

# PARK AND RIDE PROGRAM RESOURCE GUIDE 2010





## TABLE OF CONTENTS

<b>INTRODUCTION.....</b>	<b>1</b>
<b>CHAPTER 1: HOW TO DEVELOP A PARK AND RIDE LOT PROJECT .....</b>	<b>3</b>
1.1 General Steps to Develop a New Park and Ride Lot .....	3
1.2 General Steps to Improve a Park and Ride Lot.....	4
<b>CHAPTER 2: MISSION, GOALS, VALUES, &amp; THE MOBILITY PYRAMID .....</b>	<b>6</b>
2.1 Caltrans' Mission .....	6
2.2 Caltrans' Goals and Values .....	6
2.3 California Transportation Plan Goals and Objectives .....	7
2.4 The Mobility Pyramid .....	9
<b>CHAPTER 3: DIRECTOR'S POLICIES AND DEPUTY DIRECTIVES.....</b>	<b>11</b>
3.1 Director's Policies .....	11
3.1.1 Multimodal Alternatives Analysis (DP-05) .....	11
3.1.2 Caltrans Partnerships (DP-06).....	11
3.1.3 Project Delivery (DP-07) .....	11
3.1.4 Freeway System Management (DP-08) .....	12
3.1.5 Context Sensitive Solutions (DP-22) .....	12
3.1.6 Energy Efficiency, Conservation, and Climate Change (DP-23).....	12
3.1.7 Bus Rapid Transit Implementation Support (DP-27).....	13
3.2 Deputy Directives.....	13
3.2.1 Roles and Responsibilities for Development of Projects on the State Highway System (DD-23-R1).....	13
3.2.2 High Occupancy Vehicle (HOV) Systems (DD-43) .....	14
3.2.3 Complete Streets – Integrating the Transportation System (DD-64-R1) .....	14
3.2.4 20-Year Facility Master Planning (DP-84) .....	14
3.2.5 Integrating Bus Rapid Transit into State Facilities (DD-98).....	15
3.2.6 Creating New Opportunities for Solar Energy Systems Deployment on State of California- Owned/Department-Controlled (SODC) Facilities (DD-104).....	15
<b>CHAPTER 4: PARK AND RIDE GUIDELINES.....</b>	<b>16</b>
4.1 Right of Way .....	16
4.1.1 Airspace and Telecommunication Leasing .....	16
4.1.2 Right of Way Manual (Chapter 3) .....	16
4.1.3 Right of Way Manual (Chapter 11) .....	16
4.1.4 Right of Way Manual (Chapter 13) .....	18
4.1.5 Right of Way Manual (Chapter 15) .....	18
4.1.6 Right of Way Manual (Chapter 16) .....	21
4.2 Traffic Operations .....	22
4.2.1 Transportation Analysis Report Guidelines .....	22
4.2.2 High Occupancy Vehicle Guidelines .....	23
4.2.3 The BusPool Project.....	24
4.3 Planning .....	26
4.3.1 Regional Planning Handbook .....	26
4.3.2 Interregional Transportation Strategic Plan .....	26
4.3.3 Regional Transportation Plan Guidelines .....	27
4.3.4 Community Planning .....	28



**TABLE OF CONTENTS**

4.4 Mass Transportation..... 28

    4.4.1 Bus Rapid Transit Handbook..... 28

    4.4.2 Statewide Transit-Oriented Development Study: Factors for Success in California ..... 29

    4.4.3 Transportation Development Act Statutes and California Codes of Regulations ..... 29

4.5 Design ..... 30

    4.5.1 How Caltrans Builds Projects ..... 30

    4.5.2 Project Development Procedures Manual (Chapter 3)..... 30

    4.5.3 Project Development Procedures Manual (Chapter 8)..... 31

    4.5.4 Project Development Procedures Manual (Appendix K)..... 31

    4.5.5 Project Development Workflow Tasks (PDWT) ..... 32

    4.5.6 Highway Design Manual..... 32

4.6 Other Divisions ..... 33

    4.6.1 Encroachment Permits Manual ..... 33

    4.6.2 Local Assistance Procedures Manual..... 34

    4.6.3 Guide to Capital Project Delivery Workplan Standards ..... 35

    4.6.4 Maintenance Manual..... 37

**CHAPTER 5: PARK AND RIDE RELATED LAWS AND LEGISLATION ..... 38**

5.1 California Laws ..... 38

    5.1.1 California Streets and Highways Codes..... 38

    5.1.2 California Vehicle Code..... 42

5.2 California Legislation..... 42

    5.2.1 Assembly Bill 32 – Global Warming Solutions Act ..... 42

    5.2.2 Assembly Bill 3034 – Safe, Reliable High Speed Passenger Train Bond Act..... 42

    5.2.3 Senate Bill 375 – Sustainable Communities and Climate Protection Act..... 43

**CHAPTER 6: PARK AND RIDE FUNDING ..... 44**

6.1 Park and Ride Planning Funding..... 44

    6.1.1 Transportation Planning Grants ..... 44

    6.1.2 Transportation, Community, and System Preservation Program..... 44



## TABLE OF CONTENTS

6.2	Park and Ride Capital Funding .....	45
6.2.1	FTA Section 5307 – Large Urban Cities.....	45
6.2.2	FTA Section 5309 – Capital Investment Program .....	48
6.2.3	FTA Section 5311 – Rural and Small Urbanized Areas .....	49
6.2.4	Community Development Block Grants.....	50
6.2.5	Transportation Development Act.....	50
6.2.6	State Transportation Improvement Program.....	50
6.2.7	Congestion Mitigation and Air Quality Improvement Program .....	52
6.2.8	Regional Surface Transportation Program.....	52
6.2.9	State Highway Operation Protection Program.....	52
6.2.10	Public Transportation Modernization, Improvement, and Service Enhancement Account .....	53
6.2.11	Environmental Enhancement and Mitigation Program (EEMP).....	54
6.2.12	Regional Transportation Impact Fees .....	54
6.2.13	Local Transportation Funding – Self Help Counties .....	54
6.2.14	Federal Earmarks .....	54
6.2.15	Public-Private Partnerships .....	54
6.2.16	Creating New Opportunities for Solar Energy Systems Deployment on State of California-Owned/Department-Controlled (SODC) Facilities (DD-104).....	55
<b>CHAPTER 7: PERFORMANCE ANALYSIS AND RESEARCH .....</b>		<b>56</b>
7.1	Performance Analysis .....	56
7.1.1	FDOT State Park and Ride Lot Programming Planning Manual.....	56
7.1.2	AASHTO Guide for Park-and-Ride Facilities, 2nd Edition.....	56
7.1.3	The BusPool Project: Caltrans Park and Ride and HOV Transit Enhancement Project Evaluation and Prioritization of Improvements .....	57
7.1.4	Transit Capacity and Quality of Service Manual (TCRP 100) .....	56
7.1.5	Park and Ride/Pool: Traveler Response to Transportation System Changes (TCRP 95)....	58
7.1.6	Effective Use of Park-and-Ride Facilities (NCHRP Synthesis 213) .....	58
7.1.7	Highway Capacity Manual (2000).....	59
7.1.8	NCHRP Report 398 – Quantifying Congestion .....	61
7.2	Research.....	61
7.2.1	Evaluation of Shared Use Park and Ride Impact on Properties .....	61
7.2.2	Maricopa Association of Governments Park-and-Ride Site Selection Study .....	63
7.2.3	Puget Sound Park and Ride System Update.....	63
7.2.4	2004 Park-and-Ride Utilization Study (Old Colony Metropolitan Planning Organization, MA) .....	64
7.2.5	Technical Solutions to Overcrowded Park and Ride Facilities.....	64
7.2.6	Park-and-Ride Lot Redevelopment Through Transit Development (Triangle Transit, North Carolina) .....	64
7.2.7	Evaluation of Transit Applications of Advanced Parking Management Systems – Final Evaluation Report .....	65
7.2.8	Park and Ride: Characteristics and Demand Forecasting. Land Transport New Zealand Research Report 328. ....	65
7.2.9	Guide to Calculating Mobility Management Benefits .....	66





## INTRODUCTION

Park and ride lots are valuable resources that support transit usage and carpooling, which leads to improved performance of the entire transportation system. They provide a location for individuals to park their vehicles to join carpools and to access bus and rail services, thereby taking vehicles off local streets and roads and the State Highway System (SHS). Planning and constructing a network of well placed park and ride lots is a productive transportation system. The goals of a network of park and ride lots include, but are not limited to, increasing the mobility options of travelers, increasing person throughput on the system, decreasing the number of vehicle trips, decreasing the greenhouse gas and air pollution associated with transportation, and decreasing congestion on transportation facilities.

A multidisciplinary team was formed within the California Department of Transportation (Caltrans) to determine how to expand the Park and Ride Program (Program) to better integrate these facilities into the State's transportation system. One goal of the team is the creation of the tools needed to raise the visibility and improve the viability of park and ride lots in California. This Park and Ride Program Resource Guide is one such tool that consolidates existing information that can aid in the development of a robust park and ride system that will improve the performance of California's transportation infrastructure. This Guide and the *Caltrans Park and Ride and HOV Transit Enhancement Project Report* summarize current Program information.

This report has seven chapters:

- 1) How to Develop a Park and Ride Lot Project
- 2) Mission, Goals, Values, and the Mobility Pyramid
- 3) Director's Policies and Deputy Directives
- 4) Park and Ride Guidelines
- 5) Park and Ride Related Laws and Legislation
- 6) Park and Ride Funding
- 7) Performance Analysis and Research

The first chapter provides a rough outline of the requirements for developing a park and ride project. The second and third chapters describe commitments by Caltrans that can be used to justify support. The fourth chapter identifies roles and responsibilities for Caltrans divisions regarding the Program. The fifth chapter provides legal and legislative support for park and ride lots. The sixth chapter summarizes funding sources for park and ride facility improvements. The seventh chapter describes park and ride project analysis methods.

The purpose of the Program is to identify the existing park and ride resources throughout Caltrans and determine how to transform these resources into more effective networks of park and ride facilities throughout California. The Program must ensure Caltrans is able to maintain existing resources, improve and construct new facilities, and integrate park and ride lots into Caltrans activities. We must maximize the mobility benefits of all facilities and transportation modes including park and ride lots to ensure California's transportation system continues

to be one of the best in the world. This guide is one step in the overall process.

Additional Park and Ride Program information can be found on the Caltrans website.

