The BusPool Project

Caltrans Park & Ride and HOV Transit Enhancement Project

July 2005

Final Report

CALTRANS DIVISION OF MASS TRANSPORTATION

CALTRANS DIVISION OF TRAFFIC OPERATIONS

Caltrans

Nelson | Nygaard consulting associates

Contract #74A0092

CALTRANS DIVISION OF MASS TRANSPORTATION

CALTRANS DIVISION OF TRAFFIC OPERATIONS

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In Association With

System Metrics Group, Inc.

Kaku Associates

The Roanoke Company, Inc.

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- #3 Sacramento
- #4 San Francisco Bay Area
- #7 Los Angeles Basin
- #8 Inland Empire
- #11 San Diego
- #12 Orange County

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Omnitrans

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Executive Summary

California's transportation system is for the most part mature. System expansion is less than one percent each year. When expansion is necessary the California Department of Transportation (Caltrans) and its partners choose projects strategically designed to provide the highest return on what are typically very expensive capital investments. Even with these investments, highway congestion in the state's urban areas continues to increase at a rate nearly five times that of population growth, and recent projections suggest congestion will likely double again during this decade. To address this growing issue Caltrans and its partners are seeking new opportunities to improve the productivity of the transportation system. One opportunity involves maximizing the transit vehicle utilization of the state's extensive Park & Ride (P&R) and High-Occupancy Vehicle (HOV) system. Currently there are 367 P&R lots and 1061 HOV lane miles spread throughout the state. The California BusPool Project was created to identify potential P&R and HOV improvements that would enhance express bus services in the State's metropolitan areas.

Caltrans hired a team lead by Nelson\Nygaard Consulting Associates to spearhead this effort. A Technical Advisory Committee was established that included representatives from Caltrans, public transit operators and other related public agencies.

The BusPool Project was split into two parts:

Step 1 Research

During the research phase Caltrans worked with its regional partners to gather information regarding current P&R lot usage, express bus services and potential areas of improvement. Research protocols included surveys, interviews and a review of existing data to determine what commuters wanted and how best to match their "wants" to available options.

Step 2 Project Priorities and Plan Development

The information gathered during the research phase was used to create a Ten-Year Master Plan and Program of Projects. The recommendations included in the plan were developed using a variety of criteria such as connectivity to transit, demand, impacts on freeway congestion, potential service level improvements and ease of implementation.

In addition, the recommendations were designed to help Caltrans meet its newly adopted goals:

- **Safety:** Provide the safest transportation system in the nation for users and workers
- **Flexibility:** Provide mobility choices through strategic partnerships
- **Reliability:** Provide dependable travel times
- **Performance:** Optimize transportation system throughput
- **Stewardship:** Preserve and enhance California's resources and investments
- **Delivery:** Improve delivery of projects and services

The consulting team identified 181 potential projects capable of positively impacting ridership on public transit bus routes that utilize Caltrans HOV facilities and P&R Lots. The 181 projects ($2.3 billion) were split into three priority categories:

Priority	# of projects	Estimated Cost* *($ millions)*
Highest	67	$1,149
Medium	56	$854
Lowest	58	$271
Total	181	$2,274

* Costs are available only for 162 of the 181 projects.

The Ten-Year Master Plan and Program of Projects (see Chapter 9) is intended to address only the highest priority projects. These projects cover the entire range from P&R lot maintenance items, to adding more spaces, to building HOV access ramps and finally to adding new HOV lanes. The estimated costs at the district level are:

District	# of Projects	Estimated Costs ($ millions)
3	6	$20
4	29	$917
7	11	$154
8	6	$21
11	12	$23
12	3	$14
Total	67	$1,149

Caltrans is now working with its regional partners to develop detailed strategies for the implementation of the highest priority projects.

Chapter 1

Project Background and Objective

Background

California's transportation system is, for the most part, mature. System expansion is less than one percent each year. When expansion is necessary the California Department of Transportation (Caltrans) and its partners choose projects strategically designed to provide the highest return on what are typically very expensive capital investments.[1] Even with these investments, highway congestion in the state's urban areas continues to increase at a rate nearly five times that of population growth. In 2002, Californians experienced twice the congestion that they had endured in 1990.[2] Population and employment projections suggest congestion will likely double again during this decade. To address this growing concern Caltrans and its partners are seeking new opportunities to improve the productivity of the transportation system.

One opportunity involves maximizing the utilization of the state's extensive Park & Ride (P&R) and High-Occupancy Vehicle (HOV) system. According to a recent report completed by the State of California Legislative Analyst's Office, peak period HOV throughput averages over 2,500 passengers per hour, which is significantly greater than the throughput on comparable congested mixed flow lanes.

1. Source: Draft Transportation Management Systems Master Plan, California Department of Transportation, March 2003
2. Source: Department of Finance

Currently there are 367 P&R facilities and 1061 HOV lane miles spread throughout the state. Caltrans plans to double the HOV network over the next 20 years, and this bodes well for long term congestion relief. Perhaps more importantly though, is that there is untapped capacity in the system **today** which can be used to move more people through the system. In theory, with the right mix of strategies it should be possible to move more people though the system today without adding a significant amount of capital investment.

Unfortunately, most of the P&R and HOV facilities in use today were designed primarily to serve autos (e.g. carpools, vanpools, and motorcycles), not public transit buses. Enhancements (e.g. ramp metering, queue bypasses, etc) are needed to increase bus access and promote further utilization of the HOV system by transit vehicles. These will help make transit a more practical travel option, increasing system throughput, reducing traffic congestion, and maximizing transportation system efficiency.

Other opportunities to improve system utilization exist that, while seemingly mundane, can improve the system and make it a more attractive option for commuters. Over the years, transit operators and others have asked Caltrans to address maintenance, signage, lot location, and security at P&R facilities throughout the metropolitan areas. Transit system leaders raised these issues again during a meeting with then Caltrans Director Jeff Morales in June 2002.

Late in 2002, Caltrans hired a consulting team to undertake a study that would: a) identify strategies for improving the throughput of the HOV and P&R system and b) help the agency further the following newly adopted goals:

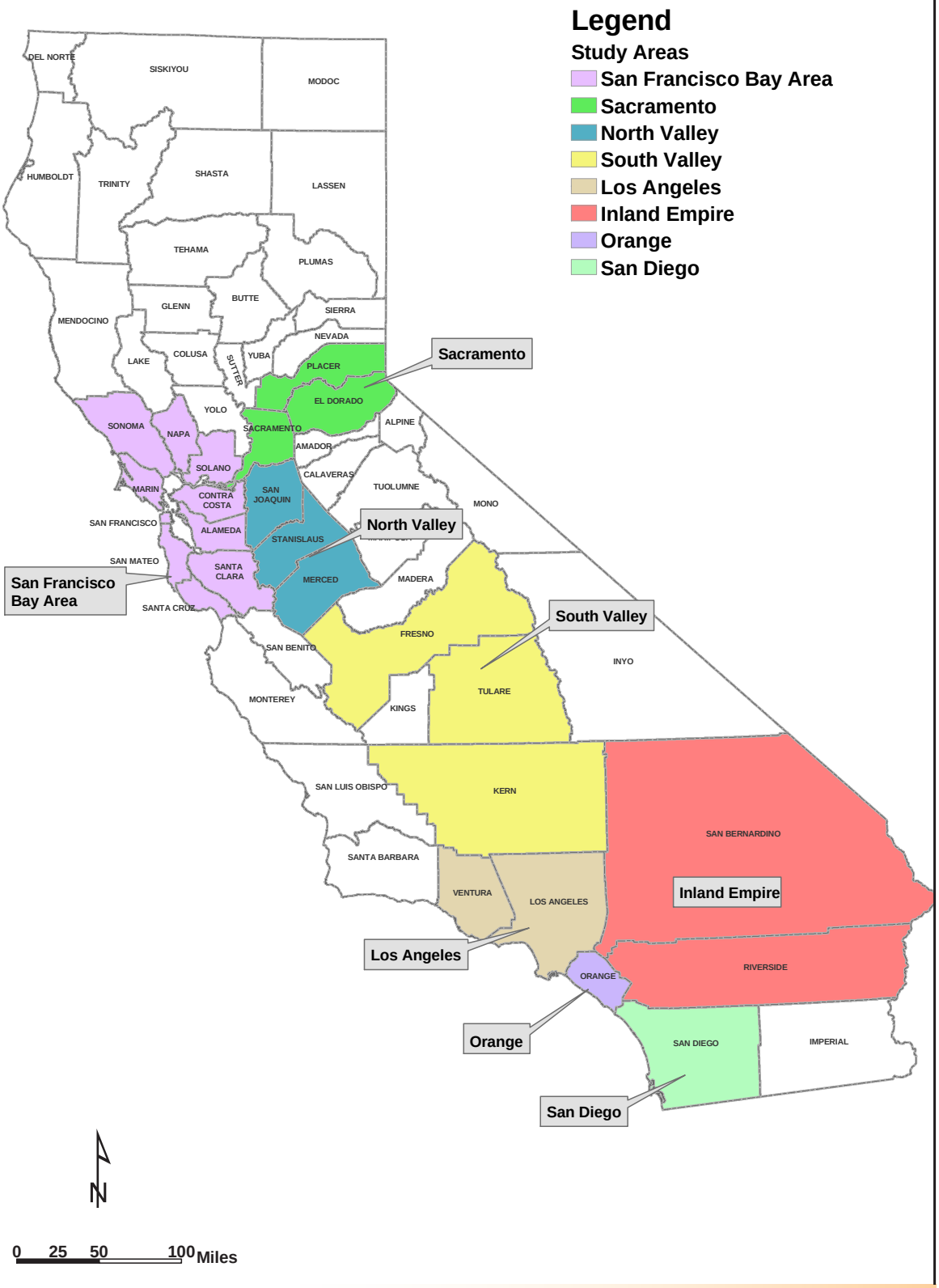
- **Safety:** Provide the safest transportation system in the nation for users and workers
- **Flexibility:** Provide mobility choices through strategic partnerships
- **Reliability:** Provide dependable travel times
- **Performance:** Optimize transportation system throughput
- **Stewardship:** Preserve and enhance California's resources and investments
- **Delivery:** Improve delivery of projects and services

Project Objective

The Nelson\Nygaard consulting team was hired in June of 2003. Within sixty days the project team (consisting of the Nelson\Nygaard consulting team and the Caltrans Project Managers) had crafted the following project objective:

> The primary objective of the project is the development of a Master Plan and Program of Projects that will identify and help to implement improvements to HOV and P&R facilities (both existing and planned) necessary to increase ridership on the public transit bus routes (both existing and planned) that use those facilities. The goals are to help make transit a more practical travel option, increase trip throughput to reduce congestion, and maximize transportation system efficiency.

Figure 1-1 Project Study Area



The geographic focus of the project was limited to California's six metropolitan areas: Los Angeles, San Diego, Inland Empire, SF Bay Area, Sacramento and the San Joaquin Valley (Fresno/Merced/Bakersfield). Improvements identified outside of these six areas were noted by the Project Team and were included in the master project database. The study area is displayed in Figure 1-1.

The project focused on identifying improvements linked to freeway-oriented bus transit (including Freeway Express and Bus Rapid Transit) services. Improvements that might increase the use of HOV and P&R facilities by increasing participation in carpools were noted by the Project Team and included in the master database. Improvements that might increase the use of any rail-oriented P&R facilities were noted by the Project Team and included in the database.

The following criteria were developed to prioritize and select projects for the Master Plan including:

- Deliverability (can it realistically be completed?)
- Connectivity to transit
- Level of support (MPO/RTPA and transit operator)
- Impact on freeway congestion/Level of Service (LOS) improvement
- Tangible and measurable increase in transit ridership
- Ability to leverage state funds with matching funds

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Project Approach and Work Flow

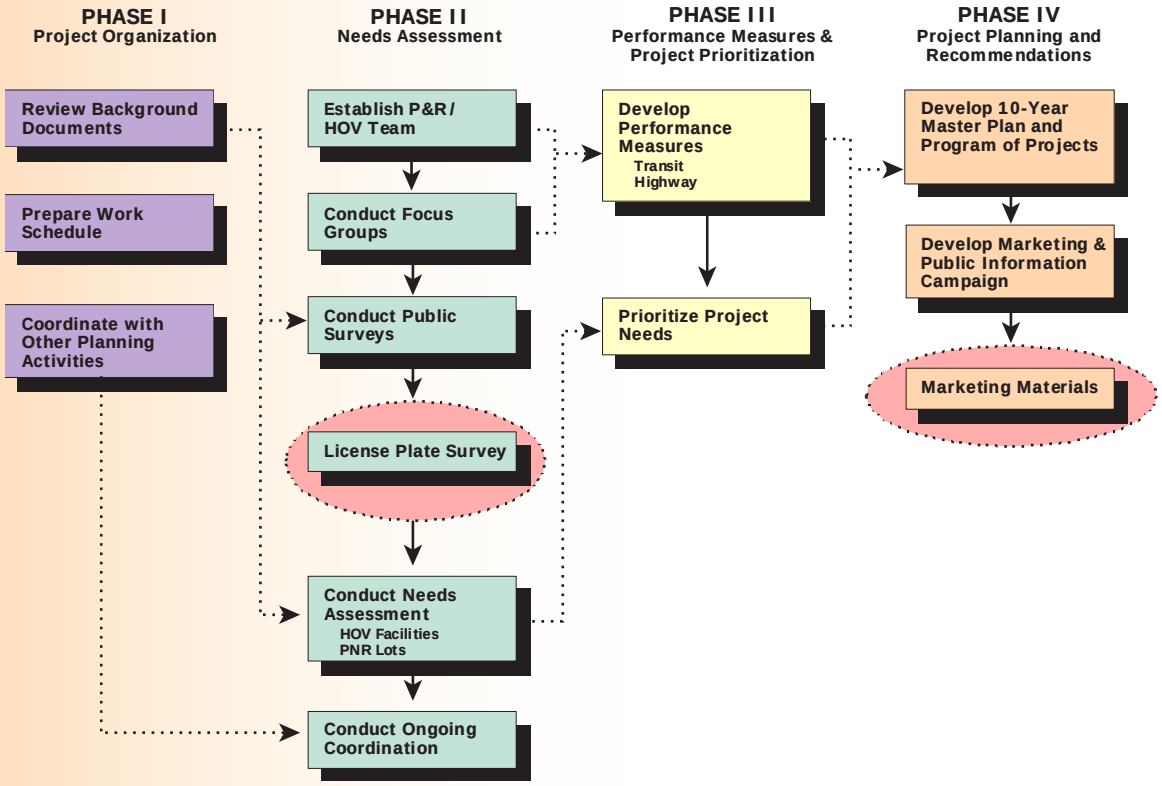
Chapter 2

The project team divided the project into four phases:

- Phase 1 Project Organization
- Phase 2 Needs Assessment
- Phase 3 Performance Measures and Project Prioritization
- Phase 4 Project Planning and Recommendations

This chapter describes the primary tasks associated with each phase. Figure 2-1 graphically depicts the relationships between phases.

Figure 2-1 Work Flow Diagram



Phase 1 Project Organization

Review background documents

Objective – Conduct a comprehensive review of relevant HOV and P&R documents and reports. Document sources included the Internet, Transit Research Board (TRB), Transit Cooperative Research Program (TCRP), Caltrans District Offices and local transit operators.

Output – A Technical Memorandum was prepared outlining the important findings and relevance of each document (see Chapter 3).

Prepare Work Schedule/Work Breakdown Structure

Objective – Prepare, and regularly update, a project schedule and scope of work that would be adjusted as needed to reflect project status and the impact of new findings.

Output – Nelson\Nygaard regularly provided Caltrans staff with monthly schedule and scope updates.

Coordination with Concurrent Plan Efforts

Objective – Engage in initial outreach efforts with other "related" projects throughout California to ensure that: a) recommendations from the BusPool don't contradict recommendations from other projects and b) all resources for this project are used in an effective and efficient manner.

Nelson\Nygaard conducted four (4) regional kick-off meetings at the start of this project to inform project participants and agencies about this project and to identify concurrent studies that would warrant close coordination. Though there are a multitude of transportation projects going on simultaneously throughout the state, only two were identified that required close coordination with this project: 1) the Caltrans D4 Regional Express Study and the SANDAG State Route 163 Express Bus Study.

Output - For the D4 project Nelson\Nygaard staff regularly attended coordination meetings and engaged in email correspondence. For the State Route 163 Express Bus Study project, Nelson\Nygaard exchanged updates with SANDAG staff on an as-needed basis. Caltrans staff was provided with regular updates.

Phase 2 Needs Assessment

Establish Technical Advisory Committee and Conduct Discussion Forums

TAC Objective – It was determined that the TAC would be involved in reviewing major project deliverables and functioning as a "sounding board" for the Project Team (consultants and Caltrans Program Managers) on an as-needed basis. Initially the TAC was composed of 15 members, but as the project progressed it ultimately reached 45. The final list of members can be found just inside the report cover.

Discussion Forum Objective – The Regional Discussion Forums functioned as the foundation for Phase 2. The forums were designed to: 1) generate enthusiasm about this project amongst participants, 2) assist the Project Team in identifying gaps in the HOV/P&R/Transit network and 3) identify the need for any additional data collection. The forums are discussed in more detail in Chapter 4.

On-going Coordination with Other Efforts and Development of FTP Site

Coordination Objective - This is a continuation of the initial outreach task to other projects.

Output - The project team continued its close coordination with the Caltrans D4/REB and SANDAG projects.

FTP Objective - This task also included the development of a File Transfer Protocol (FTP) site for the project. The FTP site (www.calbuspool.org) was internet-based and functioned as the project's "lending library and resource center." On-line folders were established for items such as "meeting minutes", "contact lists", "project schedule" and "deliverables." Nelson\Nygaard provided interested parties with instructions for accessing and using the site.

Output – Implementation and maintenance of the FTP site.

License Plate Survey

Objective – The objective of the license plate survey was to capture commute and demographic information directly from motorists traveling in corridors with underutilized HOV and P&R Facilities. This information was used to fill data gaps in the Assessment of Needs. Motorists were asked to provide information about their travel patterns, preferred HOV/P&R improvements and potential incentives. Note – Although these surveys did not represent a statistically valid sample at either the State or corridor level, they did provide extremely useful qualitative information to assist in identifying themes that were explored during the development of enhancements and the marketing program.

Output – Nelson\Nygaard prepared a Technical Memorandum highlighting the survey, the detailed methodology for collecting the data and the important findings.

Public Surveys

Objective – The objective of this task was to capture data needed to plug any information holes in the assessment of needs. The Nelson\Nygaard team used two methods to gather missing information:

- **Windshield surveys of people parking at P&R lots** – The Project Team identified key P&R lots for which user data did not exist and distributed surveys to people using those lots.
- **Stakeholder Interviews** – Nelson\Nygaard conducted interviews with key transit operators prior to the kick-off of the Regional Discussion Forum (RDF) sessions. These interviews were designed to identify key issues and concerns that could be expanded upon during the RDF sessions.

Deliverable – Nelson\Nygaard prepared Technical Memorandums covering the P&R Survey and the Stakeholder interviews.

Comprehensive Assessment of Needs and Inspection of Facilities

Objective – The objective of this task was to bring together all of the important data and findings from the earlier tasks to create a comprehensive Assessment of Needs. This Assessment of Needs was supplemented by on-site inspections of P&R lots and HOV facilities to further explore deficiencies and/or capture additional data. The Assessment of Needs was prepared using an electronic database.

Output – Nelson\Nygaard prepared a Technical Memorandum that described the final database methodology and format, the Needs Assessment and the site inspections.

Phase 3 Evaluation Criteria, Prioritization and Project Profiles

Develop Performance Measures

Objective – Develop a set of project scoring/evaluation criteria that would be used to evaluate the initial set of projects and then rank those projects.

In developing the evaluation scoring methodology the team considered a wide variety of potential criteria such as impacts on capital costs, ridership increases, productivity indicators, deliverability, transit connectivity, level of local support, impact on transit operations and service reliability, ability to fund, impact on freeway operations, etc. The team also ensured that the final set of evaluation criteria would be consistent with both the State's Transportation System Performance Measures and those developed for other relevant studies (e.g. Caltrans D4 Regional Express Bus).

Output – Nelson\Nygaard prepared two Technical Memorandums covering: 1) Evaluation Criteria Methodology and 2) Initial Scoring of Recommendations/Projects.

Prioritize Project Needs

Objective – The Nelson\Nygaard team evaluated the projects and ranked them using the selected scoring criteria.

Deliverable – Nelson\Nygaard provided Caltrans staff with a revised version of the evaluation spreadsheet with the projects ranked by the evaluation scores.

Phase 4 Project Planning and Recommendations

Develop Ten-Year Master Plan and Program of Projects

Objective –Based on the output from the previous tasks (including an assessment of funding opportunities) the Nelson\Nygaard team prepared a Ten-Year Master Plan and Program of Projects. This plan lists each project and likely funding source(s).

Output – The Ten-Year Plan is included in this Final Report.

Develop Marketing and Public Information Campaign

Objective – The Nelson\Nygaard team prepared a public information and marketing plan that Caltrans can use at a later date as the basis for a campaign to increase the use of HOV and P&R facilities via increasing ridership on freeway-oriented transit services.

Output – The marketing plan is included in this Final Report.

Marketing Materials

Objective – The Nelson\Nygaard team developed a set of marketing materials to support the marketing plan. These included:

- Development of program branding/identity
- Design of support materials (webpage, letterhead, flyer, envelopes, poster, etc)

Chapter 3

Document Review

A comprehensive document review was completed which provided the project team with essential data for understanding:

- Current services and proposed projects in California related to HOV, P&R and freeway-oriented bus transit.
- Best practices throughout the transportation industry focusing on transit services utilizing HOV and P&R facilities.

Methodology

The team collected data and studies from a variety of sources including TCRP, TRB, Caltrans, University Transit Centers (UC Berkeley, CUTR, etc), industry associations (APTA, CTA, HOV-World, etc), FTA and FHWA. Over 80 documents were identified and reviewed.

About a quarter of the documents were deemed of low relevance as they:

- were static (i.e. information was reported but no plans or action steps were presented)
- did not include freeway-oriented plans
- were outdated

The majority of documents were considered of medium relevance. These were usually descriptive of existing services/conditions, presented options for change, cited need for improvement or expansion but made no specific proposal or plan of action.

There were about 15 high-relevance documents that presented concrete analyses, plans, or proposals that involved HOV lanes, P&R lots, and bus services that would utilize these facilities.

The document review list is presented in Figure 3-1.

Major Findings

District 3 - Sacramento

- A Sacramento-area P&R/HOV modeling tool had recently been developed and is being utilized in a pilot program.

District 4 - San Francisco Bay Area

- There is recognition that express bus services, bus equipment and HOV facilities need to be improved and expanded, and efforts to promote regional coordination and planning among the many agencies operating in the area have commenced. District 4's Regional Express Bus Study (expected completion date of June 2005) is such an example.
- Major corridors of concern for HOV oriented transit services include Interstate 80, Highway 101, and Interstate 680.

Districts 6 and 10 - Central Valley

- A P&R plan is being developed by District 10 based on demand projected for the next 20 years. It identifies locations for new lots, criteria for facility location and development, and major transit providers in the district. Expected completion date of this plan is the end of 2004.

District 7 - Los Angeles

- The primary documents were from LAMTA's comprehensive HOV Performance Program and are reflective of the region's interest in maintaining and improving their system.
- LAMTA and SCAG's different marketing and outreach efforts about HOV and P&R facilities are very extensive.

District 8 - Inland Empire

No documents were provided.

District 11 - San Diego

- Historically, there has been little published about how HOV, P&R, and bus transit services have been integrated into past highway congestion projects. This may change with SANDAG's forthcoming managed lanes project in the north I-15 corridor and other studies that are currently underway.

District 12 - Orange County

- In general, agencies' efforts in this region seem to be focused on improving utilization rates at current P&R lots and adding new lots in the next five to 10 years. Unfortunately, there is very little discussion of how bus service can be a part of this mix.

Statewide

- The main document covering HOV issues at the state level was a report by the State Legislative Analyst Office. Its major recommendations included improving bus service on HOV lanes where there is demonstrated demand; improving data collection, marketing, and outreach efforts; adjusting hours of operations to better reflect demand; and collaborating with other agencies to formulate a statewide plan for carpool lane promotion.

National

- Managed lanes seem to be the next evolutionary step for highway congestion programs. Mature HOV systems (e.g. San Diego, Houston) are experimenting with managed lanes.
- The main key to HOV success seems to be a regional approach that has the cooperation of many institutions and keeps the public informed.

Figure 3-1 Project by Region

	Document TITLE	Author / Agency	DATE / Status	PURPOSE of Document	RELEVANCE to Statewide Study [High, medium, or low]	Relevant projects, programs, plans, or policies that support increased bus transit on HOV system via Park and Ride lots
	CENTRAL VALLEY					
1	**Downtown Fresno Commuter Alternatives Survey**	Fresno Area Express		Evaluate potential commute alternatives (carpooling, P&R lots, express service) that would reduce demand for employee parking in downtown Fresno.	Low	Most commuters chose option for P&R lots at parking facilities on the outskirts of downtown Fresno. But the other two alternatives were recommended because of the high capital costs of parking lot construction.
2	**P&R Plan for District 10**	Caltrans D10	January 2004 Draft	Proposes potential locations for new P&R lots. (But there are no funds to build lots. If project associated with the lot cannot cover the cost, the lot will not get built.) Provides guidelines for planning new P&R facilities in D10, based on a 20-year forecasted demand.	Low-Medium	(Document is being circulated within D10 and local agencies. It will be more useful when finalized.)
	INLAND EMPIRE					
	LOS ANGELES					
3	**2002 HOV Annual Report**	Caltrans District 12	June 2003	Inventory of D12's HOV network, including operations, projects, volumes, travel time data, etc.	Medium	Includes maps on current status of HOV system in LA County and interregionally and project completion schedules for 2003-2004.
4	**2003 Commuter Survey**	Antelope Valley Transit Authority	Undated Summary report	Results of second annual Commuter Survey (seat drop, 200 responses).	Low	Survey questions asked about customer satisfaction with commuter service, not about travel patterns, preferences, other modes, etc.
5	**Regional Park & Ride Facilities Study**	SCAG	March 2003 Draft	Includes inventory of P&R facilities in SCAG region. (But they are examined by city, not individually.)	Medium	Addresses 2001 RTP recommendations related to P&R. Also helpful: Marketing and outreach opportunities (p. 28). Planning and implementation recommendations (p. 33-34).
6	**HOV "11 Things You Should Know About Carpool Lanes in Los Angeles County"** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	July 2002	10-page booklet summarizing key findings from HOV Performance Program.	Medium	(Example of outreach materials.) p. 7 is section about carpool lanes' importance to transit.
7	**HOV Awareness and Attitude Study: General Public Survey Summary** (HOV Performance Program)	Strategic Consulting & Research, Inc. for LA MTA	August 2001 Final	Five market research techniques are used to assess public attitudes and perceptions toward carpooling.	Medium	Majority of respondents support: – Carpool lanes in general-- Completion of carpool lane system – Dedication of taxes to transit-related high improvements-- Use of HOV lanes for carpoolers and vanpoolers only. (Bus transit was not asked.)
8	**HOV Data Collection, Compilation, and Analysis** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	March 2002	Explain program's data sources; data collection, screening, and refinement techniques; and analysis methodology.	Low	None.
9	**HOV Direct Connectors Analysis** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	April 2002	Analyze and prioritize direct connectors to identify potential demand and levels of benefit achieved – for peak usage and travel time saved. Determine most appropriate HOV connector locations for further detailed evaluation as part of any interchange upgrade program.	Medium	Relevant only if direct connectors are addressed.
10	**HOV Education and Promotion Plan** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	January 2002	Long-term vision for HOV facility education and promotion, based on surveys (focus groups, phone surveys, onboard surveys, executive interviews, etc.).	Medium	(Example of marketing and outreach materials.)

	Document TITLE	Author / Agency	DATE / Status	PURPOSE of Document	RELEVANCE to Statewide Study [High, medium, or low]	Relevant projects, programs, plans, or policies that support increased bus transit on HOV system via Park and Ride lots
11	**HOV Evaluation Report** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	September 2002 Final	Develop comprehensive monitoring and evaluation program for county HOV system. Present results from evaluation of 16 existing HOV routes and five proposed HOV lane routes.	Medium	Overall findings (summarized on p. 136-149) are positive and often better than the state LAO report's findings. Transit findings: Transit agencies like carpool lanes and alter routes to use them (p. 143). Only two HOV routes in the study have high levels of transit service. Recommendations: Complete HOV lane system. Emphasize transit investments to grow bus transit mode share.
12	**HOV Executive Interviews** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	December 2001	Gain better understanding of decision-making processes for elected officials re HOV lanes. Provide targeted input from elected officials and transit managers in public and private sectors and supplement input from general public surveys.	Medium	Recommendations for HOV improvements on p. 12, 15-16.
13	**HOV Focus Group Meeting Summary** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	April 2001	Assess general knowledge of HOV system, motivating factors, preferences, etc. Focus group participants included users, non-users, and Employee Transportation Coordinators.	Medium	None. General feeling was that HOV primarily benefits HOV lane users but does not necessarily manage overall freeway traffic congestion.
14	**HOV Quarterly Newsletter** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	March 2001 Vol 1, Issue 1	Info source for stakeholders and general public.	Medium	(Example of marketing materials.)
15	**HOV Info Pamphlet** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	July 2000	Introduce HOV Performance Program.	Medium	(Example of marketing materials.)
16	**HOV Safety Issues** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	September 2001 Final	Interview conducted with CHP and Freeway Service Patrol about HOV enforcement procedures and relative safety of HOV lanes.	Medium	Due to lack of resources, CHP officers spend more time on accidents and unsafe driving than HOV enforcement as HOV violations not considered a safety hazard. HOV signs and markings are poor and need improvement. Occupancy enforcement technologies have been tested, but none adequately meet CHP's needs. Citation data for 2000 is provided. Consistency in operations, rules, and requirements is important for enforcement, especially in court. Most safety concerns are related to friction caused at access points: – Differences in speed between HOV and general-purpose lanes, – Areas where HOV lane drops associated with the end of an HOV facility, creating congestion. Analysis of accident records difficult due to inconsistencies in how HOV lanes are coded in accident reports.
17	**HOV Transit Patronage Survey** (HOV Performance Program)	Parsons Brinckerhoff for LA MTA	February 2002	Assess the impact of HOV lanes on transit usage and attitudes. Surveyed 1100 transit riders using bus services that operate in carpool lanes.	High	None
18	**Santa Clarita Transit: Transportation Development Plan**	Michael Fajans & Associates for Santa Clarita Transit	February 1997	Long-range transit plan.	Medium (but report may be outdated)	Recommends express bus service along I-5 at Valencia, McBeans, etc. (p. 3.10). (But document focuses a lot more on Metrolink and Red Line.) Proposes primary transit center for a fixed-route pulse terminal be built at/near Town Center shopping center (p. 3.16-20)

	Document TITLE	Author / Agency	DATE / Status	PURPOSE of Document	RELEVANCE to Statewide Study [High, medium, or low]	Relevant projects, programs, plans, or policies that support increased bus transit on HOV system via Park and Ride lots
	ORANGE COUNTY					
19	**1994 Orange Park-and-Ride User's Survey**	OCTA	October 1994	Survey of OCTA's lots.	Medium (but report may be outdated)	Good summary info of conditions and usage.
20	**Directions 2030: A Blueprint for Orange County's Future Transportation System** (2002-2030)	OCTA	September 2002 Executive Summary	RTP	Low	10 Strategic Initiatives (p. 9-10), including multi-modal approach on SR-91 corridor, adding HOV lanes to I-15 far north widening, encouraging carpooling on toll roads, etc.
21	**Orange County HOV Operations Policy Study**	Parsons Brinckerhoff for OCTA	August 2002	Provides overview of OC HOV system and comparisons to other HOV networks. Examines policies and their alternatives: 24-hour or part-time operations; and limited or unlimited ingress and egress points.	Low	None. Good for overview of OC's HOV system. But it's a static document. No recommendations or plans are made.
22	**Park-and-Ride Master Plan**	Orange County Transportation Authority	December 1995	To guide the development of new P&R lots in Orange County. This is OCTA's most recent comprehensive analysis of its P&R lots within OC.	Medium (but report may be outdated)	Anticipates new P&R lots to be built over next five to 10 years. Identifies potential locations and implementation plan for these new lots. Findings: Only 12% of P&R spaces are in lots classified as freeway/HOV lots. Current lots (1995) are not evenly distributed throughout the county. The southern part has more freeway lots. The northern and western parts have more bus lots.
23	**Park-and-Ride Survey Report**	Orange County Transportation Authority	September 2003	Evaluates utilization rates of four OC P&R lots owned by OCTA. Help determine future improvements by investigating how successful the lots are currently. This is OCTA's most recent analysis of how well its P&R sites are being utilized.	Medium	Report contains suggested improvements for the individual lots (e.g. better routing/timing of buses and vanpools, more lighting, etc.). Recommends further study of P&R lots owned by Caltrans.
24	**SCAG Regional Park & Ride Facilities Study**	SCAG	March 2003 Draft	Develop feasible planning strategies for implementation to maximize SCAG region's Park & Ride System: – Prepare a comprehensive inventory of facilities. – Provide information and feedback to update the facilities location map and Park & Ride Web Site. – Develop strategies to sustain and improve the Park & Ride System by addressing current and future Park & Ride facility demand, utilization, operations and maintenance needs. – Identify potential funding sources.	High	Identifies P&R capacity needs (but does this by sub-region and not by individual lot). Provides comparisons of HOV utilization rates and some details of a 1996 P&R marketing survey. (Sina Zarifi at SCAG advised that this draft version became the final report.)
	SACRAMENTO					
	Caltrans District 3 P&R/HOV Modeling Tool					District 3 staff made this available to the consulting team.
	SAN DIEGO					
25	**Mobility 2030: The Trans Plan for the San Diego Region**	SANDAG	April 2003 Final	RTP	Low-Medium	Managed Lanes network (p. 97-110)
26	**San Diego Regional Park & Ride Study** (Executive Summary)	Wildan Associates for CalTrans D11	November 1994	Final report Coordinate and unify P&R planning efforts – quantify future demand for P&R – identify and evaluate sites for future P&R lot locations – has implementation program for P&R development	Low	Mostly describes P&R facilities and usage. Suggestions to improve amenities from a survey (p. EX-9) may be helpful.

