA or Interstate Oasis at either end of the Pass would likely improve highway safety along this corridor, as weary travelers could stop and rest either just before or after traversing the pass.

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 177 parking spaces, consisting of 149 auto and 28 truck/bus spaces. As noted above, there are no SRRAs on I-15 south of Clyde V. Kane SRRA (about 40 miles northeast of Barstow), a distance of nearly 210 miles. Therefore, despite the parking deficit at the Clyde V. Kane SRRA of 31 spaces the parking demand at a new SRRA in the recommended location is likely to be at the 177 spaces estimated using the HDM calculation method.

As a lower cost alternative to constructing a new SRRA at this location, Caltrans might consider entering into an agreement with one or more ASOs in the region to provide rest area services utilizing an Interstate Oasis. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases in the region:

- **Pilot Travel Center** – 8701 US Highway 395, Hesperia, CA 92344, (760) 956-2844; Site is located at U.S. 395/I-15 interchange approximately 75 miles south of Clyde V. Kane SRRA (34.408488,-117.398424); Site has approximately 60 auto and 300 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-15. Currently meets Interstate Oasis requirements.

- **Shell Station** – 14949 Cajon Blvd, Phelan, CA 92371, (760) 249-3027; Site is located of Exit 131 at State Highway 138/I-15 interchange approximately 84 miles south of Clyde V. Kane SRRA (34.311259, -117.477561); Site has approximately 14 auto and no truck/bus parking spaces, however large vacant dirt parking area is adjacent to site; Open 24/7; Site is accessible from both directions of travel on I-15. Currently does *not* meet Interstate Oasis requirements as site does not provide truck/bus parking.
- **Multiple Commercial Operators** – Northwest quadrant of the Sierra Ave/I-15 interchange, Fontana, CA 92336; Site is located off Exit 119, approximately 96 miles south of the Clyde V. Kane SRRA (34.182541, -117.437797); Approximately 150 auto parking spaces for all commercial operators combined and no truck/bus parking; Most operators open 24/7; Site is accessible from both directions of travel on I-15; Currently does *not* meet Interstate Oasis requirements as site does not provide truck/bus parking.

Considering the high levels of unauthorized truck parking along this route segment and the large amounts of truck parking available at the Pilot Travel Center listed above, the Pilot Travel Center would also represent a suitable operator with which Caltrans might partner to develop an APF to provide longer-duration truck parking.

9. I-5 between Buttonwillow SRRA and Tejon Pass SRRA.

Unauthorized Truck Parking. The segment of I-5 between Buttonwillow SRRA and Tejon Pass SRRA was found to have significant levels of unauthorized truck parking at ten locations. According to the CHP, truck parking along this segment of I-5 occurs regularly throughout the year with most unauthorized parking occurring during the morning and evening hours. The CHP also indicated that up to four trucks typically park at each location, often along interchange on/off ramps. However, at the State Highway 99/I-5 junction and south of this location, trucks often park along the shoulder of mainline I-5.

Spacing Between SRRAs. The distance between Buttonwillow SRRA and Tejon Pass SRRA is 53 miles which is less than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing. In addition, the distance between Buttonwillow SRRA and Tejon Pass SRRA is less than the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are only a few ASOs along this rural segment of I-5 which lies entirely within Kern County. The spacing of ASOs between Buttonwillow SRRA and Tejon Pass SRRA corresponds to drive times of about 30 minutes or less, and therefore conform to the 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Parking deficiencies at SRRAs in the region are moderate. Tejon Pass SRRA has a projected future parking deficiency of 30 parking spaces of which 13 are truck/bus spaces, while Buttonwillow SRRA has projected future parking deficiency of just 5 spaces.

Route AADT. AADT along this segment of I-5 is moderate to high, ranging from 27,500 to 71,500 vehicles, with median AADT of 30,500 vehicles. The moderate to high volumes of mainline AADT

along this segment of I-5 suggests that any SRRA developed in this region would be serving a significant number of highway travelers.

Recommended Location for New SRRA. The substantial volumes of unauthorized truck parking along this segment of I-5, the high AADT, and parking deficiencies at nearby SRRAs indicate a need for new rest area services along this segment of I-5. It is recommended that Caltrans develop a new SRRA near the midpoint between Buttonwillow SRRA and Tejon Pass SRRA on I-5, such as south of the small community of Buttonwillow and just north of the Tejon Pass or "Grapevine" region (35.185079,-119.135878).

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 169 parking spaces, consisting of 132 auto and 37 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Buttonwillow and Tejon Pass SRRAs, of 35 spaces, and the 169 spaces derived from the HDM calculation method. Given that the two SRRAs are only 53 miles apart, the additional parking demand is likely closer to the combined deficit at the two SRRAs.

The start of the Tejon Pass is located at the southern end of this highway segment, and represents a region where driving conditions can often be hazardous due the steep terrain and winter weather. Therefore, the provision of rest area services in this region is particularly important to improve highway safety. As a lower cost alternative to constructing a new SRRA at this location, Caltrans might consider entering into an agreement with one or more ASOs in the region to provide rest area services utilizing an Interstate Oasis. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases in the region:

- **Petro Stopping Center** - 5855 Dennis Mccarthy Drive, Lebec, CA 93243, (661) 663-4340; Located off Exits 219A and 219B at Wheeler Ridge Rd/I-5 interchange, 13 miles north of Tejon Pass SRRA (34.986149, -118.948276); The site has 185 auto and 415 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Travel Centers of America** - 5800 North Wheeler Ridge Road, Arvin, CA 93203, (661) 858-2804; Located off Exits 219A and 219B at Wheeler Ridge Rd/I-5 interchange, 13 miles north of Tejon Pass SRRA (34.988874, -118.942830); The site has 106 auto and 130 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Currently meets Interstate Oasis requirements.
- **Mobil Station** - 19400 Taft Highway, Bakersfield, CA 93308, (661) 831-5680; Located off Exit 244 at State Highway 119 (Taft Hwy)/I-5 interchange, 16 miles south of Buttonwillow SRRA (35.267739, -119.217674); The site has 17 auto and no truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Location does *not* currently meet minimum criteria to be designated as an Interstate Oasis as the operator does not provide truck/bus parking.
- **Chevron Station** - 20238 Taft Highway, Bakersfield, CA 93308, (661) 203-8050; Located off Exit 244 at State Highway 119 (Taft Hwy)/I-5 interchange, 16 miles south of Buttonwillow SRRA (35.267503, -119.227935). The site has 28 auto and no truck/bus

spaces; Open 24/7; Site is accessible from both directions of travel on I-5. Location does *not* currently meet minimum criteria to be designated as an Interstate Oasis as the operator does not provide truck/bus parking.

Considering the moderate to high levels of unauthorized truck parking along this route segment and the large amounts of truck parking available at the Petro and Travel Centers of America sites listed above, these ASOs would also represent suitable operators with which Caltrans might partner to develop APFs to provide longer-duration truck parking.

10. I-8 at Sidewinder Road Interchange.

Unauthorized Truck Parking. There are low to moderate volumes of unauthorized truck parking just west of the Sand Hills SRRA on I-8. According to the CHP, unauthorized truck parking occurs consistently throughout the year at three interchange locations along the segment of I-5 just west of Sand Hills SRRA. The CHP reports that between two and five trucks are typically parked at each location.

Spacing Between SRRAs. The two SRRAs serving travelers along this segment of I-8 are Sand Hills SRRA and Sunbeam SRRA, spaced 48 miles apart, which is less than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing. The distance between Sand Hills and Sunbeam SRRA is also less than the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are very few ASO enterprises in the remote desert region between the city of El Centro and the small border community of Winterhaven on I-8. The spacing between SRRAs and ASOs along this segment of I-8 is greater than the 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. The Sand Hills SRRA has a moderate projected future parking deficiency of 26 spaces while there is no significant parking deficiencies forecasted at Sunbeam SRRA.

Dangerous Entry & Exit to/from SRRA. The Sand Hills SRRA has a unique problem that other SRRAs do not. Interstate drivers must turn into the SRRA from the left lane, posing a significant safety problem, which needs mitigation. A new SRRA or Interstate Oasis would offer a solution to this problem.

Route AADT. AADT on I-8 between El Centro and Winterhaven is moderate, ranging from 11,100 to 23,000 vehicles, with median AADT of nearly 14,000 vehicles. The moderate volumes of mainline AADT along this segment of I-8 suggests that any SRRA alternative developed in this region would be serving a significant number of highway travelers. The few ASOs and general remoteness of the region would tend to translate into a higher than usual stopping factor.

Recommended Location for New SRRA. Caltrans owns approximately 24 acres of vacant land on the northeast side of the Sidewinder Road/I-8 interchange located 9 miles east of the Sand Hills SRRA. This property has been the focus of past efforts to develop a public/private SRRA partnership and is judged to continue to represent a suitable location for such a project. Considering

that the parking and other facilities at the Sand Hills SRRA are likely to be insufficient to meet the needs of travelers on I-8, and due to the safety concerns regarding entry and exit to this SRRA, it is recommended that Sand Hills be closed and replaced by a new SRRA on the Caltrans property at the Sidewinder Road interchange (32.748394, -114.753583).

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 54 parking spaces, consisting of 41 auto and 13 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Sand Hills and Sunbeam SRRAs, of 26 spaces and the 54 spaces derived from the HDM calculation method. Given that the two SRRAs are only 48 miles apart, the additional parking demand is likely closer to the combined deficit at the two SRRAs.

Since an SRRA developed at this location would be near the California/Arizona border, the new SRRA could also provide important tourism/traveler information services to travelers entering California similar to services provided by California Welcome Centers. In this case, the parking area might need to be greater than if it were to serve only rest area visitors.

11. State Route 99 Between Enoch Christoffersen SRRA and C.H. Warlow SRRA.

Unauthorized Truck Parking. Large amounts of unauthorized truck parking were identified along this segment of State Highway 99. A total of eight locations were identified where trucks park on a regular basis, year-round. According to the CHP, typically up to five trucks are parked at each location and at several locations between five and ten trucks can be parked at a given time. Parking occurs primarily along the on/off ramp shoulders of highway interchanges. Similar to I-5, State Highway 99 is an important goods movement route in California.

Spacing Between SRRAs. The spacing between Enoch Christoffersen SRRA and C.H. Warlow SRRA is large, representing a distances of 101 miles. This distance is considerably greater than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and nearly the same as the 100 mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are large numbers of ASOs located along this segment of State Highway 99 which passes through several communities with relatively large populations including Fresno, Merced, and Madera. The spacing of ASOs between Enoch Christoffersen SRRA and C.H. Warlow SRRA are 30 minutes or less, and therefore conforms to the 30-minute drive time spacing recommendations stipulated in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Enoch Christoffersen SRRA has a moderate projected future parking deficiency of 16 spaces while C.H. Warlow no significant forecasted parking deficiencies.

Route AADT. AADT on State Highway 99 in this region is high, ranging from 37,000 to 122,000 vehicles, with a median AADT of nearly 62,000 vehicles. The high volumes of mainline AADT

along this segment of State Highway 99 suggest that any SRRA developed in this region would have the potential to serve a significant number of highway travelers.

Recommended Location for New SRRA. Considering the large volumes of unauthorized truck parking in this region, the large spacing between SRRAs, and high route AADT, it is recommended that Caltrans develop an SRRA on State Route 99 near the midpoint between Enoch Christoffersen SRRA and C.H. Warlow SRRA, just north of the community of Madera near Avenue 18 ½ (37.018361,-120.127652).

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking of 100 parking spaces, comprised of 76 auto and 24 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Enoch Christoffersen and C.H. Warlow SRRAs of 16 spaces and the 100 parking spaces derived from the HDM calculation method. Given that the two SRRAs are 101 miles apart, considerably greater than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing, the additional parking demand is likely closer to the figure estimated by the HDM method.

As a lower cost alternative to constructing a new SRRA at this location, Caltrans might consider entering into an agreement with one or more ASOs in region to provide rest area services through an ARASO. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop an ARASO in the region:

- **Pilot Travel Center** – 22717 Avenue 18 ½, Madera, CA 93637, (559) 673-3878; Site is located at off Exit 159 at Avenue 18 1/2/SR 99 interchange approximately 5 miles north of Madera (37.018839, -120.133251). Site has approximately 100 auto and 120 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on SR 99. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Valero Station** – 28650 Avenue 12, Madera, CA 93637, (209) 872-5519; Site is located at off Exit 151 at Avenue 12/SR 99 interchange approximately 3 miles south of Madera (36.922995, -120.025072). Site has approximately 30 auto and 28 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on SR 99. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **United Park Inc. (Exxon Station)** - 18208 Avenue 24, Chowchilla, CA 93610, (559) 665-4146; Site is located at off Exit 167 at Avenue 24/SR 99 interchange approximately 1 mile south of Chowchilla (37.097682, -120.217831). Site has approximately 60 auto and 8 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on SR 99. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

Considering the high levels of unauthorized truck parking along this route segment and the moderate to large amounts of truck parking available at the ASOs listed above, these ASOs would

represent suitable operators with which Caltrans might partner to develop APFs to provide longer-duration truck parking.

C. RECOMMENDATIONS FOR ALL OTHER LOCATIONS

This section summarizes locations where additional rest area services are judged to be needed, but are considered to be locations where the need is lower than at the higher priority locations identified in the preceding section. These lower priority rest area locations might be provided most cost-effectively by utilizing various forms of public/private partnerships, including Interstate Oases, ARASOs, or APFs. The regions identified as being in need of new rest area services have been prioritized and are presented in order of priority based on level of need for new rest area services, considering the evaluation criteria discussed in Section IV.A of this report.

1. State Highway 58 Between Bakersfield and Boron SRRA.

Unauthorized Truck Parking. Eleven locations were identified along this segment of SR 58 where unauthorized truck parking was found to occur on a regular basis. According to the CHP, up to eight and often as many as 15 trucks will be parked at the 11 locations identified. Truck parking occurs at both interchange on/off ramps and at large unpaved pullout areas along the highway mainline.

Spacing Between SRRAs. The only SRRA on SR 58 is Boron SRRA which is located 84 miles east of the city of Bakersfield.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are few ASOs along this segment of SR 58. Nearly all ASOs between Bakersfield and Boron SRRA are located in the small communities of Tehachapi and Mojave. The spacing between ASOs and SRRAs along this segment of SR 58 are a 30 minute drive and therefore conform to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. The Boron SRRA has essentially no projected future parking deficiencies.

Route AADT. AADT along this segment of SR 58 is moderate to high, ranging from 14,000 to 79,500 vehicles, with median AADT of nearly 21,000 vehicles.

Recommended Location for New SRRA. Considering the large number of unauthorized truck parking locations, the low to moderate number of ASOs, rural nature of the region, and the moderate to high AADT levels, it is recommended that Caltrans develop a new SRRA near the midpoint of this highway segment, near the community of Tehachapi (35.141552,-118.450731). Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location indicates an estimated total parking of 100 parking spaces, consisting of 68 auto and 32 truck/bus spaces. However, since the Boron SRRA does not have an estimated 2030 parking deficit, the required amount of parking at a new SRRA in the recommended location is likely somewhat less than the 100 spaces estimated using the HDM calculation method.

As an alternative to constructing a traditional SRRA at this location, Caltrans might consider engaging one or more ASOs in the region to provide rest area services under an ARASO. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop ARASOs in the region:

- **Texaco Station** - 8200 Kimber Avenue, Bakersfield, CA 93307, (661) 366-1860; Located off Exit 117 at the Weedpatch Road (Route 184)/SR 58 interchange (35.351154, -118.913206); The location has approximately 20 auto and 24 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on SR 58. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Multiple Commercial Operators** - Located off Exit 117 at the Weedpatch Road (Route 184)/SR 58 interchange (35.356255,-118.913217); The location has approximately 65 auto and no truck/bus parking spaces, however there is large vacant lot adjacent to operators at this location that might be use for truck parking; Open 24/7; Site is accessible from both directions of travel on SR 58. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Multiple Commercial Operators** - Located off Exit 149 at the Mill Street/SR 58 interchange (35.142491, -118.449575); The location has approximately 65 auto and no truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on SR 58. Location *does not* currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as no truck/bus parking is provided.
- **Love's Travel Center** - 2000 E Tehachapi Blvd, Tehachapi, CA 93561, (661) 823-1484; Located off Exit 151 at the Tehachapi Blvd./SR 58 interchange (35.125957,-118.407991); The location has approximately 77 auto and 90 truck/bus parking spaces; Open 24/7; Site is accessible from both directions of travel on SR 58. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

2. U.S. Highway 101 Between Eureka and Empire Camp SRRA.

Unauthorized Truck Parking. Moderate levels of unauthorized truck parking were identified along this segment of U.S. Highway 101. A total of seven locations were identified where trucks park on a regular basis. The CHP reports that typically one or two trucks are parked at each location and at the State Route 36/U.S. 101 junction as many as 10 trucks might be parked at a given time. Parking occurs primarily along unpaved pullouts along the highway shoulder.

Spacing Between SRRAs. The spacing between Trinidad SRRA and Empire Camp SRRA, the two closest rest areas serving this segment of U.S. 101, is 125 miles. This distance is more than double the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and is also greater than the 100-mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are few ASOs in this relatively remote region of U.S. 101 which is located in Humboldt and Mendocino County. Several communities, including Garberville and Rio Dell, provide basic highway commercial services in this region. However, in general this segment of U.S. 101 offers limited stopping

opportunities to highway travelers. In addition, the drive time between ASOs located in the communities of Garberville and Rio Dell exceed the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. There are no parking deficiencies at Trinidad SRRA or Empire Camp SRRA. There is a small projected future parking deficiency of 6 parking spaces at Moss Cove SRRA, located 26 miles south of Empire Camp, which is the closest SRRA serving southbound traffic on U.S. 101.

Route AADT. AADT along this segment of U.S. 101 is low to moderate, ranging from 4,500 to 38,000 vehicles, with a median AADT of 17,500 vehicles. The low to moderate level of AADT, limited number of ASOs along this segment of U.S 101 and the remoteness of the area indicate that an SRRA developed in this region would have the potential to serve a moderate number of highway travelers.

Recommended Location for New SRRA. Considering the limited number of ASOs, lack of SRRAs, and remoteness of the region, it is recommended that an SRRA be developed near the community of Garberville (40.250255,-123.83032). Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 31 parking spaces, consisting of 26 auto and 5 truck/bus spaces. However, there are no estimated parking deficiencies at Trinidad SRRA or Empire Camp SRRA and only minor parking deficiencies at Moss Cove SRRA to the south. Therefore, the parking demand at a new SRRA in the recommended location is likely lower than the level estimated using the HDM calculation method.

As an alternative to developing a traditional SRRA, Caltrans might develop an ARASO along this segment of U.S. 101. However, given the limited number of ASOs in the region it is recommended that Caltrans investigate whether the community of Garberville would be interested in providing an ARASO facility which might be expected to attract commercial demand to local business enterprises. Caltrans might work through the local chamber of commerce to understand whether one or more businesses/organizations might be interested in providing or helping to fund ARASO services. Caltrans might also investigate whether the California Department of Parks and Recreation (Cal Parks) might be interested in partnering with Caltrans to develop an ARASO in the parking areas of nearby park lands, such as at Humboldt Redwoods State Park. In addition, since Empire Camp SRRA only serves the northbound direction of travel, it is recommended that Caltrans develop an ARASO to provide rest area services for *southbound* traffic near the community of Leggett. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop an ARASO in the region:

- **The Peg House** - 69501 Highway 101, Leggett, CA 95585; (707) 925-6444; Site is located in small community of Leggett, along the border of Standish-Hickey State Recreation Area, approximately 10 miles north of Empire Camp SRRA (39.878297, -123.728676); The location has roughly 30 auto spaces and can accommodate up to 12 trucks/buses; Currently open from 7:00 a.m. to 7:00 p.m. in winter and 6 a.m. to 9:30 p.m. in summer; Operator provides free public access to restrooms 24/7. Site is accessible from both directions of travel on U.S. 101. Location *does not* currently meet the basic requirements specified in

Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as the site is not open 24/7.

3. Camp Roberts SRRA to Gaviota SRRA.

Unauthorized Truck Parking. Unauthorized truck parking along this segment of U.S. 101 was found to be relatively minor. A total of four locations were identified along this segment of U.S. 101 where truck parking occurs on a regular basis. The CHP reports that typically up to 5 trucks are parked at each location and that trucks mostly park at the shoulders of interchange on/off ramps and in some locations along the shoulder of the highway mainline.

Spacing Between SRRAs. The distance between Camp Roberts SRRA and Gaviota SRRA is117 miles, nearly twice the maximum recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and is also greater than the 100-mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are a number of communities to the south of Camp Roberts SRRA along U.S. 101, which provide moderate levels of ASOs in the region, including Paso Robles, San Luis Obispo, Arroyo Grande, and Santa Maria. However, there are fewer ASOs located south of Santa Maria where the region becomes more rural. The spacing between ASOs along this segment of U.S. 101 represent a drive of 30 minutes or less and therefore conform to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Projected future parking deficiencies at Gaviota SRRA were estimated to total 78 parking spaces, while projected parking deficiencies at Camp Roberts SRRA total 46 spaces. The large parking deficiencies at Gaviota SRRA and moderate parking deficiencies at Camp Roberts SRRA indicate the potential need for additional parking along this segment of U.S. 101.

Route AADT. AADT along this segment of U.S. 101 is moderate to high and ranges from nearly 17,000 to 72,500 vehicles, with median AADT of 51,500 vehicles. The moderate to high AADT along this segment of U.S. 101 suggests that any SRRA developed in this region would have the potential to serve a significant number of highway travelers.

Recommended Location for New SRRA. The large spacing between and substantial parking deficiencies at SRRAs in the region and moderate to high AADT indicate the potential need for new rest area services along this segment of U.S. 101. It is recommended that Caltrans develop a new SRRA in the region just south of the community of Santa Maria (34.85555,-120.386943). Considering the limitations on parking expansion at Gaviota SRRA and the relatively limited number of ASOs in the region that might represent suitable partners, Caltrans may want to consider the development of a traditional SRRA in this region. However, given the relatively high cost of land in this area, it may still be desirable for Caltrans to develop ARASOs instead of a traditional SRRA. Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking of 131 parking spaces, comprised of 119 auto and 12 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby.

Therefore, the parking demand at a new SRRA likely falls somewhere between the combined 2030 deficits at the Camp Roberts and Gaviota SRRAs of 124 spaces and the 131 parking spaces derived from the HDM calculation method. Given that the two SRRAs are 117 miles apart, the additional parking demand is likely closer to the amounts estimated by HDM calculation.

The following nearby commercial enterprise is an ASO which represents the best potential candidate with which Caltrans might partner to develop an ARASO in the region:

- **Chevron Station** - 1155 East Betteravia Road, Santa Maria, CA 93454, (805) 925-3664; Located off Exit 169 at the Betteravia Rd./U.S. 101 interchange (34.924033, -120.416618); The location has roughly 20 auto and 30 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 101. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

4. U.S. Highway 101 Between Crescent City and Trinidad SRRA.

Unauthorized Truck Parking. There are relatively low volumes of unauthorized truck parking occurring along this segment U.S. 101. A total of four locations were identified where unauthorized truck parking has been reported. However, the CHP indicates that such parking at these locations is sporadic and not consistent throughout the year, with one or two trucks typically parked at each location.

Spacing Between SRRAs. There are no SRRAs north of Trinidad SRRA along this segment of U.S. 101.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are low volumes of ASOs between Trinidad SRRA and Crescent City. The small communities of Orick and Klamath offer highway travelers along U.S. 101 very basic stopping opportunities in this remote region of Humboldt and Del Norte County. The spacing between Trinidad SRRA and ASOs to the north represents a 30-minute drive or less, and therefore conforms to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. There are no projected parking deficiencies at Trinidad SRRA.

Route AADT. AADT along this segment of U.S. 101 is low, ranging from 3,400 to 5,500 vehicles, with median AADT of 4,100 vehicles.

Recommended Location for New SRRA. Considering the low numbers of ASOs and remoteness of the region, is recommended that Caltrans develop an SRRA near the midpoint of this segment of U.S. 101 (41.466999,-124.037944). Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 22 parking spaces, consisting of 19 auto and 3 truck/bus spaces. As noted above, there are no SRRAs on U.S. 101 north of Trinidad SRRA. Therefore, the parking demand at a new SRRA in the recommended location is likely at the level estimated using the HDM calculation method.

As an alternative to developing a traditional SRRA, Caltrans might develop an ARASO in the nearby communities of Klamath or Orick. The following nearby commercial enterprises are ASOs

which represent the best potential candidates with which Caltrans might partner to develop an ARASO in the region:

- **Yurok Travel Center** - 125 Ehlers Way, Klamath, CA 95548, (707) 482-0359; Site is located roughly 37 miles north of Trinidad SRRA (41.531151, -124.040741). Site has approximately 15 auto parking spaces and can accommodate up to 3 trucks/buses; Open 6:00 a.m. to 9:00 p.m. daily; Site is accessible from both directions of travel on U.S. 101. Location *does not* currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as the site is not open 24/7.
- **Trees of Mystery** - 15500 US Highway 101 North Klamath, CA 95548, (707) 482-2251; Site is located 41 miles north of Trinidad SRRA. Site has very large parking lot with roughly 80 auto spaces and sufficient space to accommodate multiple trucks/buses; Open 9:00 a.m. to 5:00 p.m. daily; Site is accessible from both directions of travel on U.S. 101. Location *does not* currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as the site is not open 24/7.

5. I-8 Between Buckman Springs SRRA and Sunbeam SRRA.

Unauthorized Truck Parking. According to the CHP, unauthorized truck parking along this segment of I-8 is insignificant and no locations were identified where unauthorized truck parking occurs on a regular basis.

Spacing Between SRRAs. The distance between Buckman Springs SRRA and Sunbeam SRRA is 58 miles which is nearly the same as the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and is less than the100-mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. This segment of I-8 is located in a remote desert region of San Diego and Imperial County where there are very few ASOs. However, the spacing between ASOs along this segment of I-8 are within a 30 minute drive of each other and neighboring SRRAs, and therefore conform to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Both Buckman Springs SRRA and Sunbeam SRRA have very minor projected future parking deficiencies which total three spaces and one space, respectively.

Route AADT. AADT along this segment of I-8 is moderate and ranges from 12,000 to 16,400 vehicles, with median AADT of nearly 14,000 vehicles. Given the moderate AADT, the remoteness of the section of I-8 and the very low number of ASOs in the region, an SRRA developed along this segment has the potential to serve a significant number of highway travelers.

Recommended Location for New SRRA. The remoteness of this segment of I-8, low number of ASOs, moderate AADT levels, and moderate spacing between SRRAs suggests that additional rest area services might be appropriate for this region. It is recommended that Caltrans develop an Interstate Oasis instead of a traditional SRRA at this location due to the lack of parking deficiencies at nearby SRRAs and moderate levels of AADT. However, if a traditional SRRA were developed in this region, it is recommended that the facility be developed at the midpoint between Buckman

Springs SRRA and Sunbeam SRRA (32.676685,-116.098777). Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking of 41 parking spaces, comprised of 35 auto and 6 truck/bus spaces. However, parking deficits at nearby SRRAs are very low, representing a combined 2030 total of only four spaces. Therefore, the actual number of parking spaces required might be less than the amount estimated using the HDM methodology.

The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases in the region:

- **Golden Acorn Travel Center** - 1800 Golden Acorn Way, Campo, CA 91906, (619) 938-6000; Located off Exit 61 at the Crestwood Rd./I-8 interchange (32.702126,-116.354634); The location has over 500 auto and 120 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on I-8. Location currently meets the Interstate Oasis requirements.
- **Shell & Chevron Station** – 1494 Carrizo Gorge Road, Jacumba, CA 91934; (619) 766-0029; Located off Exit 73 at Jacumba/I-8 interchange (32.635309, -116.166488); Approximately 20 auto spaces and parking area that can accommodate roughly 10 trucks; Open 24/7; Site is accessible from both directions of travel on I-8. Location currently meets the Interstate Oasis requirements.

  Texaco Station - 1071 Imperial Hwy, Ocotillo, CA 92259; (760) 358-7731; Located off Exit 89 at Imperial Hwy/I-8 interchange (32.730852, -115.994831); Approximately 20 auto spaces and parking area that can accommodate roughly 10 trucks; Operating hours are unknown; Site is accessible from both directions of travel on I-8. Not known whether location currently meets the Interstate Oasis requirements as operating hours could not be determined.

6. U.S. Highway 101 Between Gilroy and Camp Roberts SRRA.

Unauthorized Truck Parking. Relatively minor levels of unauthorized truck parking were found along this segment of U.S. 101, with four locations identified where truck parking occurs on a regular basis. The CHP reports that typically one or two trucks are parked at each location and that trucks typically park along the shoulders of interchange on/off ramps and at unpaved pullouts along the highway mainline.

Spacing Between SRRAs. The closest SRRAs serving this segment of U.S. 101 are Camp Roberts SRRA to the south and H. Dana Bower SRRA to the north. The distance between these SRRAs is 196 miles, which is significantly greater than the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and is nearly double the 100-mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed. However, there a number of highly urban areas between these rest areas including the cities of Salinas, San Jose, Redwood City, and San Francisco which offer travelers numerous ASOs from which choose. In addition, since H. Dana Bower SRRA is located at a considerable distance to the north of this region, it is not as relevant as Camp Roberts SRRA in providing rest area services to travelers along this segment of U.S. 101.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are numerous ASOs in the region, particularly between the communities of Gilroy and Salinas. To the south of Salinas, the number of ASOs declines and the spacing between ASOs increases. Most ASOs in this

rural region of Monterey County are located in the small communities of Gonzales, Soledad, Greenfield, and King City. The spacing between ASOs along this segment of U.S. 101 represent a 30-minute drive or less, and therefore conforms to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. The projected future parking deficiency at Camp Roberts SRRA is estimated to be 46 spaces. The projected parking deficiencies at H. Dana Bower SRRA, the closest SRRA to the north on U.S. 101, are very small and are not directly relevant for understanding parking needs in this region due to the rest area being located so far to the north of this area.

Route AADT. AADT along this segment of U.S. 101 is moderate to high, ranging from 14,200 to 78,000 vehicles, with median AADT of 37,700 vehicles. The AADT range along this segment of U.S. 101 suggests that any SRRA developed in the region should be scaled according to the appropriate regional demand level.

Recommended Location for New SRRA. Considering the moderate to high AADT, lack of rest area services, moderate parking deficiencies at Camp Roberts SRRA, and moderate numbers of ASOs in the region, it is recommended that Caltrans develop an SRRA at roughly the midpoint between Camp Roberts SRRA and Gilroy, just south of the community of Greenfield (36.294662,-121.204339). Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 112 parking spaces, consisting of 95 auto and 17 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the 2030 deficit at the Camp Roberts SRRAs of 46 spaces and the 112 parking spaces derived from the HDM calculation method.

It is recommended that one or more ARASOs be developed to provide rest areas services rather than a traditional SRRA in this region. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop ARASOs in the region:

- **The Garlic Farm Travel Center –** 5920 Travel Park Circle, Gilroy, CA 95020, (408) 847-5172; Located off Exit 355 at the Monterey St/U.S. 101 interchange (36.985307, -121.555692); The location has roughly 40 auto and 150 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 101. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Pilot Travel Center** - 951 Work Street Salinas, CA 93901; (831) 775-0380; Located off Exit 326B at the South Sanborn Road/U.S. 101 interchange (36.665172,-121.630115); The location has approximately 60 auto and 65 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 101. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Multiple Commercial Operators** - Located off Exit 302 at State Route 146/U.S. 101 interchange in Soledad, CA 93960 (36.417514, -121.321241); This location is 54 miles north of Camp Roberts SRRA; This location has moderate amounts of auto parking and 14

truck/bus spaces; Some operators at this location are open 24/7; Site is accessible from both directions of travel on U.S. 101. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

- **Shell Station** - 899 El Camino Real, Greenfield, CA 93927**,** (831) 674-5019; Located off Exit 295 at the Thorne Rd/U.S. 101 interchange (36.338547, -121.256233); The location has approximately 8 auto and no truck/bus spaces, however there is vacant land adjacent to the site and there is a park and ride lot across the street with approximate 20 auto spaces; Open 5:00 a.m. to 10:00 p.m. weekly; Site is accessible from both directions of travel on U.S. 101. Location *does not* currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as no truck/bus parking is provided and facility is not open 24/7.

  Valero Station - 50940 Mesa Verde Road, King City, CA 93930, (831) 385-5993; Located off Exit 278 at the Wildhorse Rd./U.S. 101 interchange (36.187813, -121.074698); The location has roughly 12 auto and 60 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 101. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

7. U.S. Highway 101 Between Moss Cove SRRA and Windsor.

Unauthorized Truck Parking. Moderate levels of unauthorized truck parking were identified along this segment of U.S. Highway 101. A total of five locations were identified where trucks park on a regular basis. According to the CHP, up to five trucks typically park at each location, which include mostly pullouts along the unpaved shoulders of the highway mainline.