Park and Ride Coordinator Contact List:

[www.dot.ca.gov/hq/traffops/systemops/hov/Park\\_and\\_Ride/PR\\_CoordinatorsList-Nov2009.pdf](http://www.dot.ca.gov/hq/traffops/systemops/hov/Park_and_Ride/PR_CoordinatorsList-Nov2009.pdf)

Caltrans' District websites:

District 2 - [www.dot.ca.gov/dist2/planning/parknride.htm](http://www.dot.ca.gov/dist2/planning/parknride.htm)

District 3 - [www.dot.ca.gov/dist3/departments/planning/park\\_n\\_ride\\_defined.html](http://www.dot.ca.gov/dist3/departments/planning/park_n_ride_defined.html)

District 4 - [www.dot.ca.gov/dist4/highwayops/parkandride/](http://www.dot.ca.gov/dist4/highwayops/parkandride/)

District 5 - [www.dot.ca.gov/dist05/commuter\\_info/](http://www.dot.ca.gov/dist05/commuter_info/)

District 11 - [www.ridelink.org/CommuterChoices/ParkNRide.aspx](http://www.ridelink.org/CommuterChoices/ParkNRide.aspx)

Caltrans' Division websites:

Division of Design - [www.dot.ca.gov/hq/oppd/index.htm](http://www.dot.ca.gov/hq/oppd/index.htm)

Division of Local Assistance - [www.dot.ca.gov/hq/LocalPrograms/](http://www.dot.ca.gov/hq/LocalPrograms/)

Division of Maintenance - [www.dot.ca.gov/hq/maint/](http://www.dot.ca.gov/hq/maint/)

Division of Mass Transportation - [www.dot.ca.gov/hq/MassTrans/](http://www.dot.ca.gov/hq/MassTrans/)

Division of Right of Way – [www.dot.ca.gov/hq/row/wireless/parkride.htm](http://www.dot.ca.gov/hq/row/wireless/parkride.htm)

Division of Traffic Operations -

[www.dot.ca.gov/hq/traffops/systemops/hov/Park\\_and\\_Ride/index.html](http://www.dot.ca.gov/hq/traffops/systemops/hov/Park_and_Ride/index.html)

Division of Transportation Planning - [www.dot.ca.gov/hq/tpp/grants.html](http://www.dot.ca.gov/hq/tpp/grants.html)

Federal funding and transit planning information can be found at these websites:

FTA Grant Programs - [www.fta.dot.gov/funding/grants\\_financing\\_263.html](http://www.fta.dot.gov/funding/grants_financing_263.html)

Transit at the Table - [www.planning.dot.gov/Documents/TransPlanning/TransTable.htm](http://www.planning.dot.gov/Documents/TransPlanning/TransTable.htm)

Other websites:

Signage - [www.dot.ca.gov/hq/traffops/signtech/signdel/specs/G95A.pdf](http://www.dot.ca.gov/hq/traffops/signtech/signdel/specs/G95A.pdf) and

[www.dot.ca.gov/hq/traffops/signtech/signdel/specs/G95B.pdf](http://www.dot.ca.gov/hq/traffops/signtech/signdel/specs/G95B.pdf)

## CHAPTER 1: HOW TO DEVELOP A PARK AND RIDE LOT PROJECT

Before beginning a park and ride lot project, it is recommended the sponsoring agency review the *Caltrans Park & Ride and HOV Transit Enhancement Project* ([www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/BRT/BRT-Buspool-Final-Rpt.pdf](http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/BRT/BRT-Buspool-Final-Rpt.pdf)) to understand Caltrans' policies regarding these facilities. Caltrans sponsored park and ride lot projects focus on a few important issues:

- Deliverability (can it realistically be completed?)
- Connectivity to transit
- Level of support (Regional Transportation Planning Agency/Metropolitan Planning Organization [RTPA/MPO] and transit operator)
- Impact on freeway congestion (Level of Service improvement)
- Tangible and measurable increase in transit ridership
- Ability to leverage State funds with matching funds

The above criteria describes Caltrans values and information that would be useful for gathering internal support for a project. Transit ridership, system delay, transportation system productivity, travel reliability, projected population growth, and projected corridor demand are measures to consider. Fundability, local agency and transit operator support, deliverability, and ease of implementation are useful feasibility criteria along with connectivity to transit, safety, and security.

This chapter lists general steps to develop a park and ride lot. Later chapters provide information to assist in completing these steps. These are general guidelines; any project may raise issues that are not addressed here. Before beginning a park and ride project the lead agency holds discussions with their local Caltrans district personnel to ensure all specific requirements are identified at the beginning of the process.

### *1.1 General Steps to Develop a New Park and Ride Lot*

The steps below are for local transit agencies to follow in the development of a new park and ride lot. These are general guidelines that may be different from region to region and at individual locations. Significant considerations are location in respect to a State highway, the choice of lead agency, linkage to other transportation modes, and connection to transit oriented developments. Contacting the Caltrans District Park and Ride Coordinator and regional planning liaison is recommended at the beginning of the process, but these steps will provide a general outline of expected steps towards project completion.

- Determine the potential park and ride lot location(s).
- Determine the entity that owns or has rights to the property or properties.
- Contact the city or county and RTPA/MPO to gather support and gain local approval. Funding commitments should be obtained at this point, if not earlier.

- Contact the Caltrans District Park and Ride Coordinator ([www.dot.ca.gov/hq/traffops/systemops/hov/Park\\_and\\_Ride/index.html](http://www.dot.ca.gov/hq/traffops/systemops/hov/Park_and_Ride/index.html)) to determine project development process, viability of location, and potential issues. Verify whether the project should go through the local intergovernmental review process, determine whether an encroachment permit is required, and determine whether the leases and agreements that must be approved.
- Contact the above agencies to determine specific processes needed to be completed before project can be approved and built.
- Prepare initial project design map to show proposed location, lot size, and expected features.
- Prepare a park and ride assessment of considered locations. Background, proposed project summary, location, potential patronage, transit service linkage, and a cost/benefit analysis are possible topics to include.
- Acquire funding commitments.
- Add park and ride lot project to the RTPA/MPO's Regional Transportation Plan.
- Form project development team.
- Prepare a Project Initiation Document (PID).
- Program the project by adding it to the RTPA/MPO's Regional Transportation Improvement Program.
- Prepare the Project Approval and Environmental Document (includes completing preliminary environmental studies and acquiring project approval).
- Prepare Project Plans Specifications and Estimates (design project).
- Secure right of way by purchasing or leasing needed property and approving master agreement, maintenance agreement, and any other required agreements.
- Construct the park and ride lot.

As stated above, these are general steps for developing a new park and ride lot and there may be different requirements for individual projects. The key is to communicate with all regional partners as early as possible in the development of a project to ensure the appropriate steps to plan, fund, design, and build the park and ride lot are completed.

## ***1.2 General Steps to Improve a Park and Ride Lot***

There are hundreds of park and ride lots across California and periodically improvements are needed to maintain or increase their productivity. Unfortunately there is not one simple set of instructions to improve a park and ride lot because there can be a wide variety of challenges to overcome. Below are general instructions on how to improve Caltrans' owned park and ride lots, but contacting the local Caltrans District's Park and Ride Coordinator and regional planning liaison at the beginning of the process is necessary.

- Select the park and ride lot to improve.
- Contact city or county and RTPA/MPO for initial conversation of potential support and local approval. Acquiring funding commitments should be done at this point if not earlier.

- Contact Caltrans District Park and Ride Coordinator ([www.dot.ca.gov/hq/traffops/systemops/hov/Park\\_and\\_Ride/index.html](http://www.dot.ca.gov/hq/traffops/systemops/hov/Park_and_Ride/index.html)) to determine project development process, viability of location, and potential issues. Verify if project should go through the local intergovernmental review process, determine if an encroachment permit is required, and determine the leases and agreements that must be approved.
- Contact the above agencies to determine specific processes needed to be completed before project can be approved and built.
- Prepare initial project design map to show location, lot size, and features.
- Prepare a park and ride assessment of existing locations. Background, proposed project summary, location, patronage, transit service linkage, and a cost/benefit analysis are possible topics to include.
- Acquire funding commitments.
- Add park and ride lot project to the RTPA/MPO's Regional Transportation Plan.
- Form project development team.
- Prepare a PID.
- Program the project by adding it to the RTPA/MPO's Regional Transportation Improvement Program.
- Prepare Project Approval and Environmental Document (includes completing preliminary environmental studies and acquiring project approval).
- Prepare Project Plans, Specifications and Estimates (design project).
- Secure Right of Way by purchasing or leasing needed property and approving master agreement, maintenance agreement, and any other required agreements.
- Construct the improvements to the park and ride lot.

The steps required for improving a park and ride lot vary by the location of the facility, future demands of the corridor, type of improvements, funding sources, and the level of commitment required by Caltrans. Smaller improvements, such as adding a bus stop sign or installing bicycle locker facilities, might require only an encroachment permit, while larger improvements, such as expanding the park and ride lot, would probably require an agency to follow the complete project development process. A discussion with your Caltrans District Park and Ride Coordinator or your regional planning liaison would provide a better understanding of the specific actions required.

*Further information can be found in the Local Assistance Procedures Manual ([www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm](http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm)) and the How Caltrans Builds Projects report ([www.dot.ca.gov/hq/oppd/proj\\_book/index.htm](http://www.dot.ca.gov/hq/oppd/proj_book/index.htm)).*



## CHAPTER 2: MISSION, GOALS, VALUES, & THE MOBILITY PYRAMID

An organization's mission, goals, and values reveal what is important to the organization. Not only do they show external agencies and the public what the organization values, but also provide employees with insight on what they must do to meet their responsibilities. Caltrans' mission, goals, and values are listed below with comments explaining how the Park and Ride Program is important to the entire transportation system and must be supported and promoted. The Mobility Pyramid and the California Transportation Plan Goals are also included because they provide organizational direction to Caltrans. This information can be used to justify Caltrans' support for park and ride lot proposals ([www.dot.ca.gov/hq/paffairs/about/mission.htm](http://www.dot.ca.gov/hq/paffairs/about/mission.htm)).

### 2.1 *Caltrans' Mission*

#### Caltrans Improves Mobility Across California

Park and ride lots improve mobility across California by promoting carpooling and transit usage, thereby removing vehicles from the transportation system and increasing person throughput. Moving more people per vehicle will improve the mobility of all Californians on our highways, improve system productivity, decrease harmful transportation emissions, and decrease regional fuel consumption. Park and ride lots are connection points that provide the public access to a variety of modal options. Creating a system of park and ride lots can lead to a region-wide culture of support for mass transportation.