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27	**I-15 Congestion Pricing Project: Phase I: P&R Lot Study**	San Diego State University for SANDAG	August 1998	First wave of P&R lot study to monitor usage and determine whether I-15 Congestion Pricing Project has any impact on P&R lot usage on select county lots. The project is a demonstration project that allows SOV unlimited use of existing I-15 HOV lanes for a monthly fee.	Low	None.
28	**I-15 Congestion Pricing Project: Phase I: Overall Report**	San Diego State University for SANDAG	March 1999	Summarizes preliminary findings from Phase 1: Year 1 of study. (See above description.)	Medium	Project is relatively successful in its first year, meeting most primary objectives, including increased utilization of HOV facility. LOS C or better were maintained. Bus ridership in I-15 corridor increased by 6% in this year. But there was a 3% decline of buses using the I-15 HOV lanes.
29	**I-15 Congestion Pricing Project: Phase II: Year 2 P&R Lot Study**	San Diego State University for SANDAG	April 1999	Report from second phase of P&R lot study to monitor usage and determine whether I-15 Congestion Pricing Project has any impact on P&R lot usage on select county lots. The project is a demonstration project that allows SOV use of existing I-15 HOV lanes for a dynamic per-trip fee that varied based on total vehicles in the HOV lane and time of day.	Low	None
30	**I-15 Congestion Pricing Project: Phase II: Year 2 Overall Report**	San Diego State University for SANDAG	May 2000	Summarizes preliminary findings from Phase 2: Year 2 of study. (See above description.) Project is relatively successful in second year, meeting most primary objectives, including significantly increased utilization of HOV facility. Transition to dynamic per-trip pricing showed that both versions of pricing are implementable and can generate sufficient revenue to fund transit service improvements. LOS C or better were maintained at all times. Bus ridership in I-15 corridor increased by 6% in this year, but there was a 3% decline of buses using the I-15 HOV lanes.	Low-Medium	None
31	**I-15 Congestion Pricing Project: Phase II: Year 3 P&R Lot Study**	San Diego State University for SANDAG	May 2001	Report from all seven phase of P&R lot study to monitor usage and determine whether I-15 Congestion Pricing Project has any impact on P&R lot usage on select county lots.	Medium	Congestion pricing project did not have negative impact on P&R lot occupancy. Aggregate occupancy rates of P&R lots with bus access were very different from those without bus access.
	SANDAG's Managed Lanes project in north I-15 corridor	SANDAG	Forthcoming	SANDAG is in final design on the first phase of the Managed Lanes project in the north I-15 corridor. Study includes concept drawings of one direct access ramp connecting to a transit station/P&R. This is the concept the freeway-based BRT routes will use, with station spacing roughly every 2-3 miles depending on the location. Direct access ramps will be open to buses, carpools, and FasTrak.	High	

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	SANDAG's current studies	SANDAG	Forthcoming	Looking at the idea of using remote P&Rs more for commuter express routes. These start in neighborhood areas, then hop on the freeway to connect with downtown San Diego. As SANDAG expands services with the I-15 Managed Lanes project, there is a recognition that it cannot accommodate all P&R at the I-15 stations. ROW is very expensive, and there is a desire from a customer standpoint of being able to access the BRT routes closer to where they live. Through a combination of small remote lots dispersed in neighborhood areas, SANDAG hopes to accomplish this in a more cost-effective manner than large P&R's at the I-15 stations. SANDAG will be undertaking a study this next year to look at how it can negotiate shared use agreements with commercial and institutional uses to utilize their parking lots that may not be fully utilized during the mid-day hours. (From Dave Schumacher e-mail)	High	
	SANDAG REB project			REB project will use shoulder lanes along freeways.		
	SAN FRANCISCO BAY AREA					
32	**2002 HOV Lane Master Update**	DKS Associates for MTC	March 2003 Final Summary Report	Presents comprehensive review of Bay Area's current HOV lane performance and recommendations for how HOV lane system could be expanded beyond what is included in 2001 RTP.	High	Section 3 has results from license plate and web surveys. (p. 6) Recommendations include moving toward consistent, region-wide set of operating hours; creation of HOT lane; conversion of I-80 segments between Carquinez and Bay Bridges to mixed-flow, etc.
33	**2002 HOV Lane Master Plan Update: Task 2- Existing Conditions Report**	DKS Associates for MTC	September 2002 Draft report	Assemble information already available about performance of existing and planned HOV lanes.	Medium-High	Buses in each corridor are analyzed. Includes projected usage.
34	**2002 HOV Lane Master Plan Update: Task 5B**	MTC	September 2002 Draft report	Recommendations for a regional express bus system and supporting HOV system improvements.	High	Proposes an expanded express bus system comprised of seven transit "streams" that utilize existing or planned HOV lanes. Each stream represents a major commute corridor.
35	**AC Transit Short Range Transit Plan (FY2001-2010)**	AC Transit	May 2003	Presents transit plan based on feedback from riders, policy makers, and neighborhoods on how agency could provide better service and increase ridership using existing revenues.	Low	Calls for enhanced bus service along San Pablo Ave, the District's highest priority trunk line. BRT is proposed for the Berkeley/Oakland/San Leandro Corridor, where four of the five busiest routes operate. Expansions to lower priorities (Transbay or regional express bus service) would be funded only when higher priorities met or when if funding was obtained specifically for these purposes).
36	**AC Transit Stanford Express Bus Study: Increasing Market Share from the East Bay**	AC Transit	March 2001	Studies expansion of express bus service over Dumbarton Bridge to connect East Bay commuters with Stanford University.	Medium	Emphasis was placed on guaranteed transfer connections. Seven options were presented: five to serve as inter-modal connections to BART, ACE and the Capitol Corridor, and two full-service routes.
37	**Alameda County: Countywide Transportation Plan (2001-2026)**	ACCMA	Undated	RTP	Medium	Performance objectives: – To include, where feasible, HOV bypass lanes as a part of ramp metering program (p. 16) – To increase utilization of HOV lanes, a system of P&R lots should be developed throughout county (p. 16)

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38	**Amendment to FY2002-FY2021 Short Range Transit Plan**	SF Municipal Railway	June 2002	Report identifies 20 projects for further development as part of the settlement agreement with Bayview Advocates over Clean Air Act violations.	Low	None.
39	**Bay Area Transportation Blueprint for the 21st Century: Evaluation Report**	MTC	June 2000	Report contains evaluations of candidate bus, ferry and rail. Blueprint projects that were not included in RTP due to funding constraints. Projects are ranked by new riders, cost, cost per new rider, and cost effectiveness by corridor. Also includes projections of vehicle volumes, person trips, and travel time saved on new carpool lanes in 2020.	Medium	Express bus projects ranked highest (lowest cost/new rider) within each corridor.
40	**Bay Area Transportation Blueprint for the 21st Century: Project Notebook of Candidate Projects**	MTC	June 2000 Revised (First issued October 1999)	Provides a comprehensive set of information for all projects proposed to be included in the Bay Area Transportation Blueprint for the 21st Century. Revised edition contains new or revised project info, cost estimates, and feedback received.	High	Golden Gate Corridor: Construct new and expand existing P&R lots along US 101. North Bay East-West Corridor: Construct new P&R lots. (Also lists several HOV construction plans and express bus expansion programs.)
41	**Caltrans' Highway 680/24 Interchange Reconstruction Project Survey**	Caltrans D4	May 1989	Results of O&D survey of users along I-680/SR-24 interchange in Contra Costa County.	Low	Out of date. No conclusions or analysis is included.
42	**Comprehensive County Expressway Planning Study: HOV System Element** (Chapter)	Santa Clara County Roads and Airport Department	March 2003 Draft	Evaluates the performance of county's HOV expressway system. Capitol Expressway is the county's best performing HOV lane.	High	No new HOV lanes or extensions are recommended except the already funded Central Expressway project, which will be reevaluated after a 3-5 year trial period. There are recommendations to remove or convert other HOV lanes.
43	**County Connection Short-Range Transit Plan (2003-2012)**	Central Contra Costa Transit Authority	October 2002 Board Draft	SRTP	Low	None Includes results of onboard passenger survey (p. ES1-ES2).
44	**Contra Costa Express Bus Study**	DKS Associates for Central Contra Costa Transit Authority	December 2001 Final report	Plan proposes a three-phased express bus vision for Contra Costa County in four primary corridors.	High	Calls for new and expanded bus service as well as capital improvement projects of HOV lanes, HOV ramps, and P&R facilities.
45	**Demand and Need for Express Bus Service** (Working Paper # 1.2)	University of California Transportation Center UC Berkeley	September 2003 Draft	Reviews Census data and demand forecasts.	Low	(Does not identify issues and implications for express bus services raised by the data it analyzes.)
46	**Downtown/East Valley MIS, Refined Evaluation of Conceptual Alternatives**	VTA	May 2000	Summary Working Paper The Capitol Expressway LRT extension is envisioned to operate in an exclusive guideway in the median, running eight miles along Capitol Expressway, by removing existing HOV lanes. (EIS/EIR began in Summer 2001).	Medium	Plan proposes four major transportation projects within a 30-square mile study area in San Jose - three LRT extensions, one BRT. BRT is proposed along Monterey Hwy, which does not have HOV lanes.
47	**Evaluation of Existing and Proposed REB Services for Bay Area** (Working Paper # 1.1)	University of California Transportation Center UC Berkeley	October 2003 Draft	Initial findings of a review/analysis of current and proposed regional express bus services for Bay Area. Focus is on supply characteristics of these services.	Low	None
48	**Short Range Transit Plan FY 2003-2012**	Golden Gate Bridge, Highway, and Transportation District	December 2002 Final	SRTP	Medium	Except for Route 72, no expansion planned for transbay commute bus service due lack of demand and lack of operating subsidy.
49	**I-80 Corridor Study**	DKS Associates and MTC	November 1996 Final Report	Describes I-80 corridor's transportation facilities and current travel conditions; presents policy objectives for its operation and management; results of a telephone survey; and recommends a corridor investment plan.		

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50	**I-80 License Plate Survey**	WCCTAC	October 2001	License plate survey at five P&R lots located in Western Contra Costa County.	Medium-High	Two areas surveyed included an impromptu lot and adjacent street parking.
51	**I-580 Corridor Transit Study Phase 2 –Draft Final Report**	Nelson\Nygaard for BART	June 2003 Draft final report	Second phase of a study to determine transit options from the Dublin/Pleasanton BART Station to Livermore, Tracy and Walnut Creek. Four options are investigated.	Medium	All options (three diesel, multiple units (rail) and a BART/BRT combo) showed promising results.
52	**I-680 Investment Options Analysis**	DKS Associates for Central Contra Costa Transit Authority	May 2003 Final report	Study of transit alternatives to relieve congestion along the I-680 Corridor. (Connie Soper: 680/24 interchange [North Main to Lavona] is a major gap in the HOV network.)	Medium-High	HOV Facility/Express Bus package was selected as preferred option to pursue as part of Measure C reauthorization.
53	**I-80/I-680/I-780 Transit Corridor Study**	Wilbur Smith Associates for Solano Transportation Authority	January 2003	Analyze existing services and demand for intercity express buses in these corridors. Analyze implementation plans for the county's intercity express buses. The study will determine how to upgrade highway facilities and integrate bus service in these critical corridors. An HOV study will examine feasibility of such facilities in the three interstate corridors.	High	Plan includes new HOV lanes (p. 1-12); rapid bus on segments of I-80, probably affecting P&R lots at Curtola and Fairfield Trans. Center. Recommended improvements for P&R lots (p.3-15, 6-11 to 6-32). Brief description of P&R users on p. 3-15. Projected demand for P&R on p. 4-18 to 4-23.
54	**Infrastructure Needs and Options** (Working Paper # 1.3)	University of California Transportation Center UC Berkeley	October 2003 Draft	Identifies and analyzes infrastructure and operational improvements for express bus services for SF Bay Area. Preliminary discussion on infrastructure needed to coordinate with existing transit providers' current, programmed, and planned activities.	Medium	(More of a laundry/inventory list. For example, includes listing of existing and planned HOV lanes in area; short- and long-term infrastructure priorities by agency; issues raised by current express bus proposals, etc.)
55	**Marin/Sonoma Express Bus Study**	Wilbur Smith Associates for Marin County CMA	June 2002 Final Report	Outline how express buses should fit into the overall comprehensive transportation system for the North Bay over next 20 years, focusing on long-range needs.	High	Express bus service on Highway 101 corridor is feasible both now without HOV lanes and with planned HOV lane additions in the future. Plan recommends restructuring existing express bus service and adding new routes to more than double current service levels prior to completion of HOV lanes in Marin-Sonoma Narrows. Opportunities exist for innovative approaches to speed express bus service through congestion bottlenecks, including using shoulder lanes along 101 for use as a bus-only lane during peak commute hours.
56	**Measure B 2003/2004 Strategic Plan**	Alameda County Transp Improvement Authority Bay Area Project Mgmt Group, LLC	July 2003	One-year allocation plan of Measure B funds to specific capital projects based on project readiness.	Low-Medium	Includes financial plan, programmatic funds, and approach to deliver capital projects.
57	**Moving Forward: A 25-Year Transportation Vision for Marin County**	Nelson\Nygaard for Marin County CMA	February 2003	LRTP	Low	Marin-Sonoma Narrows project will provide 17 miles of HOV lanes along Highway 101.
58	**Moving People in Livable Communities: Strategic Vision for the 21st Century**	Cambridge Systematics, Inc. for SamTrans	September 2003	Administrative Draft SamTrans' long-range strategic plan	Low-Medium	Not applicable. (Consumer-based approach may be helpful to BusPool project, which includes in-depth research of the total travel market, market segmentation of users, emphasis on universal design.)
59	**On-Board Passenger Survey**	Nelson\Nygaard for Central Contra Costa Transit Authority	July 2000 Final Report	On-board survey of 47 trips segments on 24 County Connection routes.	Low	None. (Results did not identify which respondents used express or commuter bus services.)

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60	**Revolutionizing Bay Area Transit... on a Budget**	Transportation and Land Use Coalition	October 2002	Report contains examples of existing express service on HOV lanes in the Bay Area.	High	Recommendations about where to add buses, expand service, and increase frequency are made for each county. Capital cost, annual operating cost, and new rider estimations are also given. Suggestions for utilizing bus/carpool lanes and highway shoulders, implementing a "lane optimization" strategy, and improving transfer hubs are also discussed.
61	**San Francisco Bay Crossings Study**	MTC Final report	July 2002	Presents detailed evaluations of six transbay travel improvement strategies. Alternatives were evaluated on their transportation effects, cost-effectiveness, environmental/socioeconomic issues, and public opinion.	High	The policy committee preferred low-cost alternatives such as HOV improvements and express bus service.
62	**San Pablo Avenue Corridor: Transit Operations and Improvement Study**	Wilbur Smith Associates for Alameda County CMA and AC Transit	(Undated) Final report	Reviews existing transit and traffic conditions on San Pablo Avenue and options for BRT along this corridor.	Low	Not applicable. (Not freeway-oriented bus service.)
63	**Short Range Transit Plan FY 2002-2011**	VTA	October 2001	VTA plans to build its "reserve" fleet to respond quickly to economic growth and effectively use HOV lanes as they are built. Regional express service is expected to increase with expanding coverage and growing Eco Pass Program.	Medium	Plan calls for VTA bus fleet expansion, including 20 allocated to improving commute and regional express service (14 were purchased through MTC's Regional Express Program).
64	**Silicon Valley Rapid Transit Corridor (MIS/EIS/EIR):**	Major Investment Study Earth Tech for VTA	November 2001 Final report	Address potential benefits and impacts of alternative transportation investment strategies for this corridor. MIS alternatives modes included rapid rail, LRT, express bus, and commuter rail. BART was Preferred Investment option, but EIS/EIR will also evaluate "no-action" and "new-starts" baseline alternatives.	Medium	Put Fremont/South Bay Commuter Rail Project (BART extension) on hold pending outcome of MIS. Enhanced express bus service to be implemented as interim solution along I-680 corridor.
65	**Sonoma 101 Variable Pricing Study**	Sonoma County Transportation Authority MTC	January 2000	Evaluates the operational and financial feasibility of variable-priced toll lane options on Hwy 101 between Route 37 and the Petaluma River Bridge.	Medium	Results indicated that while HOV lanes increase corridor capacity and time-savings for commuters, there was no significant difference in corridor performance between HOV and HOV/Toll options or time-variable toll rates.
66	**Solano Comprehensive Transportation Plan**	Fehr & Peers for Solano Transportation Authority	May 2002 Final	Establishes a vision, provides direction, and sets priorities to meet Solano County's transportation needs through 2025.	Medium-High	P. 27: Solano County has highest car- and vanpooling rates of any county in Bay Area, but it has no HOV lanes. RTP calls for construction of an HOV lane on I-80 between I-680 Fairfield and I-505 in Vacaville at some time over the next 20 years. Further studies are recommended for other parts of I-80 and I-680. Toll plaza facilities at Carquinez bridge on I-80 and Benecia-Martinez bridge on I-680 have booths designated specifically for HOV lanes.
67	**Sonoma/Marin Multimodal Transportation and Land Use Study**	Sonoma County Transportation Authority	1997	Discusses transportation improvement options that match land use patterns.	Medium	Recommended construction of HOV lanes for Route 37 to Atherton Avenue.
68	**Southwest Solano Express Transit Plan:** High-Speed Ferries and New-Generation Buses Serving the I-80 and I-680 Corridors	City of Vallejo	April 2001 Final report	This is a service-expansion proposal to use fast ferries and new-generation buses to serve 80 and 680 corridors from Solano County to downtown San Francisco. Proposes that existing services will be integrated into an Express Bus project serving both Vallejo and Benicia.	Medium	Relevant proposals include 1) expand transbay express bus service between Vallejo and SF Ferry Building and 2) implement new limited express bus service via I-780 and I-680.
69	**State Route 4 East Corridor Transit Study**	BART	December 2002	Study to review transit alternatives along Route 4, including express bus but in the railroad right-of-way, not in the HOV right-of-way.	Low	The Policy Advisory Committee for the study made a recommendation to go forward with a Diesel Multiple Unit alternative ("eBART"), not the express bus alternative.
70	**Tri-Delta Transit Short-Range Transit Plan**	Eastern Contra Costa County Transit Authority	February 2001	SRTP	Low	None

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71	**Transbay Comprehensive Service Plan**	AC Transit	November 1998	Examines AC Transit's existing transbay bus service and propose changes to increase overall transit ridership between the East bay and downtown San Francisco.	Low-Medium	Proposes to operate five transbay routes with all-day service and 32 transbay routes with peak period-only service.
72	**Transbay Service Performance Analysis – 2003 Annual Report**	AC Transit	January 2004 (General Manager memo)	Presents performance measures and analysis for Transbay services recorded in October 2003, including ridership.	Medium	Upturn for AC Transit is probably 18 to 24 months away. (October 2003 ridership is down from October 2002 and October 2001 but is higher than it was in May 1006.)
73	**A Vision for Rapid Transit in San Francisco**	SF Municipal Railway	February 2002 Final	Outlines Muni's vision for transit improvements and expansion along major travel corridors.	Low	None
74	**Western Contra Costa Transit Authority Short-Range Transit Plan (2001-2011)**	Western Contra Costa Transit Authority	October 2001 Final	SRTP	Medium	Shortage of parking at Richmond Parkway Transit Center's P&R lot has limited transit's ability to attract additional riders. A proposal to add structured parking at this facility has been submitted for inclusion in the 2002 STIP. If approved, this would add about 600-800 spaces and improved transit access and amenities. Hilltop Drive P&R lot on east side of I-80 has been underutilized for years and is slated for reconstruction within next 18 months. WCCTA also involved in coordinating an ongoing feasibility study for an express bus network in Contra Costa County.
75	**World Class Transit for the Bay Area**	Transportation and Land Use Coalition	January 2000	Multimodal proposals to increase mobility to meet Bay Area's growing population and address declining transit trips.	Medium	A regional express bus web is the centerpiece of this proposal. Recommends converting mixed flow lanes to HOV during peak hours on specific Bay Area highway to promote bus travel.
76	**Transit Connectivity Study**	MTC	Forthcoming	From RTP: Improve access to transit and enhance connectivity between transit providers by funding Regional Transit Expansion Program (Resolution 3434) projects, expanding TransLink® and the TakeTransitSM online trip planner, and implement a system of regional transit connection points.		
	STATEWIDE					
77	**HOV Lanes in California: Are They Achieving Their Goals?**	Legislative Analyst's Office	January 2000	Discusses California's HOV lanes, including criticisms, recent legislation, performance measurement, and options to make better use of the state's HOV lanes.	Low-Medium	Recommendations include: – Adjust hours of operations to better reflect demand. – Promote bus service on HOV lanes where demand for such service can be demonstrated (e.g. make bus service more frequent). – Increase marketing and outreach of ridesharing and P&R facilities; HOV lanes; HOT lanes; and conversion to mixed-flow lanes. – Enact legislation to authorize construction or conversion of HOT lanes as a pilot program. Recommendations for Caltrans include: – Work with RTPAs and rideshare program managers to develop a statewide plan for carpool lane promotion. – Improve HOV data collection efforts and conduct annual reviews of usage. – Report lanes that fail Caltrans' minimum criteria (< 800 vph).
78	**Park and Ride Facilities**	Caltrans, Division of Traffic Operations	May 1994 Final	Inventories, maps, and statistical data of P&R facilities in operation as of 12/1993.	Medium	Some data for GIS maps and regional discussion forums.

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	OTHER					
79	**A Decision Model for Bus-Only and HOV Lanes on Freeways**	Florida International Univ. Florida DOT	November 2002	Presents a decision model to calculate if a freeway preferential lane can be justified under prevailing conditions. Model considers the overall average personal travel time under three treatments: no treatment, bus-only lane, and HOV lane.	Low	Location-specific and very technical.
80	**HOV Facility Development: A Review of National Trends**	Jon Obenberger (FHWA) & Chuck Fuhs (Parsons Brinckerhoff)	Undated	Presents history of HOV, four case studies in U.S., and current trends. Suggests that few operational changes have taken place in recent years, such as changing operating hours, occupancy requirements, or adding pricing requirements. HOV strategies good as part of a service package to better manage transportation and not as a way to eliminate congestion or circumvent the need to add general roadway capacity if that is more appropriate.	Medium	Case studies from Virginia and Los Angeles are interesting.
81	**Houston Managed Lanes Case Study: The Evolution of the Houston HOV System**	Texas Transpo Institute for FHWA	September 2003 Final	History of HOV system in Houston metropolitan area	Medium	Descriptions of high-end Transit Centers and Direct Access Ramps (p. 14). Demonstration projects with managed lanes (p. 26, 31).
82	**A New Opportunity for High-Quality Transportation**	Wilbur Smith Associates	Undated	Discusses the merits of combining managed lanes and BRT system, including synergy of toll revenue subsidizing enhanced transit and toll revenue helping to finance construction of the high-speed facilities.	Medium	Relevant if project considers HOT lanes. HOT lanes + BRT enjoy greater support than HOV, toll, or BRT projects individually (p. 14).
83	**New Jersey I-80 and I-287 HOV Lane Case Study**	Texas Transp Institute for FHWA	September 2000	Examines factors that influenced the development and termination of the I-80 and I-287 HOV lanes.	Medium	Influential to development: Strong legislative and policy support; mult-agency teams, strong lead agency, and to some extent, the travel time savings. Affected termination: Changes in regulatory environment; area and corridor characteristics; lack of supporting facilities (including P&R), services, and programs. Important to consider HOVs on a regional, not just individual project, basis.

The California
BusPool Project

Chapter 4

Outreach Activities

Most of the HOV and P&R planning and implementation activities in California take place at the local level, not the state level, and from the very beginning Caltrans staff understood that it needed a strong commitment to local input and local consensus building if the BusPool project was to have a reasonable chance at success. To maximize local input Caltrans and the consulting team developed an outreach program to ensure that: a) Caltrans staff at the state level would truly understand the priorities as viewed at the local level and b) local transportation representatives in each metropolitan area would be able to reach consensus on issues and priorities with their peers throughout the other metropolitan areas.

The outreach activities completed for this project included:

- Forming a Project Technical Advisory Committee
- Conducting Regional Discussion Forums
- Holding interviews with key stakeholders

Project Technical Advisory Committee

A Project Technical Advisory Committee (PTAC) was formed that included the project team plus staff from:

- Caltrans headquarters
- Caltrans District Offices
- Several Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs)
- A variety of transit operators
- The California Transit Association
- The Federal Highway Administration
- The California Highway Patrol

The PTAC was responsible for reviewing key project deliverables and serving as a "sounding board" for the Project Team (consultants and Caltrans Headquarters staff). Three PTAC meetings were completed during this project. The PTAC member roster can be found just inside the front cover of this report.

Regional Discussion Forums

Regional Discussion Forums (RDF) were completed between February and May 2004. Meetings were held in Irvine, Los Angeles, Oakland, San Bernardino, San Diego and Stockton. The RDFs were designed to generate enthusiasm about the BusPool project, identify missing data and the need for any new data collection. In addition, the Regional Discussion Forums also served as a teambuilding exercise that helped highlight regional needs which were evaluated later in the study.

Participants Discuss The Issues.

Approach and Format

There were between 20 and 30 participants at each RDF session, including representatives from:

- Caltrans District staff (transit, HOV, P&R coordinators)
- MPO planners
- Planning staff from the local transit operators
- Other invited guests

Each session lasted approximately 3 hours. The first half focused on a presentation of HOV and P&R issues at the regional level. During the second half the participants divided into small groups and participated in brainstorming exercises about specific issues, needs and data gaps.

One of the most interesting parts of the breakout session was a discussion of "what makes a successful Park and Ride lot?" The findings from this topic were incorporated into the Assessment of Needs.

The primary materials used during the sessions were:

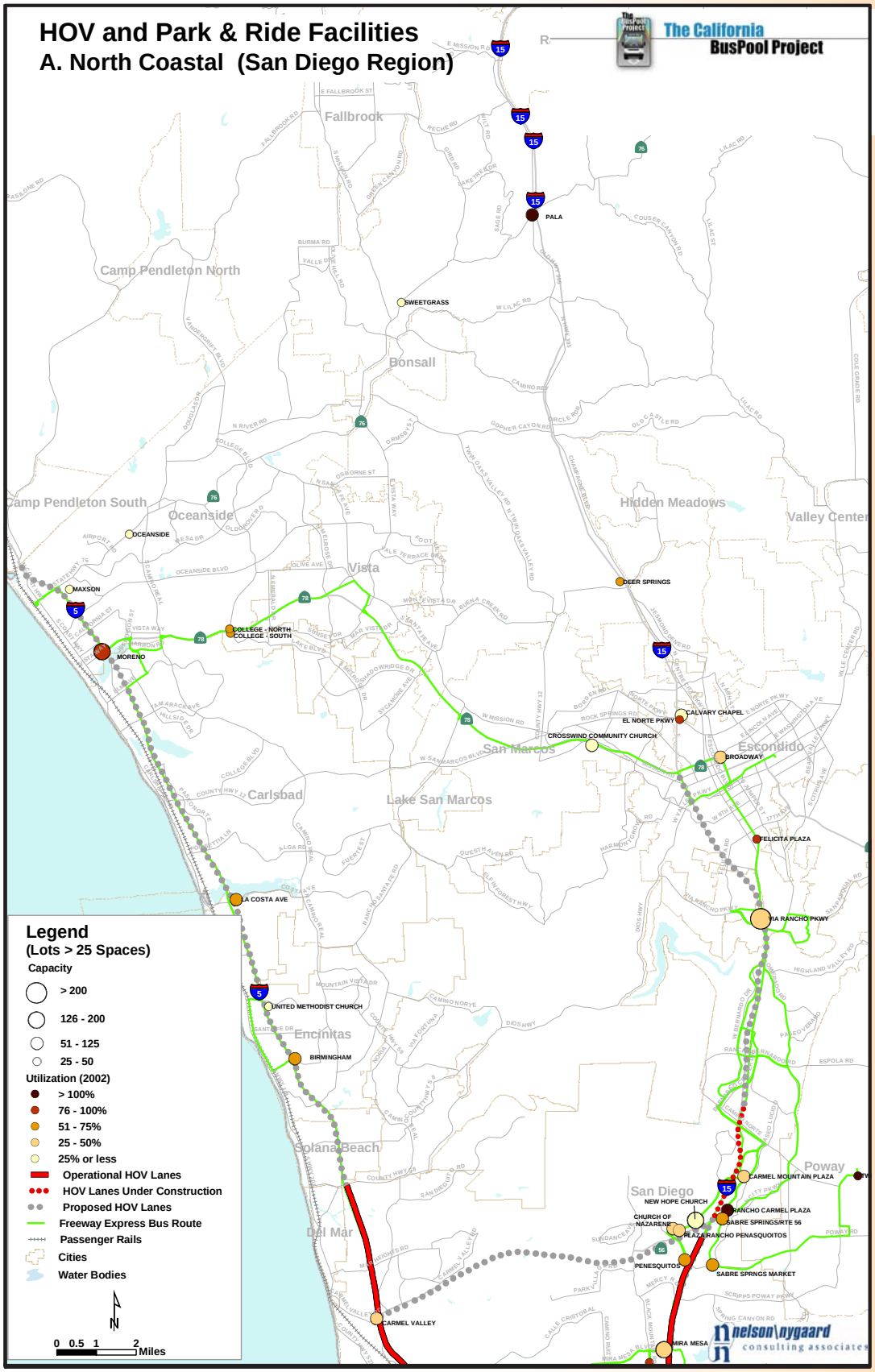
1. **Facilities Maps –** These were a series of sub-regional maps illustrating existing and proposed HOV facilities, P&R lots and freeway-based transit services. To the extent the data was available the maps also included location, utilization, capacity, and amenities at each lot. A sample map is shown in Figure 4-1.
2. **Data/Document Review Table –** See Chapter 3.
3. **Data Needs Table –** Information tables that support the facilities maps.
4. **BusPool Marketing Materials –** Poster and Flyers prepared for educational purposes.
5. **BusPool Overview Document –** A Technical Memorandum highlighting the project's goals and objectives, the organizational flow chart, scope of work, project schedule and information on how to use the FTP site.