Spacing Between SRRAs. The two closest SRRAs along U.S. 101 in this region are Moss Cove SRRA to the north and H. Dana Bower SRRA to the south, separated by a distance of 142 miles. This distance is more than double the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and is also greater than the 100-mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed. However, there are a number of communities offering ASOs to the south of Windsor along U.S. 101, including Santa Rosa, Rohnert Park, Petaluma, Novato, Marin, and others.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are moderate volumes of ASOs along this rural segment of U.S. 101. The communities of Willits, Ukiah, Hopland, Cloverdale, and Healdsburg offer a range of ASOs for travelers in the region. The spacing between ASOs in the communities along this segment of U.S. 101 represent a 30-minute drive or less, and therefore conform to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. There is a small projected future parking deficiency at Moss Cove SRRA of six spaces. The parking deficiencies at H. Dana Bower are very minor, and regardless are not relevant since the SRRA is located a long distance from this region of U.S. 101.

Route AADT. AADT along this segment of U.S. 101 ranges from 6,700 to 55,000 vehicles, with median AADT of 21,000 vehicles. Given the wide range of AADT along this section of U.S. 101, an SRRA developed in the region should be scaled according to the relevant regional demand level.

Recommended Location for New SRRA. Considering the lack of rest areas services and moderate levels of AADT along this rural segment of U.S. 101 it is recommended that Caltrans seek to develop a new SRRA at approximately the midpoint of this highway segment or just south of Ukiah (39.056939,-123.159008). Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total of 64 spaces, consisting of 55 auto and 9 truck/bus spaces. Since there are only minor estimated parking deficiencies at Moss Cove SRRA and no SRRAs immediately south of this region, the parking demand at a new SRRA in the recommended location is potentially lower than the level estimated using the HDM calculation method.

It is recommended that Caltrans first attempt to develop an ARASO instead of a traditional SRRA at this location due to the availability and close spacing of ASOs in the region. The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop an ARASO in the region:

- **Jensen's Truck Stop –** 1460 North Lovers Lane, Ukiah, CA 95482, (707) 467-9999; Located off Exit 551 N. State Street/U.S. 101 interchange, 33 miles south of Moss Cove SRRA (39.169494, -123.212106); The location has roughly 30 auto and 25 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 101. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Multiple Commercial Operators in Cloverdale** – Located off Exit 519 at South Cloverdale Blvd/U.S. 101 interchange in Cloverdale, CA 95425; This location is 64 miles south of Moss Cove SRRA7 (38.783962, -123.011456); Moderate amounts of auto parking and no truck/bus parking; Operators at this location are open 24/; Site is accessible from both directions of travel on U.S. 101. Location *does not* currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as no truck/bus parking is provided.

8. I-15 between Temecula and Fontana.

Unauthorized Truck Parking. Nine locations in this region were identified with various levels of unauthorized truck parking. According to the CHP, truck parking at these locations ranges from one to nine trucks, with trucks parking mostly at interchange on/off ramps. At several locations, truck park at pullouts along the mainline of I-15.

Spacing Between SRRAs. There are no SRRAs in this region of I-15. The closest SRRA is Clyde V. Kane located approximately 150 miles north of Temecula on I-15.

Availability of Alternative Stopping Opportunities and Site Remoteness. The communities of Temecula, Lake Elsinore, Corona, and Norco provide a relatively large number of ASOs for travelers on this segment I-15. The spacing between ASOs along this portion of I-15 represent a drive time of 30 minutes or less and therefore conform to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. There are no SRRAs serving this region of I-15. The closest SRRA on I-15, Clyde V. Kane SRRA, has a moderate projected future parking deficiency of 31 spaces.

Route AADT. AADT on I-15 in this region is extremely high and ranges from 108,000 to 214,000, with median AADT of 147,500 vehicles. The high AADT along this segment of I-15 indicates that any SRRA developed in this region would have the potential to serve a significant number of highway travelers.

Recommended Location for New SRRA. Considering the high levels of unauthorized truck parking along this segment of I-15, it is recommended that Caltrans seek to develop an Interstate Oasis or APF focusing primarily on the provision of additional truck parking at roughly the midpoint of this highway segment, near the community of Lake Elsinore (33.731055,-117.393039). Developing a traditional SRRA in this region should be considered a relatively low priority compared to other locations discussed in this report due to the high number of ASOs located in a number of closely spaced communities in the region, where the demand for rest area services by non-truck traffic might be considerably lower.

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 161 parking spaces, consisting of 144 auto and 17 truck/bus spaces. As noted above, there are no SRRAs on I-15 south of Clyde V. Kane SRRA (about 40 miles northeast of Barstow), a distance of nearly 210 miles. Therefore, despite the parking deficit at the Clyde V. Kane SRRA of 31 spaces, the parking demand at a new SRRA in the recommended location is likely to be closer to the 161 spaces estimated using the HDM calculation method. However, considering the relatively large number of unauthorized truck parking locations along this section of I-15, the amount of truck parking would likely be greater than that estimated by the HDM calculation.

The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases or APFs in the region:

- **Multiple Commercial Operators** – Located off Exit 97 at the Hidden Valley Pkwy/I-15 interchange in Norco, CA 92860 (33.897727, -117.561104); The location has high volumes of auto parking yet no dedicated truck/bus parking; A number of the operators are open 24/7; Site is accessible from both directions of travel on I-15. Location *does not* currently meet the Interstate Oasis requirements, as no truck/bus parking is provided. However the location is near large shopping areas which have large parking areas that could be used to provide additional truck parking under an APF arrangement.
- **Multiple Commercial Operators** – Located off Exit 78 at the Nichols Rd./I-15 interchange in Lake Elsinore, CA 92530 (33.706227, -117.359265); The location has high volumes of auto parking yet no dedicated truck/bus parking spaces; Some operators are open 24/7; Site is accessible from both directions of travel on I-15. Location *does not* currently meet the Interstate Oasis requirements, as no truck/bus parking is provided. However the location is near large shopping areas which have large parking areas that could be used to provide additional truck parking under an APF arrangement.
- **Multiple Commercial Operators** – Located off Exit 68 at the Clinton Keith Rd./I-15 interchange in Wildomar, CA 92595 (33.596152,-117.242834); The location has high

volumes of auto parking yet no dedicated truck/bus parking spaces; Several operators are open 24/7; Site is accessible from both directions of travel on I-15. Location *does not* currently meet the Interstate Oasis requirements, as no truck/bus parking is provided. However the location is near large shopping areas which have large parking areas that could be used to provide additional truck parking under an APF arrangement.

- **Shell Station** – 23255 Temescal Canyon Road, Corona, CA 92883, (951) 277-4898; Located off Exit 88 at the Temescal Canyon Rd./I-15 interchange (33.778375, -117.486777); The location has roughly 50 auto and no truck/bus spaces, however, there is vacant land adjacent to the site where trucks appear to be parking; Open 24/7; Site is accessible from both directions of travel on I-15. Location *does not* currently meet the Interstate Oasis requirements, as no truck/bus parking is provided.

Although none of the above locations offer dedicated truck/bus parking, most are near large retail/shopping centers with very large parking lots which might be utilized for truck parking under an APF partnership arrangement.

9. I-80 Between Hunter Hill SRRA and Sacramento.

Unauthorized Truck Parking. There are moderate levels of unauthorized truck parking occurring between Sacramento and Hunter Hill SRRA with a total of six locations identified where truck parking is found to occur on a regular basis. The CHP reports that at several locations as many as 15 trucks have been observed to park at a given time.

Spacing Between SRRAs. The closest SRRAs in the region are Hunter Hill SRRA, serving only westbound traffic and Gold Run SRRA which serves both eastbound and westbound traffic on I-80. The distance between these SRRAs is 109 miles which is substantially greater than both the maximum spacing recommendations by FHWA and AASHTO of one-hour drive/60-mile spacing and the 100-mile limit discussed in the California PDPM as an indicator of where new SRRAs might be needed.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are a relatively large number of ASOs along this segment of I-80 located in communities including Sacramento, Davis, Dixon, Vacaville, and Fairfield. The spacing between ASOs along this segment of I-80 are within 30 minutes of each other and neighboring SRRAs, and therefore conform to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Parking deficiencies at SRRAs in the region are low to moderate. Hunter Hill SRRA has a projected future parking deficiency of 10 spaces, while Gold Run SRRA has an estimated future parking deficiency of 40 parking spaces.

Route AADT. AADT along this segment of I-80 is very high, ranging from 87,500 to 196,500 vehicles, with median AADT of 122,500 vehicles. The high AADT along this segment of I-80 indicates that any SRRA developed in this region would have the potential to serve a very significant number of highway travelers.

Recommended Location for New SRRA. The California PDPM identifies I-80 west of Sacramento as being a potential region where additional rest area services might be needed.

However, judging the need for and appropriate location/size of new rest areas services in this region deserves special study, since there are a number of conflicting indicators that need to be considered. For example, there are large volumes of commuter traffic along this segment of I-80 and commuters are typically less likely to stop at a rest area. In addition, there are large numbers of ASOs provided in a number of closely spaced communities along this segment of I-80. The need for additional rest area services is based primarily on the existence of moderate levels of unauthorized truck parking that occur along this segment of I-80. Together these factors indicate that developing an Interstate Oasis or APF to provide additional truck parking may be more appropriate than developing a traditional SRRA. Therefore, it is recommended that Caltrans develop one or more Interstate Oases or APFs preferably near the midpoint of this segment of I-80 (38.401969,-121.914439) to provide additional rest area services in the region, focusing primarily on the provision of truck parking.

The SRRA parking space needs derived from the California HDM methodology would seem to be somewhat misleading, since it yields an estimated 2030 SRRA parking need of 73 auto and only 5 truck/bus spaces. The large commute traffic volumes might indicate a somewhat lower auto space demand, while the problem of unauthorized truck parking clearly indicates a much greater need for truck parking along this stretch of I-80.

The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop Interstate Oases and/or APFs in the region:

- **Dixon Gas & Shop** - 7864 Schroeder Road, Dixon, CA 95620, (707) 678-9467; Located off Exit 63 at the Dixon Ave./I-80 interchange (38.447296, -121.858110); The location has approximately 25 auto parking spaces and a vacant lot which can accommodate 30 truck/buses; Open 24/7; Site is accessible from both directions of travel on I-80. Location currently meets the Interstate Oasis requirements.
- **Multiple Commercial Operators** - Located off Exit 67 at the Pedrick Rd./I-80 interchange (38.489449,-121.80445); The location has a total combined parking of approximately 34 auto spaces and a vacant lot which can accommodate 20 truck/buses; Open 24/7; Site is accessible from both directions of travel on I-80. Location currently meets the Interstate Oasis requirements.
- **Sacramento 49er Travel Plaza** – 2828 El Centro Road; Sacramento, CA 95833, (916) 927-4774; Located off Exit 85 at the El Camino Rd./I-80 interchange (38.617028, -121.536931); The location has approximately 120 auto and 185 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on I-80. Location currently meets the Interstate Oasis requirements.

10. State Highway 99 Between Sacramento and Enoch Christoffersen SRRA.

Unauthorized Truck Parking. Five locations were identified by the CHP to have consistent unauthorized truck parking along this segment of SR 99 throughout the year. The CHP reported that typically one or two trucks are observed to be parked at each location, although at several locations, as many as 10 trucks may be parked at a given time.

Spacing Between SRRAs. There are no SRRAs located to the north of Enoch Christoffersen SRRA on SR 99.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are moderate to high numbers of ASOs along this segment of SR 99. The communities of Modesto, Manteca, Stockton, Lodi, and Elk Grove provide a range of stopping opportunities for travelers along this segment of SR 99. The drive times between Enoch Christoffersen and ASOs along this segment of U.S. 395 is 30 minutes or less and therefore conforms to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Enoch Christoffersen SRRA has a moderate projected future parking deficiency of 16 spaces.

Route AADT. AADT along this segment of SR 99 is high, ranging from 59,500 to 168,500 vehicles, with median AADT of 81,500 vehicles.

Recommended Location for New SRRA. The moderate volumes of unauthorized truck parking, high AADT, and lack of rest area services to the north of Enoch Christoffersen SRRA, suggest a potential need for additional rest area services near the midpoint of this highway segment (38.087054,-121.258879). However, there are large numbers of ASOs provided in a number of closely spaced communities along this segment of SR 99 which would tend to reduce the stopping factors, particularly for autos, for any SRRA developed in this region. The need for additional rest area services is based primarily on the existence of moderate levels of unauthorized truck parking that occur along this segment of SR 99. Together these factors indicate that developing an ARASO or APF to provide additional truck parking may be more appropriate than developing a traditional SRRA. Therefore, it is recommended that Caltrans develop one or more ARASOs or APFs along this segment of SR 99 to provide additional rest area services in the region, focusing particularly on the provision of additional truck parking.

Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 141 parking spaces, consisting of 122 auto and 19 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby and the incidence of unauthorized truck parking. Therefore, the parking demand for autos at a new SRRA likely falls somewhere between the 2030 deficit at the Enoch Christoffersen SRRA of 16 spaces and the 141 parking spaces derived from the HDM calculation method. Since there are no SRRAs north of Enoch Christoffersen on SR 99, the required amount of parking at a new SRRA in the recommended location is likely closer to the parking spaces estimated using the HDM calculation method, and likely exceeds the truck parking estimate derived from this method. The ARASOs or APFs developed in this region should focus primarily on the provision of additional truck parking.

The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop ARASOs and/or APFs in the region:

- **Jahant Food & Fuel Stop –** 24323 N Highway 99 CA 95220, (209) 333-6000; Located off Exit 271 at the Jahant Rd/SR 99 interchange (38.206738, -121.264539). Site has sufficient spaces to accommodate roughly 25 autos and 25 trucks/buses; Open 24/7, Site is accessible from both directions of travel on SR 99. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

- **Multiple Commercial Operators –** Located off Exit 250 at the Arch Road/SR 99 interchange, Stockton, CA 95215; (37.906166,-121.222137); Site has large amounts of auto parking and no truck/bus parking; Many operators open 24/7; Site is accessible from both directions of travel on SR 99. Location *does not* currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as no truck/bus parking provided.
- **Multiple Commercial Operators** - Located off Exit 237B at the Jack Tone Road/SR 99 interchange, in Ripon, CA 95366; (37.755891, -121.143597); Site has over 160 auto and 265 truck/bus parking spaces; Many operators open 24/7; Site is accessible from both directions of travel on SR 99. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

11. U.S. Highway 395 Between Coso Junction SRRA to I-15/U.S 395 Junction.

Unauthorized Truck Parking. Unauthorized truck parking along this segment of U.S. 395 is relatively minor, with only two locations identified where truck parking occurs on a regular basis. The CHP reported observing four to five trucks being parked at each location on unpaved pullouts along the highway shoulder.

Spacing Between SRRAs. There are no SRRAs to the south of Coso Junction on U.S. 395.

Availability of Alternative Stopping Opportunities and Site Remoteness. There are relatively few ASOs along this remote segment of U.S. 395. Several small communities are located along this section including Inyokern and Johannesburg. The drive times between Coso Junction SRRA and ASOs along this segment of U.S. 395 is 30 minutes or less and therefore conforms to the 30-minute drive time spacing recommendation in Subsection 219(a) of the California Streets and Highways Code regarding the desired spacing between SRRAs and other stopping opportunities.

SRRA Parking Deficiencies. Coso Junction SRRA has a moderate projected future parking deficiency of 13 spaces.

Route AADT. AADT along this segment of U.S. 395 is low to moderate, ranging from nearly 3,000 to 29,000 vehicles, with median AADT of 6,000.

Recommended Location for New SRRA. Considering the remoteness of this region, the few ASOs, and lack of rest areas services south of Coso Junction, it is recommended that Caltrans seek to develop an SRRA somewhere near the midpoint of this segment of U.S. 395 (35.274084,-117.61483). It is recommended that Caltrans develop an ARASO instead of a traditional SRRA at this location, due to the low levels of AADT and unauthorized truck parking in the region. Applying the SRRA parking space calculation methodology specified in the California Highway Design Manual (HDM) for a 20-year design-year, an SRRA at this location would require an estimated total parking amount of 25 parking spaces, consisting of 21 auto and 4 truck/bus spaces. However, the HDM calculation method ignores the availability of SRRA parking nearby. Therefore, the parking demand at a new SRRA likely falls somewhere between the 2030 deficit at the Coso Junction SRRA of 13 spaces and the 25 parking spaces derived from the HDM calculation method. Since there are no SRRAs south of Coso Junction SRRA on U.S. 395, the required number parking spaces at a new SRRA in the recommended location is likely closer to the parking spaces estimated using the HDM calculation method.

The following nearby commercial enterprises are ASOs which represent the best potential candidates with which Caltrans might partner to develop ARASOs in the region:

- **Shell Station** - 102 Pearson Road, Inyokern, CA 93527, (760) 377-4449; (35.798695, -117.871872); The location has sufficient parking for more than 30 autos and 15 truck/bus spaces; Open 24/7; Site is accessible from both directions of travel on U.S. 395. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.
- **Mobil Station –** 4467 Us Highway 395, Inyokern, CA 93527, (760) 377-4733; (35.70238,-117.86856); Site has approximately 25 auto and no truck parking spaces, Not open 24/7; Site is accessible from both directions of travel on U.S. 395. Location *does not* currently meet the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as the operator is not open 24/7 and no truck parking provided.
- **Texaco Station** - 515 Broadway Avenue, Johannesburg, CA 93528, (760) 374-2120; (35.371648, -117.632535); Site has large unpaved parking area for autos and trucks/buses, Not open 24/7, however restrooms are available 24/7; Site is accessible from both directions of travel on U.S. 395. Location *does not* currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO, as operator is not open 24/7.
- **Multiple Commercial Operators –** Junction of U.S. 395 and SR 58, Boron, CA 93516; (35.371648, -117.632535); Site has large amounts of auto parking and approximately 45 truck/bus spaces; Many operators open 24/7; Site is accessible from both directions of travel on U.S. 395. Location currently meets the basic requirements specified in Section 3, Chapter 29 of the PDPM to be designated as an ARASO.

APPENDIX A. TASK 1 REPORT – BACKGROUND RESEARCH & ANALYSIS

(Begins on following page)

TASK I REPORT

BACKGROUND RESEARCH AND ANALYSIS

Safety Roadside Rest Area Master Plan

Prepared for

The California Department of Transportation
Contract No: 65A0334

By Dornbusch Associates

November 2009

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I. EVALUATION OF EXISTING STATE AND FEDERAL LAWS AND POLICIES

A. Code of Federal Regulations 752.3 and 752.5

Code of Federal Regulations (CFR) Title 23 Highways, Part 752 "Landscape and Roadside Development" summarizes federal policies and provides guidelines for rest area development. Note that all quotes are italicized for emphasis and clarity of presentation.[1]

Subsection 752.3 (a) defines a safety rest area *as "A roadside facility safely removed from the traveled way with parking and such facilities for the motorist deemed necessary for his rest, relaxation, comfort and information needs. The term is synonymous with 'rest and recreation areas.'"*

Subsection 752.5 "Safety Rest Areas", provides general guidelines and policies when planning, developing, and operating SRRAs. The key guidelines for each subpart are summarized within Subsection 752.5.

Subsection 752.5 (a) provides the general recommendation that the SRRAs should *"provide facilities reasonably necessary for the comfort, convenience, relaxation, and information needs of the motorist."* In addition, the subpart states that *"All facilities within the rest area are to provide full consideration and accommodation for the handicapped."* This subsection provides the specific recommendation that SRRAs should be fully accessible by handicapped persons, implying that the SRRA conform to all handicap design standards, such as Americans with Disabilities Act (ADA) specifications. Therefore, new and reconstructed SRRAs in California should meet this requirement and be designed so as provide full access to disabled persons and to fully conform to current ADA and other relevant handicap access design standards.

Subsection 752.5 (b) indicates that the "*State may permit the placement of vending machines in existing or new safety rest areas located on the rights-of-way of the Interstate system for the purpose of dispensing such food, drink, or other articles as the State determines are appropriate and desirable, except that the dispensing by any means, of petroleum products or motor vehicle replacement parts shall not be allowed. Such vending machines shall be operated by the State."* The following Subsection (c) provides additional detail regarding how the state may operate and oversee the placement and operation of vending machines within SRRAs.

Subsection 752.5 (c) states that the "*State may operate the vending machines directly or may contract with a vendor for the installation, operation, and maintenance of the vending machines. In permitting the placement of vending machines the State shall give priority to vending machines which are operated through the State licensing agency designated pursuant to section 2(a)(5) of the Randolph-Sheppard Act, U.S.C. 107(a)(5)."*

[1] U.S. Code of Federal Regulations (CFR) Title 23 Highways, Part 752 "Landscape and Roadside Development" is available online at: http://www.access.gpo.gov/nara/cfr/waisidx_09/23cfr752_09.html

Subsections (b) and (c) provide clear authorization to operate vending machines at both new and existing SRRAs and require that vending machines be operated by the State of California, either directly or through contract with a private vendor. Subsection (c) further specifies that the state conform to the Randolph-Sheppard Act, which requires the state to give priority to individuals who are legally blind to operate vending machines at SRRAs. In California, the Department of Rehabilitation through the Business Enterprise Program oversees the implementation of the Randolph-Sheppard Act in California. The federal requirement that the state conform to the Randolph-Sheppard Act has important implications for the development of commercialized SRRAs operated under public/private partnerships, discussed later in this section.

Subsection 752.5 (d) states that *"Access from the safety rest areas to adjacent publicly owned conservation and recreation areas may be permitted if access to these areas is only available through the rest area and if these areas or their usage does not adversely affect the facilities of the safety rest area."* This is a relatively minor stipulation given that there are presumably few locations where it would apply. Permitting access from a SRRA to other adjacent public lands is apparently at the discretion of the state and only if access is available solely through the rest area.

Subsection 752.5 (e) states *"The scenic quality of the site, its accessibility and adaptability, and the availability of utilities are the prime considerations in the selection of rest area sites. A statewide safety rest area system plan should be maintained. This plan should include development priorities to ensure safety rest areas will be constructed first at locations most needed by the motorist. Proposals for safety rest areas or similar facilities on Federal-aid highways in suburban or urban areas shall be special case and must be fully justified before being authorized by the FHWA Regional Administrator."* This subsection provides important guidance in selecting SRRA locations recommending that the primary considerations should include:

- Scenic quality
- Accessibility and adaptability
- Availability of utilities

Therefore, in addition to scenic quality, accessibility/adaptability, and the availability of utilities, this statute provides clear direction to develop SRRAs where there is an identified *need* for a location for the traveling public to stop and rest. The concept of "need" will be developed in greater detail under the final SRRA Master Plan and will consider issues such as SRRA spacing, unauthorized truck parking, crowding at current SRRAs, density/location of alternative stopping opportunities, and other factors. In addition, this subsection implies that developing SRRA locations in rural and less developed locations should be a greater priority than to locating rest areas in more urban areas, recognizing that a greater number of alternative stopping locations exist in more developed areas to serve the needs of travelers.

Subsection 752.5 (f) indicates that *"facilities within newly constructed safety rest areas should meet the forecast needs of the design year. Expansion and modernization of older existing rest areas that do not provide adequate service should be considered."* Caltrans policies, specifically those include in the California Highway Design Manual, currently incorporate building SRRAs to design year specifications. Caltrans has indicated that expansion of current SRRA facilities will usually be a problem given that the amount of developable right-of-way at most SRRAs is limited. A previous study has confirmed that.[2]

Subsection 752.5 (g) requires that "*no charge to the public may be made for goods and services at safety rest areas except for telephone and articles dispensed by vending machines.*" Subsection (g) effectively prohibits commercial services at SRRAs located on the highway right-of-way (or online), which also substantially limits the possibility of developing public-private partnerships at online SRRAs.

The development of successful public-private partnerships for the operation and maintenance of SRRAs is largely contingent on the private operator having the ability to provide commercial services, using the revenues generated to cover SRRA capital, operating and maintenance costs while receiving a fair return on any investments made. As will be discussed later in this report, "Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs" provides an in-depth analysis of the issues affecting development of public/private partnerships at SRRAs. One of the key findings of this analysis is that, since commercial services are prohibited at online SRRAs under subsection (g), this restriction significantly reduces the type and location, and therefore the number of potential partners who would operate SRRAs under contract with the state. Therefore engaging in partnerships that might yield revenues to the State that would significantly offset state operating and maintenance costs is challenging.

A potential alternative that would comply with the ban on commercial services at online SRRAs, is to seek public/private partnerships at locations off-line. The federal Interstate Oasis Program provides guidelines for developing precisely this type of partnership, whereby a private operator agrees to provide commercial services, free parking, restrooms, water, and 24-hour service in exchange for being designated and signed on the Interstate as an official Interstate Oasis stopping location. Such facilities are not SRRAs in the traditional sense, as they are located off-line and are privately owned and operated facilities.

B. U.S.C Title 23 Section 111 and the Randolph-Sheppard Act

The following sections present discussions of other federal statutes relating to implementation of the California statewide SRRA Master Plan.

[2] "Feasibility Analyses and Implementation Assistance for Private Commercial Redevelopment of Existing Rest Areas in California," for Caltrans, by Dornbusch Associates 1993.

1. United States Code, Title 23: Highways, Section 111

United States Code, Title 23, Chapter 1, Section 111 governs agreements that relate to the use of and access to rights-of-way along the Interstate System, which includes SRRAs along Interstates. This section summarizes the key provisions of this statute as they relate to SRRA development and operation.[3]

Subsection (a) indicates that the *"State will not permit automotive service stations or other commercial establishments for serving motor vehicle users to be constructed or located on the rights-of-way of the Interstate System."* This requirement effectively prohibits providing commercial services at SRRAs nationally. This provision did exempt SRRAs with commercial services in operation prior to January 1, 1960, effectively "grandfathering" in these facilities and permitting them to continue to provide commercial services. However, most of these commercialized SRRAs or "service plazas" are located in the eastern U.S. along toll roads. None are located in California. Therefore, as discussed in the preceding section, by prohibiting commercial services at SRRAs, this significantly reduces the state's ability to engage the private sector in the operation of SRRAs, as private operators would be unable to generate sufficient revenues to cover operating and maintenance costs, capital costs, and/or any rental payments the state might require.

Subsection (a) has represented a significant challenge to implementing public/private partnerships at SRRAs nationwide and has been a source of contention for powerful trucking, convenience store, and petroleum industry lobbying groups, who have a vested interest in blocking competition with their members and therefore maintaining the ban on SRRA commercialization. Therefore, these groups - led primarily by the National Association of Truck Stop Operators (NATSO) - have and continue to apply political pressure to uphold Subsection (a). There have be a number of recent attempts, led primarily by state DOT's, to overturn this provision, most recently in 2005 under the "Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users" or SAFETEA-LU, in which Congress considered allowing states to permit commercial services at SRRAs. However, this effort was effectively blocked by NATSO and the related lobbying groups.

The Federal Highway Administration (FHWA) implemented the Special Experimental Project Number 15 (SEP-15) in 2004, which theoretically could be used to waive the restrictions under Title 23 subsection (a) on a case-by-case basis. However, based on previous investigations, the FHWA has not been inclined to use SEP-15 to allow rest area commercialization on Interstate

[3] United States Code, Title 23, Chapter 1, Section 111 "Agreements relating to use of and access to rights-of- way--Interstate System" can be found online at: http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=RETRIEVE&FILE=$$xa$$busc23.wais&start=570171&SIZE=11315&TYPE=TEXT

highways, due to the expected strong opposition from powerful lobbying groups and Congress that such a waiver might generate.[4]

Subsection (b) states that a *"State may permit the placement of vending machines in…safety rest areas, constructed or located on rights-of-way of the Interstate System"* and that *"…vending machines may only dispense such food, drink, and other articles as the State transportation department determines are appropriate and desirable."*

Similar to Title 23 Part 752.5, discussed previously, subsection (b) indicates that "*vending machines may only be operated by the State. In permitting the placement of vending machines, the State shall give priority to vending machines which are operated through the State licensing agency designated pursuant to section 2(a)(5) of the Act of June 20, 1936, commonly known as the "Randolph-Sheppard Act" (20 U.S.C. 107a (a)(5)). The costs of installation, operation, and maintenance of vending machines shall not be eligible for Federal assistance under this title."*

Therefore, the only commercial services that are permitted at SRRAs located on rights-of-way of the Interstate System are "vending machines" that are operated by the state, and for which persons who are legally blind, as specified in the Randolph-Sheppard Act (discussed in the following section), are given priority to operate vending machines under contract with the state.

Subsection (d) entitled "Idling Reduction Facilities in Interstate Rights-of-Way" was incorporated as an amendment to Title 23 Section 111 with the passage of SAFETEA-LU in 2005. Subsection (d) allowed states to *"…permit electrification or other idling reduction facilities and equipment, for use by motor vehicles used for commercial purposes, to be placed in…safety rest areas, constructed or located on rights-of-way of the Interstate System"* and to *"…charge a fee, or permit the charging of a fee, for the use of those parking spaces actively providing power to a truck to reduce idling."*

The goal of developing idling reduction facilities was to *"enable operators of motor vehicles used for commercial purposes" to "reduce idling of a truck while parked in the rest or recreation area"* and to use *"installed or other equipment specifically designed to reduce idling of a truck, or provide alternative power for supporting driver comfort, while parked."* Such facilities would contribute to reducing the amount of greenhouse gases, such as carbon monoxide, generated from truck engine idling. This provision would have allowed the state to contract with a private entity who could then charge a fee for the use of an idling reduction facility at the SRRA. However, Public Law 110-244 (Sec. 104) enacted June 6, 2008 repealed subsection (d), eliminating the state's authority to develop or place idling reduction facilities on rights-of-way of the Interstate System.

[4] "Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs: Task B Report – Barriers to Future Caltrans Rest Area Partnership Projects," for Caltrans, by Dornbusch Associates July 18, 2007.

2. United States Code, Title 20, Chapter 6A: *The Randolph-Sheppard Act*

The Randolph-Sheppard Act (Act) relates to SRRA operations by designating, according to U.S.C Title 23 Section 111 (b), the state licensing agency that will oversee the placement and operation of vending machines at SRRAs located within rights-of-way on the Interstate System.[5] The Act also provides guidelines on how the designated state licensing agency should implement and manage this program. Under Section 107(a) subpart (a)(5) of the Act, the state agency is charged with the responsibility of issuing "*licenses to blind persons who are citizens of the United States for the operating of vending facilities on Federal and other property in such State for the vending of newspapers, periodicals, confections, tobacco products, foods, beverages, and other articles or services dispensed automatically or manually and prepared on or off the premises in accordance with all applicable health laws, as determined by the State licensing agency, and including the vending or exchange of chances for any lottery authorized by State law and conducted by an agency of a State.*"

Under Section 107(e)(7) of the Act "vending facilities" are defined as "*automatic vending machines, cafeterias, snack bars, cart services, shelters, counters, and such other appropriate auxiliary equipment as the Secretary may by regulation prescribe as being necessary for the sale of the articles or services described in section 107a (a)(5) of this title and which may be operated by blind licensees.*" Therefore, the Act states that a wide array of items, including "*newspapers, periodicals, confections, tobacco products, foods, beverages, and other articles or services dispensed automatically or manually and prepared on or off the premises*" might be sold at SRRAs using vending facilities that include vending machines outlined in Title 23 Section 111, but also using other facilities such as "*cafeterias, snack bars, cart services, shelters, counters, and such other appropriate auxiliary equipment.*"

Considering the mandates of Title 23 Section 111(b) which allows "vending machines" to be operated at SRRAs located on the Interstate, where priority is given to the state agency designated by and operating in conformance with the Randolph-Sheppard Act, *and* that the Randolph-Sheppard Act uses the term "vending facilities" which is broader in scope compared to "vending machines", there appears to be mismatch regarding which concept of vending might be permissible at SRRAs. The broader term "vending facilities" would appear to provide an opportunity to expand commercial services at SRRAs and engage private partners to operate SRRAs under contract with the state. However, the FHWA clarified this issue in its 1992 "Non-Regulatory Supplement for Part 752" stating in Subpart 1b that the "*only application the RSA [Randolph-Sheppard Act] has to Section 111 is to establish the licensing agency in each State that is to be given priority. With the exception of rest areas on Federal lands, none of the RSA requirements apply to vending machines in Interstate rest areas.*" In the unlikely case where an

[5] United States Code, Title 20, Chapter 6A "Vending Facilities for Blind in Federal Buildings" a.k.a. The Randolph-Sheppard Act, can be found online at: http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=BROWSE&TITLE=20USCC6A&PDFS=YES

Interstate SRRA is located on federal lands, then the Non-Regulatory Supplement states under Subpart 1d that *"Where a rest area is on Federal property both the RSA and Section 111 apply. Further, the more restrictive provisions of both laws must be applied"* and the Supplement states that example where *"…the RSA allows a blind person to operate a stand; however, Section 111 expressly limits operations to vending machines. Because Section 111 is more restrictive it controls and only machines are allowed in rest areas."*

In summary, commercial services at SRRAs located on the Interstate right-of-way are uniformly prohibited, which fundamentally limits the opportunities for attracting private partners to operate and maintain SRRAs under contract with the state. This prohibition has strong supporters, including primarily the truck stop industry, and does not appear to be overturned, or waived by exception, anytime in the near future. All attempts to commercialize online SRRAs in the past have met with significant challenges from industry lobbying groups, the most powerful of which being the National Association of Truck Stop Operators (NATSO), and have been blocked.