### 2.2 *Caltrans' Goals and Values*

Below are Caltrans' Goals and Values along with explanations of how building and improving park and ride lots support them.

#### **Goals:**

**SAFETY:** Provide the safest transportation system in the nation for users and workers.

**MOBILITY:** Maximize transportation system performance and accessibility.

**DELIVERY:** Efficiently deliver quality transportation projects and services.

**STEWARDSHIP:** Preserve and enhance California's resources and assets.

**SERVICE:** Promote quality service through an excellent workforce.

#### **Values:**

**INTEGRITY:** We promote trust and accountability through our consistent and honest actions.

**COMMITMENT:** We are dedicated to public service and strive for excellence and customer satisfaction.

**TEAMWORK:** We inspire and motivate one another through effective communication, collaboration, and partnership.

**INNOVATION:** We are empowered to seek creative solutions and take intelligent risks.

Park and ride lots support all the goals above:

- Increased mobility options will improve the safety of all drivers by reducing the number of vehicles on the road and allowing individuals the option to shift from driving their own vehicles to becoming passengers in other vehicles. This will lead to increased carpooling, greater transit usage, and create a more balanced transportation system (Safety, Mobility).
- The delivery of quality transportation projects and services requires Caltrans to consider all improvements at the earliest possible stage to ensure all mobility needs are being addressed in the most cost effective manner. Appropriate systems of park and ride lots are necessary to maximize the performance of our vital transportation corridors and the inclusion of these facilities in our project delivery process increases the likelihood that the project's purpose and needs are met (Delivery).
- Building individual park and ride lots, including new lots as elements of larger capital improvement projects, and improving existing lots will provide facilities that improve the performance of the rest of the transportation system and lessening the stress on California's resources and assets including improving air quality, lessening the need for acquiring right of way to expand highways, and providing mobility options to a diverse public (Stewardship).
- Local agencies are prepared to invest in park and ride lots to improve local traffic circulation and the performance of the State Highway System (SHS) and the Caltrans workforce must provide quality service by accommodating these valuable system investments. Quality service involves considering and implementing needed improvements to serve the public including park and ride lots (Service).
- Caltrans has a responsibility to design and manage a truly multimodal transportation system and must work cooperatively with local agencies to develop facilities such as park and ride lots that achieve that goal. Infrastructure must be developed to improve all transportation modes to ensure actions match stated mission, goals, and values.
- Commitment to a high quality transportation system requires Caltrans to work with local agencies and the public to design, build, and maintain facilities that address all transportation needs including park and ride lots. This teamwork with externals will create opportunities for more innovative solutions that look beyond continually expanding the highways and focus greater energy on improving the performance of existing systems (Commitment, Teamwork; Innovation).

### ***2.3 California Transportation Plan Goals and Objectives***

The California Transportation Plan (CTP) is a long-range transportation policy document that explores the social, economic, and technological trends and demographic changes expected over the next 20 years and their potential influence on travel behavior. The CTP vision is one of a fully integrated, multimodal, sustainable transportation system that supports the three outcomes that define quality of life, the 3 Es — prosperous economy, quality environment, and social equity ([www.dot.ca.gov/hq/tpp/offices/osp/ctp.html](http://www.dot.ca.gov/hq/tpp/offices/osp/ctp.html)).



Below are the CTP goals and a few explanations on how the park and ride program support them.

Improve Mobility and Accessibility: Expanding the system and enhancing modal choices and connectivity to meet the State's future transportation demands. Building new or improving existing park and ride lots will lead to increased transit ridership, increased carpooling, decreased vehicle miles traveled, and increased person throughput. Park and ride lots are linkage points between modes and provide the public access to a variety of transportation options. Without using all available transportation facilities such as park and ride lots, the State's existing and future transportation demands will not be met.

Preserve the Transportation System: Maintaining and rehabilitating California's extensive transportation system to preserve it for future generations. Decreasing the number of vehicles on the road through increased ridesharing will decrease the wear and tear on the transportation system. Greater carpooling and transit ridership will lead to a decreased demand for additional lanes and lead to a smaller system for the Department to maintain.

Support the Economy: Ensuring the State's continued economic vitality by securing the resources needed to maintain, manage, and enhance the transportation system, while providing a well organized and managed goods movement system. Economic benefits of park and ride systems across the State include: jobs created to build and maintain park and ride lots; decreased transportation costs for commuters that will lead to increased disposable income; an increase in transit ridership that will provide revenues for transit agencies; and the creation of a balanced transportation system that can better handle emergencies such as accidents or natural disasters.

Enhance Public Safety and Security: Ensuring the safety and security of people, goods, services, and information in all modes of transportation. Expanded park and ride lot networks will increase the mobility options of the public, providing options to select modes and routes, leading to safer transportation facilities, and providing flexibility to the entire system to handle emergencies.

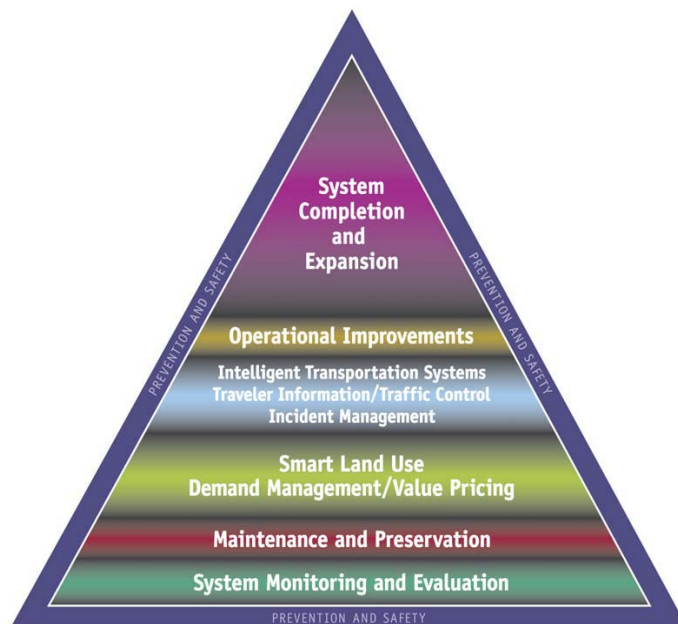
Reflect Community Values: Finding transportation solutions that balance and integrate community values with transportation safety and performance, and encourage public involvement in transportation decisions. Park and ride lot projects are being suggested and promoted by local agencies that see these facilities as a useful method of addressing transportation demands that fit the needs of local and regional communities. These facilities will increase the performance of the existing transportation system and lessen the necessity for further expansion of already large facilities and decrease the need to take right of way required to build additional lanes.

Enhance the Environment: Planning and providing transportation services while protecting our environment, wildlife, and historical and cultural assets. Removing vehicles from highways and roads results in fewer vehicle miles traveled, which translates into less fuel consumed and fewer greenhouse gases generated by mobile sources. Reduced congestion and cleaner air enhance the environment.

## 2.4 The Mobility Pyramid

Park and ride lots play an important role in all levels of the Mobility Pyramid. Ignoring the productivity possibilities of park and ride lots will limit the ability of Caltrans to address existing and future transportation demand. Constructing additional lane miles is not the only way to improve system performance; providing mobility options is also necessary to create an efficient transportation system.

*System Monitoring and Evaluation:* Ridership data can be collected to monitor the usage of park and ride lots as an element of the performance of the overall system. Data that can be collected include decreases in vehicle trips and increases in carpool/transit ridership due to park and ride facilities.



*Maintenance and Preservation:* Either Caltrans, Division of Maintenance or local agencies must maintain park and ride lots to ensure they are safe and effective. Building park and ride networks integrated into the overall transportation system will increase the productivity of the existing system and decrease the need for additional lanes and roads that would lead to increased future maintenance costs.

*Smart Land Use Demand Management/Value Pricing:* Park and ride lots should be considered in land use decisions and demand management activities to ensure the system is designed in the most effective manner possible.

*Intelligent Transportation Systems Traveler Information/Traffic Control Incident Management:* Park and ride lots with transit linkage can be tools to shift vehicles off the system and still move individuals through corridors. Appropriately located park and ride lots can dramatically improve the performance of the system.

*Operational Improvements:* Including park and ride lots as elements of highway improvements, especially where HOV lanes are present, will provide low cost improvements to the transportation system. A well-designed network of park and ride lots can lead to dramatic mobility improvements along transportation corridors.

*System Completion and Expansion:* Ultimately, a completed transportation system will have a sophisticated network of park and ride lots linked to transit, travel demand management activities, and land-use/employment strategies that maximize the person throughput on the transportation system.

The SHS is effectively at full build out and performance improvements must come from a variety of systems. Park and ride lots have not reached full potential and improving them is a perfect opportunity to provide system performance benefits at a relatively low cost.

*Website:* - [www.dot.ca.gov/docs/strategicgrowth.pdf](http://www.dot.ca.gov/docs/strategicgrowth.pdf)



## CHAPTER 3: DIRECTOR'S POLICIES AND DEPUTY DIRECTIVES

Director's Policies and Deputy Directives are declarations of Caltrans policies and directions. Director's Policies (DP) provide the organization with fundamental directions for the Department's activities. They explain Caltrans' philosophy (reflected in Caltrans' purpose, mission, and vision), broad organizational issues, and provide specific strategic direction. Deputy Directives (DD) set a course of action for implementing one or more DPs. DD's are procedural document with specific guidelines or step-by-step details for multiple functional areas (i.e., Divisions). Below are sections of DPs and DDs that support the Park and Ride Program (explanatory comments follow in italics). As with the previous chapter, DPs and DDs can be used to support park and ride projects ([http://admin.dot.ca.gov/bfams/bfams\\_directives-and-policies.shtml](http://admin.dot.ca.gov/bfams/bfams_directives-and-policies.shtml)).

### 3.1 *Director's Policies*

#### 3.1.1 Multimodal Alternatives Analysis (DP-05)

Caltrans promotes long-range transportation plans, corridor studies and project studies based on early and objective multimodal alternatives analysis. Caltrans produces, in partnership with others, intermodal transportation services which balance mobility, cost, equity and environmental concerns. These transportation services may be developed and implemented by Caltrans alone or with other appropriate jurisdictions. *Park and ride lots are effective links between different transportation modes and are important when establishing a multimodal system. Park and ride lots should be included in all of the planning documents and studies listed above and in any multimodal alternatives analysis.*

#### 3.1.2 Caltrans Partnerships (DP-06)

Caltrans provides the environment and leadership to ensure full partnerships among internal functions and public and private organizations. Caltrans' internal functional units work together to better serve the Department's clients. Caltrans is responsive to the needs of its partners, responds in a timely manner, requires feedback and closure, internally and from its partners, and jointly seeks innovative solutions to the State's transportation problems. *Park and ride facilities can be elements of innovative solutions to transportation problems within regions and Caltrans should partner with local agencies to build and maintain them.*

#### 3.1.3 Project Delivery (DP-07)

Caltrans makes realistic commitments to deliver quality transportation products and services on schedule and within budget.