The information collected from the RDFs was summarized and included as part of the Assessment of Needs (see Chapter 5).

Stakeholder Interviews

Over the course of the project the consulting team staff conducted a series of interviews with key planning staff at several transit agencies. These interviews, which lasted between 30 and 60 minutes, were intended to get detailed information about specific P&R or HOV issues impacting that particular transit operator. The information gathered from these interviews was incorporated in the Assessment of Needs.

Figure 4-1 Sample Facilities Map



Outreach Activities

Chapter 5

Project Evaluation Criteria

Before the Project Team could complete its Assessment of Needs it was necessary to develop a set of project scoring and evaluation criteria. These criteria would be used later in the study to identify the highest priority needs and prepare scoping information for improvements to P&R and HOV facilities. This chapter presents the methodology used to develop the scoring criteria.[1]

The criteria are intended to reflect and be consistent with the primary goals for the BusPool Project. They are also consistent with the Caltrans mission and its related goals, the State's adopted Transportation System Performance Measures and the performance measures programs used by Caltrans regional partners including the Metropolitan Transportation Commission (MTC) in the Bay Area and the Southern California Association of Governments (SCAG) in Southern California. Figure 5-1 shows the relationship between the BusPool goals and the Caltrans mission and goal statements.

Figure 5-1 Project Goals

BusPool Goal	Related Caltrans Mission and Goal Statements
Enhance HOV and P&R facilities to increase ridership on the bus transit routes that use them	Mission — Caltrans improves mobility across California
Make transit a more practical travel option to increase transit ridership	Flexibility — Provide mobility choices through strategic partnerships
Increase transit trip throughput to mitigate congestion	Performance — optimize transportation system throughput
Maximize transportation system efficiency	Stewardship — preserve and enhance California's resources and investments

1. Each TAC member, plus other project participants, was given an opportunity to review and comment on the criteria. The Project Team was able to incorporate the vast majority of comments into the revised methodology.

Figure 5-2 (page 5-10) presents the adopted scoring and evaluation. The project team proposed three high-level groupings of criteria as the basis for the evaluation framework:

- Outcome Criteria attempt to determine whether the ultimate study goals are being met. In essence: "Will we make an impact if we implement a particular strategy?"
- Feasibility Criteria ask the question "Can we do it? Is the strategy fundable? Is there local support to implement the strategy? Are there other factors that may keep us from implementing the strategy?"
- Enabling Criteria ask, "What are things that can enhance our ability to attract people to transit to affect the expected outcome of the study?" How consistent are the strategies with the needs of customers based on results of other research and needs?" This grouping also allows for other input such as TAC-identified opportunities for improving transit and HOV system performance.

Within these groupings, the Project Team developed specific prioritization criteria for the TAC to use as tools for evaluating projects and for monitoring future project performance once implemented. Each criterion includes one or more specific indicators that attempt to answer questions related to the criterion.

The Outcome Criteria are intended to be the primary criteria used to prioritize the potential projects. The Feasibility and Enabling Criteria are intended primarily for "downstream" performance monitoring. Figure 5-2 shows which indicators will be used for prioritization and which ones will be used for performance monitoring.

To the extent possible, the proposed indicators are quantifiable and measurable over time. There are, however, some which are not easily quantifiable and therefore required subjective assessments by the PTAC. For example, the support of local agencies or transit operators for a particular project depended upon a number of factors that often defied attempts to provide a "Strong, Moderate, Weak" evaluation. The weaknesses of these "subjec-

tive" criteria was discussed with the Caltrans staff and the PTAC and it was determined that none of them contained a fatal flaw which would preclude their use in the evaluation framework

The following section describes the recommended indicators.

Outcome Criteria

The four study goals (Figure 5-1) can really be reduced to three essential issues:

1. increasing transit ridership
2. mitigating traffic congestion
3. improving system efficiency

The Project Team recommended several evaluation/monitoring indicators to quantify the three outcome criteria of transit demand, freeway congestion, and system efficiency. All of these are quantitative in nature. Some of them can also be used to monitor improvements over time. Detailed descriptions of each indicator are provided below.

Transit Ridership

Transit ridership is a relatively straightforward indicator to evaluate, and it can be monitored over time. If one can show a marked increase in transit ridership over time and can relate that increase to a particular strategy, then the strategy can be considered successful. This indicator can be used for both project prioritization and the performance-monitoring program.

Delay

Delay is measured as vehicle-hours of delay and is the mobility performance measure for the State's Transportation System Performance Measures. Freeway delay data is readily available from the California Statewide Highway Congestion Monitoring Report (HICOMP) developed annually by Caltrans on the State's urban area freeways and expressways. Another

internet-based tool under development, the Freeway Performance Measurement System (PeMS), provides real-time freeway delay and congestion information.

Both HICOMP and PeMS can be used to identify freeway corridors that may benefit from enhanced transit services as part of the project prioritization task, and they are useful for on-going monitoring of project performance. The assumption is that a corridor may benefit from enhanced transit services if it is highly congested and has an underutilized HOV lane. People may choose to use transit services if those services offer a time-competitive advantage over driving alone. The most congested corridors, therefore, are likely the best candidates for enhanced transit services.

Over time, after transit services have been added or augmented along a high priority corridor, congestion levels can be monitored to determine whether an impact has been made by the transit services. However, any tool such as HICOMP or PeMS depends on consistent and reliable data. Therefore, monitoring could only be performed on corridors where the data is deemed reliable. Transit delay is not readily monitored, but can be documented by transit operators based on the results of projects that improve transit access times to the freeway and HOV network.

Productivity

The proposed productivity indicator is a system efficiency measure that reflects the degree to which the transportation system performs during peak demand conditions. The productivity indicator is defined as the percent utilization during peak demand conditions. This indicator was developed as a part of the Caltrans' Transportation Management System Master Plan and was recently adopted by SCAG as a performance measure for the 2004 Regional Transportation Plan (RTP)

There are two productivity indicators proposed for this effort: (1) freeway productivity in terms of people throughput, and (2) transit capacity utilization.

Freeway productivity can be measured by using PeMS. As an example of freeway productivity, freeways are typically designed to carry 2,000 vehicles per lane per hour. However, in many locations on the Region's freeway system, vehicles weaving and merging in and out of traffic cause bottlenecks, which lead to significant reductions in capacity utilization. Again, using freeways as an example, the carrying capacity of a freeway lane can drop by as much as 50 percent, allowing only 1,000 vehicles per hour to pass. In effect, the system "loses" capacity, which can be estimated in terms of lost lane-miles.

Transit and P&R facility productivity will improve through increased ridership, which maximizes the people-carrying capacity of freeways during peak demand conditions and the number of parking spaces utilized. Again, this type of data is routinely collected and monitored by transit agencies and Caltrans P&R facility managers. SCAG also uses this measure as a part of the 2004 RTP.

Reliability

The reliability outcome reflects the degree to which travelers experience variations in their trip times from day to day. As with productivity, two indicators are proposed, one for freeways and one for transit. As with delay, reliability is one of the State's Transportation System Performance Measures and is used by Caltrans' regional partners. The Southern California Association of Governments (SCAG) adopted reliability for the 2004 Regional Transportation Plan (RTP).

This indicator is relatively new in transportation planning and operations and exact models to compute and forecast it are not available. It is proposed for this effort, that the indicator be used primarily as a monitoring tool to be fully implemented later, when the tools for estimating reliability are more comprehensive.

However, the study team will consider how the reliability of transit travel time between the P&R facility and the freeway may be affected by arterial

access inefficiencies. For high priority facilities, the study team is reviewing the circulation of transit vehicles through intersections, ramps, and HOV ingress/egress to identify areas where improvements may be made. For example, there exist facilities where transit vehicles have to make unprotected left-turns onto arterials or have to travel circuitous paths to access the freeway or HOV facility. Sometimes solutions may be as simple as improved signal timing or adding dedicated turns near facilities. Over time, an assessment of schedule adherence improvements can be documented by consulting the transit operators using a particular facility.

For freeways, the reliability indicator is calculated by using the statistical concept of the standard deviation. The indicator is computed by dividing the standard deviation of travel time for a given trip by the average travel time of that trip, measured over many days and weeks. For example, if a person's morning commute takes on average 26 minutes, but varies 15 percent from day to day, then he or she must plan the trip to account for additional time.

Even if improvements along a freeway corridor do not result in significant delay reductions, improvements in reliability mean that system users can better predict travel time expectations, thus improving overall system efficiency.

Projected Population Growth

This indicator is used primarily to investigate the potential of a P&R facility – whether existing or not – to improve transit ridership and reduce congestion as a part of the project prioritization task. The greater the population growth expected, the greater the likelihood that people will take transit if given the opportunity. It will not be used as a part of the performance monitoring program.

Projected Corridor Demand

As with project population growth, this indicator is primarily used to determine the potential for transit ridership increase and congestion reduc-

tion in areas where travel demand model is readily available for use by the study team. Where model data is not readily available, population projections can serve as a proxy.

Feasibility Criteria

While the outcome criteria show us what needs to be accomplished, the feasibility criteria attempt to tell us what we can accomplish given existing funding, political, and other constraints. The proposed indicators for these criteria are mostly subjective.

Fundability

Fundability is one indicator that can be partially quantified in terms of cost. To determine fundability, the Project Team compared the highest needs (in terms of the outcome indicators), and ranked the projects in terms of whether the PTAC believed that these can be realistically funded in the near-, mid-, or long-term.

Local agency and transit operator support

This was determined by the PTAC based on feedback from Caltrans' regional partners and local transit operators. As with fundability, this indicator is subjective and was given a "Strong", "Moderate", "Uncommitted", or "Weak" ranking.

Deliverability and ease of implementation

The degree of "deliverability" was partly determined through the Assessment of Needs (e.g., engineering or technical constraints). However, other input was needed from the PTAC and local partners to determine the feasibility of implementing a particular project. Again, a "high", "low", "middle" type of ranking was used for deliverability and ease of implementation.

Enabling Criteria

Enabling criteria are those elements that do not relate directly to the desired outcomes of the study, but that attract people to transit. These can be described as customer-based measures. Some should only be used for prioritizing projects, while others can be used as part of an on-going monitoring program (via customer satisfaction/needs surveys). As described above, the Project Team considers the success of any P&R project to be determined primarily by the level of new transit trips created and whether congestion can be demonstrably mitigated along related freeway corridors. However, other criteria were examined as enabling the desired outcomes.

Connectivity to Transit

This is an indicator that, by itself, does not measure the ultimate success of a project, but rather its potential for success. Increased ridership is the outcome that everyone ultimately wants to measure. If connectivity is good, then more people may ride. The Project Team considered connectivity to transit as a factor that contributes to helping more people take transit and proposed the quantitative indicator of distance to transit from the P&R as the criteria for evaluating connectivity to transit.

Safety and Security

Safety and security is another customer-focused measure that, while it doesn't relate directly to a goal of this study, can be used to measure transit's ability to attract new riders. Surveys of P&R users often reveal that security at facilities is a major factor considered by riders. However, this indicator is very difficult to capture because crime and safety data are not readily obtainable. Furthermore, crime data is likely to be inaccurate as transit related crimes often go unreported. Therefore, the Project Team recommended using proxy assessments of security amenities provided at P&R facilities such as lighting, frequency of police patrol, visibility from street or adjacent commercial/residential, goodwill or other housed person-

nel, or other measures approved by the PTAC. This measure was used to prioritize projects based on need, but can also be monitored over time from user surveys and documented reports of crime reduction or other safety improvements.

Figure 5-2 Proposed Project Prioritization and Performance Monitoring Framework

PRIORITIZATION CRITERIA		QUESTION(S) EXPECTED TO BE ANSWERED BY CRITERIA	PROPOSED INDICATORS	USED TO...	
				Prioritize	Monitor
Outcome	Transit Demand	Will the strategy increase flexibility by giving people a more attractive transit alternative and therefore increase transit ridership on HOV lanes?	• Transit Ridership	✓	✓
			• Projected Demand	✓	
			• Delay	✓	✓
	Freeway Mobility	Will the strategy reduce delay on freeways and improve level of service?	• Delay	✓	✓
			• Projected Demand	✓	
	System Efficiency	Will the strategy improve transit vehicle utilization on HOV lanes? Improve throughput on freeways now and in the future? Improve travel time reliability along freeway corridors? Improve transit access to HOV lanes thus improving schedule adherence?	• Productivity	✓	✓
			• Reliability		✓
Feasibility	Fundability	Is the strategy cost prohibitive? Are there funding sources available? Can it leverage state or local matching funds?	• Project Cost	✓	
	Local and Transit Operator Support	Will local agencies and transit operators support the strategy?	• Level of support	✓	
	Deliverability/ Ease of Implementation	Will there be political or engineering constraints to strategy implementation?	• Implementable	✓	
Enabling	Connectivity to Transit	Will the strategy improve how people access HOV transit services?	• Distance to Transit	✓	✓
	Safety/Security	Will the strategy improve safety and security at P&R facilities?	• Safety Improved	✓	✓
	Opportunities from TAC Research/ Surveys/ Focus Groups	Are there additional opportunities identified by the TAC or other studies that identify needs and potential strategies? Do the project's surveys and other research point out strategies that make P&R facilities more attractive to people?	• Needs Met	✓	✓

Chapter 6

P&R Survey

Survey Objective

The needs assessment in Chapter 7 uses information collected from a vareity of sources including a document review, field observations, interviews, etc. One of these sources was a survey of actual users of P&R facilities. This chapter presents the results of that effort. The objective of the survey was to gather detailed information about:

- Who is currently using selected P&R lots
- Why and how often are people using lots
- Where are people traveling to and from the lots
- What modes are they using to and from the lots
- How satisfied are users with their lots, associated amenities and commute linkages
- What would motivate users to ride public transit to and from the lots, and
- What types of improvements will be most effective in increasing transit use by existing and new lot users.

Methodology and Response Rates

A three-tiered approach was employed in public surveying and data collection. The first tier was a review of existing sources, including the Caltrans headquarters' P&R database and a document review of materials related to P&R facilities collected from district offices and local agencies in the study area. The second tier sought to identify survey or other information-gathering efforts that were planned or would be conducted at approximately the same time the BusPool's surveys would be administered.[1] The third tier consisted of windshield surveys at P&R facilities.

1. The only survey activity identified was District 4's Regional Express Bus (REB) study, which also conducted a windshield survey of P&R lots in April 2004. The BusPool team coordinated with the REB team to ensure that efforts would not be duplicated (i.e. lots in District 4 would not be surveyed by both groups).

Windshield surveys were conducted at P&R lots throughout the state that were determined to have a high likelihood of potential transit usage. Most were along existing express bus/bus rapid transit routes and HOV facilities. Surveys were conducted at 38 P&R lots in seven Caltrans districts. At some lots, the surveys were hand collected, while at other lots a mailback collection process was used.

NN designed a survey form with 23 questions to capture information about driver perspectives, travel behavior, demographics, transit use, frequency of lot and transit use, potential incentives, perceived barriers and the strengths and weaknesses of specific lots. Surveys were made available in both English and Spanish. The English version can be found in Appendix A.

Representatives from the local Caltrans district offices provided assistance by recommending lots to be surveyed (Figure 6-1) and distributing and collecting surveys. Lots were selected by staff in each district based on their estimate of the potential for increasing transit use (freeway transit use where possible). The lots varied in size, location, and features. Most of the lots in Districts 4, 7, 8 and 11 had at least 100 spaces. The lots in District 5 were fairly small, ranging in size from 16 to 33 spaces.

Surveys were placed on car windshields during the morning peak hours on Monday, April 26, 2004 and Tuesday, April 27, 2004. Local Caltrans staff returned to the lots a few days later to collect surveys that users left on their windshields. As an incentive, users were told that they would be entered in a drawing for a $25 bookstore gift card if they completed the survey. In addition, an internet-based e-mail account (questionsaboutsurvey@yahoo.com) was established for respondents to forward questions about the survey.

A total of 3,122 surveys were distributed to lots throughout the seven Caltrans districts, and 454 surveys were returned for a total response rate

of 15%. (See Figure 6-1). The highest response rate at the district level was in District 5 (42%). District 8 had the largest number of returned surveys (118).

Figure 6-1 Project Study Area

FACILITY NAME	# SPACES PER LOT[1]	# SURVEYS DISTRIBUTED[2]	# SURVEYS RETURNED	% SURVEYS RETURNED
DISTRICT 4: San Francisco Bay Area (67 lots in district[3])				
Route 238/I-680, Mission Blvd, Fremont	127	45	10	22%
Smith Ranch Road, San Rafael	210	90	10	11%
Rowland Blvd., Novato	240	150	19	13%
Page Mill Road, Los Altos Hills	40	35	3	9%
Linda Mar, Pacifica	160	45	10	22%
Crespi Drive, Pacifica	87	75	5	7%
Sub-Total	864	440	57	13%
DISTRICT 5: Monterey, SLO, Santa Barbara (18 lots in district[3]; mail-back survey)				
101/58 interchange, Santa Margarita	16	16	1	6%
Nipomo Recreation Center, Nipomo	30	20	1	5%
Prime Outlets, Pismo Beach	17	4	4	100%
Las Tablas Road, Templeton	32	28	15	54%
Halcyon Road, Arroyo Grande	33	40	24	60%
Sub-Total	128	108	45	42%
DISTRICT 7: Los Angeles, Ventura (77 lots in district[3])				
Newhall - East Lot, Newhall	32	85	5	6%
Diamond Bar - East Lot, Diamond Bar	255	255	29	11%
Harvey Drive Lot, Glendale	215	125	17	14%
Sierra Madre Blvd., Pasadena	102	102	15	15%
St. Steven's Church, Granada Hills	115	105	14	13%
Sub-Total	719	672	80	12%
DISTRICT 8: San Bernardino, Riverside (29 lots in district[3])				
Montclair Transportation Ctr, Montclair	1700	500	66	13%
Baseline Road, Rancho Cucamonga	58	30	1	3%
Corona, Corona	272	280	33	12%
Winchester Road, Temecula	87	90	13	14%
Pigeon Pass Road, Moreno Valley	200	60	4	7%
Sub-Total	2317	960	117	12%

Figure 6-1 Project Study Area (cont'd)

FACILITY NAME	# SPACES PER LOT[1]	# SURVEYS DISTRIBUTED[2]	# SURVEYS RETURNED	% SURVEYS RETURNED
DISTRICT 10: San Joaquin Valley, Stockton, Merced (26 lots in district[3])				
SR 12, Thornton Road, Stockton	43	35	4	11%
I-205 Naglee Road, Tracy	180	147	19	13%
Sub-Total	223	182	23	13%
DISTRICT 11: San Diego (64 lots in district[3])				
I-15/SR 56, Carmel Mountain	102	40	23	58%
I-5/SR 78, Oceanside	130	69	18	26%
Governor Drive, San Diego	84	61	4	7%
La Costa, Carlsbad	115	129	7	5%
I-15 Via Rancho Parkway, Escondido	215	70	11	16%
Sub-Total	646	369	63	17%
DISTRICT 12: Orange County (23 lots in district[3])				
Jeffrey Road, Irvine	225	160	23	14%
Shepherd of Peace Church, Irvine	96	92	15	16%
Lincoln Avenue, Orange	74	65	13	20%
Junipero Serra Road/I-5 (south lot), San Juan Capistrano	72	60	13	22%
Junipero Serra Road/I-5 (north lot), San Juan Capistrano	41	14	4	29%
Sub-Total	508	391	68	17%
Grand Total	5405	3122	453	15%

(1) Source: Caltrans P&R database.
(2) The number of surveys distributed reflects the number of cars parked in the lot on distribution day.
(3) Source: Caltrans P&R database. Total number includes non-state owned lots.

Analysis

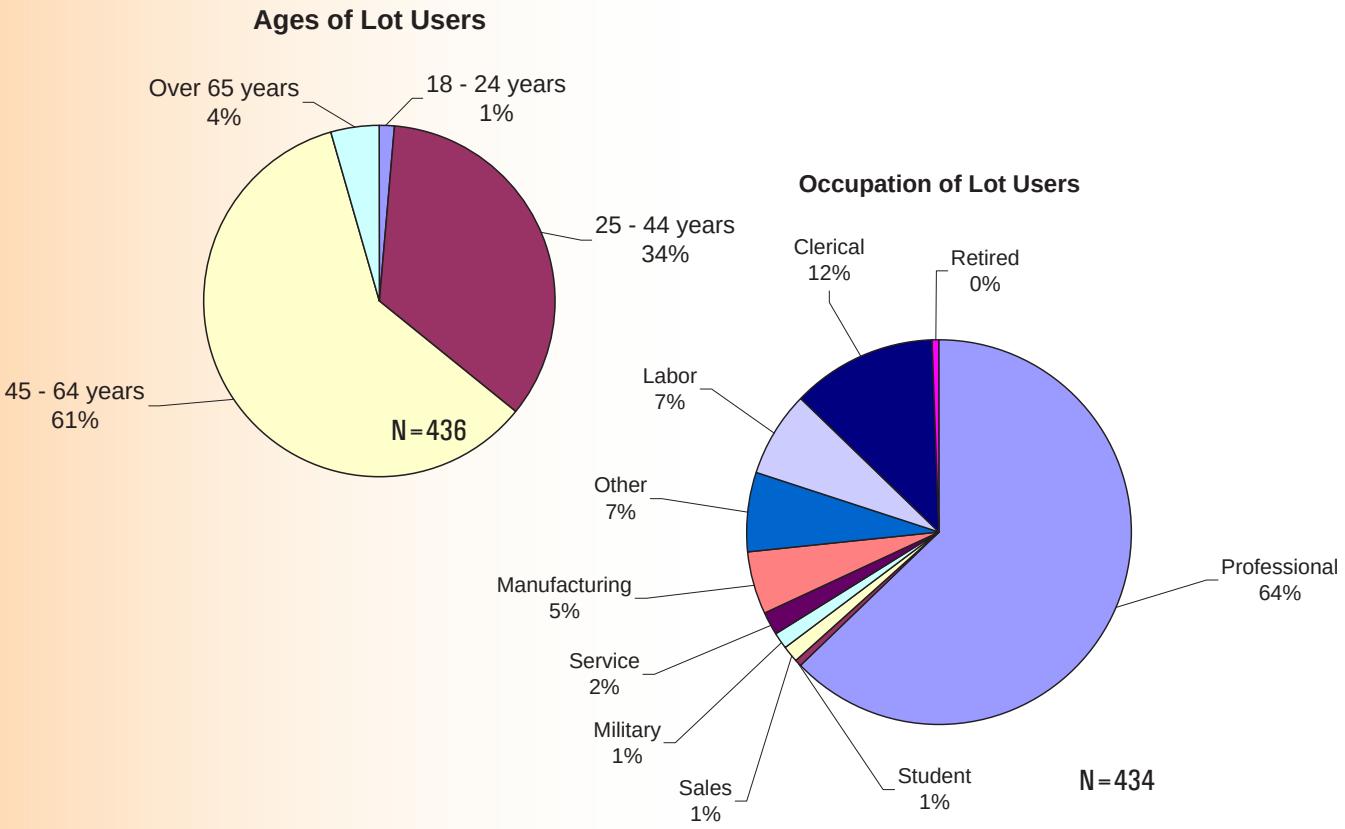
This section provides highlights of the survey results.

Statewide Highlights

General/Demographics

- The typical respondent is between age 45 and 64, and works in some type of "professional" capacity.
- As expected, most respondents said they were headed from home to work at the time they completed the survey (morning commute).

Figure 6-2 Respondent Ages and Occupations (Statewide Results)



Lot Usage and Travel Characteristics

- Nearly three-quarters (73%) of respondents drove 10 miles or less from their home to a P&R lot. (See Figure 6-3.) Within this group the average driving distance was 8 miles.
- The vast majority of respondents (83%) indicated that their travel time from home to a P&R lot was less than 20 minutes. Just over one-third (34%) said it took them less than 10 minutes. (See Figure 6-3.)
- The distribution was fairly even between those who used a carpool (26%), rode a bus (27%) or used a vanpool (36%). (See Figure 6-4.)
- The average distance from the P&R lot to the final destination was 37 miles. Nearly a third (30%) said the distance traveled was more than 46 miles.
- The average travel time from a P&R lot to the final destination was 48 minutes. Nearly one-third (31%) of respondents indicated that it takes them over one hour.
- Just over three-quarters of respondents (76%) are using an HOV lane. This is split 57% car/vanpools and 19% bus.
- 96% are "regulars" who use a lot daily or at least 3 to 4 times per week.
- 35% of respondents have been using a lot for more than 3 years. Another one-third (31%) can be considered "newbies" who have been using a lot for less than a year.

Figure 6-3 Travel Time and Distance to P&R Lots (Statewide Results)

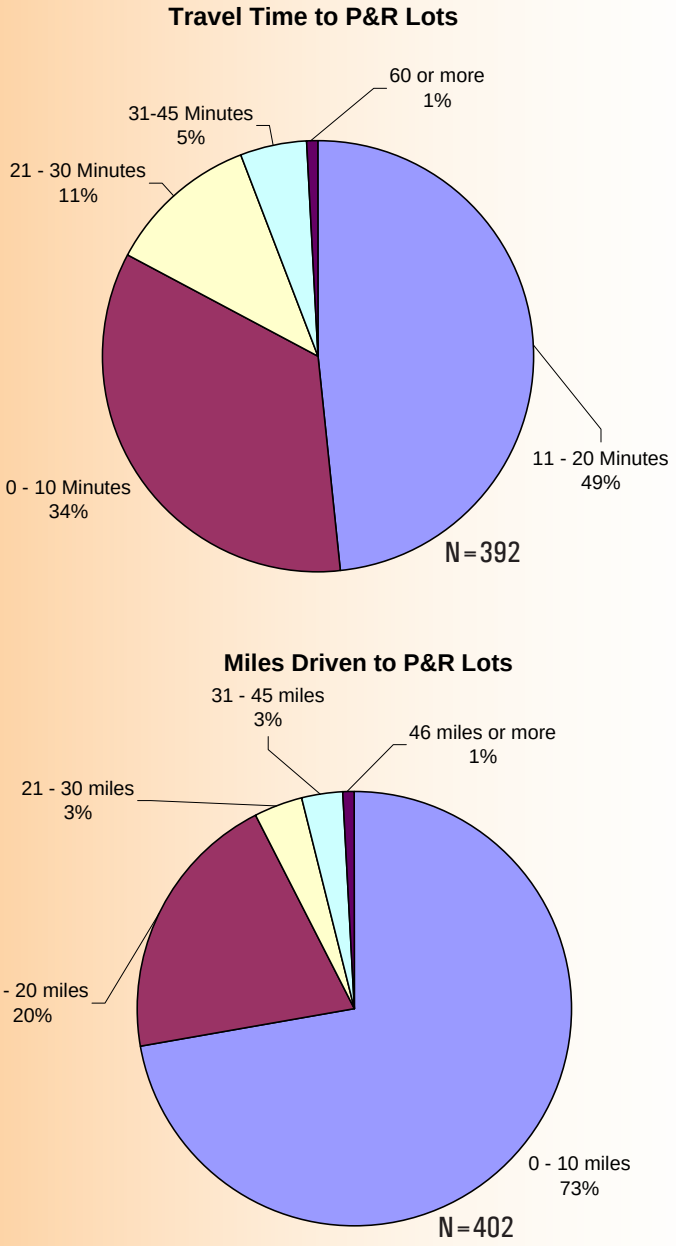
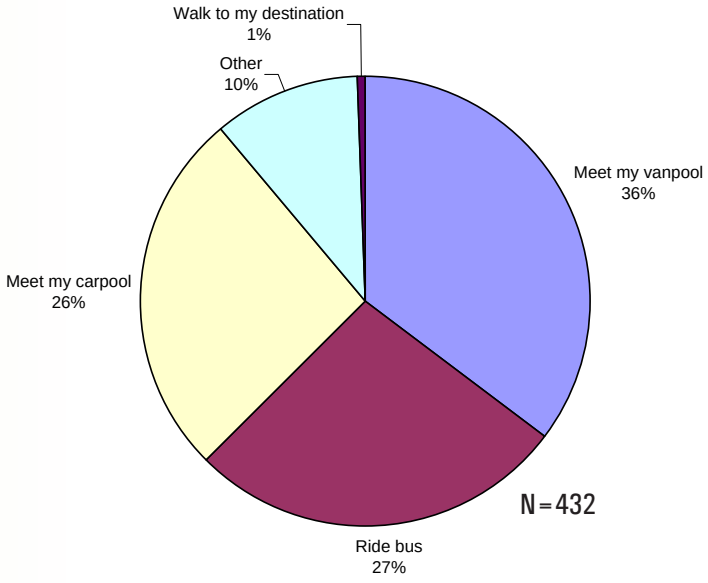


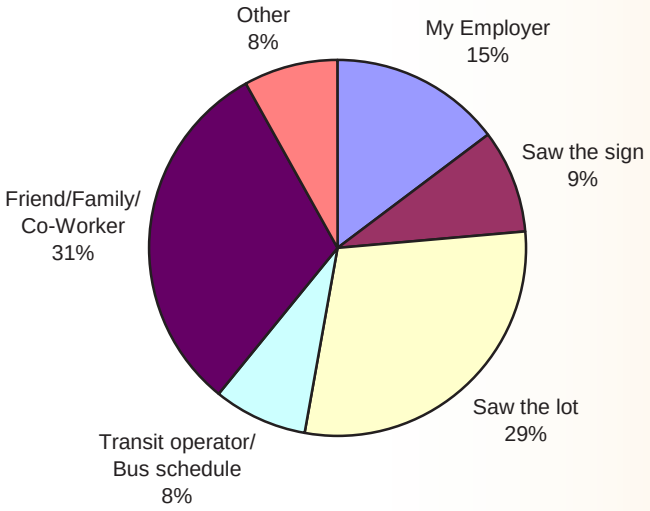
Figure 6-4 Travel Modes from P&R Lots to Destinations (Statewide Results)



Lot Usage and Travel Characteristics *(continued)*

- Most respondents learned about their P&R lot either from co-workers/ family/friends (31%), seeing the lot while driving (29%), or their employer (15%). (See Figure 6-5.)
- Exactly one-third (33%) said they have used another P&R lot within their region.
- Almost everyone (94%) said they would recommend the P&R lot they use to another commuter.

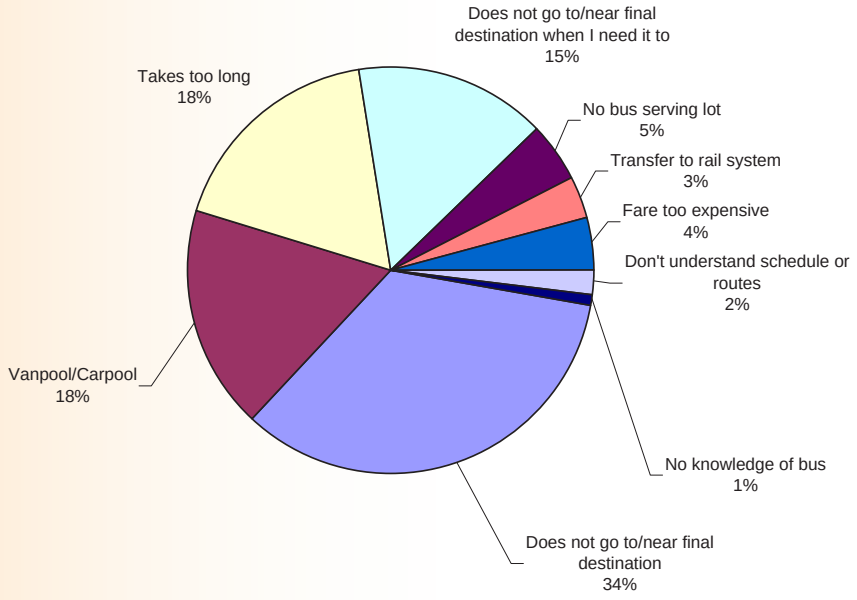
Figure 6-5 How Respondents Learned about P&R Lot



User Opinions and Preferences

- Two-thirds of transit users are "very satisfied" with the existing bus service.
- Existing transit users identified "more frequent pick-ups" (23%), "lower fares" (19%), "improved waiting areas" (16%), and "improved vehicles" (15%) as the top areas in need of improvement for the bus service they use.
- The most highly valued lot qualities were "convenient location" (18%), "good access from the road" (16%), "safety" (12%), and "ample parking spaces" (12%).
- The qualities most disliked about the lots were "trash or debris" (26%) followed by the perception that the lot was "unsafe" (14%).
- The most frequently suggested lot improvements were increased security, better lighting, and restrooms.
- Not surprisingly, respondents indicated that they would be unwilling to pay for improvements except possibly for a security attendant.
- Two-thirds of respondents who use transit from the lots were "Very Satisfied" with their service, while the remaining third was "Moderately Satisfied."
- When asked why they don't use transit at P&R lots, non-riders listed as their primary reasons "no bus service to destination" (34%), "already in a carpool/vanpool (18%), "it takes too long" (18%), and "doesn't run when I need it" (15%). (See Figure 6-6.)