In a recent Caltrans study, the possibility was assessed of whether federal bans on commercial services applied to SRRAs located on non-Interstate freeways (controlled access highways) and non-Interstate highways (non-controlled access highways). According to Caltrans, there are no non-Interstate freeways which are not partly funded with federal money, and therefore are subject to federal and FHWA policy/regulations, including the ban on commercial services at online SRRAs.[6]

Also investigated was the prospect of developing commercial services at SRRAs located on non-controlled access highways (non-freeways). It was judged that since such highways had not been previously funded with federal money, the FHWA would not have jurisdiction.[7] Therefore, federal law/regulations alone would not preclude Caltrans from developing commercial services at an online rest area along a non-controlled access highway.

However, if commercial services were developed at an SRRA located on a non-controlled access highway, Caltrans would not be able to seek federal funding in the future to affect a conversion of the highway to a limited access freeway. To obtain federal funds for such a highway project, Caltrans would need to be in compliance with federal regulations at the time of the conversion, and the provision of commercial services at an SRRA would result in non-compliance with federal standards. As such, the commercial services could not be developed or would need to be removed before federal funding would be available for a non-controlled access highway. In addition, vehicle traffic volumes on such routes are typically low compared to Interstates and there is a question as to whether commercialized partnership SRRAs along such routes would be financially feasible.

[6] "Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs: Task B Report – Barriers to Future Caltrans Rest Area Partnership Projects," for Caltrans, by Dornbusch Associates July 18, 2007.
[7] Ibid.

The general conclusions regarding commercialization of online SRRAs are the following:

- **SRRAs on Interstate**: Commercial services beyond vending machines are prohibited.
- **SRRAs on non-Interstate Freeways:** Commercial services beyond vending machines are prohibited.
- **SRRAs on non-Controlled Access Highways:** Commercial services might be possible, but would make the route ineligible for federal funding; regardless, relatively low traffic volumes would likely make commercial services SRRAs financial infeasible.

C. FHWA Directives and Policy Memorandums

The following sections present a review of relevant FHWA Federal-Aid Policy Guidelines (FAPG). The FAPG summarize the FHWA's current policies, regulations, and non-regulatory procedural guidance information related to the Federal-aid Highway Program.

1. FHWA Federal-Aid Policy Guide: *Non-Regulatory Supplement for Part 752*

The Non-Regulatory Supplement for Part 752 (NRS 752) provides guidance regarding the interpretation of vending operations and the abandonment of SRRAs located on the Interstate System described under Title 23 Code of Federal Regulations 752 (23 CFR 752).[8]

As discussed in the preceding section, NRS 752 provides clarification regarding the circumstances under which the provisions of Title 23 Section 111 and the Randolph-Sheppard Act apply. Specifically, NRS 752 provides the following direction for vending operations at SRRAs located on the Interstate System:

Subpart 1a. The state is not required to operate vending machines directly and may enter into contracts with vendors for "*the installation, operation, and maintenance of such vending machines"*, however, the state *"must give priority to vending machines operated through the State licensing agency designated pursuant to the Randolph-Sheppard Act (RSA)."*

Subpart 1b. However, NRS 752 goes on to state that "*The only application the RSA has to Section 111 is to establish the licensing agency in each State that is to be given priority. With the exception of rest areas on Federal lands, none of the RSA requirements apply to vending machines in Interstate rest areas."*

[8] FHWA Non-Regulatory Supplement for Part 752 can be found online at: http://www.fhwa.dot.gov/legsregs/directives/fapg/0752sup.htm

Subpart 1c. *"The RSA…does apply to vending facilities on Federal property. Although most rest areas are on State owned property, the possibility exists that in certain instances a rest area could be on Federal property."*

Subpart 1d. *"Where a rest area is on Federal property both the RSA and Section 111 apply. Further, the more restrictive provisions of both laws must be applied."*

Subpart 1e. *"Documentation demonstrating a positive initiative to involve the designated Randolph-Sheppard Act State agency will be required before the State highway agency proposes alternate organizations or corporations to operate the vending machines."* However, NRS 752 states that *"if the designated Randolph-Sheppard Act agency waives its rights in writing, the State highway agency is free to negotiate agreements described in paragraph 1a of this supplement with any organization or corporation."*

Subpart 1f. Regarding federal-funding of vending operations, NRS 752 states that the *"ineligibility of Federal assistance for installation, operation, and maintenance of the vending machines includes any modification in existing rest area facilities or the construction of new facilities. This exclusion from Federal-aid participation would also extend to power supplies, water sources and any other ancillary items necessary for the installation, operation, and maintenance of the vending machines."* Therefore, FHWA is clear that no federal monies would be available for funding the development, operation, or maintenance of vending operations at SRRAs.

Part two of NRS 752 defines a vending machine as being *"a coin or currency operated machine capable of automatically dispensing an article or product"* and Subpart 2b states that the *"Items which may be dispensed* [from the vending machine] *are limited to such food, drink, and other articles as the State highway agency determines to be appropriate and desirable."* Finally, Subpart 2a of NRS 752 clarifies that *"By limiting installations to vending machines, it is expressly intended to preclude a vendor from establishing a stand or shop for the purpose of selling the article or product and also to exclude any form of personal salesmanship."*

Subparts 1a through 1f and the definitions outlined in part two, clearly (a) prohibit further commercialization of SRRAs beyond "vending machines" and (b) requires preference to be given to the state agency specified under the RSA to receive preference for the operation of vending machines at SRRAs – more specifically to individuals who are legally blind. As previously discussed, the impact of these requirements significantly impedes the prospects for developing successful public/private partnerships for the operation and maintenance SRRAs located on the Interstates by limiting the scope of commercial operations that are possible.

NRS 752 part three provides guidance regarding the abandonment of SRRAs located on the Interstate System. The following summarizes the key guidelines pertaining to SRRA abandonment:

Subpart 3a. *"A State may abandon an Interstate rest area or rest areas provided there is a well documented evaluation demonstrating that the rest areas to remain are adequate in both number and size to satisfy the need of the traveling public."*

This evaluation would need to consider:

- The *"Ability to provide for the needs of the public without any overcrowding along with a showing that the distances between the remaining rest areas are reasonable"*
- In this case "*a spacing of an hour's driving time or less is considered to be reasonable unless an extenuating circumstance can be established."*

Subpart 3a clearly indicates that to abandon a SRRA, the state would need to demonstrate that (1) the closure would not result in overcrowding at nearby SRRAs, implying that capacity at those SRRAs would remain sufficient to meet user demands created from the closure, and (2) that the closure would not result in a gap between SRRAs that was greater than a one hour drive (or roughly 60-70 miles) between existing SRRAs.[9] An important question is whether an Interstate Oasis or other alternative stopping opportunity could be used to satisfy the overcrowding and spacing requirements stipulated by the FHWA under subpart 3a. This would be particularly important consideration if an Interstate Oasis was planned to replace an existing SRRA. (The Interstate Oasis concept appears to offer the greatest potential for developing commercial rest areas along Interstate highways. The concept and its enabling legislation are discussed below in Section I.F.).

Other key items relating to the use of abandoned SRRAs and eligibility for federal funding include the following:

Subpart 3g. *"A State may be permitted to retain the land on which an abandoned rest area is situated. However, any contemplated use other than as a rest area is to be submitted for Washington [FHWA] Headquarter's review and approval. Further, any use of an abandoned rest area should not be of a permanent nature so that it could revert to rest area usage if a future need should develop. Any proposed use other than as a rest area should consider safety and access control."*

Subpart 3i. *"The cost of abandonment is not eligible for Federal-aid funding."*

Subpart 3g specifies that using abandoned SRRAs for alternative uses would need to be reviewed by FHWA Headquarters before permitting such use. It is not clear what the scope of such

[9] NRS 752 indicates that "This spacing is consistent with the recommendation contained in Implementation Package FHWA-IP-81-1 'Safety Rest Area Planning, Location, and Design.'"

activities might include. Clearly, commercial operations would be prohibited, yet perhaps using the area as a Caltrans maintenance yard or related uses would be appropriate and permissible. The guidelines that alternative uses should only be temporary would appear to place restrictions on how the former SRRA might be used and improved. For example, it is unclear whether the construction of new or additional facilities onsite to support alternative uses would be considered acceptable by the FHWA, given that the abandoned SRRA site might "*revert to rest area usage if a future need should develop.*"

Finally, Subpart 3i clearly states that any costs associated with the abandonment of an SRRA are not eligible for federal-aid funding assistance. Therefore, the state would need to cover all such abandonment costs.

2. FHWA Federal-Aid Policy Guide: *Non-Regulatory Supplement for Part 625*

The Non-Regulatory Supplement for Part 625 (NRS 625) provides guidance regarding SRRA design standards as specified under Title 23 Code of Federal Regulations 625 (23 CFR 625).[10]

Part nine of NRS 625 entitled *"Uniform Federal Accessibility Standards (23 CFR 62)"* states that "*The Uniform Accessibility Standards (UFAS) adopted by the General Services Administration (GSA) are to be used for design of all future buildings (and facilities) for which Federal and Federal-aid funds are used.*"

Uniform Accessibility Standards (UFAS) are design requirements created as a result of the Architectural Barriers Act of 1968 for facilities designed, constructed, or altered with federal funds with the purpose of creating facilities that are accessible by persons who are physically handicapped. Specifically, Subpart 9a states that the *"design of all new and altered rest area facilities must comply with the UFAS,"* while Subpart 9b requires that the "*design of all new parking facilities must comply with the UFAS."* Finally, Subpart 9e states that *"A waiver may be obtained to the above accessibility design requirements on a case-by-case basis."*

In summary, all new and redeveloped SRRAs that are federally funded will need to comply with UFAS design guidelines to provide full access by handicapped persons.

D. California Streets and Highways Code, Sections 218 – 226.5

Sections 218 through 226.5 specify regulations governing the SRRA system in California.[11] These sections largely reflect and conform to provisions contained within the federal statutes

[10] FHWA Non-Regulatory Supplement for Part 625 can be found online at: http://www.fhwa.dot.gov/legsregs/directives/fapg/0625sup.htm

[11] California Streets and Highways Codes, Section 218-226.5 can be found online at: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=218-226.5

discussed in the preceding sections. The following summarizes the key sections within this statute.

Section 218 states that the *"commission and the department shall plan, design, and construct a system of safety roadside rests on the state highway system…and the cost thereof shall be payable from the State Highway Account. The department shall maintain such safety roadside rests and the costs thereof shall be payable from the State Highway Account."* Section 218 provides a clear mandate for the state to develop and maintain safety roadside rest areas throughout the state which will be funded by the State Highway Account.

Section 219 provides general planning guidance regarding the design and development of SRRAs. Specifically, Section 219 states that when developing the SRRA system Caltrans should follow these criteria:

Subsection 219(a). *"Safety roadside rests should be provided so that, in combination with other stopping facilities, there shall be facilities available at intervals of approximately one-half hour's normal driving time."* Therefore, spacing between SRRAs should be roughly one-half hour or approximately 30 to 40 miles apart. Importantly, the fact that this guideline states "in combination with other stopping facilities" suggests that the recommended spacing could be achieved through a combination of traditional SRRAs plus "other stopping opportunities," which could potentially include Interstate Oases, auxiliary parking, or other stopping opportunities.

Subsection 219(b). *"On highway entrances to large metropolitan areas, safety roadside rests may be provided."* This guideline implies that there is a need for SRRAs at the entries to large urban areas. However, the guidelines under CFR 752.5 (e) discussed earlier state "*Proposals for safety rest areas or similar facilities on Federal-aid highways in suburban or urban areas shall be special case and must be fully justified before being authorized by the FHWA Regional Administrator."*

Therefore, although there may be a need for SRRAs near large metropolitan urban centers, particularly to serve commercial trucks, and this section mandates consideration of developing SRRAs in these locations, there is a degree of conflict with federal law under 752.5 (e). However, if SRRAs are developed far from the urban core of metropolitan areas, in the less developed "outskirts" of such areas, then development of SRRAs would more closely conform to federal guidelines.

Subsection 219(c). *"On high-volume highways consisting of four or more lanes, safety roadside rests should be provided on both sides of the highways; on all other highways only single safety roadside rests should be provided."* Following this guideline could be a challenge to developing alternative stopping opportunities or Interstate Oases in place of traditional SRRAs, as two separate but similar facilities are prescribed for both sides of the highway. The rationale for this guideline is likely due to the need to create a convenient stopping opportunity which maximizes efficient traffic flow and minimizes potential traffic congestion. Following this guideline for

alternative stopping opportunities might be problematic, depending on how close the two facilities would need to be. At many locations, similar facilities will not be developable on both sides of the highway, in which case a single facility with sufficient parking and rest room capacity would need to serve motorists in both directions. Indeed, an Interstate Oasis or alternative stopping opportunity that is accessible from an interchange would do just that.

Subsection 219(d). *"Notwithstanding the provisions of subdivision (a), on high-volume highways more safety roadside rests may be planned at strategic locations where they appear to be necessary or desirable."* This guideline appears to provide Caltrans with the flexibility needed to determine where and how many SRRAs should be developed within a given region along high volume highways.

Section 220. Provides general guidance on additional SRRA design, stating that Caltrans *"shall design only those safety roadside rests which are reasonably economical"*, yet indicates that the *"Legislature recognizes that the size of such safety roadside rests, together with the facilities therein, will differ according to location and potential use."* The term "reasonably economical" is not clearly defined in this statute, but the following statement regarding the differing sizes and facilities required for each SRRA implies that the state should recognize the need to be flexible in budgeting for different SRRA facilities based on user demand and the specific characteristics of the site.

Section 220 goes on to outline the type of onsite facilities which may be developed at SRRAs, stating *"safety roadside rests may contain, among other things, depending upon the size and use thereof, parking places for vehicles, picnic tables, sanitary facilities, telephones, water, landscaping, tourist information panels, traveler service information facilities, and facilities for the distribution of current news. Such safety roadside rests shall not contain camping or recreational facilities."* These facilities and services are consistent with and reflect all federal/FHWA guidelines. Presumably "traveler service information facilities" refers to basic traveler information, such as display panels, maps, brochures, LCD displays, interactive kiosks or Wi-Fi Internet providing travel related information, and other technologies offering travel related information.

Section 220.5 permits the state to place and operate vending machines at SRRAs. The section also states that Caltrans shall conform to the Randolph-Sheppard Act (discussed previously) and *"shall give preference for the placement of vending machines in safety roadside rest areas along state highways to vendors operating under the Business Enterprises Program for the Blind…"*

This section also permits Caltrans to "*determine which safety roadside rest areas are suitable for inclusion in the vending machine program and the appropriate location within each roadside rest area for the placement of the machines, and the department shall approve the design and construction of any shelter or structure that may be required for the machines."* Therefore, although priority for the operation of vending machines must be given to blind vendors under the

Business Enterprise Program, Caltrans has the ability to determine which SRRAs will provide vending machines.

Section 223(a) states that "*The department may contract with other governmental agencies or private organizations or individuals for the construction and operation of traveler service information facilities and for the maintenance of all or any of these safety roadside rests where it deems it necessary or desirable."* This subsection permits the state to only contract with private organizations or individuals for the "*construction and operation of traveler service information facilities" and for SRRA maintenance.* No definition of traveler service information facilities could be found within the statute, yet presumably such facilities would include the operation and maintenance of kiosks, backlit/LCD display panels, brochure racks, and possibly Wi-Fi service at SRRAs providing travel information.

Section 225.5(a) reflects the federal prohibition on commercial services at SRRAs by stating *"except as specifically authorized by this article, no person shall display, sell, offer for sale, or otherwise vend or attempt to vend any merchandise, foodstuff, or service within any vista point or safety roadside rest area."* **Subsection (b)** goes further by stating that *"No person shall solicit money within any vista point or safety roadside rest for any purpose."* Therefore, this section makes clear that the prohibition on commercial services is to be extended to all SRRAs in California.

Section 226.5(a) permits the state to engage in a pilot demonstration project for the development/operation of SRRAs, stating "*Unless prohibited by federal law or regulation, the department, to promote public safety and convenience, may construct, operate, and maintain a maximum of six new safety roadside rest area units as a joint economic development demonstration project where there is a public need for a rest area, and the joint economic development proposal will result in an economic savings to the state."* The demonstration projects would consist of SRRAs that would be constructed, operated, and maintained under a public/private partnership, with the primary objective and requirement of generating cost savings for the state. This provision appears to open the door to a limited number of demonstration pilot Interstate Oasis projects.

Subsection (b) outlines the requirements of these demonstration projects, indicating that all of the following requirements would apply:

"(1) Contracts for construction, operation, and maintenance of facilities in the demonstration project roadside rest areas shall be awarded on the basis of competitive bidding." Therefore, Caltrans would have the authority to engage in private contracts for the "construction, operation, and maintenance" of SRRAs as part of this demonstration project only where such contracts are competitively bid. There is a degree of legal ambiguity regarding how Caltrans could contract for construction, operation and maintenance of a public/private partnership SRRA, which will be discussed in detail later in this report.

"(2) The department may permit commercial operations within the units if the operations are traveler-related activities and no alcoholic beverages are sold within the rest area facility." This subpart clearly authorizes Caltrans to allow the private partner to provide commercial services at the six SRRA demonstration projects. The scope of commercial services is limited to those which are "traveler-related" and which presumably include food and beverage, convenience, and fuel services. However, per Title 23 Section 111, which prohibits commercial services at SRRAs located on the right-of-way of the Interstate System, such partnership SRRAs developed under this demonstration project would need to be developed outside of the Interstate right-of-way to conform to federal regulations.

Section 226.5 would allow Caltrans to develop six new SRRAs that are public/private partnerships offering commercial services. Caltrans might take advantage of this mandate under Section 226.5 and develop partnership SRRAs at locations where the need for a new SRRA or alternative stopping opportunity has been identified by the new SRRA master plan. Doing so would likely result in savings to the state by (a) reducing annual operating and maintenance costs and (b) reducing capital costs to develop the SRRA. The implications of Section 226.6 for developing commercialized public/private partnership SRRAs were assessed under a recent study for Caltrans and will more fully discuss the findings of this study later in this report.[12]

E. California Code of Regulations Title 21, Chapter 20

The California Code of Regulations Title 21, Division 2, Chapter 20 provides details on the permissible uses of SRRAs in California.[13] Specifically, Article 3 of Chapter 20 lists the uses of SRRAs that are prohibited and restricted, including the following:

"(a) Camping is prohibited."

"(b) Vehicles shall not be parked and persons shall not remain for more than eight (8) hours in any twenty-four (24) hour period."

"(c) No parking is allowed for any period of time for the purpose of allowing any traveler to engage in any activity off of the safety roadside rest area or vista point. It is the intent to forbid persons to use the safety roadside rest area or vista point to park their vehicle so as to allow the occupants to engage in activities that include, but are not limited to, cross-country skiing, off-road vehicle use, fishing, hiking, camping or hunting."

"(d) Pitching of tents or erection of other shelter is prohibited."

[12] "Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs: Tasks F & G Report – Strategic Action & Business Plans: Rest Area Partnership Projects," for Caltrans, by Dornbusch Associates November 26, 2008.

[13] California Code of Regulations Title 21, Division 2, Chapter 20 "Permissible Activity and Use of Safety Roadside Rest Areas and Vista Points in and along California State Highways" can be found online at: http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000

"(e) Building or maintaining campfires or other open fires is prohibited."

"(f) Use of gas-fueled stoves is permitted within suitably equipped vehicles, such as recreational vehicles, travel trailers and motor homes. Small portable gas-fueled camp stoves and small portable charcoal hibachis, barbecues or braziers, may be used if placed on the ground or on designated stands and used in safe manner, in accordance with fire and safety laws and ordinances and regulations thereunder."

"(g) Solicitation for money is strictly prohibited."

"(h) Vehicles shall only be parked in designated parking areas."

"(i) All litter and garbage shall be placed in trash receptacles provided."

"(j) The use of noise-producing instruments, megaphones, loudspeakers or other similar devices which are used to amplify sound is not permitted."

"(k) All use and activity shall cease in case of emergency situations involving danger to the general public which result from fire, flood waters, traffic conditions, hazardous substances, gases or other conditions whether occurring on or off the state highway. Final determination of when such conditions exist shall be made by a department representative or a California peace officer at the safety roadside rest area or vista point."

"(l) All animals shall be on a leash; animals not restrained by a leash shall be controlled by appropriate enclosures or other adequate restraint."

"(m) The unauthorized use of the department's water, electrical and gas utilities is prohibited."

"(n) Selling, publicizing or other means of merchandising any article of merchandise, food, service or thing is a prohibited commercial activity."

"(o) There shall be no dumping of sanitary wastes except at designated sanitary dump stations."

"(p) Signs, cards, handbills, flags, pennants, streamers or other such material shall not be attached, nailed, placed or otherwise affixed to any tree, fence, building, light standard or other such fixture or facility."

"(q) Users shall not block vehicular or pedestrian traffic."

All SRRASs must conform to the above use restrictions and prohibitions, unless exceptions are provided in other sections of California law.

Article 4 of Chapter 20 provides the uses that are permitted at SRRAs. These include:

"(a) Agricultural displays." Represent educational type displays including examples of California agriculture.

"(b) Traveler information centers." Article 2 of Chapter 20 defines traveler information centers as *"A building, kiosk or covered panel constructed by or for the department upon which public information and commercial displays may be placed in safety roadside rest areas and vista points."*

"(c) Newspaper vending machines." Coin operated newspaper vending machines.

"(d) Other uses and activities." This section presumably includes vending machine operations that are specified under Section 220.5 of the California Streets and Highways Code.

F. SAFETEA-LU Section: 1310 - Federal Interstate Oasis Program

The federal Interstate Oasis Program was enacted as part of the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005. In 2006, the FHWA published the "Interstate Oasis Program and Policy" which presented finalized rules/policies governing the Interstate Oasis Program. Note that all of the following quotes are excerpted from this policy document.[14] The FHWA described the purpose of the Interstate Oasis Program as being:

"…to enhance safety and convenience for Interstate highway users by allowing States, in accordance with this policy, to designate and provide signing to certain facilities off the freeway that will provide increased opportunities for stopping to rest, using restroom facilities, and obtaining basic services."

Under the final Program rules the FHWA went on to define an Interstate Oasis as:

"…a facility near an Interstate highway but not within the Interstate right-of-way, designated by a State after meeting the eligibility criteria of this policy, that provides products and services to the public, 24-hour access to public restrooms, and parking for automobiles and heavy trucks."

The Interstate Oasis Program allows states to partner with private operators who meet the minimum criteria to provide basic rest area services in exchange for online highway signing and official designation as an Interstate Oasis. Therefore, by designating and signing commercial operations that meet the minimum eligibility criteria for an Oasis, the state may expand guaranteed free parking and rest room services to augment the services available at existing SRRAs without having to construct and maintain expensive new SRRA facilities. Importantly, the Interstate Oasis Program has the support of the National Association of Truck Stop Operators (NATSO), the most powerful industry lobbying group that opposes public/private partnerships or any commercialization of existing or new online SRRAs. As such, the Interstate Oasis Program provides an alternative type of public/private partnership offline, and which would is supported by the intense industry lobbying that has in the past been successful in defeating every

[14] The FHWAs Interstate Oasis Program and Policy document can be found online at: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2006_register&docid=E6-17367.pdf

significant attempt to overturn or skirt the federal prohibition against commercial services at SRRAs.

The following represent the seven minimum eligibility criteria for an operator(s) to be designated and signed as an Interstate Oasis, according to FHWA standards:

1. **Distance from Interchange.** *"Shall be located no more than 3 miles from an interchange with an Interstate highway, except that:*

    a. *A lesser distance may be required when a State's laws specifically restrict truck travel to lesser distances from the Interstate system; and*

    b. *Greater distances, in 3-mile increments up to a maximum of 15 miles, may be considered by States for interchanges in very sparsely developed rural areas where eligible facilities are not available within the 3-mile limit;"*

2. **Access from Route.** *"Shall be accessible via a route that an engineering study determines can safely and conveniently accommodate vehicles of the types, sizes, and weights that would be traveling to the facility, entering and leaving the facility, returning to the Interstate highway, and continuing in the original direction of travel."*

3. **Physical Geometry of Site Layout.** *"Shall have physical geometry of site layout, including parking areas and ingress/egress points, that an engineering study determines can safely and efficiently accommodate movements into and out of the site, onsite circulation, and parking by all vehicles, including heavy trucks of the types, sizes, and weights anticipated to use the facility."*

4. **Rest Rooms.** *"Shall have restrooms available to the public at all times (24 hours per day, 365 days per year). Restrooms should be modern and sanitary and should have drinking water. The restrooms and drinking water should be available at no charge or obligation;"*

5. **Parking**. *"Shall have parking spaces available to the public for automobiles and heavy trucks. The parking spaces should be well lit and should be available at no charge or obligation for parking durations of up to 10 hours or more, in sufficient numbers for the various vehicle types, including heavy trucks, to meet anticipated demands based on volumes, the percentage of heavy vehicles in the Interstate highway traffic, and other pertinent factors as described in formulas contained in the AASHTO ''Guide for Development of Rest Areas on Major Arterials and Freeways'' (2001 or latest edition);"*

6. **Products & Services to be Provided.** *"Shall provide products and services to the public. These products and services should include:*

    a. *Public telephone;*

    b. *Food (vending, snacks, fast food, and/or full service); and*

c. Fuel, oil, and water for automobiles, trucks, and other motor vehicles;"

7. **Security & Staffing.** "*Should be staffed by at least one person on duty at all times (24 hours per day, 365 days per year)."*

These criteria include the basic services that are available at most SRRAs in California, including free parking for cars and trucks for extended periods and in sufficient numbers to meet demand, free access to sanitary restrooms, water, and access to public telephones. The Interstate Oasis provides the additional services of (a) commercial services and (b) onsite security available 24-hours per day. The Interstate Oasis Program requirements will be applied when identifying alternative stopping opportunity locations throughout California.

In exchange for providing the above services, the operator is eligible to be designated and signed as an Interstate Oasis. The following signing guidelines have been established by the FHWA:

Online Highway Sign: Option 1. "*If adequate sign spacing allows, a separate sign should be installed in an effective location with a spacing of at least 800 feet from other adjacent guide signs, including any Specific Service signs. The sign should have a white legend (minimum 10 inch letters) and border on a blue background and should contain the phrase 'Interstate Oasis' and the exit number or, for an unnumbered interchange, an action message such as 'Next Exit'. Names or logos of businesses designated as Interstate Oases should not be included on this sign."*

Online Highway Sign: Option 2. *"If the spacing of other guide signs precludes use of a separate sign as described in item 1 above, a supplemental panel with a white legend (''Interstate Oasis'' in minimum 10 inch letters) and border on a blue background may be appended above or below an existing Advance Guide sign or D9–18 series General Service sign for the interchange."*

Ramp/Interchange Signing: Option 1. *"If Specific Service signing (See MUTCD Chapter 2F) is provided at the interchange, a business designated as an Interstate Oasis and having a business logo on the Food and/or Gas Specific Service signs may use a bottom portion of the business's logos to display the word 'Oasis.'"*

Ramp/Interchange Signing: Option 2. *"If Specific Services signs containing the ''Oasis'' legend as a part of the business logo(s) are not used on the ramp, a sign with a white legend (minimum 6 inch letters) and border on a blue background should be provided on the exit ramp to indicate the direction and distance to the Interstate Oasis, unless the Interstate Oasis is clearly visible and identifiable from the exit ramp."*

Guide Signs. *"Additional guide signs may be used, if determined to be necessary, along the cross road to guide road users to an Oasis."*

These signing requirements indicate that two Oasis signs will be provided along the Interstate right-of-way in each direction of travel – or a total of four highway signs per Oasis - with one sign being on the mainline of the highway in advance of the exit where the Interstate Oasis is located, and the second sign be located at the off ramp leading to the Oasis. In addition, guide signs may be used on cross streets/frontage roads where needed to direct travelers from the highway off-ramp to the Oasis. Additional detail regarding Interstate Oasis signing, including examples of existing signs, will be provided in the following sections.

Other important Interstate Oasis requirements specified by the FHWA include the following:

Routes Where Oases are Permitted. Oases can only be established on Interstates. Therefore Oases would be limited to only Interstate routes in California. Implementing similar Oasis partnerships on non-Interstate routes might still be possible. Having a state version of the Oasis Program would allow the state to require the partner to meet different standards/criteria than specified under the federal Interstate Oasis Program. However, this would possibly cause objections from FHWA on the grounds that having two Oasis programs – a state and federal version – might lead to confusion among the traveling public and a lack of consistency in the standards applied under both programs. In addition, developing state Oases on non-Interstate routes could lead to objections from industry groups such as NATSO, who might view the ability of the state to impose additional requirements above and beyond those specified in the Interstate Oasis Program as a threat to their members' interests.

In addition, when signing/designating such state Oasis facilities, the term "Interstate Oasis" could not be used. Therefore, for the reasons discussed above, it is preferable to develop Oasis-type partnerships on Interstates and according to requirements specified under the federal Interstate Oasis Program.

Multiple Operators. When no individual operator meets all of the Oasis requirements, States can allow two or more businesses located at the interchange immediately adjacent to each other and accessible by foot, to satisfy the Oasis requirements. This specification allows a greater degree of flexibility in locating an Oasis partner. For example, a gas station and a restaurant located at an interchange could collaborate to satisfy the minimum Oasis eligibility requirements outlined above, in this case the provision of fuel and food and beverage service.

Non-Exclusion. If a state provides or permits Interstate Oasis signing then *any* facility/operator meeting the minimum criteria shall be *eligible* for designation as an Interstate Oasis. Given that the state cannot require additional criteria for designating an operator as an Interstate Oasis, the conclusion is that states would not have a basis for denying certain operators from being designated as an Oasis while permitting others. In short, it appears that the state would be limited in its ability to select certain operators over others, so long as all of the operators applying to be designated and signed as an Oasis met the minimum eligibility requirements.

This is not necessarily a problem and if the Oasis Program proved popular, could significantly increase the number of Oases and therefore stopping opportunities across the state.

Additional State Criteria. A state cannot impose additional criteria beyond the criteria specified by the FHWA to qualify for designation as an Interstate Oasis. However, a business designated as an Interstate Oasis is permitted to provide additional products, services, or amenities. This requirement effectively eliminates the ability for the state to impose any additional criteria/standards on Oasis partners. For example, a state could not require the operator to provide a landscaped lawn and picnic area as a requirement to be designated as an Interstate Oasis because this is not one of the eligibility criteria specified under the Interstate Oasis Program. Therefore, if the state desired additional amenities, services, or standards these would need to be negotiated on an individual basis with the Oasis operators and provided on a *voluntary* basis.

Use of the Phrase "Interstate Oasis." The FHWA recommends that the state policies, program, and procedures developed to govern the Oasis Program should include legislation or rules to limit the use of the phrase ''Interstate Oasis'' on a business premises and advertising media to only those businesses approved by the state as an Interstate Oasis. Doing so would provide a branding advantage to only those businesses designated as an Oasis, who could use the designation in their marketing efforts. If use of this phrase is not controlled and limited to only those businesses designated as in Oasis then it would reduce the attractiveness of such of designation from the perspective of the private partner and would likely reduce participation in the Program.

Educational/Marketing Campaign. Since the Oasis Program is an entirely new program, the FHWA recommends that if the state chooses to participate in the program then it should *"undertake educational and marketing efforts, in cooperation with trucking and travel industry partners as appropriate, to familiarize travelers and businesses with the program before it is implemented and during the initial period of implementation."* Marketing the Oasis concept will be important for attracting both future Oasis partners and travelers to individual Oases. Since the program is new and the traveling public is unfamiliar with the term and concept of an Interstate Oasis, the state should attempt to distribute educational information on (a) the locations of Oases, (b) the services provided, and (c) company contact information for the Oasis partner. One low cost option for providing information on the Oasis Program after the program was initiated in California would be to develop a dedicated website with mobile web applications that provided statewide maps of locations and links to Oasis operator websites. Oasis operators could be given passwords to login to the site and edit their information minimizing work required by Caltrans to manage the website.