The quality of the products and services produced reflects professionally developed standards. These standards:

- Fully consider multimodal opportunities;
- Are cost effective.

- Are responsive to user interests; and
- Recognize and apply environmental awareness and land use considerations.

The Department strives to do the right thing, the right way, on time, the first time, in order to satisfy its clients. Products and services are client-based, provided expeditiously, and cost-effective. *Building and improving park and ride facilities enhance multimodal opportunities and should be considered by the Department when addressing transportation deficiencies.*

#### 3.1.4 Freeway System Management (DP-08)

Caltrans manages the freeway system to maximize the public's return on investment in California's transportation infrastructure while at the same time minimizing the system's impacts on the environment.

The freeway system is a major element of a total transportation system, and represents a considerable investment of public resources. It is essential that the freeway system, both urban and rural, be managed to realize its full potential. Caltrans, with its partners, employs management strategies that maximize the capacity to move people, goods and information through the freeway system by the most safe and efficient methods. *Park and ride facilities can be important resources in managing the freeway system in an effective manner.*

#### 3.1.5 Context Sensitive Solutions (DP-22)

The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed. *If park and ride lots are deemed appropriate for a specific context, the Department should consider them as potential improvements.*

#### 3.1.6 Energy Efficiency, Conservation, and Climate Change (DP-23)

The California Department of Transportation (Department) incorporates energy efficiency, conservation, and climate change measures into transportation planning, project development, design, operations, and maintenance of transportation facilities, fleets, buildings, and equipment to minimize use of fuel supplies and energy sources and reduce greenhouse gas (GHG) emissions.

The Department promotes fuel diversity and clean, low carbon fuel sources, fleet efficiency, and

strong technology policy and market mechanisms to encourage innovations and lower fossil fuel consumption and emissions from transportation.

The Department implements multimodal strategies to reduce congestion and improve performance of transportation systems, operations, and facilities; promotes environmental stewardship; and maintains educational programs on energy efficiency, conservation, and climate change. *Park and ride lots promote carpooling and transit use, which are transportation choices that lead to a decrease in fuel consumption and a reduction in air pollution (including greenhouse gas emissions).*

### 3.1.7 Bus Rapid Transit Implementation Support (DP-27)

The California Department of Transportation (Department) recognizes and supports the concept and implementation of Bus Rapid Transit (BRT) as a potentially cost-effective strategy to maximize people throughput (emphasizing the movement of people, not just vehicles), reduce traveler delay, increase capacity, and foster energy savings on the California State Highway System (SHS), as well as on conventional highways. The Department will work closely with local jurisdictions, regional transportation planning agencies, transit operators, and other stakeholders to plan, develop, implement, and advocate for BRT systems. *Park and ride facilities link individuals to BRT services and these facilities should be a part of a complete BRT system.*

## **3.2 Deputy Directives**

### 3.2.1 Roles and Responsibilities for Development of Projects on the State Highway System (DD-23-R1)

The California Department of Transportation (Department), as owner/operator of the State Highway System (SHS), has the statutory and inherent obligation to ensure that all modifications or additions to the SHS, regardless of project sponsor or funding source, are:

- Safe, operational, maintainable, compatible and of good value.
- Providing for the efficient multimodal movement of people and goods.
- In the best interest of the general public.
- Developed and constructed in compliance with the laws and regulations that govern the use of State and Federal transportation funds.
- Developed and constructed in partnership with vested stakeholders.

The Department meets its obligations by:

- Engaging in early and continuous partnerships and ensuring accountability amongst project sponsors, implementing agencies, stakeholders, departmental functional units, local, regional and transit agencies, Tribal Governments, developers and consulting firms employed by the Department or its partners.
- Ensuring that all projects on or proposed for the SHS are planned, developed and constructed efficiently and effectively in accordance with standards and practices defined in various Department policies, procedures, manuals and guidance documents.
- Maintaining ultimate approval authority for all projects on the SHS.
- Keeping the public informed through appropriate community outreach.

*Park and ride facilities support the efficient multimodal movement of people. These facilities are, in many instances, a part of the State Highway System and therefore must be maintained appropriately and all improvements made in partnership with relevant stakeholders.*

### 3.2.2 High Occupancy Vehicle (HOV) Systems (DD-43)

Caltrans uses High Occupancy Vehicle (HOV) systems as an effective traffic management strategy to promote carpooling and bus patronage, improve reliability of travel time, improve air quality, and maximize the efficiency of the freeway system by increasing its people-carrying capacity while reducing congestion and delay. *Park and ride facilities link individuals to carpools and transit services and should be an important element of an HOV system.*

### 3.2.3 Complete Streets – Integrating the Transportation System (DD-64-R1)

The California Department of Transportation (Department) provides for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.

The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating “complete streets” beginning early in system planning and continuing through project delivery and maintenance and operations. Developing a network of “complete streets” requires collaboration among all Department functional units and stakeholders to establish effective partnerships. *Park and ride facilities can be a resource that support Complete Streets efforts linking individuals to multimodal transportation.*

### 3.2.4 20-Year Facility Master Planning (DP-84)

The California Department of Transportation (Department) demonstrates good stewardship of its real estate portfolio by determining which lands and buildings are required to support transportation-related activities consistent with the Department’s system planning documents (Route Concept Reports/Transportation Corridor Reports, Transportation System Development Programs, and District System Management Plans), the Interregional Transportation Strategic Plan, Regional Transportation Plans, local General Plans and current statutes. The Department’s land and building requirements for the next 20 years will be identified biennially statewide in district and division Facility Master Plans. *Park and ride facilities and networks should be included in all planning documents as part of the overall transportation system.*



### 3.2.5 Integrating Bus Rapid Transit into State Facilities (DD-98)

The California Department of Transportation (Department) supports the integration of Bus Rapid Transit (BRT) projects and operations on the California State Highway System (SHS) where most effective, through partnership with BRT stakeholders. Integrating BRT support elements on State facilities where appropriate, has the potential to increase the “person-throughput,” reduce the rate of congestion for all highway users, mitigate pollution, reduce greenhouse gas emissions, and improve goods movement. *Park and ride facilities link individuals to BRT and should be part of a complete BRT system.*

### 3.2.6 Creating New Opportunities for Solar Energy Systems Deployment on State of California-Owned/Department-Controlled (SODC) Facilities (DD-104)

The California Department of Transportation (Department) supports the creation of new opportunities for generating solar energy at SODC facilities and within its access-controlled rights of way. The Department will promote the installation of solar energy systems, either through direct funding or by third party providers, on SODC facilities in a safe and reasonable manner. Installations shall not compromise the purpose and intent of highway rights of way, maintenance and operations facilities, and other property assets, and must provide a benefit to the Department, as well as the public it serves.

The State owns 15,000 miles of roadways and hundreds of maintenance and operations facilities. Recently, the Department embarked on a program to install solar electric systems on its SODC buildings under the Clean Renewable Energy Bond Program. The Department can broaden its use of operating rights of way, facilities, and other property assets to generate solar energy in many locations such as park and ride lots, maintenance stations, and highways where solar energy systems can be safely and cost-effectively implemented. The Department obtained conceptual concurrence from the Federal Highway Administration to use highways for generating solar energy, consistent with its March 27 2009 memorandum “Guidance on Utilization of Highway Right of Way.” This allows the Department to install solar energy systems, enter into joint projects with the solar industry, or work with other State and local agencies to implement solar projects.

This Deputy Directive allows the Department to partner with external agencies on solar energy projects on Park and Ride lots.



## CHAPTER 4: PARK AND RIDE GUIDELINES

Guidelines show the value an organization places on specific activities. Not only do guidelines show the organization's desire to pursue specific policies, but they also identify which divisions or individuals are responsible for specific tasks. It is important identifying requirements within Caltrans' guidelines highlight specific organizational roles and responsibilities. Requirements related to the Park and Ride Program are organized by division below:

### **4.1 Right of Way**

#### 4.1.1 Airspace and Telecommunication Leasing

By leasing airspace sites and licensing wireless facilities within freeway right of way, Airspace generates revenue that is deposited into the State Highway Account. From there the funds are transferred to the Public Transportation Account and are then made available for public mass transportation projects within the State of California ([www.dot.ca.gov/hq/row/rps/airspace.htm](http://www.dot.ca.gov/hq/row/rps/airspace.htm))

#### 4.1.2 Right of Way Manual (Chapter 3)

##### *3.04.04.05 Federal Participation in Right of Way*

District Right of Way (R/W) should follow the guidelines below in determining federal participation in R/W projects and deciding when to complete and submit Request for Approval/To Proceed, Form E-76:

- All Interstate Completion, Park and Ride facilities, and highway transit-related facilities should qualify for federal aid regardless of total acquisition costs (*page 21*).

([www.dot.ca.gov/hq/row/rowman/](http://www.dot.ca.gov/hq/row/rowman/))

#### 4.1.3 Right of Way Manual (Chapter 11)

##### *11.15.05.00 Insurance*

In obtaining a lease for field facilities, the Region/District may be faced with the lessor's demand that the state provide insurance coverage, either by paying a monthly fee to the lessor's insurance carrier or by purchasing its own policy. There are two types of insurance to be considered: (1) fire and hazard, and (2) liability.

The State is self-insured for all liability (including bodily injury and property damage) as well as any tort (such as fire and physical damage caused by one of our employees) affecting private property. The state's ability to insure itself is provided in Government Code, Section 11007.1-11007.74. If the owner would like written confirmation, contact Department of General Services (DGS), Office of Insurance and Risk Management, and request a letter of "Public Liability and Workers Compensation Insurance" on their letterhead.

Although there is no need to furnish insurance policy coverage on State as Lessee leases, there may be instances when an owner will not accept our self-insurance status and will insist on coverage provided by an insurance policy. In those cases, the Department has the flexibility to obtain such policy coverage if it is the only way to secure the field facility. It may be prudent to renegotiate rental terms if purchase of an insurance policy is required.

DGS can obtain quotes for required fire and hazard coverage and secure a policy if requested. The cost of securing a policy is usually much less than paying the lessor's insurance carrier for the required coverage and may be available through a single policy. Insurance and Risk Management has provided a form, Exhibit 11-EX-32, to assist in obtaining fire and hazard coverage. The form should be completed and sent to DGS for cost quotations and purchase of appropriate policy coverage.