Figure 6-6 Primary Reasons Respondents Do Not Use Transit (Statewide Results)



District Highlights

Overall, there seemed to be a great deal of similarity between survey respondents at the district level. Highlights at the district level are noted in the following section.

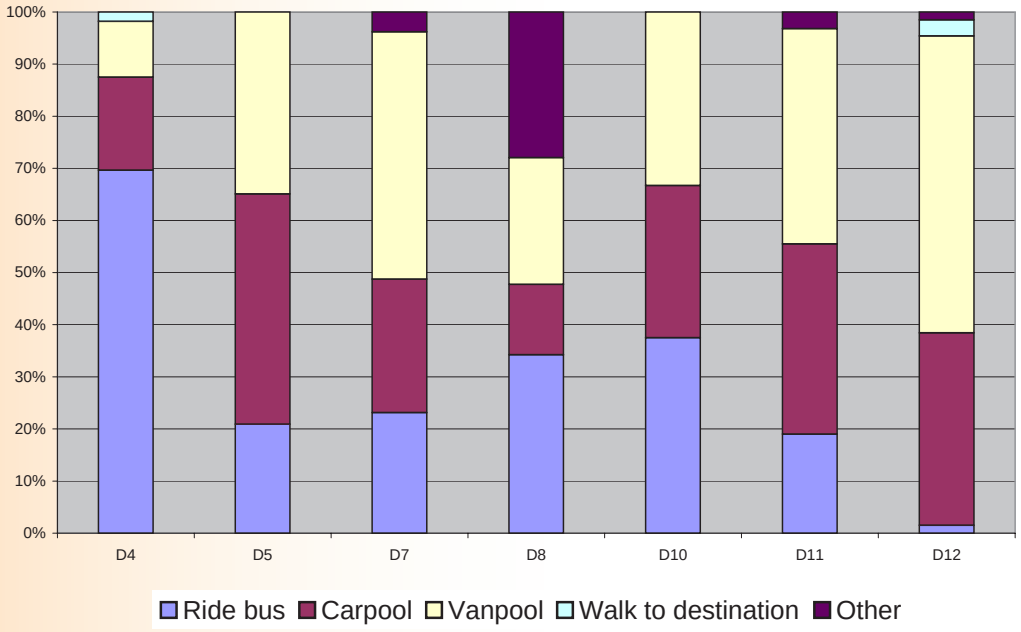
General/Demographics

- In each district, approximately two-thirds of survey respondents listed themselves as having a "professional" occupation.
- In each district, over half of survey respondents were between the ages of 45 and 64 years old.

Lot Usage and Travel Characteristics

- Respondents in each district primarily learned about the existence of their lots through friends/family/co-workers or because they saw the lot from the roadside. In District 12, a number of respondents also learned about the existence of their lots through employers.
- In Districts 5, 7, 8, 10, 11, and 12, more respondents use carpools and vanpools combined than transit to travel between their lots and destinations.
- In District 12, only 2% of respondents use transit to get to their final destinations -- the lowest transit use of all districts that were surveyed. (See Figure 6-7.)
- In each district, the primary reasons users cited for not using transit between lots and destinations were: a) the bus does not go to their final destination, b) travel time on the bus is too long, and c) the bus does not make trips at the time when users need to travel.
- In District 10, almost 20% of respondents commented that high transit fares are the reason they do not catch the bus from lots.

Figure 6-7 Respondent Travel Modes To/From P&R Lots (District Results)



Lot Usage and Travel Characteristics *(continued)*

- Each district users had different opinions on how to increase transit usage. In each district, more frequent pick-ups and improved bus stops/waiting areas were suggested as ways to improve transit use. In Districts 4 and 10, lower fares were also cited as important improvement areas. In Districts 7 and 10, improved buses were recommended by a number of users. Districts 11 and 12 respondents suggested a need for improved bus schedules and information.
- In District 4, more than two-thirds of survey respondents use transit (70%) between the lots and their destinations. This is twice as much as carpooling and vanpooling combined (29%). This level of transit usage is much higher than in any of the other districts. (See Figure 6-7.)

User Opinions and Preferences

- In each district, the most frequently identified lot improvements were lighting, security, telephones, and restrooms. (See Figure 6-8.)
- In each district, survey respondents were most willing to pay for improved security (security attendants and/or local police presence) and telephones. Some respondents were also willing to pay for added bus service, better lighting and coffee/refreshment vendors. (See Figure 6-9.)
- In each district, the qualities respondents value most about existing lots are: ample parking spaces, convenient location, good access from the road, good lighting, and lack of vandalism/graffiti.
- Except in District 4, the vast majority of respondents stated that they would recommend their P&R lot to a friend/colleague. In District 4, only one-third of respondents would recommend their lots.

Figure 6-8 Top Three Requested Improvements

	D4	D5	D7	D8	D10	D11	D12	STATEWIDE
Access to carpool								
Better lighting	16%	24%	12%		14%		22%	12%
Bus service	16%							
Coffee/refreshments								
Emergency telephone		12%			5%			
Local police presence			16%	10%	14%	16%	7%	11%
More bike lockers		6%						
More parking spaces		6%						
Newspaper stand								
Public phone		12%			5%		7%	
Restrooms		6%		12%	5%	9%	17%	
Security Attendant	19%	6%	25%	54%	57%	35%		32%

Figure 6-9 Percentage of Respondents Willing to Pay for Improvements

	D4	D5	D7	D8	D10	D11	D12	STATEWIDE
Local police presence	27%	0%	30%	37%	30%	19%	26%	41%
Security Attendant	31%	11%	29%	41%	46%	26%	25%	33%
Coffee/refreshments vendor	27%	43%	12%	33%	20%	36%	38%	32%
Emergency telephone available	62%	27%	45%	20%	14%	17%	17%	28%
Restrooms	27%	18%	29%	31%	29%	15%	22%	26%
Bus service	42%	20%	14%	20%	100%	0%	33%	25%
Better lighting	27%	29%	21%	31%	0%	0%	13%	21%
Public phone	18%	25%	8%	30%	33%	24%	13%	21%
Newspaper stand	0%	14%	13%	13%	0%	18%	14%	13%
More bike lockers	14%	17%	0%	0%	0%	0%	8%	5%
Access to carpool	0%	0%	0%	0%	0%	0%	0%	0%

The California
BusPool Project

Needs Assessment

Chapter 7

Introduction

The objective of the Needs Assessment is to bring together all of the key data and findings from the project team's research efforts to create a comprehensive set of preliminary recommendations for increasing transit ridership on freeway bus routes that use HOV and/or P&R facilities[1]. Recommendations made at this point are at the "concept level," which means they contain a general description of features, services parameters, advantages, disadvantages, etc.

Analysis Approach and Methodology

Scope Reduction

Currently, there are 367 P&R lots in California.[2] To conduct field reviews and detailed analysis for all of these locations would not be feasible considering the project's limited budget and project schedule. More importantly, it would not be cost-effective to do so, considering the BusPool's purpose is to implement improvements to HOV and P&R facilities necessary in order to increase ridership on bus routes that use those facilities. Based on the project's goals, screening criteria were established to narrow down the list of the P&R lots.

The screening criteria included: lot size, congestion levels along freeway corridors, availability of existing or planned HOV facilities, and availability of existing or planned express bus routes. Each P&R lot was rated poor, fair, or good using these screening criteria. A flow diagram was then developed and used to screen the lots. Figure 7-1 illustrates the flow diagram, and Figure 7-2 outlines the screening criteria used in the scope reduction process.

As indicated in Figure 7-1, lots were grouped into two categories: congestion levels on the mainline freeway corridors that they serve (greater than 6,000 vehicle-hours of delay, less than 3,000 vehicle-hours of delay, or in between) and lot size. The following section further describes the process for each category:

1. The information captured about P&R lots, HOV lanes and transit services has been entered into a searchable database.
2. Approximately 100 of these lots are privately owned.

High congestion levels (Greater than 6,000 vehicle-hours of delay)

- If either an HOV lane or express bus route was available on the freeway corridor or major parallel arterial, then the lot was included for further assessment
- If an HOV lane was under design or construction and a local bus route was available, then the lot was for further assessment
- Otherwise, the lot was qualitatively considered on a case-by-case basis

Moderate congestion levels (Between 3,000 and 6,000 vehicle-hours of delay)

- If an HOV lane and express bus route are available on the freeway corridor or major parallel arterial, then the lot was included
- If either an HOV lane or express bus route was available, then the lot was qualitatively considered on a case-by-case basis
- Otherwise, the lot was not included for further assessment

Low congestion levels (Less than 3,000 vehicle-hours of delay)

- If an HOV lane and express bus route was available on the freeway corridor or major parallel arterial, then the lot was qualitatively considered on a case-by-case basis
- Otherwise, the lot was not included for further assessment

Lots less than 50 spaces (undersized lots)

- If the freeway mainline congestion level was less than 3,000 vehicle-hours of delay, then the lot was not included for further assessment
- If the lot utilization level was less than 90%, then the lot was not included for further assessment
- If the freeway mainline congestion level was greater than 3,000 vehicle-hours of delay and lot utilization level was at least 90%, and if an HOV lane and express bus route was available on the freeway corridor or major parallel arterial, the lot was included for further analysis
- If the freeway mainline congestion level was greater than 3,000 vehicle-hours of delay and lot utilization level was at least 90%, and if either an HOV lane or express bus route was available, the lot was qualitatively considered on a case-by-case basis
- Otherwise, the lot was not included for further assessment

Figure 7-1 Scope Reduction Process: Flow Diagram for Detailed Lot Evaluation and Site Visits

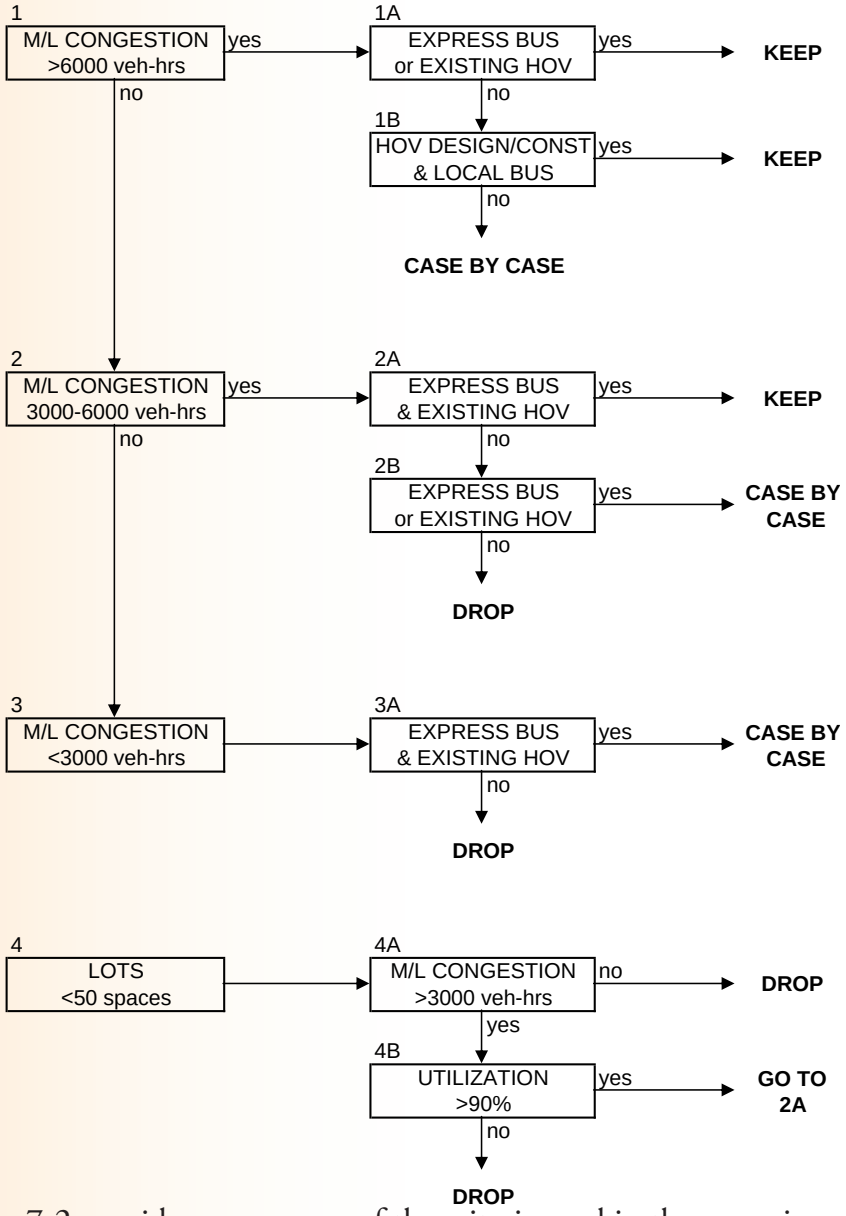


Figure 7-2 provides a summary of the criteria used in the screening process and the ranked level under each criterion. Although the flow diagram was used for the actual screening process, the figure provides a visual confirmation of the important elements associated with each lot relevant to the project purpose.

Figure 7-2 Assessment Criteria for Existing P&R Lots

CATEGORY	DESCRIPTION	RATING LEVELS		
		1 [POOR]	3 [FAIR]	5 [GOOD]
SCREENING CRITERIA [a]				
Mainline Congestion	daily vehicle hours of delay	< 3000 veh-hrs delay	3000-6000 veh-hrs delay	> 6000 veh-hrs delay
HOV Status	freeway HOV implementation	none/planned	design/construction	existing
Bus Type	existing bus service	none/local service only	parallel arterial express	freeway express
Lot Size	exception for undersized lots	< 50 spaces	< 50 spaces & > 50% use	< 50 spaces & > 90% use
LOT & TRAVEL INFORMATION				
Lot Size	number of spaces	< 50 spaces	50-200 spaces	> 200 spaces
Utilization Rate	% of total spaces used	< 20%	20%-90%	> 90%
Destination	approx. distance	< 25 miles	25-50 miles	> 50 miles
Mainline Congestion	daily vehicle hours of delay	< 500 veh-hrs delay	500-1000 veh-hrs delay	> 1000 veh-hrs delay
HOV INFORMATION				
HOV Status	freeway HOV implementation	none/planned	design/construction	existing
HOV Bypass Ramp	existing HOV bypass	No HOV bypass lane		HOV bypass lane
BUS TRANSIT INFORMATION				
Bus Type	existing bus service	none/local service only	parallel arterial express	freeway express
Bus Lines	number of bus lines serving	none	1-2	3+
Service Headway	min time between buses	> 30 min	15-30 min	< 15 min
Stop Location	location of nearest bus stop	far and outside lot	near but outside lot	inside lot
Shelter [b]	bus stop shelter and condition	none	yes but poor	yes and good
FACILITY INFORMATION				
Lot Accessibility	ease of access to lot for buses/users	difficult access	moderate	easy access
Number of Signals to Ramp	number of signals to pass thru	> 5	2-5	< 2
Distance to Ramp	number of miles to nearest ramp	> 1	0.5-1	< 0.5
Lighting	availability of street and lot lighting	none	street but no lot	street and lot
Pavement	pavement condition	loose pvmt, lots of weeds	large cracks, some weeds	minor cracks, weeds
Graffiti	prevalence of graffiti	prevalent throughout	minor on 1 or 2 locations	none
Litter	amount of litter inside and near lot	prevalent inside/near	minor amount inside	very little amount
Signing	existing lot signs	none	at least one location	on freeway, arterial, gate
Other Amenities	existance of bike racks/lockers, telephone/call box, restroom	very few 1 additional amenity	some additional 2 additional amenities	full facility 3 additional amenities

[a] Screening criteria are applied to identify those key lots for Needs Assessment analysis. Those in overall good levels and selected fair levels will be considered for further analysis. Those that do not meet criteria are considered lower priority and are not included for further analysis.

[b] Bus shelter condition includes both functional and maintenance (e.g. good physical condition but functionally poor).

Field Review

Field reviews were made for all lots included in the list for further assessment. The field reviews were used to complete an inventory of facility features and characteristics and identify any deficiencies, as listed in Figure 7-2. These deficiencies were evaluated to develop a critical and non-critical Needs Assessment as they pertained to the BusPool project's purpose. The features and characteristics of each facility were grouped into the following seven categories: commute information, HOV lane information, transit information, accessibility, security, maintenance, and signing.

Commute information reflects the intended lot purpose and describes driver needs. When congestion levels on the freeway are high and commute distance long, there is a greater motivation to use P&R lots, whether by ridesharing or taking transit.

- Approximate distance to major employment destination
- Mainline congestion level

HOV lane information describes the added benefit to a lot and provides incentives for ridesharing and lot use (e.g. easy access to/from lot; transit buses traveling from lot to HOV lane). Easier access from the lot to/from an existing HOV lane provides travel time-saving incentives.

- HOV lane facility status
- On-ramp HOV bypass lane
- Distance to nearest ingress/egress location (or direct connection)

Security has become a critical characteristic in recent years. Vehicles have become more expensive and a part of lifestyle rather than means of travel, particularly in recent years with the proliferation of SUVs. An increase in vehicle theft and vandalism has had a negative impact on the use of lots.

- Lighting
- Visibility
- On-site personnel

Transit information reflects the multimodal component of a lot by describing the ease of transit use. There is a greater incentive to take the bus or train as it becomes more convenient to use. More importantly, the project purpose cannot be achieved without the existence of bus service to the lot.

- Bus service type
- Number of bus lines
- Bus service headways
- Bus stop location
- Bus stop shelter

Maintenance reflects the condition of a lot and supports its security function, more on a perception level than actual crime experience. If the condition of a lot is perceived as poor, the perception is that security is lacking, allowing for deterioration.

- General condition
- Pavement condition
- Graffiti
- Litter

Signing describes the marketing component of a lot. A sign is often the only visible means to inform people of the lot's existence. Trailblazer signs along arterial streets help people find a particular lot. Effective signs also increase the convenience of a lot.

- Freeway
- Arterial streets
- On-site/gate

Additional Analysis of Key Lots

In addition to the assessment of the deficiencies and needs based on the field reviews and data analysis, critical lots were identified for additional analysis. These lots were qualitatively selected, taking into consideration population density or growth, availability of other lots in the area, larger size (mostly over 150 spaces), transit agency concerns, unique HOV lane type (i.e., transitway), location (i.e., serving multiple freeway routes), unique lot function (i.e., transit center or hub), local agency concerns, and other factors.

The additional analysis varied depending on the unique circumstances of a particular lot. Some included interviewing operating personnel about the lot, its users, and/or a bus driver. Others included observing travel patterns and driver behavior to identify a particular issue such as confusing channelizers and transit stop location. Still others included studying the lot configuration and location with respect to their surroundings. These and other methods to conduct detailed assessment of the critical lots were important to accurately identify deficiencies and opportunities for improvements.

Analysis of Results

District 3: Sacramento Area

There are 52 P&R lots in District 3 that Caltrans either owns or participates in the operation of in some capacity. These facilities serve ten state routes, but most of them are located along I-80 (22 facilities), US-50 (12 facilities), or SR-99 (six facilities). The scope reduction process was used to determine selected routes for field reviews and detailed analysis. Some additional facilities were visited on a case-by-case basis if they met some criteria of the scope reduction process and were along a major corridor near high priority facilities.

The Project Team visited 11 out of the district's 52 facilities.[2] For each of the selected locations that were visited, field assessments were made and digital photos were taken.

The most common deficiency at lots was a lack of transit information such as route schedules and maps. Although most facilities with transit stops have a sign with a phone number for transit information, it is also useful to provide some type of route information in print. One facility that should serve as a model for providing this type of information is the new, state-of-the-art facility at White Rock Road outside Folsom. This was one of the most attractive facilities visited and had complete transit schedules for the transit routes serving the lot.

Other common deficiencies included a lack of bus stops near the lots, lack of signage at the facility, and insufficient "security."

Two lots, Saugstad Park on Douglas Blvd. near downtown Roseville and Maidu Park on Meadowlark Way, could be candidates for signal prioritization since they are located far from the freeway access and egress ramps. These two facilities, however, are not on state routes.

There were a few facilities particularly along the US-50 corridor that provided no visual indication that transit buses stopped nearby. Despite this shortcoming, these facilities appeared to be well-utilized. (There appears to be plenty of land for expansion at these lots, if needed.) In some places, patrons would have to cross busy streets, sometimes without the benefit of a crosswalk. Transit stops could be relocated near the facility in some instances. In others, improved signage, pathways and security measures (e.g., lighting) directing patrons to the transit stop could improve transit's visibility at the site. In some cases, informal trails made by transit users to the transit stop could be found. These should be converted into improved pathways, where possible.

2. For site specific information please refer to project Technical Memorandum #7.

There were some facilities that had low visibility because of a lack of signs showing potential users where the lot is located. Signs at the facility facing freeway traffic advertising the lot's location may do more for visibility than most other measures, including the signs indicating "P&R Next Exit."

Security was also an issue for some facilities in this district. Though most facilities visited had lighting, some facilities seemed isolated.

Potential Locations for New Lots in District 3

Although the focus of this project is to improve existing facilities, the US-50 Folsom corridor could benefit from new P&R facilities. This corridor lies within a high-growth area, and existing P&R lots are at capacity.

District 4: San Francisco Bay Area

There are 51 P&R lots in District 4 that Caltrans either owns or participates in their operation in some capacity. These facilities serve 20 state routes with most of them located along US-101 (15 facilities), I-80 (eight facilities), or I-580 (five facilities). The scope reduction process was conducted to determine selected routes for field reviews and detailed analysis. Some additional facilities were reviewed at the request of the District 4 P&R Coordinator, and other facilities were visited on a case-by-case basis if they met some criteria of the scope reduction process and were along a major corridor near high priority facilities.

This process resulted in 30 facilities being visited by the study team. The seven Caltrans facilities in Solano County were not visited by the study team because the Solano Transportation Authority just recently completed its own detailed Needs Assessment in 2003 (*I-80/I-680/I-780 Transit Corridor Study*, January 2003). The results of Solano County's review are included in this analysis. Overall, the study team visited or reviewed 40 out of the district's 51 facilities. For each of the selected locations, field assessments were made and digital photos were taken.

The most common deficiency, even at new facilities, was the lack of transit information such as route schedules and maps. Although most facilities with transit stops had a sign with a phone number for transit information, it would also be useful to provide some type of route information in print.

Other common deficiencies in this region were a lack of bus stops near the lots, lack of signage at or near the facility, and a lack of physical security.

In some cases, transit stops could be relocated nearer facilities. In others, improved signage, pathways and security measures (e.g., lighting) directing patrons to the transit stop could improve transit's visibility at the site. In some cases, informal trails made by transit users to the transit stop could be converted into dedicated pathways.

US-101 in Sonoma and Marin Counties and the I-80 corridor in Solano, Contra Costa, and Alameda Counties are two areas where a corridor approach may be useful. Along US-101, transit turnouts at freeway on/off ramps make for easy access for express buses to the freeway but present problems for patrons trying to access the stops. At many locations, users have to walk several hundred yards to access the stop. In some locations, improvised footpaths were created by people trying to access the transit site. In other locations, patrons had to walk across busy roads without the protection of traffic signals or even a crosswalk. Many of the shelters at the stops are damaged and not very attractive. Working with the transit operators to upgrade these stops and provide better pedestrian access between the parking lot and the stop might induce more people to use transit.

On the I-80 corridor, the Solano Transportation Authority has developed detailed plans for P&R facility improvements including an alternative to add an HOV drop-ramp at Curtola Parkway in Vallejo.

There were some facilities that had low visibility because of a lack of signs showing potential users where the lot is located. Particularly for lots that are adjacent to freeways, signs at the facility facing freeway traffic and advertise the lot's location may do more for visibility than most other measures.

Some of the lots visited showed signs of recent vandalism, such as broken window glass. Improving lot patrols or providing security (perhaps for a fee) in high crime locations could mitigate security concerns by patrons.

Potential Locations for New Lots in District 4

An analysis was performed to identify a list of corridors that could benefit from new or relocated P&R facilities. This list of potential locations came from a few sources, most of them coming from the MTC Bay Area Transportation Blueprint for the 21st Century "Project Notebook of Candidate Projects" (June 2000), the MTC HOV Lane Master Plan Update (March 2003), the Solano County Transportation Authority's I-80/I-680/I-780 Transit Corridor Study (January 2003), and the 2004 Update to the Contra Costa Countywide Comprehensive Transportation Plan. The generalized areas where P&R facilities might be considered include:

- I-80 Solano County (high growth area; major short-term P&R expansions planned in the area in/near Fairfield and Vallejo)
- I-80 Contra Costa County (in/near Hercules)
- I-680 Benicia area, Solano County (high growth area; few P&R facilities in area)
- I-680 Pleasant Hill area, Contra Costa County (high growth area; need to add additional facilities to meet demand)
- SR-4 Antioch (high growth area; new P&R facilities needed)
- US-101 Marin County (high growth area; new P&R facilities needed near San Quentin, Seminary Drive, Fairfax, Novato, and Tiburon, and perhaps around Larkspur)
- Napa County, using US-101 and I-80 corridors (new lot at SR-116 near SR-121 to replace existing lot that will be eliminated for intersection improvements; new lot at SR-29 near SR-12/29)

District 7: Los Angeles County

Currently, there are 58 Caltrans-owned P&R lots in this region serving 15 state routes: SR-1, SR-2, I-5, I-10, I-14, SR-57, SR-60, US-101, I-105, I-110/SR-110, I-118, SR-134, SR-170, I-210, and I-405. The scope reduction process was conducted to determine selected routes for field reviews and detail analysis.

This process resulted in visits to 38 out of the district's 58 facilities. For each of the selected locations that were visited, field assessments were made and digital photos were taken.

The primary deficiencies were the lack of adjacent bus stops and inadequate security and signing. Only 13 out of the 38 sites had express bus stops located at an accessible location, and only seven locations had an on-site personnel presence (i.e., Goodwill trailer or host program). Signage was an issue for all but eight locations. There were inconsistencies in how the signs are posted. Some lots had signs situated at the entrance, while others only had signs on arterials leading to the lot.

In regards to security, most Caltrans P&R lots in this district were either at or near the freeway corridors. In general, the neighborhoods close to the freeways tend to be among the highest crime areas in the county, particularly along I-105, I-10, and I-110 freeways. As such, periodic vehicle break-ins and vandalism had been reported. For example, an interview was conducted with the on-site security guard at the county-operated Fairplex P&R facilities located in Pomona. Two men split the shift from 6 a.m. to 7 p.m., Monday through Friday. One guard was asked about the security at this P&R lot. He stated that "gangbangers" periodically drive by looking around, "checking out the parked vehicles," even with the security guard watching them. This interviewee said that vehicles had been broken into during off-hours.

Lots that are visible from commercial entities, such as stores or gas stations, or have high pedestrian activity tend to "feel safer" and thus have higher

utilization rates. Lots that have on-site personnel appear to have the better utilization rates. Of the seven locations with either a Goodwill trailer or host program, five had utilization rates greater than 75% (three at 100%). None were below 50%. The lots that were isolated and hidden from view or located in tough neighborhoods yielded among the lowest utilization rates.

Potential Locations for New Lots in District 7

The following is a list of corridors that could benefit from new P&R facilities:

- I-5 Santa Clarita (high growth area; no P&R lots in the area)
- US-101 San Fernando Valley (high growth area; insufficient number of lots)
- I-405 South Bay and West Los Angeles (among the highest densities; insufficient number of lots)
- I-10 Santa Monica and West Los Angeles (only two small lots existing – both at high utilization)
- I-605 and I-710 (currently no P&R lot)
- SR-91 Cerritos (currently no P&R lot in area)
- SR-60 East San Gabriel Valley to County Line (limited number of lots)

District 8: Inland Empire

Currently, there are 29 Caltrans-owned P&R lots in District 8 which serve seven state routes: I-10, I-15, SR-60, SR-71, SR-74, SR-91, and SR-395. The scope reduction process was conducted to determine selected routes for field reviews and detail analysis.

This process resulted in 19 out of the district's 29 facilities being visited. For each of the selected locations, field assessments were made and digital photos were taken.

The main deficiencies were a lack of bus stops near the lots and inadequate security. Although 14 facilities were served by one or more express bus routes only five had a bus stop within relatively short walking distance. Security was identified as a concern at 13 out of the 19 locations visited. In regards to maintenance, only eight locations had items that need to be improved. Access to the lots from the freeway was generally good overall. Only a few locations had accessibility problems.

Potential Locations for New Lots in District 8

The following is a list of corridors that could benefit from new P&R facilities:

- I-215 Riverside (high growth area; no P&R lot in area)
- I-15 Lake Ellsinore/Murrieta/Temecula (high growth area; insufficient number of lots)

District 10: North Central Valley

There are 26 P&R lots in District 10 that Caltrans either owns or participates in the operation in some capacity. Though these facilities serve six state routes, most of them are concentrated along SR-99 (11 facilities), I-5 (six facilities) and I-205/I-580 (four facilities).

The scope reduction process was used to determine which lots would be included in the field reviews and detailed analysis. This process led the study team to four facilities on I-205 in the City of Tracy. These four serve commuters in the I-580 corridor heading to the Lawrence Livermore Laboratory, Livermore/Tri-Valley, Silicon Valley and other destinations around the Bay Area.[3]

Field assessments, which included digital photos, were completed at each of the lots.

3. Source: San Joaquin-Altamont Pass Commute Study; Systra 2001.

Two of the facilities, downtown Tracy and the Food4Less, do not appear to be potential lots for improvement based on the field review. Downtown Tracy is a public parking lot nearly 2-½ miles off of the freeway corridor. It is not served by express busses. The nearest public transit access point is six blocks away. In addition, there are over a dozen signalized intersections that any express bus service would have to traverse, which translates into slow travel speeds between the site and the freeway. The Food4Less lot did not have any designated spaces in the parking lot or any trailblazers identifying the lot. In fact, the only sign related to carpooling was a sign at the rear lot that said "No Carpool Parking".

The two remaining lots, Naglee Road and Prime Outlets, are very good facilities. The Naglee facility is a new, state-of-the-art facility with excellent freeway access and egress. It was the only facility in the area that was advertised with signage. The Naglee lot is almost always at capacity, which indicates that an expansion of that facility, or construction of a new lot, should be considered. Like most facilities in this study, it could use better transit information in the transit shelter.

The Prime Outlets lot faces Pescadero Avenue but they're located towards the rear of the shopping center parking lot. This directly and indirectly reduces the sense of security. There are 45 spaces, but fewer than 10 cars are parked there. This site has well-marked parking spaces, and good signage to the lot. Signage could be improved, however. For example, there is no freeway sign advertising the facility. This site could be used as an overflow facility for the Naglee lot. Transit access into the lot may be limited by turning radii and mall policy (e.g. buses may block delivery access, etc.). Nonetheless, there are opportunities to add transit stops on the street. There is also undeveloped land just east of Prime Outlets that could include transit or P&R facilities if warranted.

District 11: San Diego County

Currently there are 56 Caltrans owned P&R lots in this region, serving 12 state routes: I-5, I-8, I-15, SR-52, SR-54, SR-56, SR-67, SR-76, SR-78, SR-94, SR-125, and I-805. The scope reduction process was used to determine selected routes for field reviews and detail analysis.