G. California Highway Design Manual, Chapter 900, Topic 903

Chapter 900, Topic 903 of the California Highway Design Manual (Manual) specifies the minimum standards to be followed in developing SRRAs in California.[15] The following summarizes the key standards for the relevant sections specified under Topic 903 of the Manual relating to SRRAs:

Compliance with State and Federal Laws. SRRAs must conform to all applicable state and federal codes and regulations regarding buildings, utilities, water, wastewater, accessibility, energy conservation, and environmental protection.

Building Materials. SRRAs should be constructed using high quality and durable materials to meet heavy use and designed for cost effective and efficient maintenance.

Interchanges Improvements. Freeway interchanges *"should accommodate, or be improved to accommodate, the volume and geometric movements of anticipated traffic. The safety roadside rest area should be within one-half mile of the freeway."*

SRRA Need and Spacing. The need for and spacing of SRRAs in certain locations is to be in conformance with the recommendations of the new master plan. Alternative sites may be considered within the region designated as in need of a SRRA or alternative stopping opportunity.

Site Access. The Manual states that on high volume freeways or highways with more four or more lanes, a SRRA unit should be provided on each side of the highway, one for each direction of travel, and direct on- an off-ramps should be constructed off of the highway to access the SRRA. As noted above, this might complicate implementation of Interstate Oases, unless access from an interchange would be considered adequate accessibility from both traffic directions.

Right-of-Way Requirements. The Manual specifies that a typical rest area unit might require between ten to fifteen acres of right-of-way. The Manual specifies that it is preferable for Caltrans to own the land in fee simple although when necessarily or desirable, land easements or agreements, presumably including leases, may also be an option. In addition, the Manual states the reality that "right of way cost may be a significant factor in site selection." Given California's current budgetary challenges, SRRA sites where land values are prohibitively expensive may be the best candidates for SRRA partnerships, such as Interstate Oases.

Size and Capacity. The Manual indicates that SRRAs should be designed to meet demand over a period of twenty years and that when possible, an SRRA may be designed to accommodate a 25% expansion in parking capacity beyond the twenty year horizon.

[15] The California Highway Design Manual, Chapter 900, Topic 903 "Safety Roadside Rest Area Standards and Guidelines" can be found online at: http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/chp0900.pdf

The Manual also indicates that *"areas designated for future expansion should be kept free from development, including underground utilities."* Based on conversations with Caltrans, it appears that very few existing SRRAs have undeveloped excess right-of-way. The Manual goes on to indicate that SRRA *"expansion should not excessively diminish the scenic and environmental qualities of the existing site,"* and that where SRRA expansion is not possible due to cost or site related factors, to *"consider strategies for increasing capacity in the vicinity, such as relocation of the rest area, construction of an auxiliary parking facility, or construction of an additional safety roadside rest area."*

SRRA expansion will consist primarily of expanding the amount of auto and truck parking available. The Manual provides guidance on the amount of parking at each SRRA unit stating that the *"maximum parking capacity for a safety roadside rest area unit should not exceed 120 total vehicular parking spaces"* and that if *"more than 120 vehicular parking spaces are needed, it is advisable to consider the development of additional safety roadside rest areas…or the development of an auxiliary parking facility."*

The Manual defines auxiliary parking lots as *"…parking areas and restrooms provided by or jointly developed and operated by partners (such as existing or new truck stops, or at other highway oriented commercial development). These are for longer-duration stops and overnight parking, primarily for commercial vehicle operators. These facilities are located outside of freeway right of way, within one-half mile of the freeway."* Therefore, auxiliary parking facilities are closely related to the concept of an Interstate Oasis. However, auxiliary parking facilities would not be required to meet all of the minimum eligibility requirements under the Interstate Oasis Program and could therefore be provided by a broader range of commercial operators, potentially including malls, large stores, and other facilities located near and accessible from the highway.

In selecting auxiliary parking locations the Manual states that *"Sites for auxiliary parking facilities should be chosen for their suitability in accommodating large numbers of commercial trucks for longer stays (up to 8 hours). Auxiliary parking facilities are not limited to 120 spaces; however, the amount of parking should be appropriate for the site and its surroundings."*

The maximum of 120 parking spaces per SRRA unit will be applied when assessing parking expansion potential at existing SRRAs and in considering the need for additional right-of-way and/or auxiliary parking to meet current and anticipated future parking demand. When selecting alternative stopping opportunities – including Oases and/or auxiliary parking locations – sites will be selected which have the ability to accommodate commercial trucks.

Site Planning. The Manual states that regarding access to the SRRA "*Rest areas designed for freeways shall have standard freeway exit and entrance ramps, in accordance with Chapter 500 [of the Highway Design Manual]"* while those that are *"on expressways and conventional highways should be designed with standard public road connections and median left-turn lanes,*

according to Topic 405 [Chapter 400 of the Highway Design Manual]." The Manual goes on to indicate that when an SRRA or auxiliary parking facility *"…is developed outside the freeway right of way at an interchange location, the interchange ramps, bridges and general geometric design should be capable of accommodating the volume of traffic anticipated and the turning movements of commercial trucks."*

The manual also provides general guidance regarding SRRA access, stating that *"Whenever possible, ingress maneuvers should utilize simple and direct movements. Egress may be more complex, if necessary, as travelers are more rested and better prepared for a circuitous route to the freeway or highway."*

Therefore, to conform to these standards, SRRAs and alternative stopping opportunities should be developed which provide the most convenient and direct access from the highway as possible. In selecting potential SRRA or alternative stopping opportunity locations, sites where ingress is not relatively direct and obvious should be avoided. In addition, the requirement for interchanges used to access SRRAs or alternative stopping opportunities located off-line to meet capacity and design standards could trigger expensive interchange improvements. Therefore, to minimize project development costs, off-line SRRA or alternative stopping opportunity sites where expensive interchange improvements are required should be avoided if possible.

Regarding the geometric design of parking areas, the Manual states that the *"design of all roads, aisles, parking spaces and parking lot islands should ensure that commercial truck maneuvers can be accommodated without damage to curbs, sidewalks, pavement edges or parked vehicles. See Topic 407* [Chapter 400 of the Highway Design Manual] *for truck and bus turning template guidance."*

The Manual indicates that one dedicated California Highway Patrol parking space should be provided. Regarding handicap access parking the Manual states that *"one handicapped-accessible parking space for every 25 auto/van parking spaces"*, *"one van-accessible space"*, and *"one long vehicle handicapped-accessible parking space"* should be provided at each SRRA.

Utility Systems. The Manual provides general direction for the design of utility systems at SRRAs. More specific information regarding recent changes in energy conservation standards is provided in the Project Development Procedures Manual discussed in the following section.

In general, utility systems are required to conform to Title 24 Energy Requirements of the California Code of Regulations (i.e. State Building Code) and *"other applicable State and Federal requirements."*

Electrical Power. The manual states that SRRAs should be designed with electrical systems to meet the demands of the following:

- *Outdoor lighting* (ramps, parking areas, pedestrian walkways and plazas),
- *Water supply systems* (pumps, pressure tanks, irrigation controllers),
- *Restrooms* (lighting, hand dryers),
- *Pedestrian facilities* (lighting, water chillers, telephones, wireless internet, kiosks),
- *Maintenance Crew room* (lighting, heating, air conditioning, refrigerator, microwave),
- *CHP drop-in office* (lighting, heating, air conditioning), and
- *Vending* (lighting, vending machines, change machine, storage-room air conditioning).

Regarding the provision of electrical power the Manual states that *"Primary electrical power sufficient for basic safety needs should be supplied by conventional power providers. Supplemental power may be provided using innovative technologies such as solar panels or wind generation or conventional means, such as backup generators."* The term "supplemental power" presumably relates to the use of alternative/green energy sources that might offset primary power sources.

Water. The Manual states that *"Water supply systems should be designed to accommodate the 20-year projected demand and to handle the peak flow required for restroom fixtures and landscape irrigation."* The Manual goes on to require Caltrans to "*Maintain appropriate distance between wells and wastewater disposal facilities (applicable laws should be followed). Potable water must be provided to sinks, drinking fountains, exterior faucet assemblies and pet-watering stations. Untreated or non-potable water may be used for toilets and landscape irrigation. Irrigation systems should be isolated from the general water system using appropriate backflow prevention devices."* For this guidance, it appears that water sources including wells and agriculture water may be used as long as the water is treated appropriately. Water sources and associated demand will be an primary factor in selecting the specific location of new SRRAs or alternative stopping opportunities. In some cases, piped and treated water sources will be unavailable and water wells or other water sources would need to be developed. Water wells can be expensive to develop depending on the depth at which water is available, water quality, and other environmental factors, with wells being regulated by city and county building standards.

Wastewater. The Manual specifies the following general requirements regarding wastewater disposal:

- Wastewater disposal facilities should be designed to handle the peak sewage demand.
- Waterborne sewage disposal systems should be provided.

- Structures Design will arrange for soil analysis and percolation tests and upon completion of testing will obtain approval of the proposed sewage treatment system from the Regional Water Quality Control Board.
- Recreation vehicle waste disposal stations may be provided at SRRAs where there is a recognized need and commercial disposal stations are not available.

It is not clear from the above requirements if direct links to sewage systems would be required or whether a septic tank and/or wastewater treatment plant (e.g., a package plant) could be developed. In many remote locations, there are no available hookups to sewage systems, requiring the development of onsite wastewater treatment facilities. In this case, additional land may be required above typical levels to accommodate wastewater treatment systems.

Telephones. The Manual requires that a minimum of three public pay telephones be developed at each SRRA unit. This requirement may also impact the selection of SRRA locations given the availability of telephone lines.

Lighting. The Manual states that "*Site and building lighting are to be designed in conformance with Title 24 Energy Requirements of the California Code of Regulations (State Building Code).*" In addition, the following general standards are specified:

- For functionality and safety, SRRAs should be lighted for 24-hour-a-day use.
- Lighting should be automatically controlled and include manual-shutoff capability.
- Restroom entrances and the interiors of restrooms, utility corridors, crew rooms, CHP drop-in offices and storage buildings, pedestrian plazas, primary sidewalks, crosswalks, ramps, picnic areas, kiosks, bicycle parking, and interpretive displays should be brightly illuminated.

Lighting requirement will have important impacts regarding power demand, energy conservation standards, and SRRA visitors' perception of site security – thereby impacting use levels.

Structures. In general, SRRAs should include the following types of structures:

- Restrooms,
- Storage rooms, equipment rooms, crew rooms, and CHP drop-in offices,
- Picnic shelters,
- Utility and dumpster enclosures,
- Vending machine facilities,
- Kiosks, arbors and other architectural elements.
- Wireless internet facilities (if funded by the provider or others)

The Manual states that "*Safety roadside rest area architecture should be designed for a service life of approximately 20 years.*"

H. California Project Development Procedures Manual, Chapter 29, Section 3

The California Project Development Procedures Manual, Chapter 29, Section 3 (PDPM) provides additional guidelines regarding procedures for the implementation of SRRA projects in California.[16] [17] The PDPM incorporates many of the federal/state laws, policies, and regulations that have been summarized in the preceding sections. The following summarizes the most pertinent information contained in the PDPM not already presented and discussed in previous sections of this report.

Rest Area Rehabilitation Program. According Section 3, Article 1 of the PDPM, this program is being implemented *"to improve public health, safety, security, accessibility by persons with disabilities, and the operational maintainability of existing rest areas."* The Rehabilitation Program will be implemented in two stages.

Priorities under Stage I of the Program will consist of the following:

- Compliance with accessibility requirements per Caltrans Design Information Bulletin (DIB) 82 (including accessible parking, paths of travel, rest rooms and other facilities),
- Compliance with Cal-OSHA requirements (all-weather crew rooms, safe storage of equipment and supplies),
- Utility system improvements (water, wastewater, electricity),
- Security enhancements (pedestrian lighting, surveillance cameras, California Highway Patrol drop-in office and designated parking),
- Accommodation for the installation and operation of vending machines by the Department of Rehabilitation, Business Enterprise Program for the blind. This may include designated space for vending machines and storage, water, and electrical conduits,
- Repair or replacement of facilities when more cost effective than repair, beyond the scope of routine maintenance (structures, walkways, irrigation systems, signs, etc.) to reduce maintenance requirements,
- Restroom capacity.

Stage II two will be implemented following the statewide completion of Stage I priorities and objectives summarized above.

[16] The Project Development Procedures Manual, Chapter 29, Section 3 "Safety Roadside Rest Areas" can be found online at: http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt29.pdf

[17] Note that throughout this report the reference to SRRA projects includes the variety of SRRA substitute facilities.

The following summarizes the objectives under the Stage II of the Program:

- Enlargement or modification of on-site parking,
- Rest area site relocation or comfort station replacement,
- Landscape improvements,
- Repair or replacement of facilities beyond the scope of routine maintenance (structures, walkways, irrigation systems, signs, etc.) that were deferred from Stage I projects; and
- Geometric improvements for ramps, merge and diverge areas to meet current Caltrans standards.

The improvements conducted under Stage I and II of the Rehabilitation Program will significantly improve the condition of many existing SRRAs and bring the facilities up to current Caltrans standards.[18] Rehabilitation of existing SRRAs will extend the operational life of these facilities and through efficiency improvements, likely reduce annual operating and maintenance costs, particularly in savings from water and energy efficiency improvements.

N**ew Rest Area Program.** Section 3, Article 1 of the PDPM indicates that the stated purpose of this program is to *"provide new, conveniently spaced rest areas and auxiliary parking facilities as an integral part of the SHS* [State Highway System]. *New rest area projects must be consistent with the general locations as indicated on the current approved Safety Roadside Rest Area System Master Plan."*

The PDPM provides important guidance regarding the selection of new SRRA locations stating that the priority of the Program is to provide additional SRRAs on the Interstate System where:

- **There are gaps of more than 100 miles between existing SRRAs,**
- **The closest SRRAs are significantly in need of additional parking capacity, and**
- **Where unauthorized roadside parking is frequently observed.**

The PDPM goes on to designate specific routes where there are "high-priority needs" for additional SRRAs and alternative stopping opportunities, which include:

- **Interstate 5 between Sacramento and San Diego,**
- **Interstate 80 between Sacramento and Oakland, and**
- **Interstates 8, 10, 15, and 40 in the desert areas.**

It is recommended that the specific directions in the bold text (added for emphasis) above under the New Rest Area Program be used as the starting point for identifying general locations where new SRRAs and alternative stopping opportunities are needed.

[18] In assessing existing SRRAs, Dornbusch will work with Caltrans to identify which facilities have undergone or are planned to undergo significant improvements as part of this program.

The PDPM provides additional guidance regarding the concept and development of auxiliary parking facilities as alternative stopping opportunities, indicating that:

"In partnership with the private sector, auxiliary parking facilities that may alleviate overcrowding at nearby existing rest areas may be developed outside the right-of-way of controlled-access highways. Auxiliary parking facilities provide an alternative to expanding parking at existing rest areas where space is limited or the site is environmentally sensitive."

Therefore, when SRRA parking expansions required to meet demand are expected to exceed the maximum levels set by Caltrans, then auxiliary parking, including Interstate Oases, can be used to provide the additional parking needed. This will be an important consideration when assessing the location of new SRRAs.

Signing for Alternative Rest Area Stopping Opportunities. Section 3, Article 1 of the PDPM outlines the criteria and signing program for alternative stopping opportunities which are similar to Interstate Oasis and auxiliary parking concepts discussed previously. The PDPM states that "*Caltrans may enter into an agreement with the operator(s) of commercial or governmental facilities located along the SHS to designate those facilities as alternative rest area stopping opportunities, and to provide highway directional signs with text or logos indicating, for example, restrooms, gas, and/or food. One or more entities may participate jointly in the agreement. Agreements should include reasonable expiration and renewal terms.*"

The PDPM provides general guidance regarding the selection of alternative stopping opportunities stating that "*Each alternative rest area stopping opportunity should consist of facilities that are clustered in a single, easily identifiable location. Unless they serve a single direction of highway traffic, Caltrans-designated alternative stopping facilities should not be located closer than 20 miles apart.*" This selection criteria should be used when identifying where alternative stopping opportunities that might be developed.

To qualify to be signed and designated as an alternative stopping opportunity, the facility must meet the following criteria:

- The facility must be located in an area designated by Caltrans as deficient in rest area opportunities and should correspond to a new rest area need as indicated on the current Safety Roadside Rest Area System Master Plan, or supplement the capacity of an existing rest area that is deficient in parking capacity.
- The facility must provide adequate parking for automobiles and long vehicles (including commercial trucks), rest rooms, and drinking fountains, at no charge to the public.
- Operators may designate a time limit for free parking, but travelers must be allowed at least 2 hours of free parking.
- Public pay telephones must be available.

- These basic SRRA features/services must be open and available to the public 24 hours per day, 7 days per week, and must be accessible to individuals with disabilities.
- The facility must be within one-half mile of the highway with safe and convenient highway ingress and egress and adequate off-right-of-way and on-premise signs.
- The facility operator must provide written assurance from local law enforcement authorities that the area signed will receive adequate police protection.
- The facility operator must provide sufficient maintenance services to assure that all facilities available to the public are clean and usable.

These minimum requirements are very similar to those specified under the Federal Interstate Oasis Program. However, the Oasis Program indicates that commercial services should be available at the facility.

PDPM specifies that for each alternative stopping opportunity project "*A Project Report (PR) should be prepared and should address the anticipated increase in traffic, parking, water, and wastewater-disposal demand and the impacts on the local community and environment. The public and affected agencies should be afforded an opportunity to comment on the proposed action.*"

Regarding the signing for alternative stopping opportunity locations, the PDPM states that *"Signs should be placed within the operational right-of-way only when privately-owned signs located outside the operational right-of-way cannot reasonably provide adequate directional information for travelers. Duplication of signs along non-access-controlled highways should be avoided. Off-highway directional signs must be in place prior to placement of signs within the operational State right-of-way."* Signing policy will be discussed in greater detail in the following sections.

Rest Area Partnership Projects. As previously discussed, the California Streets and Highways Code Section 226.5 provides for Caltrans to develop a Joint Economic Development Demonstration Project for six new SRRAs. Section 3, Article 3 of the PDPM provides the following guidelines for the development of these Demonstration Projects:

- *"Caltrans does not have statutory authority to commercialize existing rest areas."*
- *"A viable rest area joint economic development partnership may consist of a private or public partner that agrees to share in at least 50 percent of the total construction cost of the standard public rest area facility, including, but not limited to, ramps, access roads, parking, utilities, architecture, landscape, lighting, signs, and fences."*
- *"In conjunction with traditional rest area facilities, the partner may fund, construct, maintain, and operate traveler-related commercial facilities, subject to federal and state laws, regulations, and requirements. The partner should maintain both the public and private facilities for an agreed-to term, generally 25 to 30 years."*

- *"It is preferred that Caltrans or another public agency own the right-of-way underlying any facilities or improvements funded with state or federal money. The partner may lease from Caltrans the land necessary for traveler-related commercial facilities or may construct those facilities on abutting land owned by others. State and federal requirements, such as prevailing wages, apply to work funded by Caltrans."*
- *"Federal Highway Administration (FHWA) regulations and the California Code of Regulations restrict or prohibit most commercial activities within controlled-access federal-aid highways. Pending a change in federal restrictions, commercialized rest areas are limited to locations along conventional highways or the area within one-half mile of a freeway ingress and egress."*
- *"Stakeholder interests include but are not limited to local and regional business competition, goods-movement needs, environmental concerns, and employment opportunities for the disabled and blind are among the issues of concern."*
- *"Implementation of a successful partnership requires a willing partner, an economically feasible proposal, open communication, fairness to all interests, respect of the inherent risks and effort of private entrepreneurs, and attention to the concerns of all stakeholders."*

The statement that Caltrans cannot commercialize existing SRRAs implies that partnership projects would need to be developed at entirely new locations and given the federal restrictions, Section 3, Article 3 of the PDPM states that such commercialized partnership SRRAs "…*are limited to locations along conventional highways or the area within one-half mile of a freeway ingress and egress."* Therefore, locations outside of the Interstate right-of-way or along conventional non-controlled access highways are the only locations where commercialized SRRAs operated by private partners could be developed.

The requirement that the partner fund at least 50% of all improvements might present a significant limitation in circumstances where expensive highway improvements, such as ramp and interchange improvements, are required exclusively to accommodate the additional traffic generated by the off-line Oasis. If the improvement is required to serve existing or future expected traffic, regardless of the Oasis addition, this provision would not be an impediment. Regardless, Caltrans might wish to clarify whether this requirement is still in effect.

The guideline that land ownership by Caltrans (or another state agency) is "preferred" where public monies will be spent on site improvements is not restrictive enough to be a significant impediment. Indeed, such land control would be desirable when a significant amount of public money would be spent. Therefore, partnerships under scenarios where the private partner owns/controls the land would be preferred only if little or no public funding would be required to make the project feasible.

To comply with the Streets and Highways Code section 226.5 and to demonstrate that such partnerships can result in overall cost savings to the state, Caltrans should consider developing

public/private partnership projects at locations where there is an identified need for new SRRAs. The sections that follow will more fully present the findings of a recent Caltrans study analyzing the feasibility of developing commercialized partnership SRRAs in California.[19]

State Energy and Environmental Design Requirements. An important recent addition to the PDPM is the requirement for Caltrans to comply with Executive Order S-20-04, also known as the "Green Building Initiative," which calls for state buildings to become 20% more energy efficient by 2015.

Section 3, Article 1 of the PDPM states that to comply with the Order, Caltrans shall:

- *"Take all cost-effective measures as described in the State of California Green Building Action Plan to build and operate the most energy- and resource-efficient buildings;"* and
- *"Design, construct, and operate all new and renovated buildings at a "Leadership in Energy and Environmental Design (LEED) Silver" or higher rating. The United States Green Building Council developed the LEED Rating System to advance energy and material efficiency and sustainability."*

The PDPM specifies that under a collaborative effort between the Division of Engineering Services (DES) and the design unit the following project LEED components (i.e. "LEED credit areas") are to be identified:

- Sustainable site development,
- Water efficiency,
- Energy and atmosphere,
- Materials and resources,
- Indoor environmental quality, and
- Innovation in design.

The PDPM states that Caltrans "…shall use the *LEED Roles and Responsibilities for Caltrans Groups/Disciplines* to determine functional responsibility for each of the LEED credits" listed above.

The *Green Building Action Plan* provides detailed information on how improvements in energy efficiency are to be achieved. The Plan requires that:

- *"All new State buildings and major renovations of 10,000 sq. ft. and over and subject to Title 24 will be designed, constructed and certified at LEED-NC [for new construction] Silver or higher, (or LEED-EB* [for existing buildings] *as applicable). Building projects*

[19] "Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs: Tasks F & G Report – Strategic Action & Business Plans: Rest Area Partnership Projects," for Caltrans, by Dornbusch Associates November 26, 2008.

less than 10,000 sq. ft. shall use the same design standard, but certification is not required."

- *"Each new building or large renovation project initiated by the State shall also evaluate the merits of clean on-site power generation."*
- *"All existing State buildings over 50,000 square feet shall meet LEED-EB standards (including meeting an Energy Star rating of at least 75, or equivalent established by the CEC) by no later than 2015 to the maximum extent cost-effective per Section 1.1.1.3."*[20]

Based on the requirements specified in PDPM and outlined under the Green Building Action Plan, it appears that only new SRRAs or those undergoing significant or "large" renovations would need to be certified under the LEED-NC standards. This is assuming that the SRRA is considered to have an area of 10,000 square feet or more, which may or may not be the case. Unless existing SRRAs are considered to have buildings over 50,000 square feet, which appears unlikely, then it does not seem that they would need to meet LEED-EB standards.

Regarding improvements in energy efficiency, the Green Building Action Plan requires that *"All State-owned buildings will reduce the volume of energy purchased from the grid, with a goal to reduce their energy consumption by at least 20% by 2015 (as compared to a 2003 baseline) by undertaking all cost-effective operational and efficiency measures as well as onsite renewable energy technologies. Alternatively, buildings that already have taken significant efficiency actions must achieve a minimum efficiency benchmark to be established by the CEC."*[21] Since SRRA are "State-owned buildings," it is judged that all SRRAs would need conform to this standard, and reduce energy consumption by 20% over the 2003 baseline.

In summary, new SRRAs will need to conform to the higher LEED-NC Silver or higher standards and all existing SRRAs will be required to reduce energy consumption by 20% to comply with Executive Order S-20-04 and the Green Building Action Plan. These requirements may impact final SRRA site selection, particularly in light of the emphasis placed on investigating onsite renewable energy technologies such as wind and solar energy generation. Locations where renewable energy resources are available will therefore be preferable to locations where such resources are unavailable, all else being equal.

Site Requirements. The PDPM provides general guidance, under Section 3, Article 3 regarding the requirements at prospective new SRRA sites stating: *"Prior to programming any new rest area, major rest area rehabilitation, or auxiliary parking facility project, the district must document the type and adequacy (i.e., capacity, quality, reliability) of potable water, electrical power, and wastewater disposal. Commercial or municipal water and wastewater facilities should be utilized where available. When on-site wells and wastewater disposal are proposed,*

[20] "State of California Green Building Action Plan," California Department of General Services. Available online at: http://www.documents.dgs.ca.gov/green/GreenBuildingActionPlan.pdf
[21] Ibid.

the district should analyze the feasibility and cost of developing and maintaining such systems." Therefore, Caltrans must demonstrate that utilities are sufficient to meet expected demand. In addition, there is clear guidance that municipal and commercial water and wastewater facilities are preferred over locations where these facilities are not provided and therefore where on-site wells and wastewater facilities need to be developed. When on-site facilities, including wells and wastewater facilities, are required, there is clear direction to consider the cost of developing such facilities, which can be high. **In selecting SRRA locations for final development, the availability of utilities – power, water, wastewater – should be key considerations.**

The PDPM states that "*A traffic analysis should be performed to determine the potential parking capacity demand for automobiles and long vehicles (commercial trucks, buses, recreational vehicles, and automobiles with trailers). Based upon traffic analysis, the comfort station capacity and utility demands can be determined by DES. The district should determine to what extent the proposed site can accommodate the traffic demand without diminishing the site's environmental and scenic qualities."* The traffic analysis will therefore have important implications for estimating utility demand, impacting SRRA site selection.

Regarding geometrics, the PDPM indicates that *"Prior to programming, the district must demonstrate the safety and adequacy of ingress and egress to the site, and pedestrian and vehicular circulation within the site."* Sites where safe and adequate ingress and egress cannot be developed should therefore be disregarded. Safe ingress/egress will be a function of roadway design, existing access points (interchanges, frontage roads, etc.) and surrounding topography.

Stakeholder Involvement. Section 3, Article 3 of the PDPM provides clear direction that local and regional stakeholders should be engaged when considering the development of an SRRA at a specific location. The PDPM states that Caltrans "…*should identify, contact, and engage external rest area stakeholders (local communities, chambers of commerce, historical societies, planning and land use professionals, tourism and recreational agencies, Native American Tribes, trucking and goods movement associations, etc.) to assist in assessing the natural, cultural, and aesthetic context of the project;"* Regarding SRRA design, the PDPM goes on to suggest that stakeholders should also "…*participate in the selection of rest area style; and partner in the development and implementation of public information and interpretive displays. Stakeholders can also be valuable partners in seeking additional rest area enhancements through other funding sources, including Transportation Enhancement (TE)."* Findings from interviews with statewide and national stakeholder groups are presented later in this report.

Permanent Rest Area Closure. Section 3, Article 4 of the PDPM provides direction regarding the scenarios under which SRRAs may be permanently closed. The PDPM states that "*A permanent closure is the termination of services and facilities at an existing rest area unit, and the removal of that unit from the Safety Roadside Rest Area System Master Plan."*

The PDPM states that an SRRA may be closed only after the following conditions are met:

- *"A project has been initiated for closure of the facility following existing project development procedures."*
- *"The public and stakeholders have been provided an opportunity for public hearing" or "provided a 30-day opportunity to comment".*
- *"Environmental analysis indicates impacts will be insignificant or may be mitigated."*
- *"Traffic analysis has addressed mainline and ramp traffic volumes and vehicle types (auto, commercial trucks, buses) for the rest area and adjacent rest areas in the system."*
- *"The CHP Division level office has been provided an opportunity to comment on the proposed closure."*
- *"Route-segment accident and roadside parking history has been investigated and addressed."*
- *"The resulting gap in rest area spacing has been addressed relative to spacing guidelines in the statutes and the Safety Roadside Rest Area System Master Plan."*
- *"Availability of alternative safe and free parking and restroom opportunities has been addressed."*
- *"Alternatives such as replacement, relocation, and operation by others have been considered."*
- *"The FHWA has been provided an opportunity to comment on the proposed closure and potential reimbursement requirements."*
- *"The District Director finds and recommends that rest area closure will not reduce traveler safety."*
- *"The Rest Area Program Manager (Chief, LAP) concurs that the rest area closure will not significantly impact the rest area system, and amends the current Safety Roadside Rest Area System Master Plan."*
- *"The CTC [California Transportation Commission] concurs with the action."*
- *"The District Director should find that the rest area closure will not impact the function of adjacent rest areas. Consideration should be given to potential impacts to rest areas in adjacent districts or states."*

Any recommendation within the new SRRA master plan to close an existing SRRA must ultimately be evaluated against the above criteria to determine whether the closure will be desirable and possible.

I. Maintenance Manual, Chapter G: Public Facilities

Maintenance is a central issue in SRRA operations, as it represents the primary annual operating expense which must be funded by the state. Rising energy, labor, and material/supply costs and shrinking state budgets have made the funding of SRRA maintenance an issue in recent years. Rising maintenance costs have contributed to efforts by states to search for alternative ways to maintain SRRAs and reduce this large annual expense. The most widely considered and most contentious solution considered in the past has been of developing commercial services at online SRRAs operated under public/private partnerships, whereby the private partner would operate and maintain the SRRA in exchange for the right to provide commercial services at the SRRA. To date this concept has meet with strong opposition from the truck stop industry, who feels its interests threatened by the prospects of the commercialization of online SRRA's. However, the new Oasis concept for developing off-line commercial rest areas with private partners appears to present new opportunities.

Chapter G of the Maintenance Manual provides a summary of the regulations and standards governing maintenance operations at SRRAs in California.[22] The Maintenance Manual specifies the following standards for SRRAs:

- Clean rest room facilities,
- Adequate supply of paper products,
- Grounds that are maintained, unlittered, and attractive,
- Clean parking areas,
- Attractive buildings that are properly painted and repaired,
- Service facilities such as telephones and water fountains that work,
- Public information in well maintained kiosks,

The Manual states that "*State law requires that rest area maintenance be performed by State forces except at locations where the work can be performed by rehabilitation facilities under the provisions of Welfare and Institutions Code Section 19403. An exception to this requirement is the extremely remote facilities which have been under contract to private vendors, and where the rehabilitation facility services are not available.*" In this case "rehabilitation facilities" are defined as "*organizations sanctioned by the Department of Rehabilitation.*"

Regarding service contracts for janitorial service, the Maintenance Manual indicates that "*Caltrans may enter into contracts for janitorial services with rehabilitation facilities*" and that it is "*Caltrans policy to utilize these* [rehabilitation facility] *groups whenever possible where their services can be obtained at a reasonable price.*" The Manual also states that such contracts with rehabilitation facilities are to be "*negotiated and do not need competitive bidding.*" The

[22] The Maintenance Manual, Chapter G: "Public Facilities" can be found online at: http://www.dot.ca.gov/hq/maint/manual/ChG.pdf

Maintenance Manual specifies that *"Janitorial service contracts should be written to reflect the minimum hours of coverage listed…in this section."*

The Maintenance Manual species the minimum hours of janitorial service or coverage based on SRRA user/patronage levels that are to be determined by actual counts of SRRA users. The following table summarizes the minimum hours of janitorial service required:

Table 1. Minimum Hours of SRRA Janitorial Service

Patronage (persons per day)	Daily Hours of Janitorial Coverage
Less than 500	4
501 to 2,500	8
2,501 to 4,500	12
4,501 to 6,000	16
More than 6,000	24

In summary, state law requires "state forces", presumably state employees, to perform maintenance work at SRRA facilities. However, Caltrans may engage in contracts for janitorial services with rehabilitation facilities and that janitorial services should be obtained using these contracts whenever possible. In cases where rehabilitation facilities do not exist in a specific area and/or the SRRA location is extremely remote private vendors may continue to be used.

The requirement that "*rest area maintenance be performed by State forces except at locations where the work can be performed by rehabilitation facilities"* may conflict with maintenance operations at future SRRAs operated under public/private partnerships. At partnership SRRAs, the private partner, not the state or rehabilitation facilities, would be required to maintain the facility.