#### ***11.15.06.00 Park and Ride Facility Leases***

Streets and Highways (S&H) Code, Section 147, authorizes the Department to enter into agreements and leases with private owners for use of existing parking facilities or to develop parking facilities for the Park and Ride program. Typical examples are shopping centers and church parking lots.

The District Ridesharing Coordinator (*Caltrans no longer has Ridesharing Coordinators. Please contact the local district's Park and Ride Coordinator for assistance*) is responsible for the Program. Since *no rent is paid* for use of the facilities, the coordinator usually handles the entire transaction with a standard use agreement with no Right of Way involvement.

Legal recommends that the Department use a lease rather than an agreement if the State agrees to provide improvements such as paving, fencing, and lighting. In this case, the coordinator will request Property Management to prepare a lease. (See Exhibit 11-EX-33 for a typical Park and Ride lease.) Since the State is lessee, the lessor may require changes in the typical lease. The local Legal office must approve any changes.

Since there is no rent, the lease is executed at the Region/District level. Note that the Region/District Ridesharing Coordinator's approval is required on the Archive copy. The procedures in the following table should be followed when acquiring Park and Ride leases for Traffic System Management.

#### ***Park and Ride Procedures***

Function: Acquisition

Procedure:

- Receive an appraisal of the fair market rent.
- Prepare a Lease Agreement using Exhibit 11-EX-33. Property Management should review and approve the lease, and the local Legal office must approve any changes in the standard lease.
- Pay the fair market rent for the entire lease term in advance in a lump sum by R/W Contract.

- Send a short-form MOS and Claim Schedule to Headquarters Right of Way (HQ R/W), Acquisition Branch.
- Enter parcels in the Integrated Right of Way System (IRWS) (access to the IRWS is restricted to Caltrans' Right of Way personnel – contact District Park and Ride Coordinator for further information [www.dot.ca.gov/hq/traffops/systemops/hov/Park\\_and\\_Ride/index.html](http://www.dot.ca.gov/hq/traffops/systemops/hov/Park_and_Ride/index.html)).

Function: Property Management

Procedure:

- Review the lease prepared by Acquisition prior to presenting it to the lessor.
- Forward a copy of the executed lease to HQ R/W, Property Management Branch (*pages 89-90*).

*Chapter 11 also includes the Park and Ride Lot Lease Agreement.*

#### 4.1.4 Right of Way Manual (Chapter 13)

##### *13.04.07.03 Clearance of Highway Adjunct Properties*

On occasion, the State acquires separate properties for the purpose of fulfilling a highway construction or operational need, such as roadside rests, park-and-ride lots, weigh stations, and mitigation parcels. Relocation of utility facilities on these properties follows the same laws and rules applicable to the highway project for which these adjunct sites were acquired. This means that a park-and-ride lot in support of a freeway follows laws and rules applicable to freeways. See Section 13.04.03.02, Application of Master Contracts (*page 62*).

#### 4.1.5 Right of Way Manual (Chapter 15)

##### *15.01.01.01 Definition*

Airspace may also be defined as all Caltrans property that can safely accommodate a wireless telecommunications facility. Typical sites are:

- Space within a maintenance station, park and ride lot, roadside rest, office building, or other facility.
- Non-operating and operating right of way if access and utilities are from outside the travelway (*page 4*).

##### *15.01.02.00 Responsibilities of Headquarters, Airspace Development Branch*

Administering S&H Code Sections 72 (Route 480 Earthquake Damage), 104.11 (Joint Development), 104.12 (Leasing of Airspace), 104.17 and 104.18 (Homeless), and 146 (Mass Transit) and Government Code (GC) Section 14013 (Marler Johnson).

Developing standardized lease agreements and language to protect the Department from potential liabilities and claims from the lessee, sublessees, and adjoining owners (*page 5*).

*15.01.02.01 Annual Reports*

HQ A/S prepares four annual Airspace reports.

- Annual Report to the AAC, California Transportation Commission, and Legislature - districts/regions provide information on inventory, income, and leasing activity for the previous fiscal year with specifics on Marler Johnson leases, Park and Ride Joint Development, Park and Ride Demonstration Program, internal uses, building development, seismic retrofit, and other major programs. Per S&H 104.12, data is requested for the previous SFY in the fall of each year and reported after October 1 (*page 6*).

*15.01.03.00 Responsibilities of Region and District Airspace Development Units*

Coordinate with district/region Maintenance and Landscape units to market the joint use of roadside rest areas and park and ride lots to provide better services to the traveling public while decreasing the Department's maintenance expenses on the sites (*page 6*).

*15.01.04.00 District/Region Airspace Review*

Airspace is responsible for conducting a district/region review of all proposals to lease an airspace site. A District Airspace Review Committee (DARC) consisting of representatives from Right of Way, Traffic Operations, Landscape Architect, Project Development, Maintenance, Environmental, Structures, Hydraulics, and the State Fire Marshal must approve proposed airspace uses. Additional programs may be included if the program is affected by the proposed use (e.g., the Park and Ride representative from Traffic Operations) (*page 7*).

*15.02.02.01 Internal Use*

A Department program may need an airspace site for a permanent or temporary internal use. Examples of permanent uses are maintenance operations (e.g., vehicle storage), landscaping projects, employee parking, and park and ride lots. Examples of temporary uses are sites for relocated businesses due to seismic retrofit, internal construction staging areas, holding areas for historic buildings pending sale, and other immediate needs of the Department. If the site is not in the inventory, it should be added and coded as "CALTRANS USE" ("CT" in Right of Way Property System) to track potential savings to the Department by using its own real estate assets.

To ensure the Department is using its land assets properly, Airspace should annually review all sites held for Caltrans use to ensure the need still exists for the current usage and the current usage is still the best use of the property, considering other potential uses and net return. Airspace must discontinue the internal use if it is a significant under utilization. However, Airspace should consider Caltrans needs as a high priority and recognize that there may not be an alternative site that will adequately serve the Department's needs. If the Department intends to provide contractors with an airspace site for a construction staging area, this should be announced in the Construction Bid Package. If not, the site may be leased to the successful construction contractor at PMR (*page 11*).

*15.04.01.00 Types of Airspace Leases*

Park and Ride Agreement - month-to-month agreement with a non-profit organization to use the park and ride facility in exchange for maintenance and security services (*page 16*).

#### *15.04.01.06 Park and Ride Agreement*

An FHWA approved demonstration program allows month-to-month tenancies on park and ride lots to enhance lot occupancy by providing security and maintenance.

Traffic Operations, Park and Ride Office, may request assistance from Airspace in locating a nonprofit organization to occupy a park and ride lot that is not being used to its full capacity. Leasing a portion of the lot provides on-site management of the facility to assist with maintenance and security, which should improve facility usage. In some cases, longer-term leases with other entities may be considered. Consult with HQ A/S on specific proposals.

The FMLR for the area to be leased is offset against the savings to the Department from not having to provide security and maintenance. The non-profit organization's use cannot reduce the number of parking spaces available. The minimum lease rate is \$1 per month, calculated by subtracting the savings to the Department from an approved Fair Market Lease Rate (FMLR) or \$500 (minimum lease rate), whichever is greater.

Airspace should review leases annually to ensure usage at the site has improved with on-site management, and that continuing the month-to-month arrangement is in the Department's best interest. All lease agreements can be terminated with 30-day notice if the Department needs the entire area, if onsite management has not improved usage, or if the lessee is not providing the required level of security and maintenance (*page 17*).

#### *15.04.01.08 Telecommunications Licenses*

A Master License Agreement (MLA) for Cellular and Personal Communications Services Carriers allows a licensed carrier to install and operate a wireless facility. Each carrier must execute the MLA with HQ A/S prior to executing a specific Site License Agreement with Airspace.

The MLA allows the carrier to install a facility on any Caltrans owned property (maintenance facility, park and ride lot, office building, and within operating and non-operating right of way) where it is deemed safe and non-interfering.

The current MLA does not apply, however, to proposals to install wireless facilities on conventional highways. The Permits Office must handle those requests.

Refer to the Telecommunications Licensing Process and Guidelines (August 1997) for further details (*page 18*).

#### *15.05.05.01 Minimum Lease Rate*

The minimum lease rate is the appraised FMLR, but not less than \$500 per month or \$6,000 per year, with exceptions:

- Park and Ride Agreement - month-to-month agreement with a non-profit organization to use the park and ride facility in exchange for maintenance and security services (*page 22*).

*15.06.07.00 Processing Other Lease Agreements*

Three-Year Directly Negotiated Non-Development Leases, leases with non-profit organizations on park and ride lots, and leases with the motion picture industry should follow a process similar to the directly negotiated lease agreement. Airspace should document the file as to why direct negotiations are in the State's best interest, the lease rate is based on market, and the standard lease agreement is being used (*page 31*).

*15.07.04.00 Highway Structures*

All proposed developments underneath a highway structure (e.g., buildings, multilevel parking structures, recreational areas) require the lessee to prepare a Project Study Report (PSR) addressing the safety and potential liability of leasing the site. Issues to address are number and frequency of people at the site, proposed use, hazardous or valuable materials to be stored, and current status of seismic retrofit work on the structure and its columns.

HQ A/S will review and approve the PSR.

At-grade parking and open storage proposals to use an airspace site underneath a highway structure will require less review than a parking structure or office building.

See Reference File for the most current exhibits to be attached to long-term development lease agreements for airspace sites underneath structures (*page 40*).

4.1.6 Right of Way Manual (Chapter 16)*16.03.01.00 Various Functional Reviews*

Excess Land establishes clearance procedures to assure that the property is not required for a definite use by other units in the Department. The various functional units are consulted, including:

*Park and Ride* - to determine if the excess is suitable for use as a Park and Ride lot. Selected and approved parcels are incorporated into the right of way for the Park and Ride project (*page 25*).

*16.05.03.01 Incorporation of Excess Parcels Within Operating Right of Way*

Excess Land initiates appraisal map reviews, as set forth in Sections 16.01.04.00 and 16.01.05.00, to eliminate small remnants of excess land that can be included within the right of way. Examples include:

*Park and Ride* - If any excess land is selected for a possible Park and Ride lot, a feasibility study should be undertaken comparing the economics of using the excess land to purchasing alternate sites. The study includes an analysis of the savings resulting from fewer cars on the road because of the facility. A determination is made of the lot size necessary for the particular location and the estimated time necessary to complete a project report.