This process resulted in 17 facilities (out of the district's 56 facilities) being visited, as shown. For each of the selected locations, field assessments were made and digital photos were taken.

Unlike the other regions in Southern California, the P&R facilities in San Diego County have better security measures and better transit connections. Of the 17 facilities visited, 11 locations had on-site personnel presence (i.e., Goodwill, AMVET, Salvation Army, or church).

The main deficiencies were problems with access and insufficient signing, particularly trailblazer signs along the freeway and arterials. Some of the lots were difficult to find.

One lot deserves special attention. The I-5/SR-78 lot at Moreno in Oceanside is currently operating over capacity. This facility only had 130 parking spaces, and virtually all of them are currently being used by carpoolers rather than bus riders. This is mainly due to the fact that there is no express bus stop at this location. The high utilization rate is attributed to its strategic location in reference to major commute corridors, good security measures in the way of perimeter fencing and one ingress/egress location, the Goodwill trailer and its on-site employee, and relatively easy access and close proximity to/from the freeway. Improvements to consider include expanding this lot and converting it to a transit center with direct HOV-bus ramp to/from the I-5 freeway. Such a concept could be designed during the freeway HOV lane design.

Among the 17 facilities visited, four locations should be considered for relocation or removal altogether. Not only do they have low utilization rates, but they also have limited potential for improvement. For example, the

express bus service route is out of the way, and it would be difficult for the buses to make a stop at these locations.

Two prime candidates for elimination are SR-56 New Hope Church and SR-78 Crosswind Community Church. Both locations have less than 5% utilization rates. In the field visit of both lots, there were no vehicles parked at these lots during peak hours on a weekday afternoon. Both of these facilities are difficult to access from the freeway and not readily visible. They are isolated and generally shielded from constant view. Physical improvements to these two lots are not likely to yield higher utilization rates. Moreover, there are other lots located less than five miles away that provide better access and connectivity to buses and roadway corridors.

District 12: Orange County

Currently, there are four Caltrans-owned P&R lots in Orange County, all of which serve I-5. For each of the selected locations, field assessments were made and digital photos were taken.

The P&R facilities in this region had fairly good utilization rates. Of the four locations visited, only one had utilization below 50%. Most of the lots were fairly small in comparison though one location had more than 100 spaces. In addition, express bus service is also available along the corridors of all four lots visited with an express bus stop within relatively short walking distance.

All of the facilities were well-maintained. There was very little evidence of litter and graffiti at any of the sites visited. Despite these positive trends, improvements could be made to the lots that can contribute toward the goals of the BusPool project.

Potential Locations for New Lots in District 12

The following is a list of corridors that could benefit from new P&R facilities:

- SR-22 Garden Grove (only one small P&R lot in the area)
- SR-55 (insufficient number of lots)
- I-5 Irvine (high growth area; insufficient number of lots)
- I-5 Santa Ana (Broadway Street - Caltrans excess land available)
- I-5/I-405 Irvine (Irvine Spectrum area – high growth area and event center)

Summary and Discussion

The study team visited a total of 132 P&R facilities and compiled a comprehensive amount of qualitative data about each lot's conditions, deficiencies, and areas for potential improvements. This number amounts to about 40% of the 350+ lots included in Caltrans' P&R database. The following section, and Figure 7-3, present a brief overview of the conclusions.

District 3: Sacramento Area

- Many P&R facilities in this district are near or at capacity.
- Many lots need better signage, security and maintenance.

District 4: San Francisco Bay Area

- Bus stop access is a problem at many lots in District 4. A corridor approach with bus turnouts at freeway ramps could be an effective means of addressing this issue.
- Improving security and the availability of transit information are priorities in this region.

District 7: Los Angeles County

- Most P&R facilities in Los Angeles lack security. Controlled access with on-site personnel should be considered as well as placing new lots on Routes 5, 101, and 405.

District 8: Inland Empire

- Many P&R lots in the Inland Empire lack bus connectivity and security. Some of these facilities should be consolidated and converted to transit centers with new bus service and stops.

District 10: North Central Valley

- Of the four facilities that were visited by the team, two lots are in need of improvements, the Naglee Road and Prime Outlets lots. The Naglee lot is almost completely full and an expansion should be considered. The Prime Outlets lot needs improved signage and transit access.

District 11: San Diego County

- The P&R facilities visited in District 11 have the best security in the state, but most lack express bus and connectivity and are disjointed with the HOV network.

District 12: Orange County

- District 12 probably has the best HOV and express bus network in California. Many of the P&R lots are near or at capacity. There are some, however, which are isolated in poor locations without bus stops.

Figure 7-3 Sample of Key Findings from Site Visits at Elected Lots

DIST	KEY LOTS THAT NEED IMPROVEMENT	MAJOR DEFICIENCIES	POTENTIAL IMPROVEMENTS
3 - Sacramento Area			
	ELD-50 Latrobe in Folsom	At near capacity; poor signing	Expansion; trailblazer signs
	PLA-80 Taylor Rd in Roseville	Over capacity; vandalism; maintenance	Expansion; new entrance signal; transit
	SAC-99 Sheldon in Elk Grove	Security; poor signing; maintenance	Security; maintenance; bus pad
4 - San Francisco Bay Area			
	CC-80 Hilltop in Richmond	Bus stop access & lighting; security	Reconstruction planned; access to stop
	SON-101 St Joseph in Cotati	Bus stop access; signing	Express bus w/stop; ped access; signing
	ALA-680 Jct 238 in Fremont	Bus stop access; bus info	Closer stop; transit information
7 - Los Angeles County			
	LA-14 Avenue S/Geiger	No express bus stop; isolated; signing	Express bus stop w/shelter; security; sign
	LA-105 Crenshaw Blvd	Security; signing	Control access w/on-site security; signing
	LA-110 Artesia Transit Ctr	Security; signing	Control access w/on-site security; signing
8 - Inland Empire			
	SB-10 Montclair Transit Ctr	Far from freeway; signing; security	Modify layout for security; signing; bus lns
	RIV-60 Pigeon Pass in MV	No bus stop; poor bus access; isolated	Direct bus access w/stop on fwy ramp
	RIV-91 Gallaria in Riverside	No 91 express service/stop; signing	Express on 91 w/stop; designate P&R
10 - Stockton Area			
	SJ-205 Naglee Rd in Tracy	Transit information at stop	Expansion; current transit information
	SJ-5 All lots	HOV lanes; most SMART locations	Express to Sacramento; signing & maint.
	SJ-99 All lots	HOV lanes; express transit service	Express transit with stops/connections
11 - San Diego Area			
	SD-5 Moreno in Oceanside	Over capacity; express bus connection	Expand to transit center with express bus
	SD-15 Via Rancho in Esc.	No HOV; direct access; signing	Direct HOV bus access; better bus stop
	SD-56 Sabre Springs	Poor location; isolated; lack potential	Relocate or consolidate w/other
12 - Orange County			
	OC-5 Jeffery in Irving	Isolated; signing	Security measures; signing
	OC-5 Laguna Hills Trans Ctr	Limited facility information; access	Signing & marketing; better bus headways
	OC-91 Fullerton Transit Ctr	Too large & uncontrolled; security	Direct HOV connections; redesign layout

The California
BusPool Project

Chapter 8

Evaluation and Prioritization of Improvements

During the Needs Assessment (see Chapter 7) the consulting team identified 181 potential HOV and P&R projects that could positively impact transit usage within the six metropolitan areas. Using the evaluation criteria (see Chapter 5) the consulting team evaluated each project's ability to meet the goals of the BusPool project. Each project was then ranked and placed into one of three categories:

- Highest Priority
- Medium Priority
- Lowest Priority

The Highest Priority projects are included in the 10-Year Master Plan and Program of Projects (see Chapter 9). The Medium and Lowest Priority Projects, though not included in the 10 Year plan, remain in the project database and are available for further evaluation at a later date.

Approach

Outcome Evaluation

Lot Use and Congestion Impacts

The consulting team began the process by looking at lots it believed would "respond" to improvements. These were lots:

- Where improvements could potentially have a "significant" impact on the outcome measures
- Which were in close proximity to either an existing or future HOV facility
- Which had one or more of the following characteristics:

  1. Highly utilized
  2. Are large enough to have a potentially measurable impact
  3. Are located in areas with high expected population growth
  4. Are near freeways experiencing high levels of congestion

The following variables were used to determine these characteristics:

- Lot Utilization
- Lot Size
- Congestion from lot to primary destination of lot users
- Absolute Population Growth 2000-2015
- Percent Population Growth 2000-2015

Step 1

This evaluation included a "weighting process" which involved taking the ratio of the value for each of the above characteristics relative to the median for all lots (e.g., Pct Utilization/[Median Pct Utilization for all lots]) except for percent population growth. The population variable was handled by taking half of the resulting ratio. This was done because there were lots and facilities where there was an incredibly high percentage population growth, but a very small actual population growth. A "score" above "1" was considered above the median for any value (except for the pct population increase in which a score above a ".5" was above the median). Once calculated, the resulting ratios were added together and sorted in descending order.

Step 2

The next step was to examine whether these lots were close to HOV lanes (necessary for maximizing transit throughput). The score from above was multiplied by the following values based on how "close" a facility was to an HOV lane:

Near an existing HOV facility = 4

Near a Programmed HOV facility = 3

Near a Planned HOV facility = 2

Near a Proposed = 1

None = 0

Step 3

Step 3 involved looking at the improvements from the Needs Assessment. In this step, the study team asked, "How will the proposed improvements "impact" congestion?" The following multipliers were developed for this step. These were subjectively applied by the study team to facilities based on observations made during field visits.

Expansions/New Lots/Relocations = 4

Bypass/Drop Ramps = 4

Transit Service Additions = 3

Bus Stop Improvements = 1 or 2

Signage/Safety Improvements = .5 or 1

Maintenance = .1

These numbers were then adjusted based on a further review of documentation and additional input from Caltrans staff and the PTAC.

Transit Ridership Impact

To evaluate the transit ridership impact, the study team took the congestion impact score from above and multiplied it by two additional factors: (1) type of transit service, and (2) how much the needed improvement affected transit service. The following multipliers were used:

Express Transit Service = 3

Arterial Transit Service = 1

Local Transit Service = .5

None = 0

The scores were adjusted if the study team had knowledge that a particular service was proposed for a particular lot. For example, some new lots had proposals for transit services. These were evaluated on a case-by-case basis depending on the type of service proposed. Additional adjustments were made based upon feedback from the PTAC.

Next, an estimate of how the needs would impact transit based on a scale of 0-3 was performed (Similar to how the needs would affect congestion/ lot use). For example, lot expansions were multiplied by a "3", bus stop improvements may have been given a "2", signage improvements a "1" and so on.

Express Transit Lines on HOV

For transit productivity, the needs assessment recommendations were reviewed and the transit use score adjusted slightly based on the team's belief about whether the needed improvement would influence productivity. The same scoring approach was used as with the previous indicators. If the need said something like "bypass", improve transit access, etc., it received a subjective score of "6" or a "3" depending on the team's assessment of what it's impacts might be.

Feasibility Evaluation

For the feasibility indicators the consulting team looked at the proposed improvements and made a subjective assessment as to which (if any) of the enabling indicators were impacted. The initial scores and rankings were presented to the PTAC at the November 10, 2004 meeting. The PTAC provided feedback on both indicators.

Local Support

PTAC members indicated whether the potential local support for a specified improvement was "High", "Med", "Low" or "None". They provided commentary where appropriate. The consulting team assigned a score of "6", "3", "1" or "0" respectively.

Ease of Implementation

PTAC members indicated whether they thought a proposed improvement would be "Easy", "Moderate", "Difficult" or "Extremely Difficult" to implement. Scores were assigned as noted above.

Estimated Cost for Improvements

In some cases the estimated cost for each improvement was provided by local Caltrans district staff and in others by the consulting team.

Enabling Evaluation

Assessments and scores for all three indicators (connectivity, safety/security and research) were made subjectively by the consulting team during visits to each of the facilities.

Figure 8-1 presents the scoring and evaluation, sorted by priority, for each of the 181 projects.

Figure 8-1 Facility Evaluation and Proposed Improvement

Evaluation Criteria 6 High Impact/Support 3 Moderate Impact/Support 1 Low Impact/Support 0 No Impact/Support

		FACILITY INFORMATION							DEFICIENCIES/IMPROVEMENT NEEDS				Outcome Evaluation					Feasibility Evaluation		Enabling Evaluation			
													Transit Demand/Freeway Mobility/System Efficiency										
													Transit Ridership/ HOV Use		Delay/Reliability		Productivity			Connectivity to Transit	Safety/ Security	Research/Surveys/ Focus Groups	
Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
1	1 - Highest	11	SD	15	CARMEL MOUNTAIN PLAZA	SAN DIEGO	125	19%	No HOV; no freeway sign	HOV under construction	Freeway sign	$10,000	6	6	6	6	6	6	6	0	0	0	6
2	1 - Highest	4	ALA	84	84 HOV Bypass Newark/ Ardenwood	HAYWARD	116	104%				Not Available	6	6	6	6	6	6	3	0	0	0	0
3	1 - Highest	4	SOL	80	LEMON (AKA CURTOLA)	VALLEJO	419	117%	Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	add spaces		$12,000,000	6	6	6	6	6	6	6	6	6	6	6
4	1 - Highest	4	ALA	84	ARDENWOOD	FREMONT	116	104%	Lot full; Poor security; needs at least 2 bike lockers	Add spaces; security	Improve access	$7,167,000	6	6	6	6	6	6	6	6	6	0	0
5	1 - Highest	4	CC	80	80 Direct Access Ramps NB on-ramp and SB off-ramp at Richmond Parkway	RICHMOND	182	113%				Not Available	6	6	6	6	6	3	3	0	0	0	0
6	1 - Highest	4	CC	80	RICHMOND PARKWAY	RICHMOND	182	113%	Lot full; More spaces needed; poor signal timing; trash	Major expansion planned. Improve HOV transit access	Maintenance	$11,077,000	6	6	6	6	6	6	3	0	0	3	0
7	1 - Highest	4	CC	80	HILLTOP	RICHMOND	135	28%	Striping on xwalk to transit stop; no lighting on walkway to transit stop	Improve lighting on walkway; striping	Maintenance	$185,100	6	6	6	6	6	6	3	0	6	3	0
8	1 - Highest	4	ALA	84	84 HOV Lanes WB SR84 from I-880 to Newark Ave.	HAYWARD	258	75%				Not Available	6	6	6	6	6	6	3	0	0	0	0
9	1 - Highest	4	SCL	880	880 HOV Lanes SR237 to US101		268	74%				$73,100,000	6	6	6	6	6	3	3	0	0	0	0
10	1 - Highest	11	SD	56	SABRE SPRINGS/RTE 56	SAN DIEGO	108	39%	Poor location/access; not enough congestion; no HOV	Relocate lot (poor bus access); HOV	Freeway sign; maintenance	$5,250,000	6	6	6	6	3	6	3	0	0	3	6
11	1 - Highest	7	LA	118	LUTHERAN CHURCH	MISSION HILLS	115	91%	Not enough spaces; poor access; security; signing	Add spaces; access; security	Signing	$7,122,000	6	6	6	6	6	3	3	0	6	0	0
12	1 - Highest	7	LA	110	ARTESIA	LOS ANGELES	980	14%	Security; signing	Security	Signing; direct off-ramp access	$2,167,000	6	6	6	6	6	3	3	0	6	0	0
13	1 - Highest	11	SD	5	CARMEL VALLEY	SAN DIEGO	50	60%	Construction activity bridge overhead; poor condition; no bus stop	Relocate or add bus stop	Remove construction debris; repave lot	$1,537,500	6	6	6	3	6	3	6	6	0	6	0
14	1 - Highest	11	SD	15	VIA RANCHO PKWY	ESCONDIDO	215	48%	No HOV; no direct access	Add M/L HOV & direct HOV access ramp	Bus shelter and other amenities	$11,010,000	6	3	6	6	3	6	6	0	0	0	0
15	1 - Highest	12	OC	55	LINCOLN	ORANGE	74	82%	Not enough spaces; signing	Add spaces	Signing	$4,450,000	6	6	6	0	6	6	6	0	0	0	0
16	1 - Highest	7	LA	60	DIAMOND BAR - WEST	DIAMOND BAR	110	68%	Bus stop is away - used mostly by carpoolers	Relocate or modify access for buses	Security	$97,000	6	6	6	6	6	3	3	0	6	0	0
17	1 - Highest	4	SOL	80	80 Direct Access Ramps Vallejo (Curtola Av)	VALLEJO	716	90%				$27,500,000	6	6	6	6	6	3	3	0	0	0	0
18	1 - Highest	4	SOL	80/ 680/ 780	80/ 680/ 780 Bus Shelters Various locations		728	85%				Not Available	6	6	6	6	6	6	6	0	0	0	0
19	1 - Highest	4	SOL	80/ 680/ 780	80/ 680/ 780 Express Bus Stations Various locations		728	85%				Not Available	6	6	6	6	6	6	6	0	0	0	0
20	1 - Highest	4	SCL	101/ 85	101/ 85 Fwy-Fwy Connector US101/SR85	MOUNTAIN VIEW	369	50%				$58,000,000	6	6	6	6	6	3	3	0	0	0	0

Evaluation Criteria 6 High Impact/Support 3 Moderate Impact/Support 1 Low Impact/Support 0 No Impact/Support

												Outcome Evaluation					Feasibility Evaluation		Enabling Evaluation			
												Transit Demand/Freeway Mobility/System Efficiency										
		FACILITY INFORMATION							DEFICIENCIES/IMPROVEMENT NEEDS				Transit Ridership/ HOV Use		Delay/Reliability		Productivity	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Connectivity to Transit	Safety/ Security	Research/Surveys/ Focus Groups	
Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV			Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
21	1 - Highest	3	PLA	80	TAYLOR RD	ROSEVILLE	150	113%	Broken bike lockers(vandalized); garbage can full; trailblazer signs missing	Add spaces; arterial signing	Maintenance	$9,010,000	6	6	6	3	6	3	3	1	1	6	6
22	1 - Highest	7	LA	10	UNITED METHODIST CHURCH	COVINA	10	120%	Not enough spaces; bus stop is away; poor access; signing	Add spaces; add bus stop; security	Access; signing	$752,000	6	6	3	6	6	3	3	6	6	0	6
23	1 - Highest	4	MRN	101	HETHERTON	SAN RAFAEL	150	143%	Lot full; Striping, Arterial signing	Add Spaces	Striping	$9,196,000	6	6	6	0	6	6	3	0	0	0	0
24	1 - Highest	4	MRN	101	101 Direct Access Ramps Sir Francis Drake Boulevard Improvements & Kerner/ Francsico East/Anderson underpass connector	LARKSPUR	150	143%				$5,000,000	6	6	6	6	6	3	3	0	0	0	0
25	1 - Highest	4	ALA	580	CENTER STREET	CASTRO VALLEY	142	51%	Transit stop a block away; pavement; damaged bike lockers; signing	Add or move bus stop to lot; security	Maintenance; remove construction activity	$102,000	6	6	3	3	6	6	3	6	6	3	0
26	1 - Highest	4	CC	80	80 HOV Lanes EB from SR4 to Carquinez Br		1,939	63%				$15,660,000	6	6	6	6	6	6	6	0	0	0	0
27	1 - Highest	3	ELD	50	CAMBRIDGE DRIVE	CAMERON PARK	33	100%	Not enough spaces; bike lockers broken; security	Add spaces	Maintenance	$1,980,000	6	6	6	1	6	3	3	1	6	6	3
28	1 - Highest	4	SM	101	101 HOV Lanes Redwood City to Millbrae		546	51%				$118,600,000	6	6	6	6	6	3	3	0	0	0	0
29	1 - Highest	4	SOL	80/ 680	80/ 680 Fwy-Fwy Connector I-80/I-680	FAIRFIELD	1,112	48%				$58,000,000	6	6	6	6	6	3	3	0	0	0	0
30	1 - Highest	11	SD	15	MIRAMAR COLLEGE	SAN DIEGO	44	66%	Poor access; no HOV bypass	Signing for bus stop location		$1,000	6	3	6	3	3	6	3	1	0	0	0
31	1 - Highest	12	OC	5	LAGUNA HILLS MALL	LAGUNA HILLS	153	109%	Not enough spaces; poor pavement	Add spaces	Resurface pavement	$9,436,450	6	6	6	0	6	3	3	0	0	6	0
32	1 - Highest	7	LA	10	INDIAN HILLS MARKET PLACE	POMONA	25	60%	Poor access; signing	Add spaces; security	Signing	$1,557,000	6	6	6	0	6	3	3	0	6	0	0
33	1 - Highest	7	LA	105	I-105 TERMINATION	NORWALK	1,500	100%	Not enough spaces	Add spaces		$90,157,000	6	6	6	0	6	3	3	0	0	0	0
34	1 - Highest	8	RIV	91	CORONA	CORONA	272	102%	Not enough spaces	Add Spaces	Maintenance	$16,477,000	6	6	6	0	6	3	3	0	0	3	0
35	1 - Highest	8	RIV	60	ORANGE ST.	RIVERSIDE	142	6%	No HOV bypass; no bus stop near lot	Relocation or remove lot or security	Bus stop	$4,310,000	6	6	6	0	6	3	3	6	6	0	0
36	1 - Highest	7	LA	60	DIAMOND BAR - EAST	DIAMOND BAR	255	100%	Not enough spaces	Add spaces		$15,457,000	6	6	6	0	6	3	3	0	0	0	0
37	1 - Highest	7	LA	210	LONE HILL	GLENDORA	150	84%	Not enough spaces; security	Add spaces; security		$9,157,000	6	6	6	0	6	3	3	0	6	0	0
38	1 - Highest	7	LA	57	PATHFINDER RD	DIAMOND BAR	120	100%	Not enough spaces; bus stop is away; no arterial signs	Add spaces; add bus stop	Signing	$7,417,000	6	6	6	0	6	3	3	6	0	0	0
39	1 - Highest	4	MRN	101	ALAMEDA DEL PRADO	IGNACIO	106	115%	Lot full; Signs; striping; transit shelter broken w/graffiti; no lighting to transit stop	Add spaces; security	Signing and striping	$6,544,560	6	6	3	0	6	6	3	0	6	0	0
40	1 - Highest	7	LA	14	NEWHALL - EAST LOT	NEWHALL	32	266%	Not enough spaces; bus stop is too far away; signing	Redevelop lot and add spaces; bus stop	Signing	$1,980,000	6	6	6	0	6	3	3	6	0	0	0

Evaluation Criteria 6 High Impact/Support 3 Moderate Impact/Support 1 Low Impact/Support 0 No Impact/Support

		FACILITY INFORMATION							DEFICIENCIES/IMPROVEMENT NEEDS				Outcome Evaluation					Feasibility Evaluation		Enabling Evaluation			
													Transit Demand/Freeway Mobility/System Efficiency										
													Transit Ridership/ HOV Use		Delay/Reliability		Productivity	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Connectivity to Transit	Safety/ Security	Research/Surveys/ Focus Groups	
Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV			Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
41	1 - Highest	4	SOL	80	80 HOV Lanes I-680 to Carquinez Br		1,223	48%				$167,070,000	3	6	6	6	6	3	3	0	0	0	0
42	1 - Highest	4	SOL	680	680 HOV Lanes Benicia Br. to I-80		1,187	53%				$121,290,000	6	6	6	6	6	3	3	0	0	0	0
43	1 - Highest	3	PLA	80	SAUGSTAD PARK	ROSEVILLE	91	65%	Trash bin full		Maintenance	Not Available	3	6	6	1	6	3	3	1	1	6	1
44	1 - Highest	11	SD	15	PENESQUITOS	SAN DIEGO	58	55%	No lighting; signing inadequate; difficult to find	Signing	Add lighting	$85,000	3	3	6	0	3	6	6	0	6	0	0
45	1 - Highest	11	SD	56	RANCHO CARMEL PLAZA	SAN DIEGO	70	77%	No HOV; no freeway sign	Signing; HOV		$2,010,000	3	6	6	0	3	6	3	0	0	0	0
46	1 - Highest	12	OC	405	LIGHT OF CHRIST LUTHERAN CHURCH	IRVINE	96	118%	Not enough spaces.	Add spaces		Not Available	6	6	6	0	6	3	0	0	0	0	0
47	1 - Highest	3	ELD	50	LATROBE	FOLSOM	120	84%	Not enough spaces; need signal prioritization for transit	Add spaces; arterial signing		$7,210,000	6	3	3	3	6	3	3	1	1	1	6
48	1 - Highest	4	MRN	101	SEMINARY	MILL VALLEY	62	137%	Lot full; No HOV access; graffiti/litter, poor pedestrian access	Add Spaces	"Signing (arterial and mainline)"	$3,760,000	3	6	3	0	3	6	6	0	0	0	0
49	1 - Highest	4	CC	680	680 HOV Lanes No. Main to So. Main		1,548	54%				$22,310,000	3	6	6	6	6	6	3	0	0	0	0
50	1 - Highest	11	SD	15	CALVARY CHAPEL	ESCONDIDO	111	23%	No bus service or stop;	Add express bus service	Consolidate the three lots	$60,000	3	3	1	6	1	6	6	0	0	0	0
51	1 - Highest	11	SD	15	MIRA MESA/I-15	SAN DIEGO	176	41%	No HOV bypass; lot of litter; security	Add perimeter fencing; maintenance	Add HOV bypass lanes	$1,020,000	3	1	3	6	3	6	3	0	0	6	0
52	1 - Highest	3	PLA	80	MAIDU PARK	ROSEVILLE	50	12%	Needs better trailblazer signs to lot; bus stop away	Relocate or add bus stop; arterial signing		$1,505,000	6	3	3	1	6	3	3	6	1	1	6
53	1 - Highest	8	SB	10	MONTCLAIR TRANSPORTATION CENTER	MONTCLAIR	1,700	34%	Distance from freeway ramps; no arterial signs; security	Arterial trail-blazer signs; security	Reduce lot size	$187,000	3	6	6	0	3	3	3	0	6	0	6
54	1 - Highest	8	RIV	91	GALLERIA	RIVERSIDE	150	58%	No bus stop near lot; poor accessibility	Bus stop	Access	$140,000	3	3	3	6	3	3	3	6	0	0	0
55	1 - Highest	4	ALA	880	LINDEN	OAKLAND	180	20%	No bus stop; no guard in booth; security	Security		$157,000	6	6	3	0	3	3	3	0	6	0	0
56	1 - Highest	3	PLA	80	80 HOV Lanes PM=0.0/5.1 - Sac/Pla Co Line to E of SR65		484	68%				Not Available	6	6	6	6	6	3	3	0	0	0	0
57	1 - Highest	4	SON	101	LAKEVILLE	PETALUMA	111	103%	Lot full; Shelter broken; graffiti; broken bike lockers; security; signage; irrational parking layout	Expansion planned; security	Maintenance	$6,817,000	1	6	3	0	1	6	6	0	6	3	0
58	1 - Highest	4	ALA	880/ 92	880/ 92 Fwy-Fwy Connector I-880/SR092	HAYWARD	360	34%				$58,000,000	3	6	6	6	6	3	3	0	0	0	0
59	1 - Highest	4	MRN	101	101 HOV Lanes Lucky Drive, Corte Madera to North San Pedro Rd San Rafael		1,032	75%				$127,000,000	6	6	6	6	6	6	6	0	0	0	0
60	1 - Highest	4	MRN	101/ 580	101/ 580 Fwy-Fwy Connector HOV connector Priority II	SAN RAFAEL	1,032	75%				$5,000,000	6	6	6	6	6	6	6	0	0	0	0
61	1 - Highest	7	LA	105	LAKEWOOD BLVD	LAKEWOOD	308	100%	Not enough spaces; no express bus; bus stop is away; no arterial signs	Add spaces; add express bus and stop	Signing	$18,697,000	3	6	6	0	1	3	3	6	0	0	0

Evaluation Criteria 6 High Impact/Support 3 Moderate Impact/Support 1 Low Impact/Support 0 No Impact/Support

												Outcome Evaluation					Feasibility Evaluation		Enabling Evaluation			
												Transit Demand/Freeway Mobility/System Efficiency										
		FACILITY INFORMATION							DEFICIENCIES/IMPROVEMENT NEEDS			Transit Ridership/ HOV Use		Delay/Reliability		Productivity	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Connectivity to Transit	Safety/ Security	Research/Surveys/ Focus Groups	
Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV		Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
62	1 - Highest	8	RIV	91	IGLESIA LA SENDA	CORONA	75	69%	No transit service; no lighting	Bus service and stop	Lighting	$200,000	3	6	6	0	1	3	3	6	6	0	0
63	1 - Highest	11	SD	56	NEW HOPE CHURCH	SAN DIEGO	132	2%	Poor location/access; hard to find; inadequate signing; security	Remove	Signing	$30,000	3	1	6	0	3	6	3	0	0	0	0
64	1 - Highest	11	SD	56	Plaza Rancho Penesquitos	SAN DIEGO	102	28%	Hard to find; inadequate signing; no HOV; security	Signing	Perimeter fencing	$20,200	3	1	6	0	3	6	3	0	0	0	0
65	1 - Highest	8	SB	71	CHINO	CHINO	163	12%	No transit service; distance from ramps; poor signage	Bus service and stop	Signing	$55,000	3	6	6	0	1	3	3	6	0	0	0
66	1 - Highest	11	SD	15	FELICITA PLAZA	ESCONDIDO	29	100%	Not enough spaces; poor signage	Add spaces; signing		$1,750,000	3	6	3	0	3	6	1	0	0	0	6
67	1 - Highest	4	SOL	80	HIDDENBROOKE	VALLEJO	50		Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	Construct new lot		$3,157,000	1	6	6	0	3	3	3	0	0	0	0
Subtotal Highest Priority Costs												**$1,148,996,810**											
68	2 - Medium	7	LA	405	SKIRBALL & MULHOLLAND	LOS ANGELES	26	77%	Bus stop is away; no arterial signs	Add spaces; bus stop	Signing	$1,620,000	3	6	3	0	3	3	3	6	0	0	0
69	2 - Medium	4	MRN	101	ATHERTON	NOVATO	62	74%	Transit access away; little lighting to transit stop; shelters old	Improve transit access	"Signing (arterial and mainline)"	$200,000	1	1	3	6	1	6	3	0	0	0	0
70	2 - Medium	7	LA	405	BAPTIST CHURCH - GARDENA	GARDENA	30	20%	No express bus; bus stop is away; poor access; signing	Relocate or remove lot	Signing	$910,000	1	6	6	0	1	3	3	0	0	0	0
71	2 - Medium	8	RIV	60	PIGEON PASS	MORENO VALLEY	200	29%	No HOV bypass; no bus stop near lot; poor visibility	Bus stop (w/direct HOV access); security	Gate sign	$2,208,000	1	3	3	6	1	3	3	6	6	0	6
72	2 - Medium	4	SOL	680	COLUMBUS	BENECIA	200		Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	Construct new lot		$12,157,000	1	3	3	0	1	6	6	0	0	0	0
73	2 - Medium	7	LA	60	UNITED METHODIST CHURCH	WALNUT	40	65%	No express bus; bus stop is away; poor access; signing	Add express bus and stop	Access; signing	$105,000	1	3	3	6	1	3	3	6	0	0	6
74	2 - Medium	4	MRN	101	SPENCER	SAUSALITO	45	311%	Lot full; No HOV access; striping	Add Spaces	Signing (arterial and mainline)	$2,700,000	1	6	3	0	1	6	3	0	0	0	0
75	2 - Medium	4	SOL	80	80 HOV Lanes North Texas to I-505		475	42%				$14,000,000	3	6	6	6	6	6	6	0	0	0	0
76	2 - Medium	4	MRN	101	SMITH RANCH	SAN RAFAEL	210	19%	Access to transit away; striping; maintenance; poor access	Pedestrian transit access	Maintenance, signing (arterial and mainline)	$10,000	1	1	1	6	1	6	3	0	0	3	0
77	2 - Medium	4	CC	680/ 4	680/ 4 Fwy-Fwy Connector I-680/SR4	MARTINEZ	566	55%				$34,800,000	3	6	6	6	6	6	6	0	0	0	0
78	2 - Medium	4	SM	101	RTE 92	SAN MATEO	240	20%	Lot full; Needs arterial signage; poor bus information (old schedule)	Add spaces; bus information	Signing	$14,567,000	6	3	3	0	6	0	0	0	0	0	0
79	2 - Medium	12	OC	91	CAMELOT GOLFLAND	ANAHEIM	50	4%	No HOV bypass on ramps; bus stop is away; no arterial signage.	Add bus stop; add arterial signs	HOV bypass ramps	$1,055,000	3	1	1	6	1	3	3	6	0	0	6
80	2 - Medium	4	CC	4	PACHECO	MARTINEZ	51	106%	Lot full; Old signage	Add spaces	Signing	$3,065,000	1	6	3	0	1	6	1	0	0	0	0
81	2 - Medium	4	SON	101	101 HOV Lanes PM=7.7/13.8 - Old Redwd Hwy to Rohnert Pk Exp		179	45%				Not Available	6	6	6	6	6	3	3	0	0	0	0