Therefore, prior to developing partnership SRRAs, Caltrans should seek legal authorization for the private partner to provide maintenance of the facility, thereby resulting in cost savings to the state. However, as a policy decision, Caltrans should seek the appropriate input from the Department of Rehabilitation and other relevant agencies prior to decisions being made.

J. California Manual on Uniform Traffic Control Devices (CMUTCD)

The California Manual on Uniform Traffic Control Devices (CMUTCD), Part 2, Section 2D.42 specifies how SRRA's are to be signed and provides additional signing guidance.[23]

Section 2D.42 of the CMUTCD states that "Rest Area Signs" states that *"Rest Area signs (see Figure 2D-9) shall be used only where parking and restroom facilities are available. Signs for this purpose shall have retroreflective white letters, symbols, and border on a blue background."*

[23] The California Manual on Uniform Traffic Control Devices (CMUTCD), Part 2: "Signs" is available online at: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/CAMUTCD-Part2.pdf

Section 2D.42 provides additional guidance regarding SRRA sign placement indicating that signs *"should be installed in advance of roadside parks or rest areas to permit the driver to reduce speed and leave the highway reasonably safely."*

The CMUTCD specifies the SRRA sign messages may included the following:

- Rest Area (X Mile)
- Rest Area
- Parking Area (X Mile)
- Parking Area
- Roadside Table (X Mile)
- Roadside Park (X Mile)
- Picnic Area (X Mile)

In addition, Section 2D.42 states that when *"several rest areas are provided (or planned) on the same route, generally within one hour's drive, a NEXT REST (X MILE) Plaque (G79A(CA)) may be placed below the REST AREA (X MILE) (D5-1) sign."*

The following figures show examples of signs which may be used in providing SRRA signing described above.

Figure 1. Examples of Permissible SRRA Signs

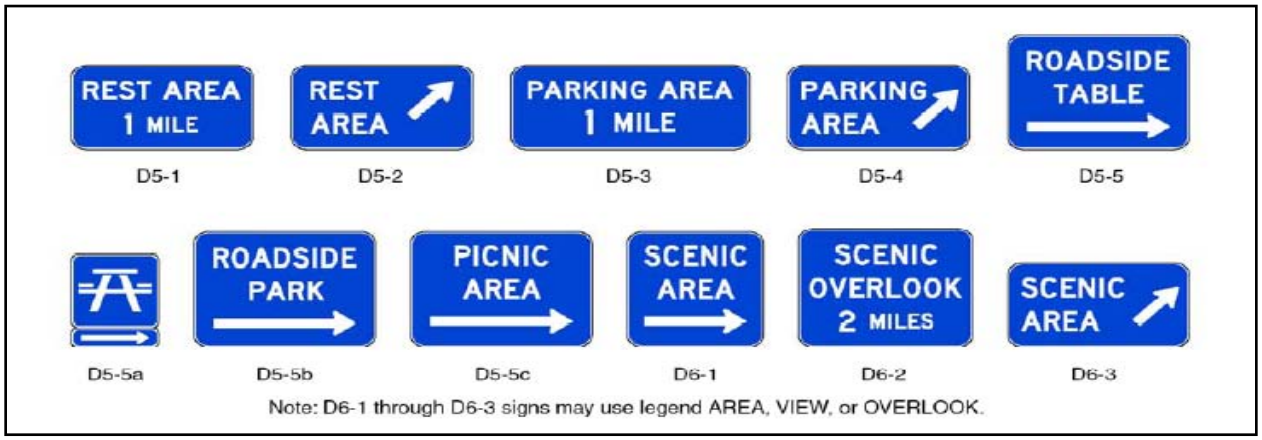


Figure 2. Examples of Permissible SRRA Signs

In January 2008 the FHWA issued proposed changes to its "Manual on Uniform Traffic Control Devices," on which the CMUTCD is based, in a document entitled *"2007 Notice of Proposed Amendments for the Manual on Uniform Traffic Control Devices."* Most importantly, the proposed additions and revisions include a new section regarding guidelines for signing Interstate Oasis facilities. The following summarizes the FHWA's proposed guidelines relating to Interstate Oasis signing under Section 2F.04.[24]

The MUTCD revisions indicate that states providing Interstate Oasis signing should implement the following signing practices on the freeway for any given exit to identify the Interstate Oasis:

A. *"If adequate sign spacing allows, a separate Interstate Oasis sign should be installed in an effective location with spacing of at least 245 m (800 ft) from other adjacent guide signs, including any Specific Service signs. This Interstate Oasis sign should be located upstream from the Advance Guide sign or between the Advance Guide sign and the Exit Direction sign for the exit leading to the Interstate Oasis. The Interstate Oasis sign should have a white legend with a letter height of at least 250 mm (10 in) and a white border on a blue background and should contain the words INTERSTATE OASIS and the exit number or, for an unnumbered interchange, an action message such as NEXT RIGHT. The names or logos of the businesses designated as Interstate Oases should not be included on this sign."*

B. *"If the spacing of the other guide signs precludes the use of a separate sign as described in Item A, a supplemental panel with a white INTERSTATE OASIS legend with a letter height of at least 250 mm (10 in) and a white border on a blue background should be appended above or below an existing D9-18 series General Service sign for the interchange."*

The MUCTD indicates that when a separate Interstate Oasis sign is provided (under A above) then *"…an Interstate Oasis (D5-12) sign panel (see Figure 2F-1) should be incorporated into the design of the sign" and that this D5-12 sign "shall only be used on the separate Interstate Oasis sign where it is accompanied by the words INTERSTATE OASIS and shall not be used independently without the words."*

Alternatively, the MUCTD states "*If Specific Service signing is provided at the interchange, a business designated as an Interstate Oasis and having a business logo sign panel on the Food and/or Gas Specific Service signs may use the bottom portion of the business logo sign panel to display the word OASIS."*

Regarding signing at exit ramps the MUCTD recommends that *"If Specific Services signs containing the OASIS legend as a part of the business logo(s) are not used on the ramp and if the Interstate Oasis is not clearly visible and identifiable from the exit ramp, a sign with a white INTERSTATE OASIS legend with a letter height of at least 150 mm (6 in) and a white border on*

[24] "2007 Notice of Proposed Amendments for the Manual on Uniform Traffic Control Devices," Section 2F.04, "Interstate Oasis Signing" can be found online at:
http://mutcd.fhwa.dot.gov/resources/proposed_amend/npa_text.pdf

a blue background shall be provided on the exit ramp to indicate the direction and distance to the Interstate Oasis."

Finally, the MUTCD allows for additional trailblazing signs to be erected, stating that *"If needed, additional trailblazer guide signs shall be used along the crossroad to guide road users to an Interstate Oasis."*

Given that signing represents the primary incentive for private partners to participate in the Interstate Oasis Program, these regulations will have important implications for potential partners' interest in participating in the program. For example, the requirement that the partners' business name or logo cannot be used on the mainline sign along would somewhat diminish the attractiveness of the opportunity. However, since travelers will be guided directly to the facility by exit/trailblazing signs and given that the partner presumably has the authority to provide additional signing onsite, advertising itself as an Interstate Oasis, this is not considered to be an important impediment to attracting partners.

The following figures depict examples of Interstate Oasis signs as provided under proposed revisions to the MUTCD.

Figure 3. Examples of Permissible Interstate Oasis Signs

The following figures are examples of Interstate Oasis signs provided by the Idaho Transportation Department for the McCammon Interstate Oasis in McCammon, Idaho.

Figure 4. McCammon Oasis Mainline Sign 1

Figure 5. McCammon Oasis Mainline Sign 2

Figure 6. McCammon Oasis Trailblazing Sign 1

Figure 7. McCammon Oasis – Trailblazing Sign 2

K. AASHTO Planning Guidance

According to the American Association of State Highway and Transportation Officials' (AASHTO) publication, "Guide for Development of Rest Areas on Major Arterials and Freeways", Chapter 3, Section A. "Site Criteria" the most important design-related points to be considered by any agency developing a SRRA system include:

Site Features. AASHTO indicates that important site qualities include topographical features, historical/cultural significance of location, scenic qualities, surrounding environmental setting, suitability of soils for construction, availability of water and other utilities.

Availability of Utilities. In selecting potential SRRA sites for development, AASHTO states that, "*Utility accessibility may be the major factor governing site selection. Since a major byproduct of rest-area operation is generation of wastewater, its disposal must be a major concern. A source of potable water and feasibility of providing suitable wastewater disposal must be considered before selecting a site."*

Since many potential SRRA sites are located in remote areas, it may be that water wells and onsite wastewater treatment facilities would need to be developed. Depending on (1) whether potable water exists in the region and at what depth, and (2) state/county regulations regarding wastewater treatment systems, developing these facilities can be extremely expensive. For example, AASHTO states that "*Because of the high-maintenance cost for water-supply systems and wastewater treatment, it is desirable to locate rest areas near public systems that can be tapped for the proposed site. Use of public wastewater systems also eliminates environmental problems associated with on-site wastewater-treatment systems."*

Similarly, extending power lines to the SRRA site over a large distance can also be very costly.

Therefore, this study recommends once *specific* SRRA sites are identified by Caltrans for potential development, that the Department conduct an initial evaluation of each site regarding the availability of (1) water, (2) sewer, and (3) power systems. Developing SRRAs in remote locations can represent a challenge as one or more of these services are often unavailable onsite, and extending utility services to the site can be extremely expensive and in some cases is cost prohibitive.

Site Spacing. AASHTO recommends spacing SRRAs at intervals of 60 miles, yet states that "*professional judgment should be used concerning final spacing for their best use. The obvious point from which to assess this spacing is to calculate distance from the previous* [rest] *area"*

AASHTO recognizes the difficulty in adhering to a rigid SRRA spacing rule, stating that "*It is difficult to establish a consistent approach to spacing rest areas when availability of potential sites is the controlling factor."* AASHTO suggests the circumstances under which exceptions might be made to the 60 mile spacing rule, including:

- *"Near large cities, where sites may not be available",*
- *"Where costs of acquiring property are prohibitive",* and
- *"Where motorist services are readily available."*

AASHTO concludes that, *"In the final analysis, spacing depends almost entirely on professional judgment."* This study concurs with the AASHTO judgment, given that the need to develop SRRAs will differ from location to location and flexibility in spacing is useful to meet the varied needs.

Corridor Geometry. Corridor geometry includes a number of related factors which include *"horizontal and vertical alignments, sight distances, merging and diverging traffic movements, and relationships between the mainline and rest area."*

AASHTO recommends that, "*Each state should follow its own geometric and safety considerations when designing its rest areas. The important point is that rest areas involve reduced speeds imposing unique geometric requirements*." The California Highway Design Manual, discussed in subsection I.G. of this report, provides detailed geometric design guidelines for SRRAs.

AASHTO suggest that the following key questions be addressed in considering SRRA geometrics:

- *"Are sight distances adequate and will ramps be located along curving roadways?"*
- *"Will the vertical curve within the site blend with those on the mainline?"*
- *"Can smooth transitions be maintained between mainline and rest-area alignments?"*

Potential Environmental Impacts. AASHTO specifies that, at a minimum, impacts to the following environmental resources should be considered in developing a potential SRRA site:

- Endangered species,
- Wetlands,
- Historic properties,
- Significant archaeological sites,
- Publicly owned parks,
- Recreation areas, and
- Wildlife or waterfowl refuges.

AASHTO concludes that, "*If development* [of an SRRA site] *will result in destruction or adverse effect on resources protected by law, then that site probably must be eliminated from further consideration."*

Right-of-Way Opportunities. AASHTO provides the following general guidelines regarding right-of-way acquisition:

- *"It is good practice to contact local right-of-way personnel for advice about landowners along the route who might sell property,"*
- *"Opportunities to deal with owners willing to sell will speed acquisition and result in better public relations for the agency,"*
- *"Any opportunity should be used to acquire suitable sites without long delays for negotiation or condemnation proceedings,"*
- *"Adequate right-of-way should be acquired to allow for future expansion if mainline traffic increases."*

Particularly important is the recommendation that adequate right-of-way be purchased to allow for future expansion of the SRRA site. Caltrans has indicated that at most SRRA sites, there exists little developable right-of-way upon which to expand. Therefore, in the future Caltrans should seek to purchase sufficient amounts right-of-way (or lease sufficient land for alternative stopping opportunities) to enable SRRA (or alternative) expansions.

II. 2000 SRRA MASTER PLAN AND OTHER INITIATIVES AND STUDIES

The following sections summarize the findings of recent and relevant studies relating to use of SRRAs in California and the implications for the development of the current SRRA Master Plan.

A. 2000 Safety Roadside Rest Area Master Plan

1. Key Issues Identified in the 2000 SRRA Master Plan

The 1999 Caltrans report entitled "*Enhancing Highway Safety and Serving the Public: A Recommendation for Improving California's Safety Roadside Rest Area System"* together with the map entitled "Safety Roadside Rest Area Master Plan," form the basis of the 2000 Safety Roadside Rest Area Master Plan (2000 Master Plan). The objective of the 2000 Master Plan was to provide recommendations that would ensure that the SRRA system in California "*… provides the greatest possible safety benefits to the public as an integral part of the highway system."*[25] This goal of maximizing safety benefits provided by SRRAs remains the fundamental objective of the new master plan.

The 2000 Master Plan broadly outlined the following key issues affecting the SRRA system at that time:

- Significant increases in SRRA usage,
- Lack of a comprehensive master plan update since 1985,
- Inadequate facilities capacity – particularly rest rooms – and need for maintenance upgrades,
- Perceived low level of priority and staffing for SRRAs,
- Conflicts related to truck usage of SRRAs.

The 2000 Master Plan further identified six primary challenges relating to maintaining and improving the SRRA System's contribution to highway safety, which included:

- Highway accidents due to driver fatigue,
- Outdated SRRA master plan,
- Ineffectiveness of SRRA privatization policy,
- Public perceptions of SRRAs,
- Management and operations,
- Truck parking.

Many of the issues identified in the 2000 Master Plan remain important. However, progress has been made on a number of these issues since the 2000 Master Plan was completed. The

[25] "Enhancing Highway Safety and Serving the Public: A Recommendation for Improving California's Safety Roadside Rest Area System," Executive Summary, for Caltrans, by MIG, Inc. September 1999.

following summarizes progress made since the 2000 Master Plan for each of the six areas identified as challenges to improving the SRRA system.

Highway Accidents due to Driver Fatigue. In 2009, Caltrans completed a detailed analysis examining fatigue related automobile collisions and the relationship of such collisions to the provision of SRRAs. This analysis, presented in detail in subsection C of this section, finds that SRRAs are indeed effective in reducing fatigue related collisions and provides additional information regarding optimal spacing of SRRAs.

Outdated SRRA Master Plan. Regarding the challenge of an "outdated SRRA master plan" which stressed the issue of antiquated SRRA facilities, Caltrans has since developed guidelines under the Project Procedures Development Manual to implement both a "Rest Area Rehabilitation Program" targeting SRRAs for rehabilitation and a "New Rest Area Program" targeting locations where SRRAs are needed. In addition, a number of capital improvement projects have been completed or are underway at SRRAs statewide in accordance with Rest Area Rehabilitation Program priorities and phasing, including expanding/upgrading restrooms, ADA compliant access improvements, parking improvements, and more recently, complete SRRA renovations/reconstructions. Recent major SRRA renovation projects planned or underway include projects at L.T. Davis, Lakehead, Crystal Springs, Hunter Hill, Camp Roberts, Shandon, Sunbeam, Two Rivers, Boron, Buttonwillow, Donner, Coalinga, Coso, and Crestview SRRAs. A number of SRRAs, including Weed Airport, have recently reopened after construction was completed.

The 2000 Master Plan also indicated that the SRRA master plan at that time did not consider projected changes in SRRA usage. However, this effort to develop a new master plan will use AADT growth factors provided by Caltrans to project SRRA uses over a twenty year period to 2029.

Ineffectiveness of Privatization Policy. In 2008, Caltrans completed an extensive analysis examining (a) the historical and present barriers to developing public/private partnerships at SRRAs, (b) the experience of other states and countries in trying to implement public/private partnerships at SRRAs, (c) stakeholder support and opposition for various partnership concepts, considering (d) the findings of (a) through (c) to formulate a recommendation of the partnership model most likely to succeed, and presented (e) the selection of seven potential SRRA partnership locations and a financial feasibility analysis of these locations.[26]

The findings of the public/private partnerships study, presented in greater detail in subsection D, largely confirm the "ineffectiveness of the SRRA privatization policy" as previously conceived, which had focused primarily on efforts to develop commercialized SRRAs within the highway right-of-way. This focus resulted in only very limited success, mainly due to federal statutes

[26] "Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs," for Caltrans, by Dornbusch Associates 2007/2008.

prohibiting the provision of commercial services within controlled-access highway rights-of-way, in combination with intense truck stop industry lobbying efforts (i.e. NATSO), who view the commercialization of SRRAs as a threat to their interests. However, Caltrans' recent partnership study also provides alternatives to these past partnership models, focusing on developing partnerships at interchanges located outside the right-of-way, while taking advantage of new programs including the Federal Interstate Oasis Program, which are supported by industry groups including NATSO.

Public perceptions of SRRAs: Cleanliness, Maintenance, and Safety. The 2000 Master Plan indicated that a potential concern was that *"…some members of the public may avoid using rest areas due to maintenance problems and aging facilities."*[27] The 2000 Master Plan cites the fact that major advancements in SRRA maintenance had been made through successful partnerships with the Departments of Mental Health and Rehabilitation using Rehabilitation Facilities which employee individuals with disabilities to perform basic maintenance at SRRAs. This maintenance arrangement between Caltrans and the Department of Mental Health and Rehabilitation evidently continues to be a successful one. In addition, continuing SRRA rehabilitation and reconstruction efforts have further reduced the amount of required maintenance by improving the condition and operation of visitor serving facilities at SRRAs.

Management and Operations. The 2000 Master Plan indicated that because SRRAs were Caltrans responsibility under a number of different programs, this *"divided responsibility results in slow responses to problems and a lack of focused attention to management of the rest areas."*[28] It is not clear that this remains an issue for Caltrans, or what improvements are still needed in SRRA management or operations since the 2000 Master Plan was completed. Dornbusch will verify with Caltrans what additional management and operations issues remain unresolved.

Truck Parking. The 2000 Master Plan cites the issue of truck parking shortages at SRRAs and the scarcity of truck parking near major urban centers. In 2001, as part of a contribution to a larger FHWA study of the adequacy of truck parking, Caltrans conducted a study of the existing statewide supply and demand of truck parking spaces at both SRRAs and private truck stops. The study estimated present truck parking shortages, anticipated future shortages, and recommended that a potential solution to the truck parking shortage would be for Caltrans to partner with private entities to provide and develop auxiliary truck parking facilities. Auxiliary parking facilities would expand truck parking adjacent to a private partners operation, such as at an existing truck stop, where the private operator would maintain the facility. The findings of this report are presented in greater detail in the following Subsection B.

In 2008, the FHWA awarded Caltrans a $5.4 million grant to fund the iPark Project, which will identify truck parking spaces available at public and private parking facilities using advanced

[27] Ibid., Pg 4.
[28] Ibid. Pg. 5.

technology, including cameras/sensors, and then communicate the availability of those parking spaces using portable technology including cell phones, PDA's, GPS/navigation technology, and other technologies. This project is intending to show how a parking reservation system could be designed to permit truckers to make advance reservations for a parking space that would suit truckers' individual schedules and parking needs. The iPark Project will focus on truck parking along Interstate 5.

2. Future Vision, Goals, and Recommendations of the 2000 SRRA Master Plan

The 2000 Master Plan's overall vision for the future SRRA system in California was:

"The California Safety Roadside Rest Area System is a well-planned and maintained system of attractive and safe places where drivers restore their energy and driving alertness, while gathering information and learning about California's natural and cultural resources."[29]

This vision of the future SRRA System is still relevant today, and the basic goals of the current SRRA Master Plan remain fundamentally the same.

More specifically, the following goals were identified in the 2000 Master Plan to achieve the overarching vision of the future SRRA system.

- ***Essential to Highway Safety.*** SRRAs should be considered essential for ensuring traffic safety.
- ***Safe, Clean, Accessible, and Attractive.*** SRRAs should provide safe, secure, clean, and attractive stopping and resting opportunities for motorists.
- ***Coordinated and Balanced System.*** SRRAs are part of a larger system of stopping opportunities which include truck stops, vista points, welcome centers, and other facilities, and where SRRAs are provided in locations where they are most needed.
- ***Maintainable and Sustainable.*** SRRAs are designed and developed with long-term use in mind, resulting in efficient maintenance designs.
- ***Information Centers.*** Information is available to travelers regarding regional businesses, parks and recreation areas, cultural, historical, and environmental surroundings/attractions, and traffic/roadway conditions.
- ***Reflective of State and Regional Themes.*** SRRA design reflects the cultural, historical, and environmental surrounding in which it is situated.
- ***Environmentally Sound.*** SRRAs showcase resource conservation, environmental management, and use of innovate and green energy technologies.

[29] Ibid., Pg. 6.

- ***Supportive of Economic Health.*** SRRAs orient travelers to local/regional business promoting economic growth.
- ***Focus for Partnerships and Multiple Uses.*** SRRAs represent partnerships between Caltrans and other public agencies and private sector.

Many of these goals continue to be relevant to the present and future SRRA master plans. Given the state's growth over the last ten years, focusing on green energy development and environmentally sustainable building practices, goals which promote these objectives, are highly relevant today. Similarly, the need to develop partnerships and a "coordinated and balanced system" are particularly relevant given the state's limited financial resources.

To achieve these goals, the 2000 Master Plan provided eight recommendations, which included:

1. Raise the Priority of the Safety Rest Areas System as Integral to Highway Safety. As discussed in the preceding section, Caltrans completed a study in 2009 which provided important insights into SRRAs influence on reducing driver fatigue related accidents.

2. Develop and Update Safety Roadside Rest Area System Master Plan. A new rest area master plan is currently being developed by Caltrans, which includes vehicle count and user surveys at SRRAs, current and projected SRRA use levels, and current and projected parking needs/deficiencies. In developing a new SRRA master plan, consideration will be given to the 2000 SRRA Master Plan map, specifically the locations of the 80 new SRRAs proposed under that plan for their continued relevance.

3. Rescind the Mandatory Privatization Policy. As discussed in the previous section, Caltrans completed an in-depth analysis of the historical and present barriers to developing SRRAs under public/private partnerships and the feasibility of developing public/private partnerships at selected locations. The study provided important information about how "the mandatory privatization policy" as conceived in the past, might be discontinued and replaced with new partnership models that have a higher probability of successful no- and low-cost implementation.

4. Expand and Formalize Public and Private Partnerships. As mentioned above, Caltrans has recently completed a study analyzing the challenges, opportunities, and feasibility of developing SRRAs (and alternatives) under public/private partnerships. In addition, the new SRRA master plan will seek to identify and map alternative stopping opportunity locations – including truck stops, gas stations, and other highway commercial operators - which could potentially be adapted to offer basic rest area services under public/private partnerships which meet all of Caltrans' rest area standards. Guidelines and criteria specified under the Interstate Oasis Program will be especially considered when identifying alternative stopping opportunities. Under the new SRRA master plan, regions will be identified where potential alternative stopping opportunity partnerships, such as Oases, might be developed.

5. Conduct Ongoing Evaluation of Rest Areas System Performance. Given the rapid evolution of technology during the last ten years, particularly regarding the use of wireless Internet technology, there are an increasing number of ways to monitor SRRA operations and performance using these technologies, including the use Intelligent Transportation Systems (ITS) monitoring. However, development of such monitoring capabilities is fundamentally a cost issue, and given the state's limited financial resources, monitoring and evaluation appears to be a lower priority relative to other SRRA development operation objectives.

6. Investigate In-Route Truck Parking Capacity Issues. As discussed in the preceding subsection, Caltrans completed an assessment in 2001 of truck parking deficiencies statewide and projected deficiencies over a period of 20 years from 2000 to 2020. More recently, the FHWA awarded Caltrans a grant to fund the iPark Project, which seeks to improve the dissemination of information regarding the availability and location of truck parking using sensors/cameras and mobile technologies including cells phones, lap tops, PDAs, GPS, and other technologies. These studies provide important information regarding truck parking which will be incorporated into the new SRRA master plan.

7. Maintain Ongoing Stakeholder Involvement. Many of Caltrans' recent studies, including those analyzing the feasibility of public/private partnerships, truck parking needs, and presently the development of an updated SRRA master plan include and incorporate input based on stakeholder interviews. Findings from these stakeholder interviews are an important source of information and will be incorporated into the new SRRA master plan as appropriate.

8. Update Safety Roadside Rest Areas Design Standards and Guidelines. The current versions of the California Highway Design Manual and the Project Development Procedures Manual (PDPM) have lengthy and detailed sections specifying SRRA design standards. These standards include guidelines regarding site location, layout, amount of land required, parking needs, design year use/demand forecasting methods, geometric/access standards, utility needs, and other important design and planning information. It appears that much of this information was developed as a result of the 2000 Master Plan's recommendations that such SRRA design standards be developed. SRRA design guidelines contained within the Highway Design Manual and the PDPM continue to be updated. For example, recent changes to the PDPM have incorporated the mandates of Executive Order S-20-04, also known as the "Green Building Initiative," which calls for state buildings to become 20% more energy efficient by 2015. The PDPM provides direction on how these new energy standards and objectives are to be applied and implemented in the process of SRRA project development

Caltrans has taken important steps to implement the recommendations made in the 2000 Master Plan report to improve the SRRA system in California. Although recommendations 1 through 8 (noted immediately above) appear to remain valid for improving California's SRRA system, the most relevant recommendations are those which pertain to expanding public/private partnerships and addressing the issue of truck parking shortages. Limited state budgetary resources make the

development of public/private partnerships for the operation and maintenance of SRRAs (or more specifically Interstate Oasis or other alternative stopping opportunities) an attractive option in reducing the considerable costs to develop and maintain SRRAs. In addition, the continuing expansion of the goods movement industry in California, and existing commercial truck parking shortages, have created a strong need to expand truck parking opportunities on California highways, particularly on primary goods movement routes, such as Interstate 5.

B. 2001 Partners for Adequate Parking Facilities Initiative Report

The 2001 *"Partners for Adequate Parking Facilities Initiative Final Status Report"* (Partners Report) was developed by Caltrans in response to the federal mandate under Section 4027 of the federal Transportation Equity Act for the 21st Century (TEA-21), which at the time required a nation-wide inventory of truck parking on the National Highway System, an analysis of parking shortages, and a plan to reduce those shortages. The report analyzed truck parking at SRRAs and private truck stops on 34 highway routes with high volumes of truck traffic. Caltrans staff prepared an inventory of the supply of existing truck parking spaces at SRRAs and truck stops statewide, estimated present and future truck AADTs, and then calculated present and future truck parking demand to the year 2020. The report also includes findings from a survey of truck stop operators, which provides important insights into truck stop operators' attitudes toward partnerships with Caltrans for the provision of auxiliary truck parking locations.

The following sections summarize the key findings of this report by subject area.

1. Parking Demand Growth

The Partners Report indicated that:

- Caltrans staff forecasted a 48% increase in truck AADT between 2000 and 2020.
- SRRAs were designed for a two-hour truck parking limit. However, the California Vehicle Code Section 22651(s)(1) allows eight hour parking for trucks.
- Part C of the Partners Report states that *"The* [2000] *Master Plan examined parking demand based on current and projected traffic volumes using traditional design calculations for short-term (20-minute) parking needs only. (California's regulations allow a stay of up to 8-hours at each rest area—24 times longer than the design standard.) Because truckers often remain at a rest area for several hours, the calculated deficiencies described in the Master Plan understate the level of overcrowding by trucks that frequently occurs in most Caltrans rest areas."*[30] The current California Highway Design Manual recommends using a 20 minute length of stay for all vehicles but to also consider extended stays by of up to six hours for commercial trucks.

[30] "Partners for Adequate Parking Facilities Initiative Final Status Report," by Caltrans, January 18, 2001, Pg. 6.

Given the (a) projected increase in truck traffic and therefore demand for truck parking, (b) longer length of stay permitted by law, and (c) commercial trucks need for longer stays, in estimating the amount of parking required at SRRAs, Caltrans should use a truck length of stay greater than the 20 minute design standard indicated in the Highway Design Manual. Using a length of stay of only 20 minutes, particularly on routes with significant truck traffic, would appear to underestimate truck parking need and result in under-designing SRRAs' truck parking capacities.

2. Unauthorized Truck Parking

Part B of the Partners Report also assessed unauthorized truck parking locations on specific routes and found that:

- 198 locations were identified by the CHP where trucks have been observed parking without authorization. Most of these locations are at highway interchanges along on- and off-ramps.
- Unauthorized truck parking may be caused by an overall lack of available parking spaces. However, other causes may include the need for (1) convenience, (2) truckers maximizing trip distances, (3) truckers maximizing legal driving hours, (4) a desire for privacy, and (5) avoidance of parking fees.
- The Partners Report states that *"The numbers of locations* [of unauthorized truck parking] *per route segment may be one of many factors that could indicate a need for additional parking facilities."*[31]

This information will be utilized, including Attachment G of the Partners Report, entitled "Unauthorized Truck Parking on California State Highways," which is a map plotting the general locations of unauthorized truck parking statewide, to identity and assess the location and magnitude of unauthorized truck parking on primary highway routes in California. Higher concentrations of illegal truck parking would, as the Partners Report suggest, potentially indicate the need for additional parking facilities – whether these facilities might be provided by an existing SRRA or an alternative stopping opportunity. Therefore, the extent of unauthorized truck parking will inform the need for developing SRRAs and alternative stopping opportunities in specified regions. However it is important to recognize that unauthorized truck parking might also be occurring for reasons other than general parking shortages, such as the desire for privacy or more convent parking locations.

[31] Ibid., Pg. 5.

3. Estimated 2000 and 2020 Public and Private Truck Parking Shortages

At the time the Partners Report was completed in early 2001, the following parking deficiencies were estimated:

- The Partners Report indicated that the 2000 SRRA Master Plan estimated that there was truck parking shortages at 42 of the 88 SRRAs and that truck parking shortages ranged from 1 to 46 spaces.
- The Partners Report estimated that the total public (SRRA) truck parking shortage in 2000 was 8,100 spaces, while the (additional) total private truck parking shortage was estimated to be 6,100 spaces.
- As discussed above, the Partners Report revealed that the 2000 SRRA Master Plan estimates of truck parking shortages were based on traditional design calculations for short-term (20-minute) parking needs. Therefore, considering the difference between the assumed truck stay of 20 minutes and the potentially longer actual stays of truckers, suggests that the parking deficiencies estimated in the 2000 SRRA Master Plan considerably understate truck parking deficiencies.
- The Partners Report stated that the 2000 SRRA Master Plan predicted that 1 to 69 additional truck-parking spaces are needed at 66 of the 88 SRRAs to meet the short-stopping needs of truckers by 2020.
- The Partners Report projected total public (SRRA) truck parking shortage in 2020 to be 12,400 spaces, while the (additional) total private truck parking shortage was estimated to be 12,500 spaces.
- Part C of the Partners Report concluded that the *"Expansion of existing rest areas and development of new rest areas will alleviate much of the demand for short-term parking, but will not accommodate the longer-term parking (six hours or more) needs for long-haul truckers."*[32]

The current study will review the previous estimates of parking demand, supply, and shortages and estimate current parking deficiencies at SRRAs statewide. Particular attention will be paid to SRRAs where parking deficiencies were estimated to be greatest. An important issue is the finding that the 2000 Master Plan estimated truck parking deficiencies utilizing "*traditional design calculations for short-term (20-minute) parking needs only*"[33] while doing so may result in underestimating the amount of truck parking actually needed to meet truck parking demand at SRRAs. It would seem that any estimates of the amount of truck parking needed should consider using longer stopping periods that are more representative of actual stopping patterns which are greater than the 20-minute design standard.

[32] Ibid., Pg. 6.
[33] Ibid.