Once the location and size of a possible Park and Ride lot are determined, Excess Land holds the area necessary for the lot for the time needed to process a project report, normally less than six



months. Any remaining excess should be released and processed for sale as soon as possible. Special consideration should be given to the sale of any remaining excess.

Particular attention should be given to access and economic enhancement since the Park and Ride site will be deleted if the project report is not approved.

Excess land is not to be transferred into the right of way until a project report for the Park and Ride facility is approved.

The Ridesharing Coordinator is responsible for working with Excess Land to determine the best site available for the cost. The project report discusses use of alternate sites and includes reasons for using the excess land (*page 40*).

## **4.2 Traffic Operations**

### **4.2.1 Transportation Analysis Report Guidelines**

*The Transportation Analysis Report (TAR) is currently being developed and the information below was taken from a draft version of the guidelines. This section will be updated once the TAR Guidelines are finalized. The purpose of the TAR Guidelines is to establish procedures to complete traffic studies for projects on the State Highways System, with a focus on more multimodal analysis.*

#### *Chapter 3. Existing Conditions*

The TAR describes the existing conditions, or setting, in terms of the transportation network and traffic volumes. According to the CEQA Guidelines Section 15125(a) and reaffirmed in court cases, “An EIR must include a description of the physical environmental condition in the vicinity of the project, as they exist at the time of the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective.” This requirement does not apply to TARs prepared for project study reports, encroachment permits, or other studies that will not include a CEQA environmental compliance step. In these cases, the existing conditions should be as close to present conditions as possible. If the project design and environmental approval processes occur over an extended period of time, aspects of the existing conditions information may need to be updated.

#### *3.6 Parking Facilities*

Describe the parking facilities in the study area that could be influenced by the project. Typically, this includes park-and-ride facilities near interchanges but can also include on- and off-street parking along State highways. For each parking facility or park-and-ride lot, provide the number of spaces and the average usage. Show the parking facilities on a figure. Caltrans maintains a database of existing park and ride lots or you can contact the District Park and Ride Coordinator.

### *3.7 Multi-Modal Transportation*

In general, this section should include a description of the existing physical and operational conditions of any multi-modal facilities. In addition, this section may be used to discuss multi-modal evaluation of the study area. Multi-modal facilities are typically transfer locations where people or goods can transfer between various travel modes, but can also include corridors or areas where multiple modes operate. When evaluating multiple modes, it is advised that the performance measures focus on moving persons or goods such as person-trips, person-delay, etc. as shown in Table 8.

## *Chapter 5. Analysis Results*

This chapter provides the results of the analysis of the project alternatives for each transportation system under future conditions. Future conditions may include construction phasing, interim project phases, construction year/opening day conditions, interim year conditions, design year conditions, cumulative conditions, or build-out conditions. For the roadway system, a quantitative operations analysis of the project alternatives needs to be presented along with a safety evaluation, if necessary. For other transportation systems (freight, transit, bicycle, pedestrian, etc.), a quantitative analysis or a qualitative discussion of the project alternatives can be provided.

### *5.6 Parking Facilities*

Evaluate the project's potential adverse or beneficial effects on parking facilities. The evaluation should consider if the proposed project would disrupt or remove any existing parking spaces or add any new parking lots or spaces. The evaluation should also include potential new and modified connections to transit from park-and-ride facilities, if applicable. Recommendations should be included to address any adverse effects.

### *5.7 Multi-Modal Transportation*

Evaluate the project's potential adverse or beneficial effects on multi-modal facilities. The evaluation should consider if the proposed project would add any new multi-modal facilities or elements that would improve the use of non-auto modes of transportation. Improvements could include reductions in travel time for non-auto modes, increases in person throughput for study analysis locations, or improved accessibility between modes such as new transit, bicycle, and pedestrian connections.

## 4.2.2 High Occupancy Vehicle Guidelines

### *Section 1.3 HOV Planning*

The planning of High Occupancy Vehicle (HOV) facilities should focus on the people carrying capacity of the system rather than on vehicle capacity. In accordance with the Department's mission as a multi-modal organization, HOV planning should focus not only on multi-occupant cars and vans but also on buses and other transit vehicles. Therefore, the planning process should consider complimentary support elements such as park and ride lots, bus/transit stations, and ingress/egress to them.

Are HOV support facilities such as park and ride lots, transit facilities and public awareness campaigns available to support the HOV proposal?

Such support facilities should be considered for all HOV proposals and, if appropriate, be included in the HOV project (*page 1-3*).

#### *Section 2.11.1 On-Line Transit Stations*

On-Line transit stations are bus transfer facilities located contiguous to the HOV facility. They may serve walk-in passengers from nearby residences or park and ride lots, feeder transit lines or nearby activity centers. Transfers between other express buses operating on the HOV facility can also be accommodated. Stations can be designed to serve either two-way or reversible HOV lanes (*page 2-6*).

#### *Section 2.11.2 Off-Line Transit Stations*

Off-Line transit stations are bus facilities, which are not contiguous to the HOV facility, but are close enough to receive direct bus service. They could be located at nearby park and ride lots, at large employment centers, or be a major transit center (*page 2-6*).

#### *Section 3.8 HOV Drop Ramps*

HOV ramps that provide ingress and egress between HOV lanes and conventional highways, streets, roads, transit facilities or park and ride facilities are sometimes referred to as HOV drop ramps. As is the case with HOV direct connectors, operational and supporting data are becoming available for planning and designing HOV drop ramps. These guidelines will become more definitive as operational experiences accumulate.

At-grade access is not intended to serve every on and off-ramp. When it is operationally possible, ingress and egress locations are based on the following criteria:

1. To serve every freeway-to-freeway connection.
2. To serve high volume ramps.
3. Ramps with high number of carpools.
4. When adjacent to park and ride facilities (*page 3-9*).

([www.dot.ca.gov/hq/traffops/systemops/hov/hov\\_sys/guidelines/](http://www.dot.ca.gov/hq/traffops/systemops/hov/hov_sys/guidelines/))

#### 4.2.3 The BusPool Project

*Below is a summary of the BusPool Project on the Traffic Operations website.*

##### *What is the California BusPool Project?*

The California BusPool Project is a statewide project designed to increase the number of express bus commuters in California's six major metropolitan areas.

The BusPool Project is being undertaken by the California Department of Transportation (Caltrans). It will identify and help to implement improvements to Park & Ride and High Occupancy Vehicle (HOV) facilities used by express buses in the targeted metropolitan areas.

*Why is this Project Necessary?*

The use of express buses to bring commuters to their destinations via HOV lanes has been proven highly effective in California - moving large numbers of people through congested urban areas. However, some improvements are needed to Park & Ride lots and HOV facilities to make operation of a statewide express bus system more efficient.

Caltrans administers more than 350 Park & Ride lots. The majority of park and ride lots are located near freeways with HOV lanes. Many of these lots are used primarily by carpools and vanpools - they were not designed to accommodate express buses. Other lots are located inconveniently for expedient express bus operations.

There are over 1100 miles of HOV lanes throughout the state. Improvements to California's HOV lanes and Park & Ride lots are needed for greater utilization by express buses.

*Dealing with Congestion*

Population and job growth in and around California's six major metropolitan areas is creating critical commute-hour traffic congestion. Adding to the problem is a lack of affordable housing in employment areas which forces workers into longer commutes and contributes to overall "gridlock."

Freeway construction adequate to keep pace with growth has become unrealistic in many areas. Available land is restricted and the cost of projects is high.

Relief will require that we use existing freeways and other system facilities more efficiently - which translates into having fewer vehicles on the road during commute hours, and transporting more people per vehicle.

*Project Research*

The first phase of the project will focus on research. It will involve gathering information from Park & Ride users, express bus users, employers, transit agencies and other public agencies. Research protocols will include focus groups, surveys, interviews and a review of existing data.

From users, research will seek to determine what they want and how best to match their wants to available options.

From employers, it will explore management attitudes and the availability/ effectiveness of existing programs.

From transit agencies and other public sources, it will collect key information on service, how performance is evaluated, how and why the public uses rapid transit services and the effectiveness of past marketing activities.

*Project Priorities*

Projects recommended as a result of the study will be prioritized according to the following criteria:

- Connectivity to transit
- Tangible and measurable increase in transit ridership
- Projected demand
- Transit operator support
- Impact on freeway congestion
- Level of service improvement
- Deliverability
- Fundability, including ability to leverage state funds with matching funds
- Ease of implementation
- Feedback from focus groups and research results

([www.dot.ca.gov/hq/traffops/systemops/buspool/](http://www.dot.ca.gov/hq/traffops/systemops/buspool/))

### **4.3 Planning**

#### **4.3.1 Regional Planning Handbook**

*SAFETEA LU Planning Factors include:*

- Increase the accessibility and mobility of people and for freight.
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- Promote efficient system management and operation (*page 25*).

*Park and ride lots can address all the planning factors above.*

([www.dot.ca.gov/hq/tpp/offices/orip/owp/index\\_files/Updated2009Handbook.pdf](http://www.dot.ca.gov/hq/tpp/offices/orip/owp/index_files/Updated2009Handbook.pdf))

#### **4.3.2 Interregional Transportation Strategic Plan**

##### *III.1. Vision - Interregional Transportation System*

###### **A. State Highways**

Provide a dependable and reasonable level of service for the interregional movement of people and goods, accessibility into and through “gateways” and connectivity to intermodal transfer facilities (*page 6*).

*III.2. Strategies--To Move Towards Meeting The Vision***A. STATE HIGHWAYS**

- Make optimum use of the capacity available on the existing “built” system through operational improvements and strategies.
- Coordinate operational plans, improvements and strategies with regional agencies, the goods movement industry, and other modal and intermodal owners and operators (e.g., airports, seaports, freight rail, and intermodal transfer and distribution centers) (*page 7*).

4.3.3 Regional Transportation Plan Guidelines*3.18 Transit*

Transit plays a key role in the regional effort to reduce traffic congestion, VMT and vehicle emissions particularly in urbanized areas. The increased use of transit by the general public will also be a key element to reducing greenhouse gas emissions that contribute to global warming. Transit systems also play an important role in the mobility of people who are elderly, people who are low-income and people with disabilities. Given these reasons, it is crucial for MPOs/RTPAs to engage in a continual dialogue with the transit operators within their region.