Evaluation Criteria 6 High Impact/Support 3 Moderate Impact/Support 1 Low Impact/Support 0 No Impact/Support

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		FACILITY INFORMATION							DEFICIENCIES/IMPROVEMENT NEEDS				Transit Ridership/ HOV Use		Delay/Reliability		Productivity	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Connectivity to Transit	Safety/ Security	Research/Surveys/ Focus Groups	
Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV			Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
82	2 - Medium	4	SON	101	101 HOV Lanes Steele Lane north to Windsor River Road incl River Rd ramp improvement		179	45%				$100,000,000	6	6	6	6	6	6	6	0	0	0	0
83	2 - Medium	7	LA	57	LANTERMAN	POMONA	26	88%	Not enough spaces; bus stop is away; poor visibility; signing	Add spaces; add bus stop; security	Signing	$1,667,000	1	6	3	0	1	3	3	6	6	0	0
84	2 - Medium	4	SON	12	BROOKWOOD	SANTA ROSA	179	45%	"Very poor signage to lot No signing within lot"	Improve access; signing; bus information	Maintenance	$65,000	3	3	3	1	1	3	3	0	0	3	6
85	2 - Medium	4	SOL	80	BELLA VISTA	VACAVILLE	50		Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	Construct new lot		$30,000,000	1	3	3	3	1	3	3	0	0	0	0
86	2 - Medium	8	RIV	15	RANCHO CALIFORNIA	TEMECULA	87	103%	Not enough spaces; no bus stop near lot; poor visibility	Add Spaces; bus stop; security	Maintenance; signing	$5,437,000	1	6	3	0	1	3	3	6	6	3	6
87	2 - Medium	7	LA	105	AVIATION	LOS ANGELES	331	94%	Not enough spaces (used by employees in area); no arterial signs	Add spaces or on-site security	Signing	$20,027,000	1	6	3	0	1	3	3	0	6	0	0
88	2 - Medium	7	LA	210	Via Verde	SAN DIMAS	88	77%	Security	Add spaces; security		$5,437,000	1	6	3	0	1	3	3	0	6	0	0
89	2 - Medium	8	RIV	74	HWY 74	LAKE ELSINORE	50	96%	Not enough spaces; poor visibility	Add Spaces; security	Maintenance	$3,047,000	1	6	3	0	1	3	3	0	6	3	0
90	2 - Medium	12	OC	405	MILE SQUARE	FOUNTAIN VALLEY	56	76%	Operating near capacity.	Add spaces		$3,360,000	1	6	3	0	1	3	3	0	0	0	0
91	2 - Medium	4	MRN	101	101 HOV Lanes SR-37 to Sonoma Co. Line		453	74%				$200,000,000	3	6	6	6	6	6	6	0	0	0	0
92	2 - Medium	8	RIV	15	CANYON COMMUNITY CHURCH	CORONA	75	21%	No bus stop near lot; distance from ramps; security	Security and bus stop or relocate	HOV bypass	$3,250,000	1	1	1	6	1	3	3	6	6	0	0
93	2 - Medium	3	SAC	99	SHELDON ROAD	ELK GROVE	100	56%	Broken bike locker; lots of weeds/debris	Security; entrance signing	Maintenance	$52,000	1	1	1	6	1	3	3	1	6	6	6
94	2 - Medium	11	SD	5	MORENO	OCEANSIDE	130	109%	Not enough spaces; no bus stop near by; no bus service; no signs	Add spaces; add bus service & stop	Signs at all locations	$8,017,000	3	6	3	0	3	0	1	6	0	0	0
95	2 - Medium	11	SD	805	GOVERNOR DR	SAN DIEGO	84	51%	No bus stop near; not enough freeway congestion; no HOV	Add bus stop; add M/L HOV		$10,050,000	1	1	1	3	1	3	6	6	0	0	0
96	2 - Medium	4	CC	680	RUDGEAR	WALNUT CREEK	64	100%	Lot full; Not enough spaces; no bus service or stop	Expansion prog.; add bus service/ stop		$3,890,000	0	6	3	0	0	6	1	6	0	0	0
97	2 - Medium	4	SOL	680	SOUTHHAMPTON	BENECIA	50		Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	Construct new lot		$3,157,000	1	1	1	0	1	6	6	0	0	0	0
98	2 - Medium	4	ALA	680	JCT 238/680	FREMONT	127	34%	Lack bus information; must cross 2 streets for outbound bus; poor access	Add closer outbound bus stop; bus info	Improve access	$100,000	1	1	1	6	1	3	3	6	0	0	0
99	2 - Medium	4	SOL	680	VISTA POINT	BENECIA	50		Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	Construct new lot		$3,157,000	1	1	1	0	1	6	6	0	0	0	0
100	2 - Medium	8	RIV	60	VAN BUREN	MIRA LOMA	22	36%	No bus stop near lot; poor accessibility; poor visibility; litter; no gate sign	Access or relocation; security; bus stop	Maintenance; gate sign	$661,000	1	1	1	6	1	3	3	6	6	3	6

Evaluation Criteria 6 High Impact/Support 3 Moderate Impact/Support 1 Low Impact/Support 0 No Impact/Support

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													Transit Demand/Freeway Mobility/System Efficiency										
													Transit Ridership/ HOV Use		Delay/Reliability		Productivity	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Connectivity to Transit	Safety/ Security	Research/Surveys/ Focus Groups	
Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV			Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
101	2 - Medium	3	SAC	50	50 HOV Lanes PM=L000.147/12.5 - Yolo Co Line to Sunrise Bl		562	53%				Not Available	6	6	6	6	6	3	3	0	0	0	0
102	2 - Medium	3	PLA	80	Light of Gospel Missionary Church	ROSEVILLE	40	45%	Signage to lot	Relocate or add bus service and stop	Signing	$1,205,000	1	3	3	1	1	3	3	6	1	1	6
103	2 - Medium	4	MRN	101	MANZANITA	MARIN CITY	303	114%	Lot full; No HOV access; striping; susceptible to flooding	Add Spaces	No arterial signing	$18,337,000	1	6	3	0	1	3	1	0	0	0	0
104	2 - Medium	8	RIV	91	LA SIERRA	RIVERSIDE	75	39%	Construction activities at and near lot; no bus stop near lot	Bus stop		$50,000	1	3	3	0	1	3	3	6	0	0	0
105	2 - Medium	7	LA	10	Garey / Rte 10 (2 lots combined)	POMONA	112	0%	No HOV bypass on ramps; no freeway sign; security	Relocate or remove lot	Signing	$3,370,000	1	3	3	0	1	3	3	0	0	0	0
106	2 - Medium	7	LA	10	ST JOHN'S CHURCH	LOS ANGELES	40	88%	Bus stop is away; poor access; security; inadequate signing	Add spaces; add bus stop; security	Signing	$2,507,000	1	3	3	0	1	3	3	6	6	0	0
107	2 - Medium	7	LA	134	GLENDALE	GLENDALE	215	58%	Security; no freeway signs	Security (on-site personnel); express bus	Signing; maintenance	$217,000	1	3	3	0	1	3	3	0	6	3	0
108	2 - Medium	4	SON	101	101 HOV Lanes Marin County Line to Rte 116, Petaluma		663	61%				$200,000,000	3	6	6	6	6	6	6	0	0	0	0
109	2 - Medium	4	ALA	580	FRUITVALE	OAKLAND	178	97%	Lot full; Arterial signage; litter; broken bike lockers	Add spaces; signing	Maintenance	$10,847,000	3	3	3	0	1	3	0	0	0	3	6
110	2 - Medium	4	SON	101	SOUTH PETALUMA	SANTA ROSA	40	73%	Signage to lot; lack clear transit information	Expansion planned; bus information	Signing	$2,405,000	1	1	1	0	1	3	6	0	0	0	0
111	2 - Medium	3	ELD	50	PONDEROSA ROAD WEST 2	SHINGLE SPRINGS	111	50%	Broken bike lockers; no direct xwalk to E lot transit stop	Pedestrian amenities or add bus stop in lot	Maintenance	$1,687,500	1	1	1	3	1	3	3	6	3	6	3
112	2 - Medium	3	ELD	50	PONDEROSA ROAD WEST 1	SHINGLE SPRINGS	28	71%	Maintenance; replace transit shelter	Add spaces; maintenance	Replace transit shelter	$50,000	1	1	1	1	3	3	3	3	1	6	3
113	2 - Medium	4	ALA	580/ 24	580/ 24 Direct Access Ramps Oakland (to the Bay Bridge HOV lane)	OAKLAND	372	78%				$45,000,000	3	6	6	6	6	3	3	0	0	0	0
114	2 - Medium	4	SCL	680	680 HOV Lanes SR237 to US101		358	29%				$72,240,000	3	3	6	6	6	3	3	0	0	0	0
115	2 - Medium	7	LA	170	OXNARD	NORTH HOLLYWOOD	112	50%	Bus stop is away; no entrance sign	Add bus stop	Signing	$60,000	1	1	1	0	3	3	3	6	0	0	0
116	2 - Medium	11	SD	15	Sabre Springs Market	SAN DIEGO	103	21%	Difficult to find	Signing		$10,000	3	1	1	0	1	3	3	0	0	0	0
117	2 - Medium	7	LA	14	GOLDEN VALLEY	SANTA CLARITA	350	54%	No HOV bypass; bus stop is away; no arterial signs	Add express bus stop	Signing	$60,000	3	1	1	0	1	3	3	6	0	0	0
118	2 - Medium	4	ALA	580	JOHN DRIVE	CASTRO VALLEY	10	50%	No xwalk to transit stop across street; Security; maintenance	Add crosswalk to bus stop	Security, Maintenance	$300,000	1	3	3	0	1	3	0	0	6	3	0
119	2 - Medium	3	SAC	99	CALVINE RD	SACRAMENTO	248	19%	Signage to lot; broken bike lockers; fence broken; maintenance	Security	Maintenance	$157,000	1	1	1	1	1	3	3	1	6	6	6
120	2 - Medium	12	OC	5	MISSION VIEJO CHURCH OF CHRIST	MISSION VIEJO	69	49%	Bus stop is away; poor accessibility.	Add bus stop	Access	$100,000	3	1	1	0	3	3	0	6	0	0	0
121	2 - Medium	4	SM	1	CRESPI	PACIFICA	87	87%	Potholes; no HOV access; lack bus information	Relocate or security (beachgoer use)	Bus information; maintenance	$2,615,000	1	6	3	0	1	0	0	0	3	3	0

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Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
122	2 - Medium	3	SAC	99	CALTRANS MAINTENANCE YARD	ELK GROVE	50	4%	Broken bike lockers; maintenance	Security; entrance signing	Maintenance	$52,000	1	1	1	1	1	3	3	1	6	6	6
123	2 - Medium	4	SOL	80	NORTH FIRST STREET	DIXON	50		Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	Construct new lot		$3,157,000	0	1	1	0	0	6	3	0	0	0	0
124	2 - Medium	4	ALA	238	MISSION SAN JOSE PARK	FREMONT	23	65%	No signage; poor transit access; no crosswalk on busy street	Relocate		$690,000	1	3	3	0	1	3	0	0	0	0	0
Subtotal Medium Priority Costs												**$853,887,500**											
125	3 - Low	3	ELD	50	50 HOV Lanes PM=0.8/R8.5 - Latrobe Rd to Shingle/ Ponderosa Rd		339	55%				Not Available	6	6	6	6	6	3	3	0	0	0	0
126	3 - Low	7	LA	105	LONG BEACH BLVD	LONG BEACH	357	31%	Security; no arterial signs	Security	Signing	$167,000	1	1	1	0	1	3	3	0	6	0	0
127	3 - Low	8	RIV	15	NORCO & 2ND	NORCO	200	15%	No bus stop near lot; distance from ramps; no lighting; poor signage	Security; bus stop	Lighting; signing	$517,000	1	1	1	0	1	3	3	6	6	0	6
128	3 - Low	7	LA	105	WILLOWBROOK	WILLOWBROOK	439	28%	No arterial or gate signage.	Security	Signing	$167,000	1	1	1	0	1	3	3	0	6	0	0
129	3 - Low	7	LA	101	TOPANGA PLAZA	CANOGA PARK	100	34%	Poor access; hard to find; signing	Relocate; or designate area; signing		$3,010,000	1	1	1	0	1	3	3	0	0	0	6
130	3 - Low	7	LA	105	CRENSHAW	LOS ANGELES	481	22%	Security; no arterial signs	Security	Signing	$167,000	1	1	1	0	1	3	3	0	6	0	0
131	3 - Low	7	LA	105	AVALON	LOS ANGELES	96	5%	Security; bus stop is away; poor access	Security	Signing	$57,000	1	1	1	0	1	3	3	0	6	0	0
132	3 - Low	7	LA	105	CENTURY/HARBOR JUNCTION	LOS ANGELES	341	26%	Security; signing	Security	Signing	$167,000	1	1	1	0	1	3	3	0	6	0	0
133	3 - Low	7	LA	105	HAWTHORNE	HAWTHORNE	646	9%	Security; no arterial signs	Security	Signing	$167,000	1	1	1	0	1	3	3	0	6	0	0
134	3 - Low	7	LA	105	VERMONT AVE	LOS ANGELES	270	1%	Security; bus stop is away; no arterial signs	Security	Signing	$167,000	1	1	1	0	1	3	3	0	6	0	0
135	3 - Low	7	LA	10	UNITED METHODIST	WEST COVINA	95	73%	No freeway or arterial signs	signing		$10,000	1	1	1	0	1	3	3	0	0	0	6
136	3 - Low	8	RIV	60	TOWNGATE	MORENO VALLEY	74	66%	No HOV bypass; poor accessibility; poor signage	Signing		$10,000	1	1	1	0	1	3	3	0	0	0	0
137	3 - Low	7	LA	110	SAN PEDRO	LOS ANGELES	106	48%	Security; bus stop is away; no arterial signs	Security; add bus stop	Signing	$197,000	1	1	1	0	1	3	3	6	6	0	0
138	3 - Low	7	LA	110	SAN PEDRO II	LOS ANGELES	280	12%	Security; litter	Security	Maintenance; signing	$167,000	1	1	1	0	1	3	3	0	6	3	6
139	3 - Low	8	RIV	60	COUNTRY VILLAGE	GLEN AVON	75	40%	No bus stop near lot; litter	Security; bus stop	Maintenance	$97,000	1	1	1	0	1	3	3	6	6	3	0
140	3 - Low	7	LA	5	CITADEL	COMMERCE	50	52%	Bus stop is away; poor pavement; no arterial signs	Add bus stop; arterial signing	Maintenance	$60,000	1	1	1	0	1	3	3	6	0	3	6
141	3 - Low	8	RIV	15	NORCO & 6TH	NORCO	100	28%	No bus stop near lot; distance from ramps; no gate signage	Bus stop	Gate sign	$51,000	1	1	1	0	1	3	3	6	0	0	6
142	3 - Low	4	ALA	580/ 680	580/ 680 Fwy-Fwy Connector I-580/I-680	DUBLIN	100	20%				$58,000,000	3	3	6	6	6	3	3	0	0	0	0
143	3 - Low	12	OC	5	JEFFREY	IRVINE	225	66%	No arterial signage	Security	Signing	$167,000	1	1	1	0	1	3	3	0	6	0	0
144	3 - Low	12	OC	5	Junipero Sierra - North	SAN JUAN CAPISTRANO	41	58%	Security (perimeter fencing & controlled access)	Security		$157,000	1	1	1	0	1	3	3	0	6	0	0
145	3 - Low	12	OC	5	Junipero Sierra - South	SAN JUAN CAPISTRANO	72	41%	Security (perimeter fencing & controlled access)	Security		$157,000	1	1	1	0	1	3	3	0	6	0	0

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146	3 - Low	8	RIV	15	MIRA LOMA	MIRA LOMA	76	53%	No bus stop near lot; distance from ramps; security; no gate signage	Security; bus stop	Maintenance; gate sign	$98,000	1	1	1	0	1	3	3	6	6	3	6
147	3 - Low	8	RIV	91	CORONA PROMENADE	CORONA	68	40%	No bus stop near lot; poor visibility	Security; bus stop	Maintenance	$97,000	1	1	1	0	1	3	3	6	6	3	0
148	3 - Low	7	LA	14	AVE K	LANCASTER	118	18%	No HOV bypass; no express bus; bus stop is away; signing	Add express bus and stop	Signing	$60,000	1	1	1	0	1	3	3	6	0	0	0
149	3 - Low	7	LA	14	AVE S & GEIGER AVE	PALMDALE	430	71%	No HOV bypass; no bus stop; no freeway signs	Add express bus stop	Signing	$60,000	1	1	1	0	1	3	3	6	0	0	0
150	3 - Low	10	SJ	205	PRIME OUTLETS TRACY	TRACY	45	13%	Signing; might facilitate transit use	Provide bus service and stop		$50,000	1	1	1	0	1	3	3	6	0	0	0
151	3 - Low	4	ALA	580	PORTOLA	LIVERMORE	100	20%	No HOV access; signage	Signing		$10,000	1	1	1	0	1	3	3	0	0	0	0
152	3 - Low	10	SJ	205	RTE 205 AT NAGLEE ROAD	TRACY	180	72%	Limited transit information	Provide transit information; transit signing		$5,000	1	1	1	0	1	3	3	0	0	0	6
153	3 - Low	7	LA	14	OAK CREEK	NEWHALL	130	23%	Poor visibility; signing	Add express bus stop or relocate; security	Signing	$4,067,000	1	1	1	0	1	3	3	6	6	0	0
154	3 - Low	4	MRN	37	BLACK POINT/ATHERTON AVE	NOVATO	29	62%	Trash; shelter not easily accessed	Add spaces; improve access	Maintenance, signing (arterial and mainline)	$1,800,000	0	3	3	1	0	0	3	0	0	3	0
155	3 - Low	8	RIV	15	OUTLET MALL	LAKE ELSINORE	50	68%	No bus stop near lot; security	Security; bus stop		$97,000	1	1	1	0	1	3	3	6	6	0	0
156	3 - Low	4	MRN	101	ROWLAND	NOVATO	240	60%	Gate sign not visible; transit shelters appear "weathered"; poor vehicular access to lot	Signing	Transit shelter	$60,000	1	1	1	0	1	3	3	0	0	0	0
157	3 - Low	7	LA	14	PEARBLOSSOM	PALMDALE	213	32%	No HOV bypass; bus stop is away	Add express bus stop		$50,000	1	1	1	0	1	3	3	6	0	0	0
158	3 - Low	4	CC	80	WILLOW	HERCULES	85	34%	Fence leaning on W lot; no xwalk from W lot to WB transit stop	Add crosswalk	Maintenance	$10,000	1	1	1	0	1	3	3	0	3	3	0
159	3 - Low	4	ALA	580	580 HOV Lanes PM=9.683/17.9 - Tassajara Rd to Vasco Rd		401	42%				Not Available	3	3	6	6	6	6	6	0	0	0	0
160	3 - Low	4	ALA	580	580 HOV Lanes I-680 to Tassajara		401	42%				$18,330,000	3	3	6	6	6	6	6	0	0	0	0
161	3 - Low	4	ALA	580	580 HOV Lanes Vasco Rd to Greenville Rd		401	42%				$5,220,000	3	3	6	6	6	6	6	0	0	0	0
162	3 - Low	4	ALA	680	680 HOV Lanes I-580 to SR84		509	38%				$80,220,000	3	3	6	6	6	3	6	0	0	0	0
163	3 - Low	4	SM	101	THIRD AVE	SAN MATEO	13	113%	Signage; striping; trash		Signing and striping; maintenance	$15,660	0	6	3	0	0	0	0	0	0	3	0
164	3 - Low	4	SCL	280	280 HOV Lanes SR17 to US101		190	51%				$37,200,000	3	3	6	6	6	3	3	0	0	0	0
165	3 - Low	4	CC	242	CONCORD	CONCORD	45	38%	More trailblazers signs needed; very difficult to find lot	Add bus service and stop or relocate	Signing	$1,355,000	0	1	1	0	0	3	3	6	0	0	0
166	3 - Low	4	CC	680	680 Direct Access Ramps San Ramon (Bollinger Canyon Rd)	SAN RAMON	108	25%				$45,000,000	1	3	6	6	6	6	6	0	0	0	0

Evaluation Criteria 6 High Impact/Support 3 Moderate Impact/Support 1 Low Impact/Support 0 No Impact/Support

													Outcome Evaluation						Feasibility Evaluation		Enabling Evaluation			
													Transit Demand/Freeway Mobility/System Efficiency											
		FACILITY INFORMATION							DEFICIENCIES/IMPROVEMENT NEEDS				Transit Ridership/ HOV Use		Delay/Reliability		Productivity							
Line #	Improvement Priority Group	Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size	Pct Util.	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements	Transit Ridership Impact	Lot Use Impact	Congestion	HOV/Fwy Access for Transit	# of Express transit lines on HOV	Local and Transit Operator Support	Deliverability/ Ease of Implementation	Connectivity to Transit	Safety/ Security	Research/Surveys/ Focus Groups	
																				Bus Stop Location	Security Indicators	Maintenance Indicators	Signage Indicators
167	3 - Low	4	CC	680	BOLLINGER	SAN RAMON	108	25%	Direct ped access to shopping plaza should be considered	Add bus service and stop	Pedestrian amenities	$60,000	0	1	1	0	0	3	3	6	0	0	0
168	3 - Low	4	ALA	980	NORTHGATE	OAKLAND	86	0%	Arterial signage; could use landscaping	Security; signing; add express bus	Landscaping	$117,000	1	1	1	0	1	3	0	0	6	0	6
169	3 - Low	12	OC	405	SOUTH COAST PLAZA	COSTA MESA	50	24%	Bus stop is away; poor accessibility; no freeway signage.	Add bus stop/ relocate; signing		$55,000	1	1	1	0	1	3	0	6	0	0	6
170	3 - Low	4	SON	101	ST. JOSEPH	COTATI	182	18%	Users must cross busy road; access to transit not clear	Pedestrian transit access		$10,000	1	1	1	0	1	0	3	0	0	0	0
171	3 - Low	12	OC	405	Fed. SW Regional Reserach Labwest	LOS ALAMITOS	66	13%	Poor accessibility; no arterial signage	Relocate; signing		$1,990,000	1	1	1	0	1	3	0	6	0	0	6
172	3 - Low	10	SJ	205	DOWNTOWN TRACY	TRACY	33	12%	Far from freeway on slow streets; no designated spaces; signing	Relocate	Signing and designated spaces	$1,000,000	0	0	0	0	0	3	3	0	0	0	6
173	3 - Low	10	SJ	205	FOOD 4 LESS	TRACY	43	19%	No signing; no designated spaces	Relocate	Signing and designated spaces	$1,300,000	0	0	0	0	0	3	3	0	0	0	6
174	3 - Low	4	SM	1	LINDA MAR	PACIFICA	160	27%	No HOV access; lack bus information	Bus information		$5,000	1	1	1	0	1	0	0	0	0	0	0
175	3 - Low	3	YOL	80	80 HOV Lanes PM=0.5/R9.9 - Richards Bl (Davis) to E of Harbor Bl		629	44%				Not Available	3	3	6	6	6	3	3	0	0	0	0
176	3 - Low	3	SAC	5	5 HOV Lanes PM=12.0/16.1 - Laguna Blvd to Pocket Rd		175	69%				Not Available	1	1	6	6	6	3	3	0	0	0	0
177	3 - Low	3	SAC	5	5 HOV Lanes PM=16.1/23.8 - Pocket Rd to I St		175	69%				Not Available	1	1	6	6	6	3	3	0	0	0	0
178	3 - Low	3	SAC	99	99 HOV Lanes PM=0.0/11.9 - SJ/Sac Co Line to Elk Grove		389	56%				Not Available	1	1	6	6	6	3	3	0	0	0	0
179	3 - Low	3	SAC	5	5 HOV Lanes PM=23.8/32.7 - I St to Airport Rd		22	23%				Not Available	1	1	6	6	6	3	3	0	0	0	0
180	3 - Low	3	SAC	80	80 HOV Lanes PM=M0.4/ M9.4 - Yolo/Sac Co Line to Longview Dr		22	23%				Not Available	1	1	6	6	6	3	3	0	0	0	0
181	3 - Low	4	SON	101	ROHNERT PARK EXPRESSWAY	ROHNERT PARK	151	97%	Lot full; Arterial signage; could use landscaping	Expansion under construction	Signing; landscaping	$9,232,000						6	0	0	0	0	0
Subtotal Lowest Priority Costs												**$271,232,660**											
TOTAL ESTIMATED PROJECT COSTS												**$2,274,116,970**											

Chapter 9

Ten Year Master Plan and Program of Projects

The consulting team has identified 181 potential projects capable of positively impacting ridership on public transit bus routes that utilize Caltrans HOV facilities and P&R Lots. The 181 projects were split into three priority categories:

Priority	# of projects	Estimated Cost* *($ millions)*
Highest	67	$1,149
Medium	56	$854
Lowest	58	$271
Total	181	$2,274

* Costs are available only for 162 of the 181 projects.

The Ten-Year Master Plan and Program of Projects is intended to address only the highest priorty projects. These projects cover the entire range from P&R lot maintenance items, to adding more spaces, to building HOV access ramps and finally to adding new HOV lanes. The estimated costs at the district level are:

District	# of Projects	Estimated Costs ($ millions)
3	6	$20
4	29	$917
7	11	$154
8	6	$21
11	12	$23
12	3	$14
Total	67	$1,149

Figure 9-1 displays a detailed breakdown at the Caltrans District level of the 67 highest priority projects.

Funding Opportunities

The Ten-Year Master Plan and Program of Projects is designed to focus on identifying funding and next steps for the 67 highest priority projects.[1] Overall, the funding picture is extremely constrained in the short term, as the State continues to work through a fiscal crisis that has wiped out much of the State transportation funding capacity in the past two years. The State Transportation Improvement Program (STIP) fund estimates are down again in the 2005/06 budget. Although the recently approved Proposition 42 transfers to fund transportation projects will help somewhat, it will still take many years to work through a backlog of already approved and ready-to-go projects.

We had expected by now that the new Federal transportation funding bill, SAFETEA, would have been approved by the congress and signed by the President, but unfortuantely that is not the case. In the interim, the Federal government recently approved another extension of the existing TEA-21 program through the end of the summer 2005 to provide funding for various projects. The final "proposed" funding levels for SAFETEA are still unknown, and it is difficult to say what the final appropriations will be. Given constrained budgets at the federal level, however, it is certain that the growth of federal transportation funding will not keep pace with the expectations of the State and Metropolitan Planning Organizations (MPO's) going into the reauthorization process several years ago.

It is within this constrained state and federal funding environment that the BusPool Program of Projects must seek funding. Despite the sober assessment, the picture is not completely bleak, as there are both new sources that may become available and continuing programs that can provide funding for the BusPool projects. Recommended funding strategies are discussed below. A detailed list of funding options is presented in Figure 9-2.

[1] Costs are available only for 59 of the 67 highest priority projects.