4. Truck Parking Provided by Public/Private Partnerships

To provide longer term truck parking, Part C of the Partners Report suggests using public/private partnerships to develop "Auxiliary Parking Lots," as summarized below:

- Auxiliary parking lot partnerships would *"supplement truck-impacted rest areas with State development of nearby parking lots that abut private truck stops or other appropriate commercial development outside of the highway right of way. Under negotiated agreements, the private partners would provide, or share in the costs of, maintenance, security and restrooms for the public. Auxiliary lots would free up rest areas for short term visitors, reducing the need for rest area expansion and minimizing maintenance, security, and operational costs. They would also help law enforcement address the problem of unauthorized truck parking on roadsides, ramps and local streets."*[34]
- The Partners Report suggested that auxiliary parking locations should:
  - Be close to the primary SRRA - perhaps within five miles or three exits.
  - Have convenient ingress and egress, and should not be more than about one-quarter mile from the state highway.
- Regarding auxiliary parking lot development the Partners Report provides the following direction:
  - *"Signs along the highway and access streets would be needed, together with information at the rest area, to direct truckers to the auxiliary lots."*
  - *"Changes to rest area use regulations could shorten parking times at the primary SRRAs and allow law enforcement to better manage improper parking."*
  - *"It may be desirable for the State to own or obtain a long-term (20-30 year) lease on the land needed for an auxiliary parking lot."*
  - *"It might be preferred that the State construct the parking facility, including clearing and grubbing, pavement, fencing, lighting, signs, and landscaping."*
  - *"Ingress and egress improvements and construction of rest rooms might be developed by either the State or the private partner, or jointly-developed."*
  - *"In general, it might be preferable for the private partner to manage and maintain the rest rooms and related facilities."*
  - *"Joint development and partnering for auxiliary parking lots would be subject to state and federal laws and regulations."*

[34] Ibid., Pg. 8.

- *"Auxiliary lots, rest rooms and associated public facilities must be safe, free, open 24 hours a day, accessible to all people without unlawful discrimination, and of sufficient capacity to handle traffic demand."*[35]

- Regarding project authorization, contracting, and solicitation the Partners Report offered the following input:

  - *"Special legislative authorization may be required, and a fair, competitive process must be in place for selecting private sector partners."*
  - *"Caltrans has established processes for soliciting and negotiating with private sector rest area joint developers. While no rest areas have been built under these processes, they provide good guidance and principles, nevertheless."*
  - *"It is envisioned that Caltrans would seek partners wherever it has identified high priority rest area expansion projects that involve site restrictions and heavy truck usage."*
  - *"A Request for Interest may be used to seek interested potential partners to attend a meeting in which Caltrans would explain the objectives, parameters, legalities, limits, and criteria for selecting the best partner or partners. Potential partners would then be invited to submit proposals that suit their needs and conform to the criteria, legal and regulatory requirements."*[36]

- The Partners Report suggests that criteria for evaluating auxiliary parking proposals include:

  - *"The auxiliary parking lot site location, its distance from the rest area, its distance from the highway and the geometrics of its ingress and egress"*,
  - *"The facilities the partner is willing to pay for, construct and/or maintain"*,
  - *"The total capital cost to the state and the ongoing maintenance and operating cost to the state"*,
  - *"The experience and track record of the partner in similar projects or in the construction and/or operation of his/her existing facilities"*,
  - *"The support of local government and neighbors"*,
  - *"The compatibility of the partners commercial operations with rest area use"*,
  - *"The potential environmental issues associated with the auxiliary lot site or its environs"*,
  - *"Upon selection of the proposal that best meets the evaluation criteria, the state could negotiate a partnership agreement. The length of the agreement and provisions for continuity of public services in the event the private partner ceased*

[35] Ibid., Pg. 9.
[36] Ibid.

operations, would be among the many important issues to address in the agreement."[37]

The auxiliary parking concept is similar to the Interstate Oasis Program in that it seeks to develop additional parking opportunities through public/private partnerships at off-line locations. The following summarizes the key issues and central differences between auxiliary parking (conceived in the Partners Report) and the Interstate Oasis partnership concepts:

- **Flexibility to Specify Project/Partnership Requirements.** Under an auxiliary parking partnership, the state would have more freedom to specify project and partner requirements, while under the Interstate Oasis Program the state would have almost no ability to specify requirements differing from the Programs' minimum eligibility requirements.
- **Parking.** The auxiliary parking concept is apparently more focused on developing new and/or utilizing existing additional overflow truck parking near SRRAs already at capacity and where parking cannot be expanded; while the Interstate Oasis Program seeks to augment the SRRA system by providing guarantees for access to free restrooms and parking in numbers that are sufficient to meet parking demand for both autos and trucks. In some instances, existing parking levels would be sufficient to meet demand and additional parking would not need to be developed at a truck stop that was converted into an Interstate Oasis.
- **Potential Capital Contributions.** The preference under the auxiliary parking program appears to be for Caltrans to develop parking on land adjacent to the private partners' location, and control the developed site either via long term lease or by owning the property in fee simple. Caltrans might also be required to cover some or all of the costs associated with developing the parking facility, including clearing and grubbing, pavement, fencing, lighting, signs, landscaping, paving, ingress/egress improvements, and rest rooms. Although less than the cost to develop an entirely new SRRA, developing an auxiliary parking facility might still require Caltrans to cover significant capital costs if the private partner is unable or unwilling to cover these costs. If Caltrans were required to contribute funding, this would presumably trigger Caltrans' design requirements which could result in higher project developments costs (than if the private partner funded all of the developed facilities), due to Caltrans' higher building standards and the need to pay union wages. On the other hand, the Interstate Oasis partnership would likely require fewer, if any, capital investments other than signing, assuming that interchange improvements would not be necessary and existing parking levels were either judged to be able to meet parking demand without the need for expansion or if the private partner funded the necessary parking expansion. If parking expansion and interchange

[37] Ibid.

improvements (exclusively to serve the Oasis) were required, and the private partner declined to fund them, the Interstate Oasis would cost the state more to develop.

- **Partnership Legal Challenges.** The auxiliary parking concept might represent a more complicated partnership arrangement from a legal perspective, due to the potential for a greater need for Caltrans funding, including the cost of purchasing or leasing the land used for additional truck parking. Caltrans is currently prohibited from making improvements on privately owned land, and therefore it is unlikely that Caltrans could fund more than maintenance of the parking on privately owned land. The Interstate Oasis concept is a somewhat less complicated partnership concept, possibly requiring Caltrans to fund only new signing along the Interstate and at a highway interchange. Therefore, the legal challenges may be greater in developing an auxiliary parking facility compared to an Interstate Oasis depending on the specific characteristics of each partnership and site improvement needs.
- **Stakeholder Support/Opposition.** The Interstate Oasis Program is endorsed and supported by powerful industry lobbying groups, including the National Association for Truck Stop Operators (NATSO), who in the past, have been successful in defeating various alternative SRRA public/private partnership concepts. It is not yet clear whether such groups would support the auxiliary parking concept, especially if they were near any existing truck stops. In addition, the Interstate Oasis Program has the full support of the FHWA, also presumably making project implementation somewhat easier. The FHWA would likely support the auxiliary parking concept. However, since there is no specific FHWA auxiliary parking facility program with design and signing standards, as there is under the Interstate Oasis Program, implementation may be more difficult.

Partnership Objectives. As previously mentioned, the auxiliary parking concept would focus on either Caltrans or a private partner (such as a retail mall, auto mall, large office lot or other existing parking facilities) developing new or additional parking off-line near an interchange, while the Interstate Oasis concept is more focused on taking advantage of parking that private partners already provide or would provide through new site developments or expansions.

Recognizing the similarities and differences between the different programs the SRRA Master Plan will identify the appropriate criteria and guidelines to effectively implement each and address relevant Departmental priorities, legal restrictions and opportunities.

5. Summary of Findings from Truck Stop Operator Survey

For the Partners Report, Caltrans conducted a survey of private truck stop operators to assess their attitudes towards developing additional truck parking and their interest in engaging in partnerships with Caltrans to provide expanded truck parking. The following summarizes the findings of this survey.

- 54% of truck stop operators indicated that they were interested in expanding their long term parking, while 46% indicated they were not.
- Truck stop operators listed the following as obstacles to the expansion of longer-term parking:
    - Lack of physical space was the most common obstacle cited by 80% of truck stop operators surveyed (46% felt this was a major obstacle),
    - Construction cost was cited by 69% (41% felt this was a major obstacle),
    - Land cost was cited by 67% (41% felt this was a major obstacle),
    - Cost of environmental requirements was cited by 59% (23% felt this was a major obstacle),
    - Cost or availability of financing was cited by 54% (31% felt this was a major obstacle)
    - Planning, entitlements, and design costs were also cited by 54% (18% felt this was a major obstacle),
    - Lack of profitability was cited by 44% (21% felt this was a major obstacle),
    - Lack of appropriately zoned land was cited by 41% (13% felt this was a major obstacle),
    - Neighbor opposition and local government opposition were each cited by 33% of respondents (18% considered these as major obstacles),
- Truck stop operators indicated that the following types of support from Caltrans would be most helpful in developing parking opportunities:
    - 82% of respondents agreed that partnership in the construction of parking lots would be helpful (41% ranked this the most favored partnership option),
    - 77% supported partnership in the cost of planning, design and local approval, (23% ranked this their top choice),
    - 72% supported partnership in the cost of purchasing or leasing land for parking (26% made this their top choice)
- Truck stop operators provided the following responses regarding how private partners should be selected:
    - 64% favored partnerships with multiple operators to spread the support around,
    - 26% favored a competitive process,
    - 18% strongly indicated that Caltrans should not be involved in partnering.

To summarize, responses to the survey indicate that a little over half of truck stop operators surveyed would be interested in expanding parking at their facility. Truck stop operators

suggested that the biggest impediment to parking expansion was the limited availability of space onsite. Of those who have space, the cost of expansion (including land and construction/development) are the primary challenges to expanding parking, which seems to imply that they did not feel that the additional revenues generated by the expanded parking would be sufficient to cover the capital costs of expansion.

The survey indicates that most the preferred contribution from Caltrans under a partnership would be funds for parking lot construction and to acquire land.

However, extreme caution should be applied when drawing conclusions from the survey's findings. Only 39 of 158 truck stops responded to the survey's questions, a response rate of only about 25%. However, even if the responses were representative of all truck stop operators, or include the only positive responses that might be forthcoming had all responded, they should be considered only indicative of what the operators were willing to say for publication and not necessarily what they would do if given the opportunity to bid for a partnership agreement.

C. Caltrans Research Task 1092, Reduce Accidents Involving Driver Fatigue

Under a contract with Caltrans, the Traffic Safety Center at the University of California, Berkeley, recently completed a study of the relationship between SRRAs and fatigue related accidents entitled *"Rest Areas, Reducing Accidents Involving Driver Fatigue."* The study analyzed this relationship using the following two approaches:

- Spatial analysis of collisions within 10-miles up/downstream of SRRAs on Interstate 5 (from Kern County to the Oregon Border) and State Route 101. A total of 23 SRRAs were included in this analysis.
- Spatial analysis on collisions as a function of distance traveled from SRRAs on 34 freeway segments of I-5, 8, 10, and CA-101. A total of 26 SRRAs were included in this analysis.

In addition, this study explored collisions occurring in the vicinity of SRRAs and their ramps, compared to collisions on or near non-SRRA highway ramps. Finally, the study examined collisions rates at highway ramps where unauthorized truck parking was occurring. The following summarizes the study's findings by topic.

Spatial Analysis of Fatigue Related Collisions Near SRRAs:

- Fatigue-related collisions decreased by a statistically significant amount downstream of SRRA locations. And the percentage of fatigue-related collisions within 10 miles downstream were significantly lower than for 10 miles upstream, suggesting that SRRAs are effective in reducing the number of fatigue collisions.

- The number of collisions due to fatigue tended to decrease immediately downstream of SRRAs, while suddenly increasing after about 30 miles from SRRAs.
- The percentage of fatigue collisions further than 30 miles from SRRAs was significantly higher than for collisions within 30 miles of SRRAs.
- The study posited the following potential explanations for the increase in fatigue related collisions after 30 miles from SRRAs, including:
    - Drivers were more exhausted as they traveled further from SRRAs, resulting in increased fatigue collision densities at about 30 miles downstream,
    - The study indicates the *"Possibility that the roadway environment and design within 30 miles of rest areas are significantly different from the environment and design beyond 30 miles downstream. It is likely that segments within 30 miles of rest areas are likely to be in urban, more densely populated areas, while areas beyond 30 miles are likely to be rural. This factor might cause the increases in fatigue collisions and the decreases in non-fatigue collisions beyond 30 miles of rest areas."*[38]
    - Inaccuracies in police reports.

As indicated in the report, the finding that fatigue related collisions tend to increase after 30 miles from an SRRA suggest that an optimal spacing between SRRAs might be 30 miles. However, the study suggests that *"considering potential influences of various other collision factors, additional rigorous studies may be required to identify the cause of this phenomenon, which may be caused by driver fatigue beyond 30 miles, different roadway design or environment factors within and beyond the 30-mile zone, or a bias in collision reports."*[39] Therefore, the study was not considered to be conclusive in its finding that 30 miles is indeed the optimal safety spacing between SRRAs.

For example, the issue of urban versus rural location may be fundamentally more important in explaining the level of fatigue related accidents, as SRRAs located in more urban areas tend also to have more alternative stopping opportunities, including truck stops, gas stations, restaurants, etc., compared to SRRAs located in more rural and remote locations.

The study presented an in-depth literature review of the issue, which included a review of sources providing recommendations regarding the optimal spacing of SRRAs. The following summarizes the spacing recommendations according to the sources included in the literature review:

- **1999 Rest Area Forum**. Recommended adopting a "uniform spacing standard" for SRRAs,

[38] "Rest Areas, Reducing Accidents Involving Driver Fatigue" for Caltrans, by Traffic Safety Center, University of California, Berkeley, January 28, 2009, Pg. 29.
[39] Ibid. Pg. 41.

- **FHWA Non-Regulatory Supplement for CFR 752.** Recommends SRRA spacing of an hour's driving time or less.
- **The American Association of Highway and Transportation Officials (AASHTO).** Recommends a distance of 60 miles between SRRAs.
- **Amended 2004 Montana Rest Area Plan.** Recommends a spacing 54 miles or one hour travel time,
- **Minnesota DOT**. Identified a spacing of 50 miles as "desirable",
- **2002 Study "Quantifying Roadside Rest Area Usage."** This survey of truck drivers concluded that a distance of 55 miles would be ideal, assuming a one hour driving time. However, this study also claimed that the estimated average distance covered in one hour was too long, and recommended a 30-mile spacing between SRRAs.

The recommendation of an hour's driving time between SRRAs appears to be the most consistent guideline. Given that average highway speed limits typically range from 50 to 65 miles per hour, an SRRA spacing of 50 to 65 miles would appear reasonable. However, if the findings of this study are correct, that motorists tend to become significantly more fatigued after 30 miles of an SRRA, perhaps a lesser distance should be considered.

SRRA Fatigue Ramp Analysis. This analysis was based on collisions which occurred at on- and off-ramps within SRRAs compared to collisions along non-SRRA ramps on I-5 using 11 years of data. The following summarizes the key findings of this analysis:

- Trucks were the primary vehicle type involved in rest area ramp collisions.
- The primary collision factor was "other," followed by "improper turns."
- The primary type of collision was a "sideswipe" collision followed by "hit object" collisions.
- Rest area ramps record lower collision rates compared with other non-SRRA ramps.
- A majority of collisions occur either within the SRRA or at the intersection of the ramp area and the cross street of the ramp.
- Collisions that occurred during parking or with a parked vehicle were the most frequent type of collision in SRRAs.

The findings that trucks were the primary vehicle involved in ramp collisions, that improper turns were a primary collision factor, and that parking related collisions are the most common type of collision suggest that SRRAs may be designed with geometrics that (a) can improved to

better accommodate the turning movement of larger trucks (i.e., STAA Trucks[40]), (b) provide greater space for circulation within parking lots, and (c) provide a greater number of parking spaces, particularly truck parking spaces.

Collisions in the Vicinity of Unauthorized Truck Parking Locations. The study analyzed the characteristics of collisions occurring at unauthorized truck parking locations at interchange on- and off-ramps. In addition, unauthorized truck parking locations were analyzed to assess their effect on the number of highway collisions. Eleven years of data were analyzed for four interchanges along Interstate 80, four interchanges on Interstate 5, and one interchange on State Route 101.

The following summarizes the findings of this analysis:

- Ramps where unauthorized truck parking occurred were generally found to be more dangerous than other ramps, although only three of the nine informal interchanges surveyed recorded very high collision rates.
- The effect of unauthorized truck parking locations on fatigue-related highway collisions was inconclusive.
- The study reports that *"In some cases, such as on I-5 in San Joaquin County, the absence of a SRRA or truck weigh station may have been the impetus for the unauthorized truck parking, and may signal the need for a formal SRRA. In other cases, as along Route 80, many unauthorized truck parking locations have been established that are in some cases adjacent to or within a short distance of the formal SRRA locations, indicating either a lack of adequate facilities (at the SRRA), or some other source of discontent on the part of drivers."*[41]
- However, since designated SRRAs appear to reduce fatigue-related collisions, it is recommended that adequate SRRAs be provided at or near these unauthorized truck parking locations.

The finding that ramps where unauthorized truck parking occurs are more dangerous than other ramps where unauthorized parking is not occurring must also take into the consideration the alternative risk of truckers continuing to drive while fatigued, which may in fact be a greater risk than parking along on- and off-ramps near an interchange. Nonetheless, such parking does represent a safety concern, particularly when trucks are parked in the Clear Recovery Zone or within 30 feet of the Fog Line, which is common. Interestingly, the study indicates that unauthorized truck parking might not necessarily be due to lack of parking/resting facilities in the region, but due to other reasons such as desire for privacy, convenience, displeasure with nearby facilities, or other factors. Regardless, locations where there are heavy concentrations of

[40] Surface Transportation Assistance Act Trucks.
[41] Ibid., Pg. 39.

unauthorized truck parking should be considered as potential locations where new SRRAs or alternative stopping opportunities might be developed.

D. Caltrans Research Task 1921, Public Private Partnership Strategies for SRRAs

In 2008, Dornbusch Associates completed a project under contract with Caltrans which (a) examined Caltrans' past attempts to implement public/private SRRA partnerships, (b) analyzed the barriers that have prevented partnership projects from being implemented, (c) identified and assessed successful SRRA public/private partnerships in other states, (d) entailed conducting local, state, and national stakeholder interviews to assess support for various partnership models, (e) identified the location of seven candidate public/private partnership sites in California and analyzed the financial feasibility of each location, and (f) drafted strategic action and business plans to guide project implementation at these sites.

Since 1982, Caltrans has made more than a dozen attempts to develop public/private partnerships at SRRAs in California primarily as a means to offset substantial annul SRRA repair and maintenance costs incurred by the state. To date, all efforts to develop public/private partnerships at SRRAs have been unsuccessful. Only one is being implemented, Imperial on I-8, and it is taking a very long time. The primary causes for this lack of success have been due to the following factors:

- Restrictions specified by state and federal statutes and/or policies,
- Cost sharing responsibilities between Caltrans and private partner,
- Local, regional, and national stakeholder opposition to the project/concept,
- Limited state funding,
- Required large capital investments – particularly off-site access improvements including interchanges, ramps, etc.,
- Inability of private partner to secure project financing.

These issues are likely to remain key challenges in developing future SRRA public/private partnerships in California.

1. Findings of SRRA Financial Analysis

The study identified and assessed the financial feasibility of developing public/private partnership SRRAs at seven *off-line* locations. The following partnership sites were identified and analyzed:

- Merced and Stanislaus County, I-5 near Gustine
- Fresno County. I-5 near Three Rocks
- Kern County, I-5 near South Dome

- San Bernardino County, I-40 near Kelbaker
- San Bernardino County, I-15 near Victorville
- Solano County, I-80 near Dixon
- San Joaquin County, I-5 near Thornton

Each of the seven locations identified consisted of several potential interchanges where SRRA partnerships might be developed. The study estimated (1) Caltrans' cost savings associated with developing the off-line commercial SRRAs, as compared with an on-line or off-line non-commercial SRRAs at the candidate sites, and (2) Caltrans' necessary financial contribution, if any, to implement the off-line commercial SRRA partnerships.

Regarding Caltrans' (1) cost savings and (2) financial contribution, it was estimated that:

- **For each set of sites analyzed, at least one, and in some cases all, of the interchanges might be expected to yield net *surplus* revenues to Caltrans.** In this case, a private partner would be expected to pay *more* to Caltrans for the rights and privileges to operate a commercial SRRA than the expected total SRRA development cost.
- **Caltrans would avoid having to contribute any funds to project development, and would receive payment in exchange for providing a private contractor with the right to receive official rest area designation and Interstate signing.**

Therefore, it was judged that Caltrans could satisfy the basic requirement that the development of partnership SRRAs would result in cost savings to the state at all seven candidate sites analyzed.

2. Legal, Regulatory and Stakeholder Related Challenges

In this study, an assessment was provided of the primary current legal and stakeholder barriers to developing public/private partnerships at SRRAs and recommendations on how to overcome these barriers.

Federal and State Laws. The federal prohibition against developing commercial services within the federally funded right-of-way specified under U.S.C Title 23 Section 111 remains the single greatest legal barrier to developing SRRAs operated under public/private partnerships. Given the intensity of past lobbying efforts by industry groups led primarily by NATSO, it is very unlikely that Section 111 will be overturned or waived in the near future. This effectively prohibits states from developing financially feasible public/private partnership SRRAs on-line, that is *within* the right-of-way of federally funded highways. Applicable federal laws and FHWA policies relating to SRRA development are discussed in detail in sections I.A., I.B., and I.C. of this report.

As one might expect, California laws governing the development and operation of SRRAs generally conform to and reflect federal statutes. However, the study identified one provision within California law which provides an additional legal challenge to developing partnership SRRA's. California Welfare and Institutions Code, Article 5, Section 19625, which governs the implementation of the Randolph-Sheppard Act in California, requires that:

- Blind vendors shall be given priority to operate vending facilities on state property.
- Under Article 5, Section 19625(a) "State property" is defined as "*all real property, or part thereof, owned, leased, rented, or otherwise controlled or occupied by any department or other agency or body of (the) state.*"
- Under Article 5, Section 19626 of the Welfare and Institutions Code "vending facility" is defined as *"a location which may sell, at wholesale or retail, foods, beverages, confections, newspapers, periodicals, tobacco products, and other articles or services dispensed automatically or manually and prepared on or off the premises in accordance with applicable health laws."* In addition, Section 19626 states that vending facilities "*may consist, exclusively or in appropriate combination, of automatic vending machines, cafeterias, snack bars, catering or food concession vehicles, cart service, shelters, counters and any appropriate equipment as the director may by regulation prescribe as being necessary for the sale of the articles or services described in the first paragraph of this section.*"[42]

Therefore, considering:

(1) The requirement that the state give priority to blind vendors to operate vending facilities on state property,

(2) that "state property" would include land/facilities owned or controlled by the state, presumably including land used to develop a public/private partnership SRRA, and

(3) that a "vending facility" may consist of significantly broader level of commercial operations than just vending machines – including the sale of food and beverages at "cafeterias" and "snack bars,"

It was concluded that where Caltrans seeks to develop public/private partnerships at off-line locations (e.g. on land adjacent to an interchange) using land that was owned, leased, or otherwise controlled by the state, Caltrans might be required to engage a SRRA partner who would either be or contract with a blind operator for the operation of commercial services considered to be "vending facilities" at the SRRA.

[42] California Welfare and Institutions Code, Article 5, Section 19625 can be found online at: http://law.justia.com/california/codes/wic/19625-19641.html

The key issue is regarding the extent to which the concept and definition of a "vending facility" under California Law might be applied to the commercial services provided at a public/private partnership SRRA, which typically would include food and beverage services, convenience store/retail service, and fuel service. It appears that food and beverage and retail services would fall under the definition of "vending facility" as defined under Section 19626.

Therefore, if an SRRA was developed on state controlled land, it is possible that under current law, Caltrans could be required to give priority to a blind vendor for the operation of commercial services at the partnership SRRA, potentially including food, beverage, and retail services. If this interpretation is correct and a blind vendor was required to be given preference for the operation of commercial services at a partnership SRRA, this could significantly limit the possibility for implementing a successful project. That is (1) because (1) the pool of potential private partners might be limited to only blind vendors, and (2) the restriction could reduce the scope of commercial operations at the SRRA needed to make the project financially feasible.

If however, partnership SRRAs are developed at locations that are privately owned and not controlled by the state – such as developing an Interstate Oasis at an existing truck stop - then presumably the Welfare and Institutions Code would not apply and blind vendors would not be required to be given preference for the operation of vending facilities at the partnership SRRA.

The study concluded that **Caltrans should seek a judgment on this issue from the Department of Rehabilitation and its own legal department prior to developing public/private partnership SRRAs on state controlled property.**

National Stakeholder Opposition. The study found that lobbying efforts by national stakeholder groups, led by the National Association of Truck Stop Operators (NATSO), with support from the National Association of Convenience Stores (NACS) and the Society of Independent Gasoline Marketers of America (SIGMA), have strongly and successfully opposed the commercialization of online SRRAs.

During this study, it was discovered that nearly all states that have sought to implement enabling legislation and specific projects to develop commercial SRRA's mentioned the forceful efforts to block their efforts from these groups. All indications are that these lobbyists' efforts remain active, focused and very strong and are unlikely to abate or weaken in the near term.

However, NATSO continues to strongly support the Federal Interstate Oasis Program, which seeks to develop Oases offering commercial services off-line, as a viable alternative to developing commercialized SRRAs located online. However, NATSO has expressed reservation about supporting off-line SRRA partnership concepts that differ from the Interstate Oasis Programs' minimum eligibility requirements.

The study found that the National Federation of the Blind (NFB) opposes the Interstate Oasis Program. In the past the NFB has been active in opposing attempts to commercialize both online

and off-line SRRAs, claiming that such projects would draw business away from existing and potentially new vending operations at online SRRAs, which blind vendors' have preferential right to operate under the Randolph-Sheppard Act.

It was judged that the Business Enterprise Program, which oversees the vending program in California, and blind vendors might be expected to oppose developing public/private partnership SRRAs at off-line locations due to the concern that developing Oases or other SRRA partnerships might reduce or eliminate future vending opportunities. This is particularly relevant if blind vendors believe that (1) Oases or other off-line SRRA partnerships will replace developing new, traditional online SRRAs where their vending machines might be located, and/or (2) if blind vendors believe that Oases or other off-line SRRA partnerships might replace existing SRRAs, thereby directly reducing the number of existing vending opportunities at online SRRAs.

Caltrans' Contracting Authority. Caltrans is legally limited in the range of contracting options that it can engage in. The following summarizes SRRA site control scenarios and an understanding of Caltrans' legal authority under each scenario, each of which were recommended for review by the Department's legal counsel.

- **Caltrans Owns the Site.** In the case where Caltrans owns the land, the Department has the authority to lease out the site (ground lease) to a private SRRA partner (e.g., the approach being planned at the Imperial site).
- **Caltrans Leases the Site.** Section 104 of the California Streets and Highways Code allows Caltrans to lease private land. However, Section 104 is *silent* on whether Caltrans could then sublease to a private SRRA partner.
- **Private Partner Owns/Controls the Site.** Caltrans could enter into an agreement with a private operator at a site Caltrans did not own or lease (e.g., under an Interstate Oasis partnership), as long as the project was competitively bid (three or more prospective bidders). Sole-source partnership would not be permissible under current law.

Other legal restrictions on developing partnership SRRAs include:

- **Caltrans Funded Improvements on Privately Owned Land.**
    - Under scenarios where Caltrans does not own the land, the Department could not provide any funding for the construction of *private commercial facilities* – i.e. restaurants, fuel stations, convenience stores, etc.,
    - Under scenarios where Caltrans does not own the land, any improvements to the *public portion* of the site funded by Caltrans would likely require a clause within the agreement that stated a right for Caltrans to recover the remaining dollar value of the improvements when the agreement expired or was terminated. Such a

clause would be needed to comply with Article 16, Section 6 of the California Constitution (i.e., the "Gift of Public Funds Clause") which prohibits gifting of public funds to a private entity.

  - Caltrans could make off-site capital improvements, including site access and utility improvements, under all land ownership scenarios.

- **Caltrans Funding Responsibilities.** Caltrans indicated that if the Department were required to fund any portion of onsite improvements for a partnership SRRA project, this would trigger a requirement that the Department design and build the entire SRRA facility. If correct, this requirement could substantially increase the cost to development partnership SRRAs in cases where Caltrans onsite funding is required to make the project financially feasible.

Regarding site development, the study concluded that the preferred strategy would be for the private partner to design and construct the commercial SRRA while conforming to Caltrans' building/design criteria. However, this strategy was found to be complicated by the State's restrictions on the ways in which the project must be designed and constructed.

In a 2006 memorandum, Caltrans' Deputy Chief Counsel Thomas C. Fellenz, expressed a legal opinion that, the "*Streets and Highways Code section 226.5 does not authorize the Department to solicit design-build proposals for demonstration roadside rest area units"* and that *"the Department does not currently have any other design-build authority which can be invoked for the demonstration roadside rest area projects."*[43]

Mr. Fellenz concluded that Caltrans must itself perform or procure the (a) design, (b) construction, and (c) maintenance/operations *in three separate efforts*. The California Public Contract Code (Section 10, Part 100) also mandates that Caltrans design and bid the construction of such projects.

In his conclusion, Mr. Fellenz offers Caltrans the following contracting options:

(1) Issue three separate contracts for design, construction, and operation/maintenance,

(2) Seek design-build authority with legislation to change Section 226.5, and/or

(3) Do the first and second simultaneously, or

(4) Caltrans could assume authority exists to enter into design/build contracts under Section 226.5, solicit proposals, and then defend against legal challenges, if there are any. It was judged that if no one had any reason to challenge the design-build procurement, option (4) would succeed. However, it would leave open the possibility for anyone unsatisfied with the project to try to obstruct it.

[43] "Memorandum" from Thomas C. Fellenz to Keith Robinson, "Legal Opinion – Rest Stops", September 18, 2006.

The study's authors believe that Mr. Fellenz' conclusions would not pertain to either of the following partnership scenarios:

- Conversion of a previously developed commercial site into a partnership SRRA, or
- A partner offering to develop and then enter into a lease with Caltrans to operate a partnership SRRA.

However, at the time this analysis was completed, Caltrans had not provided a definitive judgment on this issue. If it is determined that Caltrans cannot allocate design and construction responsibility to the private partner under any circumstances, and had to engage three separate contractors to design, build, and operate the SRRA, that approach might still work, though it would be a more expensive alternative to allowing the private partner to perform all of those services. Substantial costs savings would result if the private partner designed and constructed the SRRA instead of Caltrans. The savings would be due to three factors. First, when Caltrans designs SRRA facilities, the Department seeks to minimize its annual maintenance costs by designing and constructing a very robust and therefore expensive structure. Second, Caltrans requires that union labor perform the construction. Third, Caltrans incurs very significant administrative cost to acquire land and to design, contract, and supervise the project development. Moreover, Caltrans will devote much more time to those efforts than will a private partner. For these reasons, it was recommended that Caltrans seek to give design-build responsibility to the private partner.

3. Summary of Recommendations

The following summarizes important recommendations made regarding strategies to overcome key challenges to project implementation and those that are most likely to result in developing successful partnership SRRAs. Caltrans should consider these recommendations as relevant to developing any public/private partnerships, including Interstate Oases and auxiliary truck parking facilities, under the new master plan.

Due to federal prohibitions against developing commercial services on federally funded highway right-of-way and opposition by powerful industry lobbying groups, the study recommended that Caltrans:

- **Implement public/private partnership SRRAs offering commercial services exclusively at off-line locations, outside of the Interstate right-of-way.**

To avoid the powerful industry opposition that has been so successful in defeating past efforts to develop partnership SRRAs, it was recommended that:

- **Caltrans consider developing Interstate Oases, as the form of the public/private partnerships entered at the off-line locations, whenever/wherever possible.**

- **Modify California law to enable conformation with the Federal Interstate Oasis Program.**
- **Adapt California policies to implement the Federal Oasis Program as written.**
- **Not structure a separate program to avoid interest group opposition, but if structuring its own partnership program is determined to be necessary, Caltrans should design it to resemble the federal Interstate Oasis Program as closely as possible.**

To minimize potential opposition from the National Federation of the Blind and blind vendors in California, Caltrans should:

- **Implement *online* SRRA projects that include or expand vending machine operations at the same time as implementing *off-line* commercial services SRRA partnerships.**

If Caltrans' highest priority is to minimize capital and maintenance costs, and expedite project implementation, but not necessarily to control use of the site as an SRRA over the long-term, Caltrans should:

- **Enter into a long-term lease agreement with a partner who already owns the land, or would acquire or lease an appropriate site, and would be responsible for designing and constructing all on-site improvements.**

If however, Caltrans' highest priority is to control the site over the long-term, but not necessarily to minimize capital and maintenance costs or expedite project implementation, Caltrans should:

- **Acquire the site, then implement a procurement process that would yield a lease with a private partner who would design, develop, operate and maintain the commercial services rest area to Caltrans' specifications.**

As previously discussed, given the apparent requirement for Caltrans to design and build the SRRA facility when the Department funds any onsite improvements, every effort should be made to restrict Caltrans' funding responsibility to the design and construction of o*ff-site improvements*, namely the access improvements and bringing utility services to (not into) the site. That would substantially reduce the partners SRRA development costs, while complying with the state's restriction against funding on-site improvements on private land.