The section of the RTP addressing mass transportation issues (including regional transit services and urban rail systems) should address:

1. Identification of passenger transit modes within the region (bus, light and heavy rail, etc.);
2. Integration with transit, highway, street and road projects (including identification of priorities);
3. Implementation plans, operational strategies and schedule for future service (including construction and procurement);
4. Operational integration between transit fleets, and other modes (passenger rail, aviation, taxis, etc.);
5. Summation of the short and long-range transit plans along with the capital finance plans for the 20-year period of the RTP;
6. Short and long-range transit plans and capital finance plans for the 20-year RTP period;
7. Inventory of bus fleets by fuel type (diesel, natural gas, and other alternative fuels);
8. Unmet transit needs;
9. Urban and commuter rail project priorities; and,
10. ITS elements to increase efficiency, safety and level of service.

*Requirements (Shalls)*

*Federal:* Title 23 Code of Federal Regulations part 540.322(b) requires short and long-range strategies for an integrated multimodal transportation system.

*Transportation System Management* refers to the use of relatively inexpensive transportation improvements that are used to increase the efficiency of transportation facilities. TSM can include carpool and vanpool programs, parking management, traffic flow improvements, high occupancy vehicle lanes, and park-and-ride lots (*page 54*).

#### 4.3.4 Community Planning

The *Office of Community Planning* (OCP) consists of four primary elements: Community Based Transportation Planning (CBTP), Public Engagement, Local Development-Intergovernmental Review (LD-IGR), and Special Projects. Each element addresses broad departmental goals for improving safety, increasing transit use and vehicle occupancy, and reducing motorist delay: CBTP and Public Engagement efforts promote the integration of community needs with those of the State; the LD-IGR element helps to preserve the State Highway System by avoiding or mitigating impacts of local planning and development; and the Special Projects element consists of managing studies and initiatives for housing and transportation coordination, transit-oriented development, and land use/transportation analysis tools and models.

([www.dot.ca.gov/hq/tpp/offices/ocp/index.html](http://www.dot.ca.gov/hq/tpp/offices/ocp/index.html))

*Smart Mobility Framework* is an element of Community Planning that will assist with the implementation of multi-modal and sustainable transportation strategies in California. Criteria to be considered in developing this tool will include (but are not limited to): density, design, configuration, connectivity, safety, parking strategies, mixtures of land uses, availability of transit, complete streets (including adequate, integrated bicycle and walking facilities), and open spaces.

The intent is to develop a planning tool that assesses how well plans, programs, and projects meet a definition of “smart mobility.” The goal is to ensure applicability of the tool for Caltrans as well as for partner agencies. It will be used to assess how well products meet “smart mobility” principles and criteria. Ideally, it should be able to be applied to various levels of plans, programs, or projects (e.g., Regional Transportation and Blueprint Plans, General Plans, corridor plans, specific development proposals, etc.) in all parts of the state (i.e., urban, suburban, and rural).

### ***4.4 Mass Transportation***

#### 4.4.1 Bus Rapid Transit Handbook

A project without any exclusive bus lane operations might be eligible for New Starts and Small Starts funding if project expenditures represent a substantial investment in a defined corridor as demonstrated by features such as...

- Park-and-ride lots
- Transit stations
- Bus arrival and departure signage
- ITS technology
- Traffic signal priority
- Off-board fare collection
- Advanced bus technology
- Other features that support long-term corridor investment
- High Occupancy Vehicle (HOV) Drop Ramps (*page 17*)

([www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/BRT/BRT-Handbook-030706.pdf](http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/BRT/BRT-Handbook-030706.pdf)).

#### 4.4.2 Statewide Transit-Oriented Development Study: Factors for Success in California

##### *Transit System Parking or Transit Oriented Development (TOD)?*

Is the land around transit stations best used for commuter parking or building communities? Determining an answer to that question continues to create a dynamic tension in transit systems across the country. The long-term goal of ‘community building’ and the essential short-term goal of maximizing ridership are often put in conflict with each other.

The compromise offered by many transit managers is to use commuter parking as land for development. In theory, as the TOD development market matures, the surface parking lots can be “harvested” as land for TODs. In reality, however, the theory has rarely worked due to the difficulty of taking parking back from existing park-and-ride patrons (who often view the parking as their vested right). Indeed, the collective voice of existing park-and-ride patrons is always louder than the voice of future residents. (For an example of a TOD created from a park-and-ride lot, see the Ohlone-Chynoweth profile in Chapter 5.) (*page 67*)

#### *IV. “Good Fits” for TOD Funding*

##### 1) Transportation Funds for TOD

One place to look for “good fits” that potentially could be used to support transit-oriented development is transportation-specific funding programs. Generally, these funds target transportation projects or transportation-related components of larger development projects. Components that could be a part of a TOD potentially include: sidewalks, crosswalks, street trees, benches, bicycle facilities, buses, light rail vehicles, and park-and-ride facilities (*page 130*).

*Further discussion occurs in the study regarding using park and ride lots for TOD development.*

([www.dot.ca.gov/hq/MassTrans/TOD/sw-study-final-report-Sept2002.pdf](http://www.dot.ca.gov/hq/MassTrans/TOD/sw-study-final-report-Sept2002.pdf))

#### 4.4.3 Transportation Development Act Statutes and California Codes of Regulations

##### *Claims for Pedestrian and Bicycle Facilities 99234*

(e) Facilities provided for the use of bicycles may include projects that serve the needs of commuting bicyclists, including, but not limited to, new trails serving major transportation corridors, secure bicycle parking at employment centers, park and ride lots, and transit terminals where other funds are unavailable.

##### *Exemption for Capital-Intensive Improvements 99268.7*

Any unallocated funds resulting from the limitations of Section 99268 may be used for capital intensive transit-related improvements. Every effort shall be made to obtain federal funds for the purposes of this section. Such improvements shall include, but not be limited to, park-and-ride **lots**, terminal facilities, bus waiting shelters, exclusive lanes for buses, and the acquisition of vehicles and rolling stock for replacement purposes.

##### *Planning Requirements for Transit Facilities 99150*



In locating its bus stops, park and ride service facilities, and special service terminal points and stations, a transit district shall consult with, and consider the recommendations of, the city if such transit facilities are to be located therein, or the county if such transit facilities are to be located in the unincorporated area thereof, on the proposed locations.

The city or county, as the case may be, in making its recommendations to the transit district on the proposed location of any such transit facilities, shall consider whether the proposed location is consistent with the circulation element of its general plan (*page 153*).

([www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/TDA4-7-2009.pdf](http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/TDA4-7-2009.pdf))

## **4.5 Design**

### **4.5.1 How Caltrans Builds Projects**

#### *Traffic Operation*

Caltrans policy requires consideration of high occupancy vehicle lanes for all capacity additions to metropolitan freeways or new metropolitan freeways, and at ramp meters where appropriate. Park and ride facilities must be considered for all new freeways, interchange modifications, lane additions, transit facilities, and high occupancy vehicle lanes. Transit facilities, including bus turnouts, passenger loading areas, benches and shelters, and traffic control devices should be considered where appropriate (*page 11*).

([www.dot.ca.gov/hq/oppd/proj\\_book/index.htm](http://www.dot.ca.gov/hq/oppd/proj_book/index.htm))

### **4.5.2 Project Development Procedures Manual (Chapter 3)**

#### *SECTION 5 - Real Property Asset Management*

During the planning and design stages it is important that the Project Engineer contact the District Asset Manager for input on support facility needs such as park-and-ride lots, traffic operations centers, offices, maintenance stations, etc (*page 3-14*).

#### *SECTION 12 - Landscape Architecture*

In addition, the district's Landscape Architecture Unit provides functional support to the Project Development Team for a wide variety of projects that include, but are not limited to, highway construction, multi-modal transportation facilities, Park-and-Ride lots, noise barriers, maintenance stations, toll plazas, and other projects requiring expertise in scenic resource evaluation, visual impact assessment, aesthetics, natural resource protection and mitigation, roadside vegetation management, water conservation, storm water quality requirements, and community involvement (*page 3-28*).

([www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm](http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm))

#### 4.5.3 Project Development Procedures Manual (Chapter 8)

##### *Park-and-Ride Facilities*

Park and Ride facilities must be considered for inclusion on all major transportation construction projects that include, but are not limited to, new freeways, interchange modifications, lane additions, transit facilities, and HOV lanes. Section 146.5 of the Streets and Highways Code contains specific legal requirements regarding the selection and funding of these facilities. It is important to consider Park and Ride facilities before setting right of way lines. The District Park and Ride Coordinator must be consulted as to the appropriateness of including Park and Ride facilities and for assistance in documenting compliance with the legal requirements in the project initiation and project approval documents. Full justification is required for proposals that are contrary to the Park and Ride Coordinator's recommendations.

Park and Ride facilities are not permitted within interchange areas except with the review and approval from the Design Coordinator and the Traffic Liaison Engineer. Generally, these locations will be approved only if no other area is acceptable or economically justifiable.

Additional information on Park and Ride facilities can be obtained from the Headquarters Park and Ride Coordinator through the Traffic Liaison Engineer in the Division of Traffic Operations. For the design of complex park and ride facilities and specific planting or erosion control requirements, consult with the District Landscape Architect.

##### *Transit Related Facilities*

Transit related highway facilities, including bus turnouts, passenger loading areas, passenger benches and shelters, and special traffic control devices, should be considered where appropriate. Section 148 of the Streets and Highways Code contains specific requirements concerning these facilities (*page 8-46*).

#### 4.5.4 Project Development Procedures Manual (Appendix K)

##### *5A. VIABLE ALTERNATIVES*

###### *For Both a PR and a DPR*

Where appropriate, discuss the following for each viable alternative: proposed engineering features – nonstandard design features – interim features – HOV lanes – ramp metering – CHP enforcement activities – park and ride facilities – utility involvement – railroad involvement – highway planting – erosion control – noise barriers – nonmotorized and pedestrian features – needed roadway rehabilitation and upgrading – needed structure rehabilitation and upgrading – current construction and right of way cost estimates – effect of special-funded proposal on operation – and other subjects, as needed. Information needs for each item follow (*page 9*):

###### *Park and Ride Facilities*

Describe any proposed park and ride facilities. Consideration of park and ride facilities is required and should be described on all major transportation construction projects that include, but are not limited to, new freeways, interchange modifications, lane additions, transit facilities, and HOV lanes. If park and ride facilities are not proposed, discuss why. The results of the consultation with the district park and ride coordinator should be documented and full

justification should be given for proposals that are contrary to the park and ride coordinator's recommendations (*page 11*).

#### 4.5.5 Project Development Workflow Tasks (PDWT)

##### *TASK P089 (020.B) - Obtain Rideshare Unit Recommendations for Park and Ride Facilities*

*Narrative* - Congested traffic corridors in urban and suburban areas provide opportunities for ride sharing. Caltrans provides park and ride facilities in these corridors to facilitate ride sharing. These facilities should be considered prior to preparation of the Project Report.