Figure 9-1 Highest Priority Projects

Sorted by Caltrans District # and Freeway (Fwy)

FACILITY INFORMATION										DEFICIENCIES/IMPROVEMENT NEEDS			
Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size (or nearest lot for HOV)	Pct Util.	PNR ID	LOT ID	UNIQ_ID	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements
3	El Dorado	50	CAMBRIDGE DRIVE	CAMERON PARK	33	100%	22	2	3-1ELD	Add parking spaces; repair broken bike lockers; improve security	Add spaces	Maintenance	$1,980,000
3	El Dorado	50	LATROBE	FOLSOM	120	84%	62	41	3-38ELD	Add parking spaces; need signal prioritization for transit	Add spaces; arterial signing		$7,210,000
3	Placer	80	TAYLOR RD	ROSEVILLE	150	113%	30	37	3-34PLA	Repair broken bike lockers(vandalized); garbage can full; trailblazer signs missing	Add spaces; arterial signing	Maintenance	$9,010,000
3	Placer	80	SAUGSTAD PARK	ROSEVILLE	91	65%	42	43	999-999999	Trash bin full		Maintenance	Not available at this time
3	Placer	80	MAIDU PARK	ROSEVILLE	50	12%	29	42	3-39PLA	Needs better trailblazer signs to lot; need to move bus stop closer to lot	Relocate or add bus stop; arterial signing		$1,505,000
3	Placer	80	80 HOV Lanes PM=0.0/5.1 - Sac/Pla Co Line to E of SR65		484	68%	3002	0	0				Not available at this time
Total Estimated Cost District 3													**$19,705,000**
4	Alameda	84	84 HOV Bypass Newark/Ardenwood	HAYWARD	116	104%	3011	0	0				Not available at this time
4	Alameda	84	ARDENWOOD	FREMONT	116	104%	73	3	4-3ALA	Lot full; Poor security; needs at least 2 bike lockers	Add spaces; security	Improve access	$7,167,000
4	Alameda	84	84 HOV Lanes WB SR84 from I-880 to Newark Ave.	HAYWARD	258	75%	3010	0	0				Not available at this time
4	Alameda	580	CENTER STREET	CASTRO VALLEY	142	51%	77	6	4-6ALA	Transit stop a block away; pavement; damaged bike lockers; signing	Add or move bus stop to lot; security	Maintenance; remove construction activity	$102,000
4	Alameda	880	LINDEN	OAKLAND	180	20%	79	10	4-10ALA	No bus stop; no guard in booth; security	Security	Improve access	$157,000
4	Alameda	880/92	880/ 92 Fwy-Fwy Connector I-880/SR092	HAYWARD	360	34%	1007	0	0				$58,000,000
4	Contra Costa	80	80 Direct Access Ramps NB on-ramp and SB off-ramp at Richmond Parkway	RICHMOND	182	113%	1044	0	0				Not available at this time
4	Contra Costa	80	RICHMOND PARKWAY	RICHMOND	182	113%	83	15	4-15CC	Lot full; More spaces needed; poor signal timing; trash	Major expansion planned. Improve HOV transit access	Maintenance	$11,077,000
4	Contra Costa	80	HILLTOP	RICHMOND	135	28%	117	14	4-14CC	Striping on xwalk to transit stop; no lighting on walkway to transit stop	Improve lighting on walkway; striping	Maintenance	$185,100
4	Contra Costa	80	80 HOV Lanes EB from SR4 to Carquinez Br		1,939	63%	1008	0	0				$15,660,000
4	Contra Costa	680	680 HOV Lanes No. Main to So. Main		1,548	54%	1010	0	0				$22,310,000

FACILITY INFORMATION										DEFICIENCIES/IMPROVEMENT NEEDS			
Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size (or nearest lot for HOV)	Pct Util.	PNR ID	LOT ID	UNIQ_ID	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements
4	Marin	101	HETHERTON	SAN RAFAEL	150	143%	93	24	4-24MRN	Lot full; Striping, Arterial signing	Add Spaces	Striping	$9,196,000
4	Marin	101	101 Direct Access Ramps Sir Francis Drake Boulevard Improvements & Kerner/Francsico East/Anderson underpass connector	LARKSPUR	150	143%	1014	0	0				$5,000,000
4	Marin	101	ALAMEDA DEL PRADO	IGNACIO	106	115%	96	27	4-27MRN	Lot full; Signs; striping; transit shelter broken w/graffiti; no lighting to transit stop	Add spaces; security	Signing and striping	$6,544,560
4	Marin	101	SEMINARY	MILL VALLEY	62	137%	91	23	4-23MRN	Lot full; No HOV access; graffiti/litter, poor pedestrian access	Add Spaces	"Signing (arterial and mainline)"	$3,760,000
4	Marin	101	101 HOV Lanes Lucky Drive, Corte Madera to North San Pedro Rd San Rafael		1,032	75%	1013	0	0				$127,000,000
4	Marin	101/ 580	101/ 580 Fwy-Fwy Connector HOV connector Priority II	SAN RAFAEL	1,032	75%	1015	0	0				$5,000,000
4	San Mateo	101	101 HOV Lanes Redwood City to Millbrae		546	51%	1020	0	0				$118,600,000
4	Santa Clara	880	880 HOV Lanes SR237 to US101		268	74%	1019	0	0				$73,100,000
4	Santa Clara	101/ 85	101/ 85 Fwy-Fwy Connector US101/SR85	MOUNTAIN VIEW	369	50%	1016	0	0				$58,000,000
4	Solano	80	LEMON (AKA CURTOLA)	VALLEJO	419	117%	108	42	4-42SOL	Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	add spaces		$12,000,000
4	Solano	80	80 Direct Access Ramps Vallejo (Curtola Av)	VALLEJO	716	90%	1024	0	0				$27,500,000
4	Solano	80	80 HOV Lanes I-680 to Carquinez Br		1,223	48%	1025	0	0				$167,070,000
4	Solano	80	HIDDENBROOKE	VALLEJO	50		405	99999	XXXXX	Identified by I-80/I-680/I-780 Transit Corridor Study (Jan. 2003)	Construct new lot		$3,157,000
4	Solano	680	680 HOV Lanes Benicia Br. to I-80		1,187	53%	1027	0	0				$121,290,000
4	Solano	80/ 680	80/ 680 Fwy-Fwy Connector I-80/I-680	FAIRFIELD	1,112	48%	1026	0	0				$58,000,000
4	Solano	80/ 680/ 780	80/ 680/ 780 Bus Shelters Various locations		728	85%	1022	0	0				Not available at this time
4	Solano	80/ 680/ 780	80/ 680/ 780 Express Bus Stations Various locations		728	85%	1021	0	0				Not available at this time
4	Sonoma	101	LAKEVILLE	PETALUMA	111	103%	116	49	4-49SON	Lot full; Shelter broken; graffiti; broken bike lockers; security; signage; irrational parking layout	Expansion planned; security	Maintenance	$6,817,000

FACILITY INFORMATION										DEFICIENCIES/IMPROVEMENT NEEDS			
Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size (or nearest lot for HOV)	Pct Util.	PNR ID	LOT ID	UNIQ_ID	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements
Total Estimated Cost District 4													**$916,692,660**
7	Los Angeles	10	UNITED METHODIST CHURCH	COVINA	10	120%	209	145	7-145LA	Not enough spaces; bus stop is away; poor access; signing	Add spaces; add bus stop; security	Access; signing	$752,000
7	Los Angeles	10	INDIAN HILLS MARKET PLACE	POMONA	25	60%	210	87	7-87LA	Poor access; signing	Add spaces; security	Signing	$1,557,000
7	Los Angeles	14	NEWHALL - EAST LOT	NEWHALL	32	266%	160	69	7-69LA	Not enough spaces; bus stop is too far away; signing	Redevelop lot and add spaces; bus stop	Signing	$1,980,000
7	Los Angeles	57	PATHFINDER RD	DIAMOND BAR	120	100%	168	24	7-24LA	Not enough spaces; bus stop is away; no arterial signs	Add spaces; add bus stop	Signing	$7,417,000
7	Los Angeles	60	DIAMOND BAR - WEST	DIAMOND BAR	110	68%	170	23	7-23LA	Bus stop is away - used mostly by carpoolers	Relocate or modify access for buses	Security	$97,000
7	Los Angeles	60	DIAMOND BAR - EAST	DIAMOND BAR	255	100%	169	147	7-147LA	Not enough spaces	Add spaces		$15,457,000
7	Los Angeles	105	I-105 TERMINATION	NORWALK	1,500	100%	183	74	7-74LA	Not enough spaces	Add spaces		$90,157,000
7	Los Angeles	105	LAKEWOOD BLVD	LAKEWOOD	308	100%	182	27	7-27LA	Not enough spaces; no express bus; bus stop is away; no arterial signs	Add spaces; add express bus and stop	Signing	$18,697,000
7	Los Angeles	110	ARTESIA	LOS ANGELES	980	14%	188	123	7-123LA	Security; signing	Security	Signing; direct off-ramp access	$2,167,000
7	Los Angeles	118	LUTHERAN CHURCH	MISSION HILLS	115	91%	217	40	7-40LA	Not enough spaces; poor access; security; signing	Add spaces; access; security	Signing	$7,122,000
7	Los Angeles	210	LONE HILL	GLENDORA	150	84%	200	38	7-38LA	Not enough spaces; security	Add spaces; security		$9,157,000
Total Estimated Cost District 7													**$154,560,000**
8	Riverside	60	ORANGE ST.	RIVERSIDE	142	6%	247	12	8-12RIV	No HOV bypass; no bus stop near lot	Relocation or remove lot or security	Bus stop	$4,310,000
8	Riverside	91	CORONA	CORONA	272	102%	241	22	8-22RIV	Not enough spaces	Add Spaces	Maintenance	$16,477,000
8	Riverside	91	GALLERIA	RIVERSIDE	150	58%	239	16	8-16RIV	No bus stop near lot; poor accessibility	Bus stop	Access	$140,000
8	Riverside	91	IGLESIA LA SENDA	CORONA	75	69%	242	21	8-21RIV	No transit service; no lighting	Bus service and stop	Lighting	$200,000
8	San Bernardino	10	MONTCLAIR TRANSPORTATION CENTER	MONTCLAIR	1,700	34%	252	8	8-8SBD	Distance from freeway ramps; no arterial signs; security	Arterial trail-blazer signs; security	Reduce lot size	$187,000
8	San Bernardino	71	CHINO	CHINO	163	12%	265	9	8-9SBD	No transit service; distance from ramps; poor signage	Bus service and stop	Signing	$55,000
Total Estimated Cost District 8													**$21,369,000**
11	San Diego	5	CARMEL VALLEY	SAN DIEGO	50	60%	280	7	11-7SD	Construction activity bridge overhead; poor condition; no bus stop	Relocate or add bus stop	Remove construction debris; repave lot	$1,537,500
11	San Diego	15	CARMEL MOUNTAIN PLAZA	SAN DIEGO	125	19%	336	26	11-26SD	No HOV; no freeway sign	HOV under construction	Freeway sign	$10,000
11	San Diego	15	VIA RANCHO PKWY	ESCONDIDO	215	48%	340	54	11-54SD	No HOV; no direct access	Add M/L HOV & direct HOV access ramp	Bus shelter and other amenities	$11,010,000
11	San Diego	15	MIRAMAR COLLEGE	SAN DIEGO	44	66%	282	58	11-58SD	Poor access; no HOV bypass	Signing for bus stop location		$1,000
11	San Diego	15	PENESQUITOS	SAN DIEGO	58	55%	315	51	11-51SD	No lighting; signing inadequate; difficult to find	Signing	Add lighting	$85,000

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FACILITY INFORMATION										DEFICIENCIES/IMPROVEMENT NEEDS			
Caltrans District	County	Fwy	P&R Location or Capital Project Name	City	Lot Size (or nearest lot for HOV)	Pct Util.	PNR ID	LOT ID	UNIQ_ID	Key Deficiencies	"Primary Improvement Needs"	"Secondary Improvement Needs"	Estimated Cost for Improvements
11	San Diego	15	CALVARY CHAPEL	ESCONDIDO	111	23%	339	38	11-38SD	No bus service or stop;	Add express bus service	Consolidate consolidating with other Escondido lots	$60,000
11	San Diego	15	MIRA MESA/I-15	SAN DIEGO	176	41%	281	6	11-6SD	No HOV bypass; lot of litter; security	Add perimeter fencing; maintenance	Add HOV bypass lanes	$1,020,000
11	San Diego	15	FELICITA PLAZA	ESCONDIDO	29	100%	298	3	11-3SD	Not enough spaces; poor signage	Add spaces; signing		$1,750,000
11	San Diego	56	SABRE SPRINGS/RTE 56	SAN DIEGO	108	39%	333	18	11-18SD	Poor location/access; not enough congestion; no HOV	Relocate lot (poor bus access); HOV	Freeway sign; maintenance	$5,250,000
11	San Diego	56	RANCHO CARMEL PLAZA	SAN DIEGO	70	77%	332	31	11-31SD	No HOV access; no freeway sign	Signing; HOV		$2,010,000
11	San Diego	56	NEW HOPE CHURCH	SAN DIEGO	132	2%	318	57	11-57SD	Poor location/access; hard to find; inadequate signing; security	Signing		$30,000
11	San Diego	56	Plaza Rancho Penesquitos	SAN DIEGO	102	28%	335	4	11-4SD	Hard to find; inadequate signing; no HOV; security	Signing	Perimeter fencing	$20,200
Total Estimated Cost District 11													**$22,783,700**
12	Orange	5	LAGUNA HILLS MALL	LAGUNA HILLS	153	109%	359	19	12-19ORA	Not enough spaces; poor pavement	Add spaces	Resurface pavement	$9,436,450
12	Orange	55	LINCOLN	ORANGE	74	82%	345	2	12-2ORA	Not enough spaces; signing	Add spaces	Signing	$4,450,000
12	Orange	405	LIGHT OF CHRIST LUTHERAN CHURCH	IRVINE	96	118%	358	18	12-18ORA	Not enough spaces.	Add spaces		Not available at this time
Total Estimated Cost District 12													$13,886,450
Total Estimated Cost - Highest Priority Projects													$1,148,996,810

Short-Term Funding Strategies

Security

There is a significant short-term funding opportunity given the continuing federal focus on security. The 2004/5 Homeland Security Appropriations bill provides $150 million for transit and rail security grants, and also provides substantial funding across the nation on a formula basis, and to high-density urban areas. It is possible that portions of this formula funding, although it is not specifically transportation related, could be used for BusPool projects.

The need for security measures such as fencing, guard facilities, video cameras, and other security infrastructure are desirable features for many BusPool projects. It will be easier to make the case for security funding in high-density urban areas or near sensitive facilities (such as bridges, etc). A case-by-case look at BusPool projects may identify some likely candidates for funding. Security funding has a wider scope than it first appears, and can fund a variety of projects. However, while this funding source is one of the only expanding federal sources, it still is understandably limited. It is likely that this security funding may fund select elements of projects rather than entire projects.

Go California Program

A second short-term focus is to monitor the Governor's Go California program. While this is not a separate funding source, it is a philosophy that focuses on projects that enhance transportation system efficiency and effectiveness. Many of the traditional funding programs listed in Attachment A share this philosophy. The Governor is proposing initiatives that could substantially change the shape of State government and funding. While these changes may not take place in the next year or two, monitoring the emerging priorities may help position projects to take advantage of any new funding sources or new emphasis on existing funding programs.

Long-Term Funding Strategies

The recommended sustainable longer-term strategy to fund BusPool projects is to take full advantage of traditional federal and state funding programs, as well as exploring private funding on a case-by-case basis. We recommend the following:

Pursue funding from programs that focus on inter-regional transportation improvements

The State Interregional Transportation Improvement Program (IIP) and the federal Surface Transportation Program are both potential sources of funding for BusPool projects. The IIP program has not been significantly used for projects of this type, even though the 25% state portion of the State Transportation Improvement Program (STIP), is an excellent source to use for projects that are not clearly tied to regional priorities and have a clear transportation benefit to the statewide system. Many of the BusPool projects could fit into this category as "orphans" without a clear regional funding priority. Likewise, federal Surface Transportation Program (STP) funds are available to Caltrans statewide, and have been used for park and ride lots. The use of these funds could help raise the regional and local priority of some projects, thus leveraging other funds administered through Metropolitan Planning Organizations (MPO).

Develop regional support for BusPool Projects

BusPool projects can be funded through use of state and federal funds that are appropriated at the MPO level. These include STP, Congestion Management Air Quality (CMAQ), Transit Enhancement, and Regional Transit Improvement Program (RTIP) funds. (These fund sources are detailed in the attached table.) All of these funding sources are potentially available to BusPool projects, although their uses may be limited to specific purposes, such as landscaping or bike facilities.

Accessing these funding sources requires articulation of the regional need for the facilities, and identification of local project sponsors to help make

the case at the local MPO. The state must make the case that the BusPool projects should not be purely a state responsibility. As with any funding process, BusPool projects will need to be incorporated into regional funding plans (RTIP's) as a pre-requisite to funding eligibility.

By working with regional sponsors, BusPool projects will be much more attractive for funding through such programs as the SF Bay Area's Transportation for Livable Communities (TLC) program, and similar programs in other MPO's. These programs pool federal and state flexible dollars to fund innovative projects that demonstrate "smart growth" or transportation/land use benefits. This could be a good funding source for some BusPool projects.

Explore Public/Private partnerships

There are several possible roles for private sector partners in funding BusPool projects. Private sector funds often provide marginal project funding, allowing the development of amenities and enhancements above and beyond what would be available through public funding alone. Importantly, the development of private sector participation is linked directly to developing regional support (discussed above), as it is often through the encouragement of local policymakers that promotes private sector interest.

A promising program would be to involve private sector interests in direct sponsorship of BusPool projects. Examples include:

1. In return for community recognition and/or advertising, project amenities such as landscaping and benches may be provided by private (for profit or non-profit) organizations.
2. Local business organizations, such as a chamber of commerce, could "adopt" the project in return for recognition.
3. It is also possible to investigate joint-use of projects, in which a business such as a coffee shop co-locates on the site, providing both rental income and enhanced security. All of these options are heavily site-specific, dependent on both the surrounding community and the site conditions.

Another avenue of private sector involvement is through developer impact fees, dedication of land, or other negotiated mitigation. There may be some applications for this approach, if nearby development is significant enough to suggest a direct benefit.

Finally, there are a variety of non-transportation funding sources that are accessible by not-for-profit organizations that could potentially be used for programs at BusPool sites. Non-profit agency partners could seek funding from foundations, as well as grants from local, state and federal government agencies. On a case-by-case basis, there may be opportunities to partner with non-profit agencies to meet mutual program objectives, such as saving energy, protecting the environment, or creating healthy communities. It's important to note that such funds do not normally provide capital funding.

One idea Caltrans might want to consider (under the joint banner of partnerships, funding and marketing) is to develop a funding campaign "BLITZ" that can be used to generate momentum, publicity and attract funding partners to the BusPool program. A campaign could be developed to tackle some of the "softer issues" like security, lighting, access, etc. For example:

Critical
MASS
Maintenance
Access
Security
Safety

Figure 9-2 Funding Options

Program	Eligible Uses	Who can claim the money?	Approval Authority	Matching requirements	Comments
FEDERAL PROGRAMS					
Homeland Security –Preparedness and Recovery	Perimeter security, fencing, guard facilities for rail and transit projects	Public agencies - cities, counties, transit operators, Caltrans	N/A	N/A	New program under homeland security. Available by grant programs, and also by formula nationwide and specifically to high-density urban areas.
Surface Transportation Program (STP)	Roadway or transit rehabilitation Transportation system operational improvements Highway construction Transit facilities Intermodal port facilities	Public agencies - cities, counties, transit operators, Caltrans	MPOs	12%-20%	Caltrans has used this source for Park and Ride Lots, also often used for transit centers.
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Transportation projects that improve air quality	Public agencies - cities, counties, transit operators, Caltrans	MPOs	12-20%	Must be in non-attainment area. Wide range of uses, priorities determined by MPO.
Transportation Enhancement Activities	Bicycle, pedestrian, transit, landscaping, public art or historic projects linked to transportation	Public agencies -cities, counties, transit operators, Caltrans	MPOs and County Congestion Management Agencies (CTC for statewide projects)	12-25% match	Must enhance a transportation project "above and beyond" requirements.
Transit Enhancements (FTA Section 5307)	Access for disabled persons, historic preservation, bus shelters, landscaping, bicycle/pedestrian facilities	Public transit operators	MPOs	Yes, varies	1% of Section 5307 funding in urbanized areas over 200,000 must go to transit enhancements. Bike/Ped and Bus improvements could be funded.

Program	Eligible Uses	Who can claim the money?	Approval Authority	Matching requirements	Comments
Transportation for Livable Communities (TLC) and similar programs	Bicycle, pedestrian, transit or other projects that enhance community vitality, including planning studies	Public agencies - cities, counties, transit operators; also non-profit organizations	MPO	Yes, varies	This is an MTC program. (Sacramento has a similar program). It pools flexible federal funds (CMAQ, STP) with state and local funds.
STATE PROGRAMS					
Regional Transportation Improvement Program (RTIP)	Construction of carpool lanes Freeway interchanges Rail extensions Rail grade separations Intermodal freight facilities Upgraded transit stations and vehicles Road rehabilitation	Public agencies - cities, counties, transit operators, Caltrans	MPOs	Yes	75% of the STIP. Has been used to fund parking structures, transit centers, pedestrian and bike improvements that are high regional priorities.
Interregional Transportation Improvement Program (IIP)	Intercity rail, interregional road or rail expansion projects outside urban areas or projects of statewide significance	Public agencies - cities, counties, transit operators, Caltrans	Caltrans/ CTC	Yes	25% of the STIP. Portion focused on statewide priorities of people and goods movement. Can augment RTIP funds.
State Highway Operations and Protection Program (SHOPP)	State highway rehabilitation projects	Caltrans	Caltrans	No	This is primarily for highway maintenance.
Environmental Enhancement and Mitigation Program (EEM)	Landscaping and environmental projects that exceed mitigation requirements for traditional transportation projects	Cities, counties or non-profit agencies	CTC	No	Could provide funds for trees/ landscaping.
Bicycle Transportation Account (BTA)	Bicycle path, lane or route construction and maintenance; lockers; racks on transit vehicles; planning; safety education	Cities and counties with approved bicycle plans	Caltrans	10%	Possible source for bike lockers.

Program	Eligible Uses	Who can claim the money?	Approval Authority	Matching requirements	Comments
LOCAL/REGIONAL PROGRAMS					
Bridge Tolls (Base toll, state-owned bridges) Where applicable	Maintenance and operation of state-owned toll bridges (not the Golden Gate) Voter-approved Regional Measure 1 and 2 (Bay Area) projects to relieve traffic congestion in bridge corridors (bridge and approach improvements) Ferry operations and improvements Transit services Bicycle and pedestrian routes	Caltrans, cities, counties, public transit operators, MPOs, CMAs	Local Bridge Authority	No, often used to match federal and state grants	Many named projects in Regional Measures 1 and 2, including transit centers/park and ride facilities. Non-named projects would have to gain policy level approval.
Transportation Fund for Clean Air (TFCA) $4 Vehicle Registration Fee (AB434)	Ridesharing, clean fuel buses, alternative fuel vehicle demonstrations, shuttles, traffic management, rail/bus integration, regional transit information, bicycle programs, implementation of smoking vehicle program	Public agencies - public transit agencies, MTC, cities, counties, school districts, Caltrans	Regional Air Districts (60%); County Congestion Management Agencies (40%)	No	Needs a very clear connection to clean air program.
Local sales tax programs dedicated to transportation improvements (Self-Help Counties)	Wide variety of transportation uses – dependent upon projects and programs named in Expenditure Plan	Wide variety of Public agencies provided named in Expenditure Plan	Designated sales tax transportation authority. May be MPO, CMA, local transportation agencies, transit agencies, other.	No	Dependent upon individual County expenditure plans. Would be a good matching source for federal and state grants.

Program	Eligible Uses	Who can claim the money?	Approval Authority	Matching requirements	Comments
Developer Impact Fees or Donations	Cost to local government of new development, including roads, sidewalks, sewers, utilities	Local governments	Local governments	No	May be used on own or sole funds or matching funds to a larger public funding program. Developer mitigation (such as donating land as part of a permit agreement) generally originates from regulatory requirements and negotiations.
Corporate Donations or Sponsorship	New or expanded park-and-ride lot amenities such as fencing, landscaping, kiosks, etc.	Local governments	Local governments	No	Corporations may have an interest in the community relations /advertising aspect of contributing amenities.
Public-Private Partnerships With: Employers Corporations Non-Profits	There are a number of possible ways in which a public-private partnership may be applied. For example, partnerships could entail: -"adopt a P&R" in exchange for advertising -coffee vendor -landscaping -security	N/A	Negotiated with public agency	N/A	Partnerships may be formed between Caltrans and private sector interests or a number of potential partners, namely any organization or individuals that could benefit from the lot improvements.

Chapter 10

Marketing the Program

Introduction

Implementation of projects in the Ten-Year Master Plan and Program of Projects provides Caltrans with a new opportunity to inform the public about the P&R and HOV network. Recommended changes would enhance safety, capacity, ease of use and access. They would also improve travel times, auto-to-transit connections, and provide better access to the state's public transit network overall.

With these enhancements, successful marketing will need to address the public's travel needs. Outreach will also need to address transit agencies throughout the state, metropolitan planning organizations, Caltrans district offices (with responsibilities for P&R lot maintenance), and political leaders who are finding that public transit is enjoying a greater level of public support.

Marketing the P&R and HOV improvements allows Caltrans to make its services known, tout its accomplishments as part of this BusPool Project, and better inform users of the state's transportation network.

Public information marketing assures the dissemination of appropriate information. Providing quality public information is the most effective means of marketing for transit services, P&Rs, and other transportation amenities. Promotional materials, activities and special events are secondary to the quality of information provided, but can boost ridership and awareness of the transportation network. These secondary marketing efforts can also heighten the level of interest in P&R/HOV enhancements for Caltrans.

One of Caltrans' challenges in marketing its P&Rs is that the success of the P&R program relies heavily on services provided by local and regional public transit operators. Local transit operators are going to react favorably to Caltrans' public information and marketing effort only if the program is not seen as a mandate by Caltrans with regard to how local providers need to operate and market their services.

A marketing plan typically provides a description of marketing goals and outlines attainable objectives for reaching those goals. This Marketing Plan provides additional marketing support for improvements to P&R lots and HOV lanes by outlining methods that can be implemented to reach the objectives that are defined. This Marketing Plan provides a structure and prioritization for BusPool-related marketing and public information efforts for Caltrans.

Existing Marketing and Public Information Efforts

No formal statewide program exists to provide general information about P&R lots (and the transit operators that serve them) or HOV lanes.[1] Most information is provided piecemeal on a region-by-region basis, by individual transit agencies, or by rideshare programs offering services at the local level.

Caltrans Resources

Caltrans has been limited in its ability to proactively market and provide information about P&R lots in California. Most of the information about P&R lots and the transit services available at them is provided by the public transit agencies that serve them.

In most of the rural areas of the State, Caltrans' P&R coordinators indicate that regional P&R programs have not been very successful due to the rural nature of the area. In general, Caltrans' P&R program does not have a source of dedicated funds, and as a result, no brochures, newsletters or promotional items related to P&R lots have been produced.

Caltrans provides toll-free telephone numbers for information about P&R facilities. These telephone numbers are posted on the Caltrans P&R signs

1. Since the passage of SB45 (1998) which redirected most of the responsibility for regional transportation project planning and implementation (plus 75% of capital funds) to Regional Transportation Planning Agencies.

and are directed to Caltrans staff in the district where the call originates. The consultant found friendly and knowledgeable staff at the District 4 office who reported they receive an average of one or two inquiries, complaints or compliments each day regarding P&R facilities from people who call the phone number. When staff are not available, calls go to an individual's voicemail box.

Overall, the Internet has been the tool most used by Caltrans to share information about the P&R program. P&R information is available on the main Caltrans web site within the System Management Operations web page, which does not have a direct link from the main page. Once users find the information, it includes P&R maps by district in PDF format (although the consultant found that not all of the links to these maps worked properly), district coordinators, and an Excel file of P&R lots statewide.

All Caltrans districts have a web page hosted on the Caltrans web site, which is part of the overall State of California web site. Some district web pages are more sophisticated than others. Some provide extensive information about local transportation programs, traffic management, and regional transit services while others simply list district staff and provide contact or location information. Figure 9-1 illustrates the district web pages and highlights those pages that include P&R information, those which have HOV information, and those which include transit service information or links to regional transit services. Overall, the most comprehensive public information about P&R facilities, HOV lanes and public transit is available on the District 4 web site, representing the San Francisco Bay Area. Only District 7's web page also includes P&R information.

Figure 10-1 Information Available on Caltrans District Web Pages

District	Web page has P&R Info?	Web page has HOV info?	Web page has links to transit info?	Comments
District 1	No	No	No	
District 2	No	No	No	
District 3	Yes	Yes	Yes	P&R/HOV planning tool includes maps
District 4	Yes	Yes	Yes	P&R information includes maps and locations
District 5	No	No	Yes	
District 6	No	No	No	
District 7	Yes	No	Yes	P&R information is via a link to SCAG
District 8	No	No	No	
District 9	No	No	Yes	
District 10	No	No	Yes	
District 11	No	No	Yes	
District 12	No	No	Yes	

Even if web pages do not provide extensive information, Caltrans staff still relies on the Internet to provide information and respond to inquiries. For example, District 12 staff receive an average of 10 inquiries each week, usually by telephone, about the locations of P&R lots in the region. Staff request an email address from callers and then email a map (in Microsoft Word format) and a list of P&R lots (in Microsoft Excel format) to the caller. According to staff, email works well. When the items are emailed, there are rarely follow-up inquiries. Callers are also directed to the SCAG web site for more information about the location of P&R lots in the region.

District 3 has developed a P&R/HOV planning tool which includes GIS mapping technology, and directs callers to www.sacog.org for rideshare information (and the web site provides a link to www.sacregion511.org).

District 7 last printed a set of P&R maps in 1996 and has not made any updates since that time. No other district prints P&R maps or other P&R information on a regular basis.

Caltrans ventured into the development of a statewide web site for P&R and other commute information in 1995, with the creation of www.smart-traveler.info. According to Caltrans Information Technology staff, the Smart Traveler web site included local and regional rideshare and transit schedules, maps, and ridematching applications for agencies that did not have their own Internet service connection. Caltrans eventually brought this service in-house and located the web site at www.dot.ca.gov/cal-trans511. According to Caltrans staff, Smart Traveler is essentially an information clearinghouse or "shell" that provides links to regional rideshare programs throughout the state. Current links include www.511.org in the San Francisco Bay Area, www.sacregion511.org; www.yosemite.com for the Yosemite region; www.goventura.ca.gov; www.sdcommute.com for the San Diego region; and www.commuteSMART.info for southern California.

Limited information is listed on the web site. Nevertheless, Caltrans staff receives several positive comments each month about the site.

Other Resources

Web Sites

Statewide, several regional web sites provide information about P&R lots and their locations. In the San Francisco Bay Area, www.rideshare.511.org includes information about P&R lots, as well as transit, freeway traffic, and other commute information. Three web sites provide information in the Los Angeles Region: www.commuteSMART.info, mapsvr.scag.ca.gov and www.modeshift.net. In the San Diego region, www.ridelink.org and www.sdcommute.com provide P&R and rideshare information. In the Sacramento region, the www.sacrt.com and www.sacregion511.org web sites are the best for information, while www.commuteconnection.com provides information in the Stockton region. Both Sacramento and Stockton are also served by the www.rideshare.511.org from the Bay Area.

Examples from Large and Small Rideshare Organizations

Regional rideshare programs like RIDES for Bay Area Commuters and Sacramento Area Council of Governments (SACOG) provide some of the best marketing and outreach for Caltrans' P&R program. The organizations offer ridematching services, media outreach, and coordination directly with employers. Several regional rideshare programs print information about carpooling and trip services or maps of local P&R lots, but most agency information talks broadly about the benefits of carpooling and the role of P&R lots in facilitating carpooling. Nevertheless, some agencies provide good examples of the level of information distribution taking place at the regional level.

Ridesmart, part of the Inland Empire Commuter services program sponsored by the San Bernardino Association of Governments (SANBAG) and the Riverside County Transportation Commission (RCTC), has a comprehensive web presence (www.ridematch.info, and also through www.commuteSMART.info) and also provides targeted outreach/information brochures to employers throughout the region. Individuals requesting ridematching information receive a personalized brochure that includes a map of regional P&R lots (along with address information) and HOV lanes, along with information on commuter benefits, how to use a P&R lot, and a list of other commuters traveling from similar origins to similar destinations. The brochure also provides very basic contact information for transfers to buses or Metrolink. The information is clear, easy to understand, and comprehensive.

Some small regional planning agencies provide good information about regional P&R lots and the transit services that serve them. For example, the Council of San Benito County Governments' Ride Share program (on line at www.sanbenitorideshare.org) has a web site and colorful information brochure that includes a map of P&Rs in and around San Benito County, the number of spaces at each lot and connecting transit services.

Marketing Goals and Objectives

The primary objective of the BusPool Project is to develop a 10-Year Master Plan and Program of Projects that will identify and help to implement improvements to existing and planned HOV and P&R facilities to increase ridership on the public transit bus routes that access those facilities. The expectation is that the BusPool Project will make freeway-oriented transit service a more practical and attractive mobility option that can play a direct role in reducing traffic congestion.

Marketing goals must support overall goals while focusing primarily on providing public information. Caltrans' mission should include the provision of information about P&R and HOV facilities while at the same time, support rideshare programs and transit agencies that are effectively marketing P&R facilities throughout California.

Marketing goals for Caltrans P&R and HOV programs are as follows:

- To inform and educate the public about the availability of transit services at P&R lots.
- To provide information about accessing and using public transit services.
- To maintain and build the loyalty of P&R lots users.
- To increase ridership and demand for public transit routes that serve P&R lots.

These goals are described below, along with objectives.

To inform and educate the public about the availability of transit services at P&R lots.

Marketing and outreach activities must inform and educate the public about the availability of P&R facilities and the transit providers that serve them. They must recognize potential questions and present accurate an-

swers. This goal is particularly important for (1) any new freeway-based fixed route service that connects to a P&R lot, and (2) improvements to/expansions of P&R facilities that are served by transit.

This goal is especially important because people will be reluctant to try something they do not fully understand, particularly people who have always driven to work or have had a poor experience with a P&R lot.

Objectives supporting this goal include the following:

- Provide useful, positive public information about the availability of P&R lots.
- Provide information about P&R locations and amenities.
- Ensure P&R lots and transit services are jointly marketed.

To provide information about accessing and using public transit services.

This goal focuses on providing good information about how to access public transit services. Many people do not have information on where P&R facilities that offer connections to public transit services are located. Others may feel comfortable using a P&R facility for carpools, but they are uncomfortable with public transit.

The purpose of this goal is to ensure that outreach addresses not only the availability of facilities and services, but also how to use them and access them. Some objectives supporting this goal include the following:

- Provide useful information at P&R lots about the transit services available.
- Wayfinding signs and other access information should provide information directing automobiles to P&R lots.
- Link information about P&R facilities to transit information on Internet web sites about P&R lots.

- Convey messages about access and availability of public transit by word of mouth and testimonials to co-workers, friends, and family.

To maintain and build the loyalty of P&R lots users.

Maintaining loyalty is one of the principles of good marketing for any product or service. If consumers can continue to be convinced that the decision they have made to use a P&R facility and commuter transit services is the right one, they will continue to be satisfied with the service. They will also share their good experiences with co-workers, friends, and family members.

Neither Caltrans nor the various transit operators want people to stop using P&R facilities and commuter transit services. The following objectives support this goal:

- Keep updated information on transit and parking at P&R facilities.
- Maintain facilities in good working order.
- Ensure transit service schedules meet the demands of P&R and transit users.
- Tailor new products to current commuters and others most likely to use them.

To increase ridership and demand for public transit routes that serve P&R lots.

The primary focus of this goal is to demonstrate an increase in the number of commuters utilizing P&Rs in conjunction with public transit. With the implementation of the Master Plan and marketing program, it is anticipated that the proportion of the commuting population that utilizes public transit in conjunction with P&R lots will grow.