Therefore, it was recommended that Caltrans should favor selecting sites where:

- **Caltrans' share of the capital costs would be limited to making off-site access improvements, bringing utility services to the site, and possibly preparing the site**

for development, and therefore making design and construction of all on-site improvements the partner's responsibility.

To maximize the private partner's potential capital contribution, Caltrans should permit the private partner to sell items and provide services which will allow it to maximize revenues and profits. Therefore, Caltrans should:

- **Permit the commercial partner to sell fuel, food & beverages, and retail merchandise, as well as offer advertising for local business/attractions and other secondary services, such as ATMs and lottery ticket sales.**

If Caltrans opts to enter into a lease with a private partner who would either (a) expand a previously developed commercial site or (b) develop a new site, Caltrans should:

- **Specify that the private partner design and construct all facilities, including the public facilities, according to Caltrans' requirements.**

Finally, should Mr. Fellenz' legal judgments apply in the case where Caltrans sought to develop an undeveloped site, it was concluded that a private partner would prefer to design and contract for the construction of the commercial facilities.

Therefore, of the four contracting options available to Caltrans suggested by Mr. Fellenz, it was recommended that Caltrans:

- **Assume authority exists to enter into design/build contracts under Section 226.5, solicit proposals, and defend against legal challenges, if any arise.**

In summary, these recommendations are directly applicable to developing partnership SRRAs at locations the new master plan identifies as potential alternative stopping opportunities.

III. STAKEHOLDERS

Phone interviews and email correspondence were conducted with select nonprofit organizations and government entities representing relevant stakeholders groups to better understand how California SRRAs are utilized and perceived by different users. Interviewees, some of whom were involved in the development of the 2000 SRRA Master Plan[44], were asked a series of questions relating to specific topic areas, including whether:

- SRRA services, access, safety and amenities are currently meeting constituent needs;
- The number and spacing of SRRAs are adequate along highway routes in California or if a need exists for more SRRA sites and facilities;
- User groups are supportive of the state partnering with the private sector to provide rest area services (such as the Interstate Oasis concept); and if
- There are other potential services or amenities that user groups would like to see developed at SRRAs.

Table 2 displays interviewees' names, their organization/agency and the date of the conducted interview.

Table 2. Stakeholder Interview Summary

Organization/Agency	Interviewee	Date of Interview
American Association of Retired Persons (AARP)	Nina Weiler *CA Associate State Director*	9/28/09
Automobile Club of Southern California (ACSA) *American Automobile Association (AAA) Affiliate*	Hamid Bahdori *Principle Transportation Engineer*	9/16/09
California Commission on Aging (CCA)	Patricia Longo *Chairwoman*	9/21/09
American Trucking Association (ATA)	Darrin Roth *Director of Highway Operations*	9/21/09
California Department of Developmental Service (DDS)	Denyse Curtright *Work Services Assistant Chief*	10/01/09
California Department of Rehabilitation (DOR)	Jo Ann Fleming *Business Enterprise Program*	9/30/09
California Highway Patrol (CHP)	John Keller *Senior Transportation Planner*	9/17/09

[44] Several interviewees served on the 2000 Caltrans Safety Roadside Rest Area System Improvement Team.

California Division of Tourism (CDT)	Cris McLucas *Tourism Assessment Manager*	10/01/09
California State Automobile Association (CSAA) *AAA Affiliate*	Paula LaBrie *Legislative Council*	9/16/09
California Trucking Association (CTA) *ATA Affiliate*	Eric Sauer *V.P. of Policy Development*	9/30/09
National Association of Truck Stop Operators (NATSO)	Stephen Beaulieu *Director of Governmental Affairs*	9/30/09
Owner Operator Independent Drivers Association (OOIDA)	Joe Rajkovacz *Regulatory Affairs Specialist*	9/21/09
Truck Safety Coalition (TSC)	John Lannen *Executive Director*	9/28/09

Stakeholders were divided into three main subgroups: organizations whose members/constituents utilize SRRAs for non-trucking purposes; organizations whose members/constituents use SRRAs for commercial trucking purposes; and government entities that help provide work, safety or general visitor services at SRRAs. These groupings served as a basis to synthesize and analyze responses according to user type. Findings are detailed below.

A. User Groups Who Utilize SRRAs for Non-Trucking Purposes

Table 3 shows the stakeholders comprising this subgroup.

Table 3. User Groups Who Utilize SRRAs for Non-Trucking Purposes

Organization/Agency
American Association of Retired Persons (AARP)
Automobile Club of Southern California (ACSA) - *AAA Affiliate*
California Commission on Aging (CCA)
California State Automobile Association (CSAA) - *AAA Affiliate*

AAA is a not-for-profit automobile service organization and seller of vehicle insurance. AARP is a not-for-profit service and lobby organization whose members/constituents represent people age 50 and older. CCA is a government advisory body comprised of 25 California state commissioners who advocate on behalf of older individuals concerning legislation, programs and regulations made by the state and federal government.

Based on interview feedback, formal surveys or discussions have not been conducted by these organizations to determine how members/constituents perceive SRRAs in California. Furthermore, interviewees did not recall any significant systemic concerns or issues raised by

members/constituents over the past several years. Consequently, most responses provide only a general policy or organizational perspective about the issues raised.

Group Utilization. The majority of the organizations' members/constituents within this subgroup use SRRA services to safely stop and rest, use the restroom, buy or consume snacks and beverages, check maps, stretch their legs and exercise pets.

Current Services, Access, Safety and Amenities Provided. Given the caveat that no formal surveys have been conducted, most interviewees noted that (in general) SRRAs in California are being maintained adequately in terms of services and amenities provided.

- In terms of **access and layout**, parking does not appear to be an issue, nor does accessibility for handicapped persons.
- **Traveler information** was considered sufficient, although interviewees noted that their members/constituents usually know their destination route in advance. One issue raised was maps provided at SRRAs are frequently outdated, leading to confusion.
- **Restroom sanitation and capacity** was not considered problematic by CCA, CSAA or ACSA. However, AARP noted that a few complaints had been voiced about restroom cleanliness and that on high mountain passes (such as Donner Summit and environments higher than 7,000 feet in elevation), restrooms should be equipped with better insulation or have heating systems installed to protect users from the cold.
- **Security** was not viewed as an issue, although AARP noted that SRRAs close to urban areas were sometimes perceived as a non-ideal rest stop option during the nighttime, particularly among people traveling alone.
- **Vending facilities** were also considered adequate, although CSAA and AARP noted that a larger selection of nutritious snacks would be appreciated.

The number and spacing of SRRAs. According to AAA affiliates (both the ACSA and CSAA), the number and spacing of SRRAs in California appear to be adequate as alternative facilities, such as private gas stations, convenience stores, restaurants and parking lots, have become more prevalent along or near highway routes and are often used to augment or supplant services provided at public rest areas (particularly along long stretches of rural roadway). However, AAA noted that as a general rule, SRRAs should be spaced so that the distance between each one is no more than a one hour's drive. This issue appears particularly important for senior males, who tend to use the restroom more frequently than other groups.

Public-Private Partnerships. All interviewees within this subgroup category were supportive of the general idea of public/private partnerships, particularly given the State's current economic situation. In particular, when discussing the Federal Interstate Oasis Program and Oasis concept, most interviewees noted that such an arrangement would likely be beneficial to their

members/constituents. However, the CSAA and ASCA specified they would need additional information concerning the details and implications of any proposed public/private partnership program to officially provide public support.

The AARP also recommended examining the "concession model", whereby the State would grant a private entity the right to operate a stretch of toll road (where rest area services would be offered) for profit for a period of time. The toll road could either be an existing government asset (such as the Chicago Skyway, Indiana Toll Way or New Jersey Turnpike) or a new road that the private firm would build. The danger of such a model is that the public sector would relinquish control over a transportation investment for a significant period of time without fully understanding what value the asset may have to the public in the future. Consequently, establishing specific contract provisions concerning facility maintenance, environmental considerations, public rest area services provided, revenue sharing and transparency, would be vital to achieving a successful and mutually beneficial partnership.

Additional Services and Amenities. In terms of additional services and amenities at the SRRAs, interviewees within this subgroup recommended installing wireless Internet connection and plug-in technology for hybrid and electric cars.

B. User Groups Who Utilize SRRAs for Commercial Trucking Purposes

Table 4 shows the organizations comprising this subgroup.

Table 4. User Groups Who Utilize SRRAs for Commercial Trucking Purposes

Organization/Agency
American Trucking Association (ATA)
California Trucking Association (CTA) *ATA Affiliate*
National Association of Truck Stop Operators (NATSO)
Owner Operator Independent Drivers Association (OOIDA)

These not-for-profit organizations represent broad and specific interests within the trucking industry whose purpose is to influence governmental policy and actions, as well as enhance the industry's image, efficiency, competitiveness and profitability.

Group Utilization. The ATA, CTA, and OOIDA represent members/constituents who are commercial truckers that use SRRAs services for short breaks[45], use restroom facilities, buy or consume snacks and beverages, take a nap, check loads and perform other work-related duties (i.e., checking-in with dispatchers or filling paperwork). NATSO's members represent the truck

[45] Truck drivers often stop to comply with Hours of Service Regulations that are mandated by law.

stop industry which serves commercial truckers. NATSO's primary interest in SRRAs in California and nationally is that these facilities continue to remain free of any commercial services that would compete with their members' establishments. This includes opposing any projects or initiatives which would seek to develop public/private partnerships at existing or new on-line SRRAs that might offer commercial services.

Because of the lack of additional facilities, such as restaurants and showers, truck drivers often use SRRAs as overflow sites when commercial truck stops are full or not conveniently located.

Current Services, Access, Safety and Amenities Provided. The ATA, CTA and OOIDA noted that the significant increase in demand for freight movement over the last 20 years (which has dramatically increased the number of trucks on the highway), coupled with the closure of several SRRAs and the fact that many localities are adopting more stringent truck parking ordinances[46], has led to an inadequate number of truck rest area spaces across the state. This problem appears particularly acute in major metropolitan areas and heavily traveled freight corridors.

- In terms of **access and layout**, the CTA and OOIDA noted that the limited amount of available truck parking is often quickly occupied by mid-afternoon, leaving many truck drivers that operate during the night hours unable to find available parking spaces. Handicapped access was not raised as an issue.
- **Traveler information** was considered sufficient, although most interviewees noted that their members are typically familiar with their destination route in advance.
- **Restroom sanitation and capacity** was not considered problematic by interviewees from this subgroup.
- **In terms of security,** it was noted by some interviewees that the solicitation of sex and drugs is prevalent at some SRRAs (although violence was not cited as a problem). The SRRA on Route 99, south of Tulare, (presumably the Phillip S. Raine SRRA) was cited as a problem example.
- **Vending facilities** are considered adequate although some interviewees noted that truck drivers would probably prefer a greater variety of food and beverage options.

It is important to note that NATSO did not offer an opinion concerning current services and amenities provided at California SRRAs, as specific concerns or issues did not appear to have been raised by its members.

The number and spacing of SRRAs. Representatives of ATA, CTA and OOIDA interviewed were explicit in stating that more truck parking spaces be made available throughout the state (by

[46] Many communities have banned on-street truck parking in residential and industrial areas.

increasing the number of SRRAs as well as the number of truck parking spaces within current and future facilities). Downtown Los Angeles and areas immediately south of the city were cited as specific locales that need additional truck parking. The recent shutdown of the truck stop at Boomtown (located west of Reno), was also cited as causing parking availability challenges along the heavily traveled Interstate 80 corridor. NATSO did not state an opinion concerning this issue.

Public/Private Partnerships. All interviewees within this subgroup supported the general idea of public/private partnerships, although there were several concerns and issues raised about how to ensure arrangements that equally benefited the public, the trucking industry and the government. The ATA expressed concern whether "privatized" rest areas would provide the same number of truck parking spaces and comparable facilities and services as publicly operated SRRAs. OOIDA stressed that any public/private partnership, including one operating under the Oasis concept, should allow the government to maintain a reasonable amount of control over a "privatized" rest area, increase truck parking capacity and be transparent. CTA noted that the organization supported California Senator John Campbell's Rest Stop Privatization legislative proposal – Senate Bill 468 - in 2005 (a bill that was not signed into law), although it has not yet taken a position on the Oasis concept.

NATSO voiced its continued support of the Interstate Oasis Program and its willingness to assist states in promoting this program, primarily by encouraging members to actively participate. NATSO noted that its California members would be supportive of this program if developed in-state. Of particular interest would be developing facilities along Interstate 5, due to high truck volumes along this route and its connection to Oregon and Arizona, states that have or are in the process of implementing the Interstate Oasis Program. NATSO also indicated potential support for the auxiliary parking lot concept, given that the focus would be simply expanding parking locations outside the right-of-way and under operation by private adjacent/nearby private partners – including truck stops. However, NATSO's official support of such a concept would be dependent on the details of the private partners' responsibilities, and, in particular, how private partners would be selected and awarded contracts.

Additional Services and Amenities. Wireless Internet and other technologies at SRRAs that would allow trucks to operate air conditioning and heating without having to run the truck's main engine – i.e. idling reduction facilities - (which is an important consideration due to California's strict idling requirements) were cited as services and amenities that the organizations within this subgroup would like to see expanded.

C. Government Entities that Provide Work, Safety or General Visitor Services at SRRAs

Table 5 shows the governmental agencies and nonprofit organizations comprising this subgroup.

Table 5. Gov. Entities that Provide Work, Safety or General Visitor Services at SRRAs

Organization/Agency
California Highway Patrol (CHP)
California Department of Developmental Service (DDS)
California Department of Rehabilitation (DOR)
California Division of Tourism (CDT)
Truck Safety Coalition (TSC)

Relevant to this study, the CHP is the state agency responsible for patrolling SRRAs to ensure that these sites are safe and secure. DDS is the state agency that provides services and support to developmentally disabled, independent subcontractors that are hired (as a result of selective bidding criteria) to provide maintenance services at SRRAs through direct state contracts with non-for-profit organizations. DOR is the state agency involved with administering the Business Enterprise Program for the Blind (BEP), which provides opportunities, services and support for the legally blind to operate vending facilities at various SRRAs. The CDT is a state office that oversees a system of California Welcome Centers located throughout the state to provide travelers and tourists with regional tourism/travel related information. The TSC, a partnership between the Citizens for Reliable and Safe Highways Foundation and Parents Against Tired Truckers, is a not-for-profit organization whose mission is to educate the public, policy-makers and the media about truck safety issues and provide support to truck crash survivors and families of truck crash victims.

Group Utilization. As noted above, DDS constituents are developmentally disabled subcontractors to the State that provide a variety of maintenance services at SRRAs; DOR constituents are legally blind vendors who provide a variety of vending services at SRRAs; CDT constituents are travelers within and to the state that use visitor information services and amenities at SRRAs; and TSC represents members who are concerned with truck safety issues in general.

Current Services, Access, Safety and Amenities Provided. Both DDS and DOR noted that no significant complaints have been received by their constituents concerning relevant services, access and amenities at SRRAs and indicated that Caltrans appears to be operating and maintaining these sites in a satisfactory manner[47]. The CDT noted that without conducting a

[47] The only issue voiced by DOR is that when the vending kiosk for the Aliso Creek SRRA (in San Diego County) was built, the conditioning unit was poorly positioned.

formal survey it was difficult to determine if specific services and amenities at SRRAs were meeting the need of tourists and travelers, although it was recommended that SRRAs could better incorporate local cultural and heritage awareness into their structural design as well as within their visual displays.

CHP headquarters noted that although no formal discussion has been conducted with the agency's regional offices to identify specific SRRAs of interest, public safety and truck parking concerns were known to be an issue in some areas of the state. Specific to unauthorized truck parking (e.g. parking along interchange on- and off-ramps), the CHP representative interviewed was unsure if this was occurring due to a lack of available truck parking at SRRAs or simply because of convenience or a lack of awareness of available facilities nearby.

Given that the TSC has not heard of any specific concerns raised by its members concerning these specific SRRAs issues, the organization could not provide a definitive position.

The number and spacing of SRRAs. DDS and DOR did not voice an opinion concerning the number and spacing of SRRAs in California, although it was inferred that these agencies would support the development of additional sites if such developments increased work opportunities for their constituents. The CDT stressed that without conducting a formal survey that focused on traveler/tourist needs along a particular highway, the division was unable to determine if the current number and spacing of SRRAs is sufficient. CHP headquarters noted that increasing the number of SRRAs along highways would likely be beneficial to the public, although specific sites where such development should occur was not known (and that such information would only be available by contacting individual CHP stations throughout the state).

Public/Private Partnerships. Stakeholders interviewed within this subgroup were supportive of the general idea of public/private partnerships, particularly if such an arrangement reduced costs for the State and improved public services. However, DDS and DOR did note some concern with the Oasis concept, as privatized rest areas out of the 'right of way' jurisdiction may not provide opportunities for the developmentally disabled or blind venders to secure preferential placement in providing and operating services at these locales. Furthermore, there was concern that these "privatized" rest areas might compete with current government operated SRRAs, thereby reducing services, labor and revenue (due to increased competition) for their constituents.

The CHP was supportive of public/private partnerships, but emphasized the importance of determining early on whose responsibility it would be to patrol these "privatized" rest area sites (particularly given current CHP staff and resource constraints).

The CDT noted that public/private partnerships that understand the importance of representing the local region to attract economic activity from travelers/tourist would be highly supported. The TSC also voiced its support for public-private partnerships and the Oasis concept, particularly if such endeavors would help reduce the number of deaths and injuries caused by

truck-related crashes by providing drivers with appropriate access, services and amenities needed to rest while on the road.

Additional Services and Amenities. Interviewees noted that additional services and amenities that they would like to see developed at California SRRAs are wireless Internet connection and 24-hour kiosks that offer information about local accommodations, restaurants, attractions and directions to the nearest California Welcome Center[48].

[48] The DOR also cited the need for a food & beverage vending kiosk at the Dana Bower SRRA (directly off the Golden Gate Bridge in San Francisco) due to the high volume of visitor traffic and limited alternative amenities in the immediate vicinity.

IV. GOODS MOVEMENT ISSUES

A. Overview of Goods Movement Issues

"Goods (or freight) movement" is a term used to describe goods or produce transported by ship, plane, train or truck. The continuing growth in goods movement in California – including imports, exports, and shipments for local consumption – has put significant strains on existing transportation systems, including seaports, airports, and roadways. Growth in goods movement in California has also led to adverse environmental impacts locally and regionally that require strategies for mitigation.

To address these issues, in 2004 the Schwarzenegger Administration initiated a project to develop objectives and strategies to address goods movement issues in California. The resulting products of this initiative were the "*Goods Movement Action Plan: Phase I: Foundations"* (published in 2005) and "Phase II" (published in 2007), reports that were produced under a joint effort by the California Business, Transportation and Housing Agency (BTH) and the California Environmental Protection Agency (Cal/EPA).

These reports consolidated stakeholder inputs, previous and new analyses, and key inputs/analyses from regional metropolitan transportation associations, including the Southern California Association of Governments (SCAG) and the Metropolitan Transportation Commission (MTC).

The Goods Movement Action Plan addressed the interrelated issues of trying to (1) improve infrastructure to accommodate present and future goods movement volumes, while (2) mitigating environmental impacts generated from goods movement, in particular reductions in air pollution, and (3) by achieving (1) and (2), to continue to promote the successful growth of the goods movement industry in California. Given the key role the goods movement industry plays in the California economy, making the necessary infrastructural and environmental improvements will be central to ensuring the health and sustainability of this industry.

The Goods Movement Action Plan: Phase I report states that "*To meet these challenges, billions of dollars of investment in California's ports, rail networks, and highways will be needed to add capacity and reduce congestion. Most of this investment will center on the State's four 'port-to-border' goods movement corridors: Los Angeles-Long Beach/Inland Empire, Bay Area, San Diego/Border, and Central Valley. These corridors have built up over decades encompassing large complexes that facilitate ship to rail, ship to truck, and truck to rail exchanges to move millions of containers per year to their ultimate destinations."*[49]

[49] "Goods Movement Action Plan: Phase I: Foundations" by the California Business, Transportation and Housing Agency and the California Environmental Protection Agency, Spring 2005, Pg. I-2.

The Phase I report discusses the evolution of capacity constraints from ports to out-of-port areas, stating that, "*The overall 'throughput' of each corridor is limited by the capacity of the most constrained segment. In years past, the primary constraint has been port capacity. However, by the mid-1980s, it became apparent that constraints to throughput in the future would increasingly come from infrastructure limits outside the ports. The constant streams of trucks and trains were literally dividing communities. Emissions from ships and port operations coupled with growing congestion outside port gates compounded air quality problems and public health concerns.*"[50]

The Action Plan further stresses this point by noting that, "*While the ports continue modernization programs to upgrade their facilities, the statewide inventory of goods movement projects compiled for this report shows that more than 80 percent of the $47 billion planned or programmed for goods movement projects is targeted for improvements outside the ports.*"[51]

Since a key issue is congestion outside ports, including roadway congestion generated by truck traffic, by providing truck parking SRRAs and alternative stopping opportunities have the potential to reduce highway congestion, build capacity and improve safety on key goods movement highway corridors, thereby enhancing goods movement. These highway corridors are primarily linked to major ports in southern California and the San Francisco Bay Area, where goods from overseas are offloaded from ships onto trucks for distribution to the rest of the United States and similarly, where trucks deliver U.S. products for export to international markets. Viewed from another perspective, the growth in goods movement in California might increase use of SRRAs on primary goods movement trucking corridors and further strain these facilities' current capacities.

B. Major Goods Movement Truck Corridors

1. California Trucking Routes and Regulations

Caltrans classifies trucks into two broad categories: STAA (Surface Transportation Assistance Act) Trucks and California Legal Trucks. STAA Trucks are longer than California Legal Trucks and therefore the roadways on which these STAA Trucks travel require different geometric designs. The central problem that occurs when STAA Trucks travel on routes not designed to handle their movements is off-tracking, which is the "*tendency for rear tires to follow a shorter path than the front tires when turning.*" The Caltrans Office of Truck Services indicates that off-tracking "*is the primary concern with longer vehicles, because rear tires may clip street signs, or drive onto unpaved shoulders, walkways, or bike lanes, or cross the centerline on a curve,*

[50] Ibid., Pg. II-4.
[51] Ibid., Pg. II-5.

creating a safety hazard for adjacent and oncoming traffic."[52] To minimize the risks associated with STAA trucks operating on roadways not designed to accommodate their geometrics of their turning movements, Caltrans restricts which routes trucks can travel on.

In accordance with FHWA and Caltrans regulations, STAA Trucks are permitted to travel on the following routes in California:

- ***National Network Routes.*** The National Network (NN) routes are federal highways primarily comprised of Interstates, for example I-5, I-8, and I-80. The NN routes are not specifically signed for STAA trucks access. NN routes are illustrated as green routes on the Caltrans State Truck Network Map.
- ***Terminal Access Routes.*** Terminal Access (TA) routes are segments of State routes or local roads that can accommodate STAA trucks. The State highway TA routes are illustrated as blue routes on the State Truck Network Map. Local TA routes are not illustrated on the State Truck Network Map.
- ***Service Access Routes.*** STAA trucks may exit the National Network to access fuel, food, lodging, and repair at facilities that are within one road mile of a signed exit from the National Network. Service Access routes are primarily local roads and are not indicated on the State Truck Network Map. The Service Access symbol sign is posted prior to approved exits on the NN. STAA trucks may exit for services ONLY where indicated by signage.

Trucks designated as California Legal Trucks are permitted to travel on the following routes:

- ***STAA Network Routes.*** California Legal trucks may travel on the STAA network, which consists of the National Network, Terminal Access, and Service Access routes listed above.
- ***California Legal Routes.*** California Legal Trucks can use all State highways in California except those with special restrictions such as for weight or length. California Legal routes are illustrated as black and yellow routes on the State Truck Network Map. California Legal trucks may also use local "truck routes" as approved and signed by the local government. There is no signage for California Legal Truck routes.
- ***California Legal Advisory Routes.*** Some California Legal routes are called "advisory routes." These routes allow California Legal trucks, which are allowed a maximum KPRA [Kingpin-to-rear-axle] length of 40 feet; however, truckers are advised not to use advisory routes unless their KPRA is less than 40 feet. The advised length is posted on the sign, and could be 30, 32, 34, 36, or 38 feet. The most common KPRA advisory is

[52] Caltrans Office of Truck Services website, available online at: http://www.dot.ca.gov/hq/traffops/trucks/routes/truck-routes.htm

30 feet. California Legal Advisory routes are illustrated as yellow routes on the State Truck Network Map.

The majority of California SRRAs are located on either the National Network or Terminal Access routes and as such, should be designed with sufficient geometrics needed to accommodate larger STAA Trucks. Chapter 400, Topic 404 of the California Highway Design Manual provides important input on the design vehicles for the truck routes. The following summarizes the design vehicle specifications for each route presented under Topic 404.[53]

Chapter 400 indicates that the STAA Design Vehicle is defined as "*a truck tractor-semitrailer with the following dimensions: the maximum length of the semitrailer is 48 feet; the kingpin-to-rear-axle (KPRA) distance is unlimited by law, although the semitrailer length usually limits this distance to about 43 feet; the maximum body and axle width is 8.5 feet; the tractor length and overall length are unlimited.*" The STAA is depicted in Figures 404.5A and B in the Chapter 400.

STAA Design Vehicle. The STAA Design Vehicle is defined as "*a truck tractor-semitrailer with the following dimensions: the maximum length of the semitrailer is 48 feet; the kingpin-to-rear-axle (KPRA) distance is unlimited by law, although the semitrailer length usually limits this distance to about 43 feet; the maximum body and axle width is 8.5 feet; the tractor length and overall length are unlimited.*" The STAA Design Vehicle is depicted in Figures 404.5A and B in the Chapter 400.

Chapter 400 states that STAA Design Vehicle *"…should be used in the design of all projects on the National Network and on Terminal Access routes."* Therefore, SRRAs located on STAA Network routes should be designed to accommodate the turning movements associated with the STAA Design Vehicle. This requirement will tend to translate into greater amounts of right-of-way that will be needed to accommodate the longer STAA trucks.

California Legal Truck. The California Legal Truck is defined as *"a truck tractor-semitrailer with the following dimensions: the maximum overall length is 65 feet; the maximum KPRA distance is 40 feet for semitrailers with two or more axles, and 38 feet for semitrailers with a single axle; the maximum width is 8.5 feet.."* The California Legal Truck Design Vehicle is depicted in Figures 404.5D and E in Chapter 400.

Chapter 400 indicates that the California Legal Truck Design *Vehicle "…should be used in the design of all interchanges and intersections on California Legal routes and California Legal KPRA Advisory routes for both new construction and rehabilitation projects."* Given that few SRRAs are located on the California Legal Routes and the need to plan for future growth in

[53] California Highway Design Manual, Chapter 400, Topic 404 "Design Vehicles" can be found online at: http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/chp0400.pdf

trucking and truck sizes, all SRRAs should be designed to accommodate the geometrics of STAA Trucks, even at SRRAs located on California Legal Routes.

The guidelines specified under Chapter 400 section *"404.4 Design Considerations"* relating to geometrics should be followed when designing SRRA access and onsite circulation.

2. Major Trucking Goods Movement Corridors

This section summarizes the key goods movement highway routes as specified in the *"Goods Movement Action Plan - Phase I: Foundations"* report. These routes provide a vital link in the goods movement supply chain, where commercial trucks transport goods from key shipping ports and other transportation hubs. The Phase I reports identifies four key goods movement corridors, which "constitute the state's goods movement backbone" and consist of following regions:

- Los Angeles/Inland Empire,
- Bay Area,
- San Diego/Border, and
- Central Valley

Within these four key trade corridors there are twelve Interstate highways that represent major goods movement routes and include:

- Interstates 5, 15, 40, 80, 105, 110, 205, 238, 405, 505, 805, and 880.

There are segments of five other Interstate routes that are also critical to goods movement, these include:

- Interstates 8, 10, 580, 605, and 710.

Key U.S./State routes within the four corridors include:

- U.S. or State routes 11, 57, 60, 91, and 905.

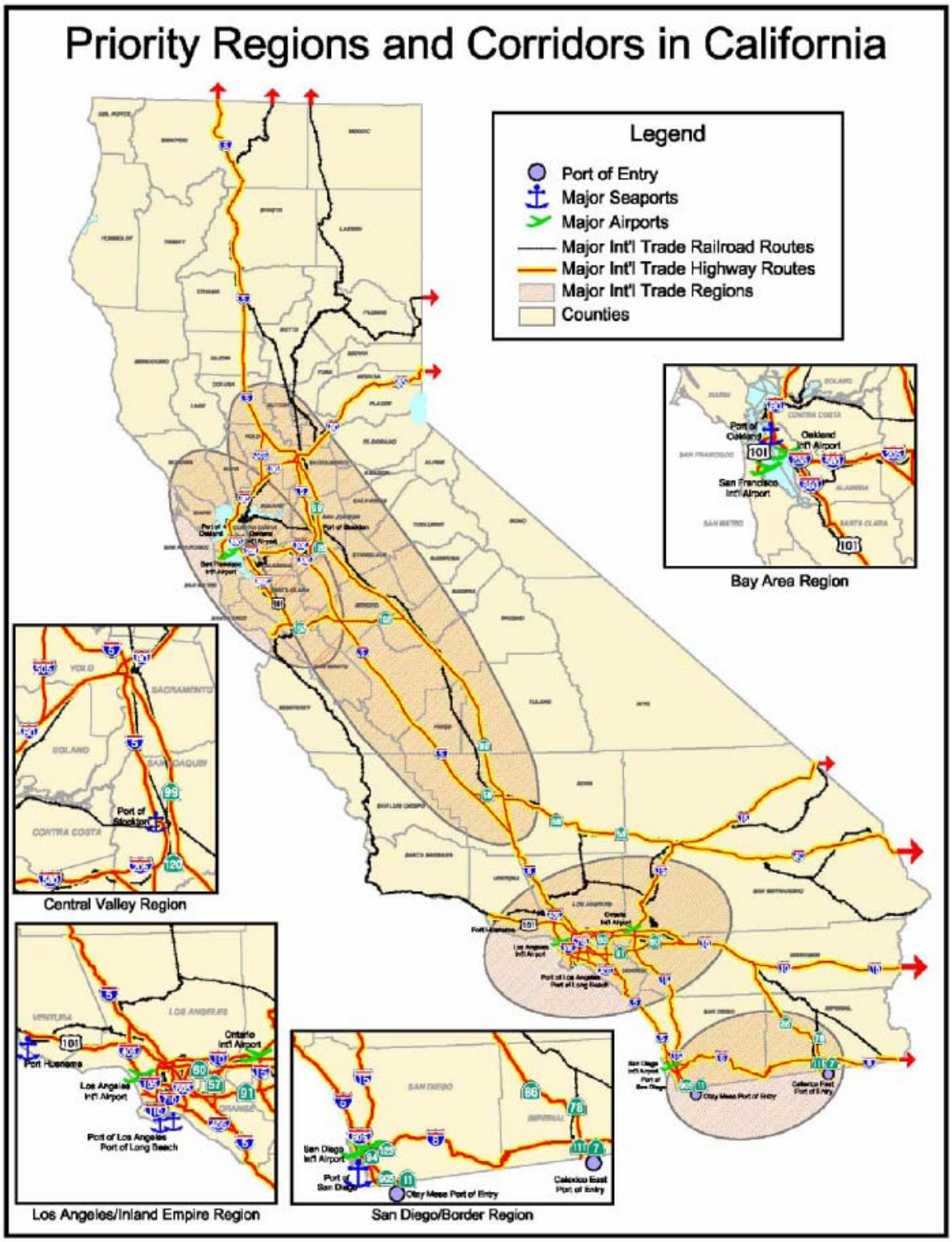
While segments of twelve U.S. or State routes are also important goods movement routes, including:

- U.S. or State Routes 7, 50, 58, 78, 86, 94, 99, 101, 111, 120, 125, and 152.

According to the Phase I report Interstates 5, 80, 15, 40 and 10 are among the most critical goods movement highway corridors.

Figure 8 displays the four primary goods movement corridors in California and the critical highways routes within each corridor.

Figure 8. Priority Goods Movement Corridors



The Phase I report states that, "*Congestion and decreased reliability of travel times on California's highways are creating major challenges for shippers, truck drivers and commuters alike. For the State's seaports, truck congestion and delay, particularly in Southern California, present the most serious landside transportation problems and all three major container ports are seeking to expand rail shipments in response. For the international airports, truck access is a critical problem, especially at Los Angeles, Oakland, and Ontario airports."*[54] Alleviating truck congestion along these critical goods movements is of primary concern. SRRAs may contribute to reducing commercial truck congestion along these routes by providing expanded, new, or improved parking facilities. An expansion of truck parking at new or existing SRRAs and alternative stopping opportunities would require trucks to driver fewer highway miles to find a location to park and rest. Therefore, providing additional truck parking spaces could contribute to reducing congestion by taking the number of trucks off of the highway while reducing the number of truckers who drive tired, therefore improving traffic safety. In addition, collisions due to trucker fatigue can also contribute to major traffic delays. Therefore, reducing the number of tired truckers on goods movement routes would tend to reduce traffic congestion created as the result of truck collisions.

Regarding the potential growth in the goods movement industry, the Phase I report states that *"global trends are converging to propel substantial growth over the next two decades. Shipments of cargo containers are poised to double over the next 15 years; and perhaps, triple over the next 20 years to serve California's own needs and support activities for the rest of the nation."*

In addition, to these global trends, the report indicates that *"California's own population growth will still drive added goods movement demand even if shippers seek alternatives to California's ports of entry for non-California bound cargo. Without adequate investment to expand California's ports, rail lines, and highways, performance will deteriorate, eroding service to the public, dampening the State's economic vitality, and dimming job prospects for a growing workforce. Failure to keep pace will also add to congestion, primarily from truck traffic, reducing Californians mobility while offsetting gains from efforts to mitigate environmental impacts of goods movement operations."* This anticipated growth in the goods movement industry will translate into significant demands on California's highways, including SRRAs, particularly regarding the demand for truck parking spaces at SRRAs.

The following excerpts represent the key findings of the Phase I report for the each of the four goods movement corridors regarding highway traffic congestion issues.

Los Angeles/Inland Empire Region.

- *"Key highway system routes include Interstates 5, 10, 15, 110, 605, and 710, and State Routes 57, 60, and 91."*

[54] "Goods Movement Action Plan: Phase I: Foundations" by the California Business, Transportation and Housing Agency and the California Environmental Protection Agency, Spring 2005, Pg. II-4.

- *"In total, 224 route miles of the region's highway system has five-axle truck volumes of 10,000 or greater."*
- *"Between 50 and 60 percent of all shipments arriving at the region's ports are bound for points beyond the local area and, thus, must cross an already overloaded transportation network to reach their ultimate destination - at least initially by truck."*
- *"These routes continue east through the Inland Empire and north and south of the Los Angeles basin. From San Bernardino traffic moves north and east on Interstate 15 to Nevada and on Interstates 10 and 40 to Arizona."*
- *"The Ports of Los Angeles and Long Beach depend on this local highway network. These two ports combined currently generate over 40,000 truck trips per day. By 2010, this volume could exceed 50,000 truck trips per day, and reach 92,000 by 2020."*
- *"The most heavily impacted route of this access network is Interstate 710 (Long Beach Freeway). This corridor has the highest truck accident rate in the State."*
- *"Caltrans projects annual truck vehicle miles of travel to grow in the Los Angeles/Inland Empire Region (including Imperial County in this case) from 6,676 billion miles to 10,403 billion miles, an increase of 64 percent, between 2005 and 2025."*[55]

Bay Area Region.

- *"Major elements of the Bay Area transportation network include Interstates 80, 238, 580, and 880 and U.S. Route 101."*
- *"Interstate 580 is the primary east-west connector to Interstate 5, and is the primary artery between the Bay Area region, the San Joaquin Valley and Southern California. It carries the highest truck volume in the region."*
- *"Interstate 80 is a connector to the transcontinental truck network and carries the third-highest truck volumes in the region."*
- *"U.S. Route 101 is a gateway corridor in the southern portion of the region."*
- *"Interstates 238 and 880 provide critical highway links internally in the Bay Area in the movement of goods, with Interstate 880 carrying the second highest five-axle truck volume in the region."*
- *"In the Bay Area, annual truck vehicle miles of travel is projected to grow from 1,738 billion miles to 2,368 billion miles, an increase of almost 74 percent, with the counties of Alameda and Santa Clara accounting for the most significant increases."*[56]

[55] Ibid., Pgs. V-6, V-7.
[56] Ibid., Pgs. V-11, V-12.

San Diego/Border Region.

- *"Transborder international trade dominates freight operations in San Diego and Imperial Counties. Of the current two million international border truck crossings (northbound and southbound), 78 percent of all trade is destined for locations outside of the San Diego/Border Region."*
- *"Approximately 57 percent of truck trips have origins or destinations to other counties within California, while at least 21 percent have origins or destinations in other U.S. states or international locations."*
- *"In 1993, California identified a NAFTA Network (NAFTA-Net) of critical transportation corridors serving trade and traffic through the land ports of entry between California and Mexico. These NAFTA-Net corridors, together with the main access routes north to Los Angeles, make up the predominant elements of the highway transportation network serving the region."*
- *Key north-south routes include Interstates 5, 15, and 805 and State Routes 7, 11, 86, and 905. Away from the border, Interstate 5 is the predominant interregional truck route, although Interstate 15 has seen considerable increases in truck volumes in recent years.*
- *Annual truck vehicle miles of travel are projected to increase from 1,089 billion to 1,745 billion miles in the San Diego/Border Region between 2005 and 2025, a 64 percent increase.*
- *In 2003, approximately 2 million trucks crossed the California/Mexico border. Caltrans projects this number will increase to 3.1 million trucks in 2010 and 5.6 million trucks by 2030.*[57]

Central Valley Region.

- *"Interstate 5 is considered the backbone of California's highway system and serves as a vital gateway into the Central Valley for interstate and international transport of North American trade."*
- *"In terms of trade origins and destinations, State Route 99, from south of Bakersfield to Sacramento, actually may be more important than Interstate 5."*
- *"Many key corridors to the Central Valley partly derive their goods-movement importance through the connections they provide to other regions, including via Interstates 80 and 205 and State Route 58."*
- *"Trucking is the dominant mode of transporting freight accounting for 87 percent of outbound tonnage and 81 percent of inbound tonnage in the San Joaquin Valley."*

[57] Ibid., Pgs. V-14, V-15.

- *"In the Central Valley Region, annual truck vehicle miles of travel are projected to increase from 4,677 billion miles to 7,758 billion miles, or 60 percent."*[58]

Other Corridors: State Gateways and Central Coast.

- *"The highways and rail lines that make up the rural or urbanizing State gateways and the Central Coast provide many vital links for intra- and inter-state and international goods movement."*
- *"The primary goods movement corridors in the region are Interstates 5 and 80; U.S. Routes 97, 101, 199, and 395; and State Routes 41, 46, 152, and 299."*
- *"These routes have particular problems. Truck size restrictions on U.S. Routes 101 and 199 and State Route 299 limit the length and types of commercial truck combinations. Bridge facilities on Interstate 5 north of Redding were built based on truck traffic forecasts far below the current level of 8,000 north/south trips per day, resulting in high rehabilitation needs and maintenance requirements. Increasing congestion in the Los Angeles/Inland Empire and the Central Valley Regions is already causing diversion of truck traffic onto U.S. Route 395."*
- *"Between 2005-2020, annual truck vehicle miles of travel in the Northern Gateways and Central Coast regions is expected to increase from 1,410 billion miles to 1,873 billion miles, an increase of 33 percent with some counties experiencing significantly higher growth."*[59]

C. Implications for SRRA System

The need to reduce traffic – particularly truck traffic – congestion on primary good movement routes is of significant importance in improving goods movement in California. SRRAs and alternative stopping opportunities, including auxiliary parking and Interstate Oases, by providing locations for commercial trucks to park and rest, can reduce congestion while improving safety on key goods movement routes. In addition, growth in trucking along the primary goods movement routes will contribute to greater SRRA use and parking demand.

The Phase I report specifically lists truck parking and SRRAs as "operational improvements" which also include "*such project types as auxiliary lanes, truck climbing lanes, new or revised turn pockets, ramp and curve corrections, new signals and signal timing, improved signing, lane striping and width changes,…etc."*[60] The Phase I report indicates that such operational

[58] Ibid., Pgs. V-17, V-18.
[59] Ibid., Pg. V-20.
[60] Ibid., Pg. V-6.

improvements *"…are all critical components in the measuring, maintaining and improving goods movement transportation system mobility, accessibility and reliability."*[61]

SRRAs should be developed, when possible, along the goods movement routes, particularly Interstates 5, 80, 15, 40 and 10, that have been identified in the Goods Movement Action Plan and presented in Figure 8. Developing SRRAs along these routes will help reduce truck traffic congestion and improve goods movement flow in accordance with state, regional, and local objectives. Specifically, parking for commercial trucks at SRRAs located on these routes should be expanded whenever possible. Given the need for truck parking in these regions, typical SRRA spacing policies might be suspended, with higher concentrations and closer proximities of truck parking opportunities being developed, either through the development of SRRAs or alternative stopping opportunities.

The Phase I and Phase II reports identify and prioritize major goods movement related capital improvement projects by corridor region that are underway or are planned and programmed over the next 20 years. Many of these projects include improvements to interchanges and highway lane widening. Therefore, SRRA or alternative parking development projects might capitalize on such corridor capital improvements. For example, if a region is identified where an Interstate Oasis or auxiliary truck parking project is needed, and where interchange and lane widening improvements under the Goods Movement Action Plan would enhance the project's prospects, the projects should be considered together, thereby enhancing the Oasis or auxiliary truck parking project's benefits.

[61] Ibid.

V. SRRA EVALUATION CRITERIA

The following sections summarize the general criteria that will be used to assess existing and prospective new SRRAs, or alternative stopping opportunities, in terms of present and anticipated future needs of the traveling public. Recommendations will be made based on these criteria regarding whether a particular SRRA should remain in the SRRA system, be expanded, removed and/or potentially replaced with a alternative stopping opportunity. They will address the general locations of where an entirely new SRRA or alternative stopping opportunity is judged to be needed. The criteria will be refined as the project evolves and additional information becomes available. Final criteria applied to formulate recommendations for all SRRAs will be presented in detail under Task 5 of this project.

A. Evaluation of Existing SRRAs

The following general criteria will be used to assess existing SRRAs:

SRRA Utilization. Understanding the level of use at each SRRA will provide important insights regarding (1) the demand for rest area services at each location and (2) the extent to which existing facilities can accommodate demand. The assessment will be made primarily by examining the amounts and types of parking available at each SRRA.

Average daily vehicle volumes will be assessed at each SRRA based on data provided by Caltrans and obtained from SRRA vehicle count surveys conducted in this study. Average daily vehicle volumes at each SRRA will be related to the number of existing parking spaces to judge whether each subject SRRA is capable of meeting its parking demand or whether parking deficiencies exist. Using input provided by Caltrans engineers, parking volumes obtained from vehicle count surveys will be translated into the number of parking spaces that would be required to satisfy current parking demand, for both automobiles and trucks. Dornbusch will rank the parking deficiencies at SRRAs by route or primary route segment. Those SRRAs where parking deficiencies are the greatest will be identified as locations where additional parking is needed, and which might be supplied by expansion of an existing SRRA or the development of a new SRRA or alternative stopping opportunity.

The vehicle count surveys currently being conducted in this project will also allow for a more accurate calculation of stopping factors – that is, the percentage of daily mainline traffic stopping at the SRRA. Dornbusch will assess how stopping factors vary from location to location, particularly considering how stopping factors in rural locations compare to those in more urban locations. This will allow for a greater understanding of how motorist's demand for SRRA services might vary systematically by location based factors.

Route Characteristics. Dornbusch will assess the overall characteristics of the route on which the SRRA is located. Key characteristics to be analyzed include AADT levels, expected growth

in AADT, whether the particular route is located in an urban/suburban or rural region, and whether the route is located on a primary goods movement corridor, as discussed in Section IV of this report. Generally, SRRAs located on rural and remote stretches of highway, where few stopping opportunities exist, will tend to represent locations where there is strong need for rest area services. In contrast, SRRAs on routes in more urban locations, and where a greater number of alternative stopping opportunities exist, might represent locations where alternative stopping opportunities could be utilized instead of expanding existing SRRAs or developing new ones.

Evaluations of SRRAs located on routes that have been identified as primary goods movement corridors will take into consideration the potential need to provide additional amounts of truck parking to serve large commercial trucks. This might include either (1) expanding existing truck parking at SRRA facilities – which, given the extremely limited amounts of developable right-of-way at most SRRAs appears an unlikely option - or (2) developing nearby alternative stopping opportunities, including Interstate Oases and/or auxiliary truck parking, to meet additional truck parking demands along these routes.

Spacing/Distance to the Next SRRA. As presented and discussed in the preceding sections of this report, there exist a range of different recommendations for optimal SRRA spacing that have been cited by a number of sources. The California Streets and Highways Code, Section 219(a) states that "*Safety roadside rests should be provided so that, in combination with other stopping facilities, there shall be facilities available at intervals of approximately one-half hour's normal driving time."* The statement "in combination with other stopping facilities" suggests that alternative stopping opportunities might be used in conjunction with traditional SRRAs to meet the goal of achieving a spacing of "one-half hours" drive time. Other sources, including AASHTO and FHWA have indicated minimum spacing of 60-miles and one hour's drive time, respectively. A recent Caltrans study of the relationship between fatigue-related collisions and the provision of SRRAs found that fatigue-related collisions tend to increase beginning 30 miles from SRRAs, suggesting that 30 miles might represent an optimal spacing. However, this study was inconclusive in its finding regarding optimal SRRA spacing.

Importantly, according to "Non-Regulatory Supplement for Part 752" discussed earlier, FHWA requires that if Caltrans chooses to abandon an existing SRRA, then the Department must ensure that "*distances between the remaining rest areas are reasonable."* In this case, the FHWA states that "*a spacing of an hour's driving time or less is considered to be reasonable unless an extenuating circumstance can be established."* Therefore, when evaluating whether an SRRA might be removed from the system, this analysis will consider (1) whether the drive time to the next SRRA is one hour or less, and (2) if less, whether an alternative stopping opportunity might be developed to result in a drive time of less than one hour.

Alternative Stopping Opportunities. The number and concentration of nearby stopping opportunities, including gas stations, truck stops, restaurants, malls/retail outlets, etc. provide

motorists with alternatives to stopping at traditional SRRAs. SRRAs located on routes where such alternative stopping opportunities are spaced closer together and offer greater parking areas might represent locations where rest area services might be substituted with such facilities instead of relying on an existing or new SRRA. In contrast, SRRAs in locations where there are fewer alternative stopping opportunities would have a relatively greater need to continue to provide motorists with rest area services.

Urban/Rural Location. Many SRRAs are 20 to 30 years old and are located in areas that have experienced considerable urban and commercial growth over this period. What were once rural locations may now be suburban and urbanizing locations served by various commercial enterprises, many of which might represent potential partners for developing alternative stopping opportunities. This study will consider such conditions and offer judgments of how recent and anticipated future changes in population/urban growth and accompanying stopping opportunities might impact the need for existing rest area services.

Caltrans District Input. This effort will include contacting appropriate Caltrans staff in each District where SRRAs are located and seek input on relevant issues, including maintenance problems, historical/present use, whether recent renovations or improvements have been made, and other matters. The objective of this task will be to record and consolidate information that indicates which SRRAs each District considers to be most essential to serving the needs of motorists in the region.

B. Evaluation of the Need for New SRRAs or Alternative Stopping Opportunities

The California Project Development Procedures Manual (PDPM) provides guidelines for identifying locations where SRRAs are most needed. These guidelines indicate locations where:

- There are gaps of more than 100 miles between existing SRRAs,
- The closest SRRAs are significantly in need of additional parking capacity, and
- Where unauthorized roadside parking is frequently observed.

Therefore, the above criteria will be applied as the starting point for an evaluation of where new SRRAs or alternative stopping opportunities are needed in California. In addition, the PDPM goes on to designate specific routes where there are "high-priority needs" for additional SRRAs and alternative stopping opportunities, which include:

- Interstate 5 between Sacramento and San Diego,
- Interstate 80 between Sacramento and Oakland, and
- Interstates 8, 10, 15, and 40 in the desert areas.

This study will evaluate the above priority Interstate segments and identify appropriate locations on those routes where SRRAs and/or alternative stopping opportunities might be developed to meet the needs of motorists.

In Task 5C, additional criteria will be developed to make judgments regarding what factors define the need for, and location of, new SRRAs or alternative stopping opportunities. Initial criteria considered to assess the need for new SRRA locations include:

SRRA Spacing. Based on spacing guidelines provided by the PDPM, this study will analyze route segments where the distance between existing SRRAs is more than 100 miles. Priority Interstate routes specified in the PDPM will be analyzed first then followed by other relevant routes on which SRRAs presently exist. However, given the various other indicators of appropriate SRRA spacing, Caltrans' guidance will be used to identify what the Department considers to be the optimal spacing between SRRAs. Such guidance might consider applying a flexible minimum spacing criterion, recognizing different traffic and regions ability to service traveler needs according to alternative stopping opportunities. Allowing for flexibility in the spacing of SRRAs would allow Caltrans to prioritize SRRA developments in the locations where they are most needed and therefore maximize the value of new SRRA projects.

Parking Deficiencies. Highway segments between SRRAs having significant parking deficiencies would represent a potential need for a new SRRA or alternative stopping opportunity. Therefore, the magnitude of parking deficiencies at existing SRRAs will provide a key input into relating parking demand to parking supply on each route, and therefore locations and magnitudes of SRRA development needs.

Unauthorized Truck Parking. The location and magnitudes of unauthorized parking will be evaluated based on (1) review of information provided in the 2001 "Partners for Adequate Parking Facilities Initiative Final Status Report" regarding the locations of unauthorized truck parking on highway routes and (2) interviews with CHP representatives confirming the location and magnitude of such parking. Again, priority Interstate routes identified in the PDPM will be evaluated first followed by all other relevant highway routes. Locations that are found to have high concentrations of unauthorized truck parking will be identified as those in need of additional truck parking, and where development of an SRRA or an alternative stopping opportunity, including auxiliary truck parking facilities, might satisfy this need. This study will also focus on routes identified as primary goods movement corridors in assessing unauthorized truck parking and truck parking needs.

Limited Alternative Stopping Opportunities. Routes where there are few alternative stopping opportunities, such as along rural highways, and where there are large distances between existing SRRAs, will be considered locations potentially in need of new rest area services. In such cases, AADT volumes on these segments will be particularly important indicators for making judgments about the level of need for rest area services along these routes.

Input from Stakeholder Groups. In evaluating the need for new SRRA locations, this study will incorporate relevant input from stakeholder groups, such as recommendations regarding the optimal spacing of SRRAs, though not necessarily regarding specific locations for new SRRAs or alternative stopping opportunities.

This analysis will consider additional criteria and/or modify the above criteria regarding rest area locations, magnitudes, etc., based on the information obtained and findings derived from Tasks 2 through 5. Based on application of these criteria, this study will evaluate regions and recommend where developments of new SRRAs or alternative stopping opportunities are desirable. This study will also recommend the type of stopping opportunity that would be most appropriate for the identified locations.

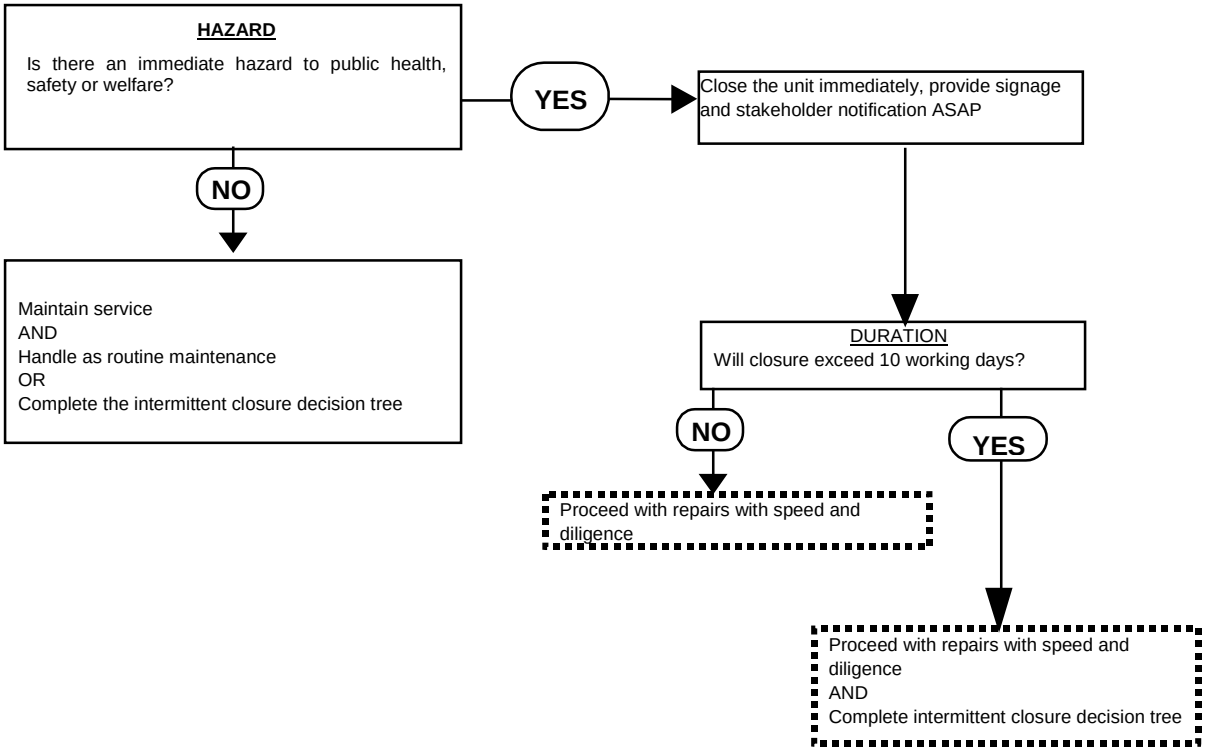
APPENDIX B. SRRA CLOSURE GUIDELINES

(Begins on following page)

SAFETY ROADSIDE REST AREA EMERGENCY CLOSURE DECISION PROCESS

1. Is there immediate or foreseeable hazard to public health, safety or welfare? *What examples can we give?-hazardous spills, contaminated water, wastewater system failure, crime-in-progress, structural failure*
2. What is the anticipated duration of the closure?
    a. DURATION
        - What is the best and worst case estimates for the length of closure required?
        - What necessary corrective actions are required before the unit can be returned to service?
    b. PEAK USE PERIODS
        - Is the closure during peak seasonal or holiday travel periods?
3. Is the unit a critical component of the transportation system?
    a. GOODS MOVEMENT
        - Is the unit on an Interstate freeway, or major goods movement route?
        - Are rest areas identified as part of the goods movement strategy for the route?
    b. TOURISM
        - Is the unit on a Scenic Highway or All American Road?
        - Is the unit important for motorist orientation to a major metropolitan area or major recreational facility?
        - Is the unit a stop over for commercial tour busses?
    c. USAGE
        - What is the average daily traffic on the route?
        - What percentage of the total traffic uses the unit?
        - How many people use the unit (daily, annual, seasonal)? *What is the threshold patronage number or percent of mainline traffic?*
    d. SPACING
        - Is the gap created by closure less than or greater than 120 miles?
    e. ALTERNATE FACILITIES
        - Are alternative facilities available and adequate to handle the use? *What are the criteria to identify an alternate stopping opportunity?*
    f. OTHER SAFETY INDICATORS
        - Does unsafe roadside parking occur in the vicinity?
        - Are the accident rates for run-off the road or drowsy driving above average in the vicinity? *What is the average and where is the accident data obtained?*
4. Is it feasible to provide temporary facilities?
    a. COST
        - Is the cost reasonable? *What is the threshold for reasonable?*
    b. FUNDING AVAILABILITY
        - Is there funding for providing temporary facilities?
5. Has the public been informed of the closure, so they can make other plans?
    a. ROAD SIGNS
        - Have provisions been made for signage at the preceding rest area and the roadside preceding the rest area?
    b. PUBLIC INFORMATION
        - Have local communities and businesses been advised of the closure schedule?
        - Has a press release been issued?
        - Has the CHP been notified?
        - Has the closure been indicated on the Caltrans rest area website?
        - Has the closure been posted in rest area information display cases?

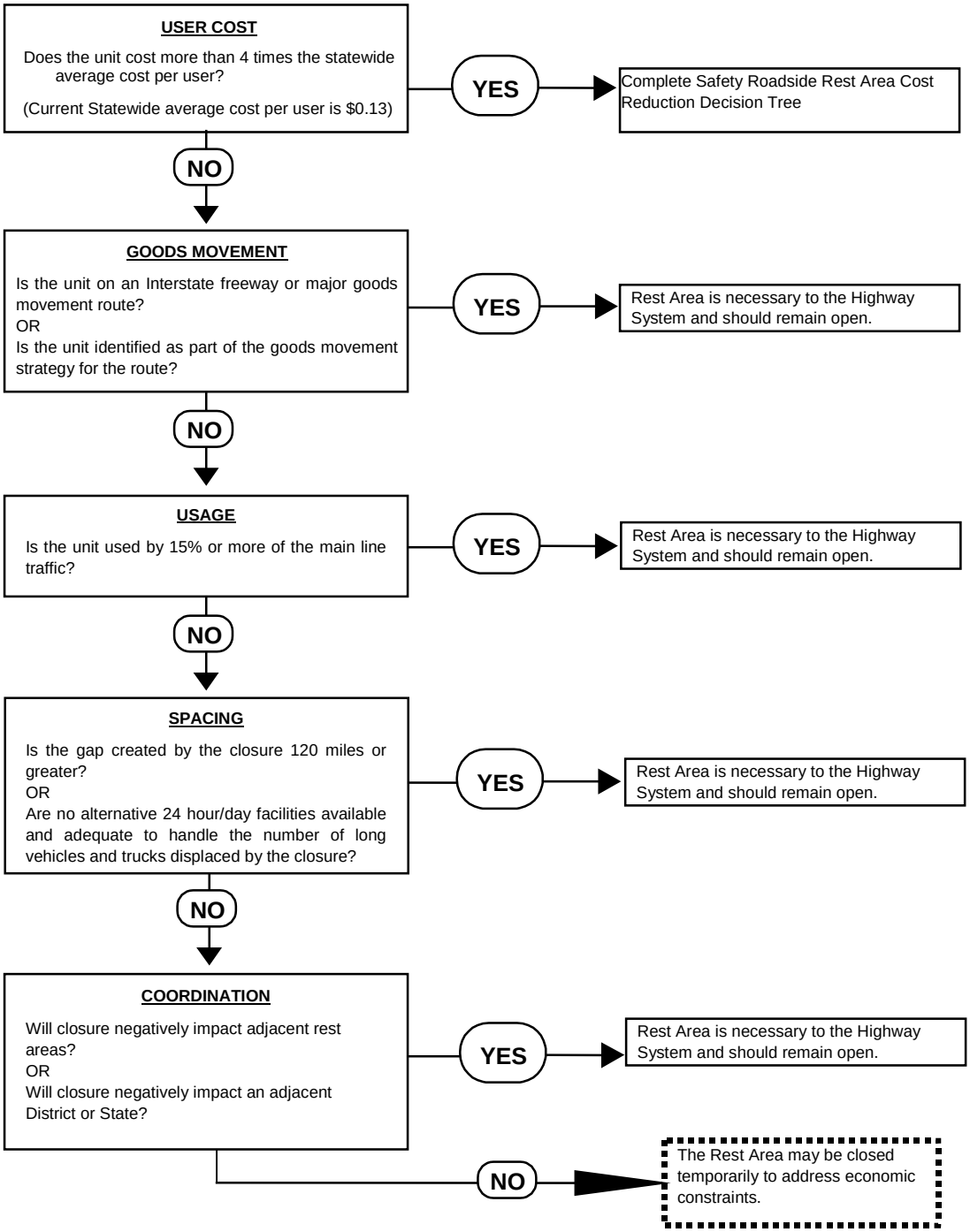
Safety Roadside Rest Area Emergency Closure Decision Tree



SAFETY ROADSIDE REST AREA ECONOMIC CLOSURE DECISION PROCESS

1. Is the unit a critical component of the transportation system?
    a. GOODS MOVEMENT
        - Is the unit on an Interstate freeway, or major goods movement route?
        - Are rest areas identified as part of the goods movement strategy for the route?
    b. TOURISM
        - Is the unit on a Scenic Highway or All American Road?
        - Is the unit important for motorist orientation to a major metropolitan area or major recreational facility?
        - Is the unit a stop over for commercial tour busses?
    c. USAGE
        - What is the average daily traffic on the route?
        - What percentage of the total traffic uses the unit?
        - How many people use the unit (daily, annual, seasonal)? *What is the threshold patronage number or percent of mainline traffic?*
    d. SPACING
        - Is the gap created by closure less than or greater than 120 miles?
    e. ALTERNATE FACILITIES
        - Are alternative facilities available and adequate to handle the use? *What are the criteria to identify an alternate stopping opportunity?*
    f. OTHER SAFETY INDICATORS
        - Does unsafe roadside parking occur in the vicinity?
        - Are the accident rates for run-off the road or drowsy driving above average in the vicinity? *What is the average and where is the accident data obtained?*
2. What is the timing of the closure?
    a. DURATION
        - How long is the closure? *Is there a threshold for being out of service too long?*
    b. PEAK USE PERIODS
        - Will the closure affect seasonal or holiday peak travel periods?
3. Have cost or service reductions been pursued short of complete closure?
    a. CONTRACTOR
        - Will the Rehabilitation Facility consider a contract amendment to reduce the scope of work (i.e., janitorial, but not grounds maintenance), or lesser hours of service coverage?
        - Will the Rehabilitation Facility renegotiate the contract cost reduction without service reductions?
        - Can Caltrans forces provide minimum maintenance services? *What are minimum maintenance services?*
    b. SERVICE CONTRACTS/ OTHER COSTS
        - Can water, power, or trash service be reduced through conservation efforts?
        - Can mowing, litter removal or landscape work be temporarily discontinued (e.g., quit watering lawns)?
        - Can the state purchase and furnish paper and cleaning product cheaper than the contractors charge?
4. Is an adopter or rest area sponsor available to provide or underwrite the maintenance cost?
5. Has the public been informed of the closure, so they can make other plans?
    a. ROAD SIGNS
        - Have provisions been made for signage at the preceding rest area and the roadside preceding the rest area?
    b. PUBLIC INFORMATION
        - Have local communities and businesses been advised of the closure schedule?
        - Has a press release been issued?
        - Has the CHP been notified?
        - Has the closure been indicated on the Caltrans rest area website?
        - Has the closure been posted in rest area information display cases?

Safety Roadside Rest Area Economic Closure Decision Tree



SAFETY ROADSIDE REST AREA PERMANENT CLOSURE DECISION PROCESS

1. Is there a need for the unit?
    a. SPACING
        - Is it consistent with statutory spacing criteria (30-minute spacing)?
        - Is it consistent with the 1974 Revised Initial Plan for CTC funding (60-mile spacing)?
        - Is it consistent with the CTC's 1985 spacing policy (close gaps over 100 miles)
        - Is it consistent with department policy and current master plan?
    b. USAGE
        - Is the unit used by the public? *What is the threshold patronage number or percent of mainline traffic?*
        - Is the unit parking and restroom capacity adequate for current demand?
    c. EFFECT ON ADJACENT UNITS
        - Are adjacent units adequate to handle the diversion of traffic caused by closure?
    d. ALTERNATE FACILITIES
        - Are comparable alternative facilities available and adequate to handle the use? *What are the criteria to identify an alternate stopping opportunity?*
    e. OTHER SAFETY INDICATORS
        - Does unsafe roadside parking occur in the vicinity?
        - Are the accident rates for run-off the road or drowsy driving above average in the vicinity? *What is the average and where is the accident data obtained?*
2. Is it feasible to repair or rehabilitate the unit?
    a. CONDITION
        - What is the age of the facility?
        - When and to what extent has the facility (buildings, utilities, pavement, walks, landscape) been rehabilitated?
        - What is the remaining useful life of the facility?
    b. COST OF REPAIR OR REHABILITATION
        - What is the cost of rehabilitating facilities for another 20-year life?
        - Is the cost reasonable? *What is the threshold for reasonable?*
    c. FUNDING AVAILABILITY
        - Is a rehabilitation project programmed?
        - Are there adequate SHOPP or other funds?
        - Will the FHWA provide matching funds?
3. Are other public agencies interested in taking over a relinquished unit (if on a conventional highway)?
4. Is closure consistent with public opinion?
    - Has input from stakeholders, partners and the general public been solicited, considered and addressed?
5. Does the closure analysis support concurrence from decision makers?
    a. Does the Program Manager concur with the closure justification?
    b. Does the Federal Highway Administration concur with abandonment? *What are the FHWA's requirements?*
    c. What is the environmental impact of the closure? (What are the potential impacts to be considered?)
    d. Does the CTC concur with closure?

Safety Roadside Rest Area Permanent Closure Decision Tree