Objectives that support this goal are as follows:

- Focus on P&Rs and transit that uses HOV lanes as an alternative to driving alone.

- Ensure the public understands that given the convenience of riding the bus, cost savings, and opportunity costs, taking transit from a P&R lot is a better option.
- Programs should focus on the following:
  - **Cost.** Cost savings for P&R/transit use versus driving alone. Savings on fuel, parking costs, wear and tear and insurance are advantages.
  - **Time.** Timesavings for P&R/transit use versus driving alone. Parking and riding a bus in the HOV lane is faster than driving in stop-and-go traffic. In some regions where it may not be faster, P&R/transit use is at least competitive with driving alone with regard to length of time.
  - **Safety.** P&R lots are safe and secure. Many have (or are programmed to have) amenities to provide for safety, including lighting, telephones, waiting areas and information.
  - **Opportunity Costs/Convenience.** Convenience of P&R/transit use versus driving alone. Research on consumer preferences shows that "convenience" is one thing that can convince target commuters to reduce driving alone. Although convenience means different things to different people, a P&R with connecting transit must be able to demonstrate timesavings and efficiency of trips at a fair cost.

Markets

Five markets were identified for the public information outreach as part of this Marketing Plan. These markets are defined in the following sections:

Commuters Using their Own Automobile along Freeways/ Major Roadways with P&R Facilities and Public Transit Services

One of the most important markets to reach through an outreach and marketing plan is the group of people who currently drive to work. Most critical is the group of individuals who commute along a corridor that is served by public transit and that has P&R facilities. Even more important is this market when there are HOV lanes along the corridor. With sufficient information about the P&R and transit alternatives available to them, these people have a choice: either to continue their single occupancy vehicle drive or to shift to using P&Rs and taking transit services for their commute. Elements to emphasize to this group include timesavings (which can be ample if HOV lanes for transit or passenger rail service is available at the P&R), cost savings (wear and tear on private automobiles), and convenience of being able to relax and enjoy the ride or do other things while on transit.

Regional Rideshare Programs and Transit Agencies

The end user is not the only critical market for outreach and information. Transit operators and persons who coordinate rideshare programs throughout California will rely on good information to help them structure their programs and serve their customers. Regional rideshare programs and transit agencies throughout California have some of the most successful information programs about P&R facilities.

Information is readily disseminated at the regional level to existing and potential users of these facilities and the regional agencies have built relationships with local employers and commuters.

These agencies are a market for Caltrans. Caltrans will be most successful in "getting the word out" about its P&R program and the regional transit programs if it can work cooperatively with regional agencies and piggyback on the accomplishments of their existing programs.

Transit Riders who Use P&R and Bus/Rail Services for Their Commute

Maintaining the loyalty of Caltrans P&R users is important to the success of the P&R program. Maintaining loyalty requires providing good customer service, good amenities, good information, etc. Appropriate maintenance of P&R lots along with regularly updated information about the transit services are tools for maintaining the loyalty of P&R/transit users. One bad experience regarding security or missed transit connections can have a negative effect on customer loyalty.

Current users will remain one of the best tools for providing good information about the services to potential users. Through stakeholder meetings, the regional focus groups conducted early in this study's process, and comments from P&R coordinators across the state, Caltrans' best marketing tool for the P&R lots is word of mouth: regular users tell their friends and colleagues about their positive commute experience. Keeping current users satisfied means that positive information continues to be disseminated to potential new users.

Transit Riders who Use P&R and Carpool for Their Commute

Another important market is the commuter who is comfortable with the P&R facility but uses it for carpooling. While this is encouraged – you can park your car and carpool – getting more people on transit may be more efficient for some types of trips. This is an easy group to target because they are already familiar with the P&R facility and are accustomed to using it.

This group is somewhat of a captive audience. Once they park their car they have a choice to either carpool or ride transit. If they already carpool, incentives to try transit may convert them to transit users, or at least encourage them to use transit when their carpool is not available, rather than driving alone to their destination. Developing incentives for trying transit is one of the key strategies for this group.

Employers

Employers should be seen as potential partners for encouraging transit use and the use of P&R facilities. Employers have several incentives for encouraging their employees to take transit: limited on-site parking capacity, reduced stress in the workplace for people who drive long distances, and the availability of tax incentives for employers who offer transit subsidies or pre-tax transit payment options to their employees. Employers are also a tool for gathering information about commuters in a particular corridor. They can provide employee residence information to assist in transit or P&R facility planning. They can also share information, providing details to employees about the available transit services.


CARPOOL
LANE
AHEAD
1/2 MILE

Recommended Marketing Program

It is the aim of the Marketing Program to support the goals identified in this Plan and yet to be flexible enough that they can be adapted to changes in services and future goals

The following strategies are recommended as part of a statewide program to increase awareness of the P&R facilities and the transit providers that serve them:

- Statewide P&R/HOV information Web Site
- Signage Enhancements
- Information and Advertising Campaign
- Graphic Information Toolkit
- Information Brochure about the BusPool Project
- P&R Customer Service Program
- Implementation of Real-Time Information Signs Along Freeways at Major P&R Facilities
- Incentives for P&R –Transit Use

Each of these strategies is described in the following sections.

Statewide P&R/ HOV information Web Site

Estimated Costs: Up to $30,000 to fully revamp the website, though modest improvements could be accomplished for $7,500. Annual costs to update and maintain the site of approximately $5,000 in staff time.

Lead Responsibility: Caltrans should be responsible for this site, but could contract with another State agency or a private provider.

Caltrans has some information in-house about P&R lot locations and other facilities throughout California. This information is on the Caltrans statewide website, under the Caltrans System Management Operations web page.

Living in a large state, Californians are not necessarily going to review this site to find information about services throughout California. Many residents know how to do research on their regional commuter information web site to learn about transit services, rideshare programs, and P&R lots. Nevertheless, P&R lots are typically associated with Caltrans, which owns most of them and has responsibility for maintaining them. Thus, it should be the responsibility of Caltrans to provide better access to the information about the lot locations and the facilities/services available at each lot.

An improved statewide web site would ideally build upon the work on the www.dot.ca.gov/caltrans511 web site. Some recommendations for enhancing this site include the following:

- Develop a larger map and put cities and major landmarks on the map. The map should allow users to easily identify where they live and the region where they would like to travel. The map could include county boundaries and names. The district map currently available on the Caltrans main web site that provides links to maps of the P&R facilities (on the System Management Operations web page) is a better map.

- When clicking on a segment of the state, provide a menu of options rather than a direct link to the regional rideshare website. For example, clicking on a particular segment of the map could bring up multiple web links to transit operators, P&R lot locations in the region, rideshare information, real-time traffic information, etc.
- Put the Caltrans P&R location database on the site. Either by clicking on a segment of the map or by clicking on a link to P&R locations, the web site user can access this information. P&R lot information should include, at a minimum, the location/address, number of spaces, average capacity, and transit providers that serve the lot (including route information and links to the providers). Information about amenities/facilities would be desirable, along with a map and photo of the lot. By linking this information to Caltrans P&R lot database, changes made to the database would be reflected in the information provided to the public.
- Provide a link on the Caltrans main web site (www.dot.ca.gov) that is more descriptive than "Caltrans 511," the current link to the Smart Traveler information site. Ideally, this link would be a highlighted section of the page: "Caltrans 511: statewide commute, transit, P&R, and ridesharing information."

Examples from Other States

In the development of this marketing plan, the consultant reviewed several other Department of Transportation web sites in states across the US. Very few provide statewide information about P&R lots. Typically, they showcase road conditions, construction updates and may include links to transit providers. Web sites for Indiana, Virginia, and Illinois, for example, rely heavily on links to regional programs. The Georgia Department of Transportation web site includes a section on HOV lanes, including information about the "LUV the HOV" statewide campaign. North Carolina's Department of Transportation sponsors an HOV web site (www.ncdot.org/hov) that provides information about the state's HOV program.

Many states have much more comprehensive statewide 511 information pages than Caltrans511, but they do not necessarily provide information about ridesharing and P&R lots. Most statewide sites, like the Caltrans511 site, rely heavily on links to regional transportation programs and transit providers rather than incorporating the information directly on their web page.

In the review of statewide transportation websites and the information they provide about P&R lots, a few states have web sites that serve as models for Caltrans. These are summarized as follows:

- **The State of Washington** DOT web site includes information about statewide P&R locations (www.wsdot.wa.gov/choices/parkride.cfm). The site includes a clickable map of counties that scrolls the page to the P&R listing. Each listing includes the address/location of the P&R lot, the number of spaces and the transit systems (and routes) that serve it. Caltrans has this information available at the statewide level and could provide it to the public in a similar format.
- **The Wisconsin Department of Transportation** has a very good P&R web page at www.dot.wisconsin.gov/travel/parkride. The page includes a list of all of the districts in the left margin and a clickable map which provides a "close-up" map and then clickable maps of the individual P&Rs in the district. Each lot includes directions, a map and a description of the facilities.

- **The Massachusetts Highway Department** (MassHighway) has a P&R web page with an interactive statewide map (www.mhd.state.ma.us/planning/prlots.htm). By clicking on the map or a list of P&R locations, a page for the individual MassHighway P&R lot appears, including a drawing of the lot, information about average occupancy, and transit services with web links to the individual transit provider sites. The Massachusetts Turnpike Authority and the Massachusetts Bay Transportation Authority also operate P&R lots throughout the state and these appear on a linked web page sponsored by the Boston Metropolitan Planning Organization. Information is presented in the same format as the MassHighway site and the same level of detailed information is provided.
- **The New Jersey Department of Transportation** has a web page of statewide P&R lots (www.state.nj.us/transportation/commuter/rideshare/prlocate.shtm) which includes a state map with clickable counties. Each county provides a link to a printable PDF map of the county, showing the P&R lots. Similar to the district P&R maps on the main Caltrans web site, the maps do not give specific information about the P&R locations or facilities. The website also includes a link to New Jersey Transit's P&R lot information.
- **The Minnesota Department of Transportation** web site maintains information about statewide P&R lots outside of the Twin Cities area at www.dot.state.mn.us/transit/rideshare. The site includes a clickable map of the state by DOT district which provides very basic information about P&R facilities in the district. A link to P&R facilities in the Twin Cities area, governed by the Metropolitan Council, is also provided.

Signage Enhancement

Estimated Costs: Cost could be a minimum of $400 per P&R lot sign, and could be up to $5,000 for some signs. Maintenance costs for the signs would be included in the ongoing maintenance of P&R lots. .

Lead Responsibility: Caltrans, in combination with transit operators in some regions.

Caltrans P&R signage is recognizable but dull and does not provide comprehensive information about the services available at the P&R lots. Signs are designed as road signs rather than transit/transportation information signs.

An attractive P&R sign in Mammoth Lakes gives the lot a good public "presence," although it provides limited information. Next to this sign is a nice bus shelter and information on the bus services.

Caltrans P&R signs provide basic information about the P&R, but not all facilities are clearly marked. Signs are designed as road signs.

Signs need to be revised to provide better information at P&R lots. Signs should provide comprehensive information to define what the lot is, where is it located, which transit operators serve it, and how potential users can attain more information.

Ideally, elements of P&R signs include the following:

- **The name of the P&R lot.** Naming the P&R lot makes it a transportation/transit station rather than a generic parking location. Each Caltrans P&R lot should have a unique name.
- **A logo or identifying device.** If Caltrans adopts a logo or tagline for its P&R program or develops a marketing campaign, this should be the identifier on the sign.
- **Definition of "park."** As with the current signs, the sign should state clearly that parking is free of charge.
- **Definition of "ride."** The sign should identify all of the major connecting transit systems and list whether carpooling and vanpooling are permitted

at the lot. Transit system logos are recommended to emphasize that the lot is a transit station.

- **Contact information.** Either a Caltrans customer service information phone number or the phone number of the regional rideshare agency should be listed. Ideally, a web site address should be listed so drivers can gather more information by accessing the web rather than calling the posted phone number.

A conceptual P&R sign for Caltrans lots statewide that illustrates the recommendations presented above is illustrated in Figure 10-2. The tag line, and web address are included to illustrate the information that could be provided on the sign, but are not meant to suggest a particular tag line or web address that Caltrans should adopt.

Figure 10-2 Conceptual P&R Lot Sign

Information and Advertising Campaign
Estimated Costs: Logo development and design between $500 and $5,000, depending on whether it is done in-house or through a contractor. Implementation of advertising campaign could range from $20,000 for limited billboards, public service announcements and print advertisements in a few major markets to over $200,000 for an extensive advertising program statewide. .
Lead Responsibility: Caltrans, working with consulting firm and advertising agency, as well as regional agencies throughout California with existing information and advertising campaigns

Caltrans is encouraged to implement an information and advertising campaign about the P&R facilities, how HOV lanes serve many P&Rs in the state, and the various transit services that are available at P&R lots.

Concept

The recommended concept for Caltrans is to move away from the image of a P&R being a place, and convert it to an action: to P&R. The objective is for consumers to recognize that it is their responsibility to carry out this action and the place to do it is at an attractive, well-marked, easily identifiable P&R facility.

By reclaiming P&R so that it is an action, Caltrans will find a wider application of the term; better recognition of the process; and may have an opportunity to encourage people to think about the role of P&R facilities in facilitating their own commute.

Branding

Branding means creating an image for a product. The brand identity makes it easy to understand and recognizable. This applies not only to consumer products but also to services and facilities like transit systems and P&R facilities. Transit providers in California develop their brand identity by creating an insignia or program logo, using standard colors, developing a tagline, etc. All of these elements, in combination, promote an image of the service.

For the statewide P&R program, Caltrans is encouraged to develop a brand identity for its P&R program. The signage enhancements presented on the previous page offer one example of how a brand identity for P&R facilities can enhance recognition of the lots as a valuable public service, a place where transit services are provided, that the facility is maintained, etc. The objective here is to make P&R lots "recognizable" and not perceived simply as dusty parking lots on the side of the road marked with a dull highway sign.

With some consumer input, Caltrans could adopt a standard logo design for its P&R facilities. The logo, representing the brand, should be used on all signage at the P&R lot and on other signs to direct people to the lot. It should also be a part of the graphic information toolkit sent to rideshare and transit agencies throughout the state for inclusion in their informational materials and on their buses.

In addition to the brand logo, a recognizable tagline should be developed that could be included with the logo or in separate advertising/information campaigns. Some examples of conceptual taglines are as follows:

- Park and Ride: The Way We Commute in California (example used on the conceptual P&R sign in the previous section)
- Park and Ride: Rideshare the California Way/BusPool the California Way
- Park and Ride: Where Commutes Happen
- Park and Ride: Transportation Made Easier

Regional rideshare agencies in California should be consulted to identify and select the appropriate tagline for the program.

Information and Advertising Campaign (continued)

Advertising

In addition to branding the P&R facilities and the transit services available at them, advertising can be used to promote the P&R facilities by building upon the successful brand identity. Advertising is used loosely here to represent not only media campaigns, but also providing good public information and promoting the visibility of P&R facilities.

When advertising the P&R program, the logo and tagline should be used. In addition, other promotional taglines could be developed. Some sample concepts of these are as follows:

- Don't envy the people in the HOV Lanes. Be one. Park and ride.
- Don't drive when you don't have to. You can park and ride.
- Park and ride. Park and refresh…Park and read…Park and relax… Park and rest…
- Everyone likes diamonds. Ride in the HOV lane. Park and ride.
- Stop sitting in traffic. Arrive happy. Park and ride.

Outreach

Two separate outreach strategies are recommended to address the various markets identified earlier in this plan as part of an information and promotional campaign. These include a program targeted to the public and a program targeted to employers. An additional related strategy, development of a toolkit, is targeted to transit operators and rideshare programs. This program is described in the following section.

Public Program

To market the P&R program to the public, Caltrans should evaluate the most effective use of the available funds to define an advertising campaign. Caltrans may find some of the best solutions include piggybacking on existing campaigns that are being sponsored by regional transit and rideshare

agencies, and could simply add its logo and contact information to those campaigns, as a sponsor.

In addition to the web site enhancements and information brochure, possibilities for advertising outreach include the following:

- Advertisements in newspapers and magazines
- Public service announcements
- Advertisements on television and radio
- Billboards
- Advertising on buses
- Transit stop advertising

Employer Outreach

One of the best means for providing quality public information about P&R facilities and transit services is to maintain and build partnerships with major employers that are served by transit. Many major employers have an employee transportation coordinator.

Ideally, much of the marketing and outreach effort to employers will come from regional rideshare agencies and transit operators. By providing these organizations with the tools they need to talk about P&R facilities, Caltrans can gain some allies in its effort to build patronage.

Caltrans is encouraged to send the recommended BusPool information brochure to major employers in California. This information could also be transmitted online. Information regarding contact information for the appropriate employers could be gathered from other State agencies. Follow-up brochures or email newsletters could also be prepared to keep major employers updated on Caltrans' progress in implementing the recommendations of the study.

Graphic Information
Estimated Costs: Ranges from $12,500 to $30,000 to develop the toolkit, plus $3,000 to print, burn CDs and distribute toolkit to primary agencies and organizations in California..
Lead Responsibility: Caltrans for implementation. Caltrans, regional rideshare programs or transit agencies could collaborate to develop the toolkit.

To promote the brand identity described above, the creation and distribution of a graphic information toolkit is encouraged. It could be put on a CD and Caltrans web site and distributed to regional transit agencies and metropolitan planning organizations. This would be a valuable outreach step for creating a statewide system of P&R facilities that are recognizable, because similar graphics and typefaces that are used at statewide P&R facilities would be incorporated into transit brochures, rideshare informational materials and bus stop signs across the state.

The toolkit would provide the local agencies with logos, graphics, colors, typefaces and other information necessary to enhance their facilities and the printed or web information they provide. By providing various agencies and organizations with these tools in an easy to use format, they can be encouraged to incorporate the new logos and images into their printed materials and Internet outreach.

Caltrans, regional rideshare programs and transit agencies could collaborate to develop the toolkit so that images, colors, messages and designs gain the local and regional support essential for their successful statewide implementation.

Information Brochure about the BusPool Project
Estimated Costs: $3,000 to $5,000 in development costs. Up to $10,000 in printing and distribution costs, depending on the extent of distribution. An electronic version can also be prepared and distributed via email.
Lead Responsibility: Caltrans.

The effort to evaluate P&R and HOV needs in California is a significant feat. Most Californians are unaware that this study has taken place and that the recommendations may improve their commutes by providing them with better P&R facilities, enhanced HOV lanes and better transit connections at P&Rs in their region.

These accomplishments should be presented in a brochure that summarizes the key outcomes of this study and the next steps. Many individuals and organizations participated in the BusPool Plan development process, and the results of their involvement should be shared with them. The primary market for this brochure would be rideshare, transit and planning agencies across the state, as well as Caltrans staff in the district offices. Additionally, the brochure could be distributed to major employers, as described previously in the discussion of the Information and Advertising Campaign, as well as users of Caltrans P&R lots. For these P&R users, the brochure would address one of the goals of this marketing plan: to maintain and build the loyalty of P&R lot users.

Park-and-Ride Customer Service Program
Estimated Costs: No additional telephone costs.
Lead Responsibility: Caltrans should be responsible for the P&R information number; transit providers should be responsible for day-to-day customer service.

Good customer service is important for marketing and public information to be successful. Good customer service is necessary for P&R lot information, transit service and traffic conditions that would encourage people who drive alone to consider a P&R and its connecting transit services.

It is important that customer service personnel at Caltrans and the connecting transit agencies be trained and updated regularly with regard to changing policies of the transit system. Customer service is the first line of contact for a potential P&R user. P&R users are most likely to contact the local transit system providing service to the P&R lot rather than Caltrans, but some Caltrans districts post toll-free numbers at P&R lots to provide information about these services. Callers reach the local Caltrans district office, where a P&R coordinator, public information specialist or administrative staff answers the phone.

Caltrans is encouraged to continue to staff these telephone information numbers. In some regions of the state, however, it may be more appropriate for toll-free telephone numbers to direct callers to the regional rideshare program or a large transit agency that serves the P&R facilities. Caltrans should work with the various regional programs to determine whether the rideshare/transit agencies would like to assume the responsibility for providing information about its P&R program via their regional telephone number. The toll-free P&R number could also be tied in with the 511 telephone information program in regions of the state where P&R information is provided via this telephone information system.

In addition to providing basic telephone customer service to respond to inquiries, it is recommended that transit providers outfit all buses and trains that serve P&R lots with a supply of customer comment cards. Cards should also be provided at P&R facilities. Customer comment cards should solicit general information useful to transit service planning and the operation of P&R facilities. They should ask a few specific questions about the service that are important both to Caltrans and the transit operator, as well as provide an opportunity for customers to write their own comments and share specific suggestions for the service.

Implementation of Real-Time Information Signs Along Freeways at Major Park-and-Ride Facilities
Estimated Costs: Unknown.
Lead Responsibility: Caltrans.

This would be the most costly of the Marketing Program elements to implement, but a pilot program could be implemented to assess the outcome of the effort. Caltrans and many regional operators already provide real-time information to consumers about traffic problems, weather conditions, bridge closures and other construction, etc.

Under this strategy, electronic P&R signage should be provided along major freeways and other roadways that are adjacent to P&R sites. This gives real-time information to drivers on the number of available parking places, the frequency of bus or rail service, as well as any traffic conditions ahead that may convince them to use the P&R facility and take transit instead of driving. Typically, other road signs are also needed to direct drivers to the P&R facility. Specifically, these ITS recommendations are as follows:

- Electronic signs would be erected along the side of freeways with HOV lanes and P&R lots. The signs would be located up to one mile ahead of the exit for the P&R facility, and again near the exit to the P&R facility.
- The signs should indicate the travel time by car to a major destination for somebody not driving in an HOV lane, the travel time by bus/carpool (essentially, the driving time using the HOV lane or the time the trip takes by rail if rail is available at the P&R lot), the number of spaces available at the P&R lot, and the number of minutes until the next bus/train departs from the P&R lot.

Incentives for Park-and-Ride – Transit Use
Estimated Costs: Promotions that rely on donations can be very inexpensive, but may require significant staff time to implement. Overall costs could range from $500 for a simple promotion at a few P&R lots to $200,000 or more for an extensive incentive program.
Lead Responsibility: Regional transit agencies, rideshare agencies or Caltrans.

Good public information, paired with good facilities and service, will be the most important element of Caltrans' marketing program. Nevertheless, rewarding passengers for using P&R facilities and the transit operators that serve them is one strategy to address the goal of maintaining loyalty and building support for these services.

No specific strategy is recommended at this time, as identifying an appropriate strategy may require input from P&R users, regional rideshare agencies and transit operators. However, some examples of alternatives based on incentive programs that have been used within California are as follows:

- **Providing a well-advertised contest on the bus is a means of thanking riders for using the service and providing prize rewards for their patronage.** Contests are used on a regular basis to maintain customer loyalty at many businesses. A "10,000th rider on the fixed route" or a daily giveaway contest are ways by which commuters could be encouraged to use a P&R and ride the bus.
- **Passenger rewards which enable a passenger to collect points for using a P&R or riding the bus, much like a frequent rider program.** An individual who purchases a monthly pass might receive 30 points. The purchase of a 10-ticket booklet may allow a customer to collect 10 points, etc. Points could be collected and redeemed at

local merchants over a period of a few months. For a transit service, it is not recommended that such a program be ongoing, but rather as a short-term special promotion.

- **Free newspaper distribution on the buses.** Teaming with a newspaper to provide free papers on the bus or other giveaways that illustrate "how enjoyable" riding the bus can be in the HOV lane rather than driving in traffic. Another application of this type of incentive may include providing wireless Internet service on the buses or trains that serve the P&R facilities.
- **Reward people who use P&R facilities and ride transit by selling discount transit tickets.** If the objective is to increase patronage at a particular P&R lot, Caltrans can subsidize the cost of riding the bus for passengers who board at that location. The promotion would need to be well advertised and carefully coordinated with the local transit provider. Likewise, promotions with local businesses can be used instead of discounts. For example, P&R users can get a free car wash by turning in transfers/tickets for transit services using a P&R lot.
- **An on-board contest or passenger rewards program can be costly to promote and sponsor through advertisements.** Most of these incentives would require extensive staff time to develop the program. Other incentives might include facility enhancements at the P&R lots: a staffed facility, vending of tickets, restrooms, a waiting area, public announcements, telephone, etc. A pilot program is recommended at a few P&R facilities to determine the effectiveness of a low-cost incentive program.

Summary of Recommended Program

Figure 10-3 provides a summary of the recommended marketing program. The two strategies for immediate implementation include the statewide P&R/HOV information web site and the information brochure about the BusPool Project, which will be completed at the end of this project. Most of the strategies are relatively easy to implement, depending on the availability of staff and necessary resources.

Figure 10-3 Summary of Recommended Program

	Cost(1)	Lead Agency	Ease of Implementation	Priority
Statewide P&R/HOV Information Web Site	Low	Caltrans; Other State Agency	Easiest. Requires website redesign and upgrade with available information.	Immediate
Signage Enhancements	Medium-High	Caltrans	Relatively easy. Requires sign redesign, manufacture and installation. Should follow development of logo and tagline.	Mid-term
Information and Advertising Campaign	Low-High	Caltrans	Relatively easy for logo and tagline development. Significant effort for implementation of many outreach strategies.	Short-term
Graphic Information Toolkit	Low	Caltrans in cooperation with regional agencies	Easiest. Should follow development of logo and tagline.	Short-term
Information Brochure About the BusPool Project	Low	Caltrans	Easiest. Will be implemented upon completion of project.	Immediate
P&R Customer Service Program	Low	Caltrans; Regional Rideshare Agency; Transit Agency	Relatively easy.	Short-term
Implementation of Real-Time Information Signs	High	Caltrans	More difficult. Requires ITS participation.	Long-term
Incentives for P&R – Transit Use	Medium	Caltrans; Regional Rideshare Program; Transit Agency	Relatively easy, depending on the scale of the program.	Long-term

(1) The following categories were used for costs: High ($100,000+), Medium ($30,000 to $100,000), and Low (Under $30,000).

Next Steps: Evaluation of Marketing Impacts

Even with the implementation of the Marketing Program, Caltrans and transit operators throughout California may remain unaware of their successes or have more dissatisfied customers than they know about. Individuals will make an effort to complain if something goes wrong; rarely do they take the time to offer praise. Knowing the customer service issues that may arise can help Caltrans and regional transit providers to make service modifications, changes to P&R facilities, or take other corrective actions as needed. Caltrans must monitor its marketing and public information progress. By providing good customer service, P&R users can call to describe poor experiences or problems with P&R lots. A telephone number alone, however, is often not enough to encourage somebody to call. P&R users may be more comfortable, or may find it easier, to provide feedback using comment cards, on-board surveys, or the Internet.

A strong monitoring program will provide important information about the effectiveness of the marketing and public information efforts. Evaluating the marketing program enables Caltrans to re-evaluate marketing goals and identify new strategies. Even the most successful businesses will admit that marketing is a trial-and-error process. Evaluating marketing efforts enables Caltrans to enhance the most successful programs and shift resources away from programs that have either reached their greatest success or require a change in emphasis.

Understanding transit ridership, P&R occupancy levels, and HOV use represents one strategy to gauge not only the overall marketing and public information effort, but also the overall P&R/HOV enhancement program implemented by Caltrans. Nonetheless, opportunities may be identified to expand outreach to particular target customers or simply adjust the means by which information is provided to the public.

To evaluate the success of the program, Caltrans is encouraged to conduct intercept surveys, on-board bus surveys, or windshield surveys at P&R lots or on the transit routes that serve them. Alternately, web-based surveys can be used to collect information, and a web-based survey could be advertised on a flyer distributed at P&R lots or on buses. These surveys can help to evaluate any facet of an individual's travel decision-making process, overall familiarity with the P&R program, and the effectiveness of Caltrans' information distribution network.

Another alternative to evaluate the P&R program and the marketing and public information effort would be to conduct focus groups. Focus groups can be used when more extensive qualitative input is required than a survey can provide. Focus groups can lead to productive work sessions where not only can Caltrans obtain the information required, but also the participants feel like they are involved in an important decision-making process. Organizing groups of individuals to participate in a one or two-hour focus group allows for verbal feedback on P&R facilities, signage and public information, proposed transit and P&R changes, and the comparison of alternative marketing ideas. Separate focus groups could be carried out with persons who use P&Rs and then use transit, persons who use P&Rs and carpool, and persons who do not use the facilities.

The California
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Appendix A
Park & Ride Survey Form

Park-and-Ride Lot User Survey

For Official Use Only:
Lot Name _____
Location _____

COMPLETE THIS SURVEY FOR A CHANCE TO WIN A $25 GIFT CARD FROM BORDERS!

The California Department of Transportation (Caltrans) needs your input.

Caltrans is conducting a survey of Park-and-Ride lot users to gain information on how to improve the facilities. Your responses will be strictly confidential. Please leave your completed survey on your windshield when you return to this lot tomorrow or the next day for Caltrans staff to collect and to be entered into the prize drawing (see reverse). If you have questions or comments about this survey, please email QuestionsAboutSurvey@yahoo.com.

1. *Where did you <u>begin</u> your trip today?*
   - ☐ 1 Home
   - ☐ 2 Work
   - ☐ 3 Shopping
   - ☐ 4 School/College
   - ☐ 5 Other *(Specify)*: _____

2. *What intersection or landmark is nearest to where you <u>began</u> your trip today?*
   - _____ Intersection (i.e., 1st Ave & Park St)
   - _____ City
   - _____ Zip Code (if known)

3. *How many miles and minutes did you drive to reach the park-and-ride lot?*
   _____Mile(s) _____Minutes

4. *I use this park-and-ride lot to (check one):*
   - ☐ 1 Ride Bus Route #___
   - ☐ 2 Meet my vanpool
   - ☐ 3 Meet my carpool
   - ☐ 4 Walk to my destination
   - ☐ 5 Other *(Specify)*: _____

5. ***If you take the bus to your final destination, how satisfied are you with the convenience and service?***
   - ☐ 1 Very Satisfied *Why?* _____
   - ☐ 2 Moderately Satisfied *Why?* _____
   - ☐ 3 Not Satisfied *Why?* _____

6. *If you take the bus from the park-and-ride lot or have in the **past, how could this bus service be improved?***
   - ☐ 1 More frequent pick-ups
   - ☐ 2 More frequent drop-offs
   - ☐ 3 Improved buses (seating, comfort, cleanliness, etc.)
   - ☐ 4 Improved waiting areas/bus stops
   - ☐ 5 Lower fares
   - ☐ 6 Make schedule and route information more readily available
   - ☐ 7 Other *(Specify)*: _____

7. ***If you don't take the bus from this lot to your final destination, please tell us why.** (check all that apply)*

8. *What is your <u>destination</u> today?*
   - ☐ 1 Home
   - ☐ 2 Work
   - ☐ 3 Shopping
   - ☐ 4 School/College
   - ☐ 5 Other *(Specify)*: _____

9. *What is the nearest intersection or landmark near your <u>destination</u> today?*
   - _____ Intersection (i.e., 1st Ave & Park St)
   - _____ City
   - _____ Zip Code (if known)

10. *How many miles and minutes did it take you to travel **to your final destination from this park-and-ride lot?***
    _____Mile(s) _____Minutes

11. *Do you use carpool lanes as part of your commute?*
    - ☐ 1 Yes, my carpool or vanpool uses the carpool lanes
    - ☐ 2 Yes, my bus uses the carpool lanes
    - ☐ 3 No

12. *How often do you use <u>this</u> park-and-ride lot?*
    - ☐ 1 Daily (weekdays only)
    - ☐ 2 3 or 4 times per week
    - ☐ 3 1 or 2 times per week
    - ☐ 4 Randomly/as needed

13. *If you use <u>this</u> lot less than 3 times per week on **average, why do you not use it more frequently?***
    _____
    _____

14. *How long have you been using <u>this</u> park-and-ride lot?*
    - ☐ 1 Less than 6 months
    - ☐ 2 6 to 12 months
    - ☐ 3 1 to 2 years
    - ☐ 4 2 to 3 years
    - ☐ 5 3 or more years

15. *I learned about <u>this</u> park-and-ride lot from:*
    - ☐ 1 My employer
    - ☐ 4 Transit operator/bus schedule