*Initiator* - Project Engineer

*Sub-Tasks* –

- Prepare strip map identifying potential park and ride locations for the project alternatives.
- Request the Rideshare Unit to recommend locations for the park and ride facilities.
- Incorporate proposed facilities into the project alternatives, as appropriate.

*Task Duration* - 15 to 30 days

*References* – July 30, 1990 memo to District Directors, from R.O. Lightcap and C.D. Bartell & Project Development Procedures Manual -- Appendix K, Article 2

([www.dot.ca.gov/hq/oppd/pdwt/revise/pdwt.htm](http://www.dot.ca.gov/hq/oppd/pdwt/revise/pdwt.htm))

#### 4.5.6 Highway Design Manual

##### *CHAPTER 200 GEOMETRIC DESIGN AND STRUCTURE STANDARDS*

##### *Topic 201 - Sight Distance*

##### *201.7 Decision Sight Distance*

At certain locations, sight distance greater than stopping sight distance is desirable to allow drivers time for decisions without making last minute erratic maneuvers (see Chapter III of AASHTO, A Policy on Geometric Design of Highways and Streets, for a thorough discussion of the derivation of decision sight distance.)

On freeways and expressways the decision sight distance values in Table 201.7 should be used at lane drops and at off-ramp noses to interchanges, branch connections, roadside rests, vista points, and inspection stations. When determining decision sight distance on horizontal and vertical curves, Figures 201.4, 201.5, and 201.6 can be used. Figure 201.7 is an expanded version of Figure 201.4 and gives the relationship among length of crest vertical curve design speed, and algebraic difference in grades for much longer vertical curves than Figure 201.4.

Decision sight distance is measured using the 3 ½-foot eye height and ½-foot object height. See Index 504.2 for sight distance at secondary exits on a collector-distributor road (*page 200-3*).

*Park and ride lots are not included in the Highway Design Manual (HDM) and should be added, but roadside rests and vista points are similar. Additional roadside rest areas and vista points information is included in the HDM (Chapter 900 Landscape Architecture).*

([www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm](http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm))

## **4.6 Other Divisions**

### **4.6.1 Encroachment Permits Manual**

#### *501.4 Adopt-A-Highway*

A fee exempt permit issued for the Adopt-A-Highway (AAH) Program allows participation by individuals, businesses, agencies, and organizations for roadside enhancement involving: litter removal, vegetation control, tree and shrub planting, wildflower planting, graffiti removal, and installation of Mission Bells in the State right of way. In recognition for their participation are placed within the right of way identifying the group. Certain highway segments may not be appropriate for adoption because of narrow shoulders, steep slopes, poor visibility, etc.

Participants in the AAH Program may adopt segments of a highway and perform the work themselves or hire a professional contractor to perform work on their behalf (*page 5-10*).

*The Adopt-A-Highway program can be applied to park and ride lots. The link for the program is: <http://adopt-a-highway.dot.ca.gov/>*

#### *506.1 Purposes*

The purposes of issuing landscape encroachment permits are to:

1. Provide a means to accomplish planting on transportation facilities, including, but not limited to, freeways, expressways, conventional highways, park and ride lots, safety roadside rest areas, vista points, and bicycle paths (*page 5-37*).

#### *612.2 SAFE Telephones*

Service Authority for Freeway Emergencies (SAFE) telephones are acceptable on highways included in the freeway and expressway system and connecting highways under jurisdiction of the California Highway Patrol (see Streets and Highways Code 131.1). They also are acceptable in park-and-ride lots as provided in SAFE guidelines. SAFE systems shall connect directly to CHP dispatch (*page 6-29*).

#### *Master License Agreement (Appendix B)*

1. Master License Agreement. This Master License Agreement (hereinafter, "Agreement") sets forth the basic terms and conditions upon which each Site (defined in Section 2 below) is licensed by Licensor to Licensee. Upon agreement between the parties with respect to the particular terms of a Site, the parties shall execute a completed "Site License" in the form attached hereto as Exhibit A and incorporated herein by this reference (the Site License Form may be modified in the future without amending the Agreement). In the event of a discrepancy

or inconsistency between the terms and conditions of a particular Site License and this Agreement, the terms and conditions of the particular Site License shall govern and control.

2. Site License. (a) Licensor owns highway and freeway right of way, including appurtenant airspace rights, fixtures and signs, buildings, yards, park and ride lots, excess land, and other real property acquired for, or to support, the State's transportation system. Each general location licensed ("Premises") is further described in the particular Site License and the particular portion of the Premises used by Licensee is referred to herein as a "Site" (or collectively described herein as "Sites"). Subject to the terms and conditions contained in this Agreement, and in the Site License relating to a particular Site, Licensor hereby licenses to Licensee and Licensee licenses from Licensor the Site on the Premises owned or controlled by Licensor, as described in the particular Site License. The Site License includes access to and from the Site, and to and from the closest public right-of-way and on and over the land of which the Premises and the Site are a part (subject to terms and conditions of each Site License, with special limitations for access from access-controlled highways and freeways) and access to appropriate utilities as set forth in Section 7. Each Site License shall act as a separate and independent agreement for each Site, the express intent of the parties being to use this Agreement to facilitate each of the independent transactions. It is understood and agreed that Licensee's right and license to place unmanned radio communications facilities on the Premises is non-exclusive, but that the Site shall be exclusive for Licensee's equipment, subject to the terms and conditions of this Agreement, including but not limited to co-location requirements contained herein. Further, Licensee's license and rights granted under this Agreement and the particular Site License are irrevocable until the expiration or sooner termination of this Agreement and/or the Site License, by their respective terms. The "Commencement Date" for each Site License shall be either the date Licensee receives all permits and approvals necessary to construct and operate its facility at the Site (at which time Licensor will issue an Encroachment Permit allowing construction/installation at the Site), or six (6) months from the date the Site License is executed ("Execution Date"), whichever occurs first. The period between the Execution Date and the Commencement Date shall be referred to herein as the "Local Permitting Period." (page B-33)

([www.dot.ca.gov/hq/traffops/developserv/permits/encroachment\\_permits\\_manual/index.html](http://www.dot.ca.gov/hq/traffops/developserv/permits/encroachment_permits_manual/index.html))

#### 4.6.2 Local Assistance Procedures Manual

##### *Federal Agency Responsibilities and Coordination (Chapter 5 – Congestion Mitigation and Air Quality (CMAQ))*

The FTA and FHWA field offices should establish a consultation and coordination process with their respective EPA regional offices for early review of CMAQ funding proposals. Review by EPA is critical to assist the determination of whether the CMAQ-proposed projects will have air quality benefits and to help assure that effective projects and programs are approved for CMAQ funding. Proposals for funding should be forwarded to EPA as soon as possible to ensure timely review. Where Memorandum of Understandings (MOU) are in place to facilitate Federal agency review, such MOUs should be updated as needed.

Either the local FTA or FHWA office will be responsible for project administration. In cases where the project is clearly related to transit, FTA will determine the project's eligibility and administer the project. Similarly, traffic flow improvements that improve air quality through operational improvements of the road system are administered by FHWA. For projects that include both traffic flow and transit elements, such as park-and-ride lots and intermodal projects, the administering agency will be decided on a case-by-case basis. Following initial review by the administering agency and consultation with EPA, the administering agency makes the final determination on whether the project or program is likely to contribute to attainment of a National Ambient Air Quality Standards (NAAQS) and is eligible for CMAQ funding. The consultation process should provide for timely review and handling of CMAQ funding proposals.

*Ten Eligible Transportation Enhancement Activities Categories (Chapter 8 – Transportation Enhancement Activities (TEA))*

*Provision of facilities for pedestrians and bicycles.*

Example of Projects: Bicycle lockers at rail stations, bus depots, airports, recreation facilities. Bicycle lockers over and above standard policy at park and ride lots. Bikeways: Class I (bike paths); Class II (bike lanes); Class III (bike routes). Bikeways or pedestrian paths, which separate these modes of travel from the motorized transportation system. Bike racks on transit systems. Acquisition, development, and construction of separate pedestrian or bicycle facilities on or off road rights of way or in relation to transit facilities are examples of eligible activity, as are improvements to facilities, which go beyond basic access and mobility.

([www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm](http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm))

4.6.3 Guide to Capital Project Delivery Workplan Standards

Below are studies that need to be completed during project development:

**150 - Develop Project Initiation Document (PID)**

*150.15.35 Multimodal Review*

This review should address temporary construction and permanent impacts as well as possible improvements to:

- Pedestrian facilities
- Bicycle facilities
- Transit facilities
- Park and Rides
- Equestrian Facilities
- Weight/Inspection Facilities
- Rest Area Facilities (*page 59*)

*Guidance - Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7; Chapter 31, All*

**160 – Perform Preliminary Engineering Studies and Draft Project Report****160.10.55 Multimodal Review**

This review should address temporary construction and permanent impacts as well as possible improvements to:

- Pedestrian facilities
- Bicycle facilities
- Transit facilities
- Park and Rides
- Equestrian Facilities
- Weight/Inspection Facilities
- Rest Area Facilities

*Guidance - Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7; Chapter 31, All (pages 72 and 82)*

**160.10.60 Park & Ride Study**

*Guidance - Project Development Procedures Manual (PDPM), Chapter 8, Section 7 (pages 72 and 82)*

Below are the Standard Cost Centers that refer to the units that are typically assigned to specific tasks in Caltrans' Work Breakdown Structure:

**ENGINEERING SERVICES 'Cost Centers 280-349, 830-854'**

Assignments of Cost Centers that are considered Engineering Services are involved in the following work:

Provide design oversight for locally funded projects, plan, design and prepare PS&E for projects in the Highway Planting and Restoration Program, Safety Roadside Rests and Restoration Program, Roadside Enhancement Program (e.g., Vista Points, Historical Markers), develop plans and specifications for erosion control, re-vegetation, wetlands/habitat restoration, and for implementing policies, procedures, and programs for Transportation Enhancement Activities, (TEA) Environmental Enhancement and Mitigation (EEM), Transportation Art, Scenic Highways, and Blue Star Memorial Highways. Provide functional support to the Project Development Team for a wide variety of projects that include, but not limited to, highway construction, multi-modal transportation facilities, Park-and-Ride lots, noise barriers, maintenance stations, toll plazas, and other projects requiring expertise in scenic resource evaluation, visual impact assessment, aesthetics, natural resource protection and mitigation, roadside vegetation management, water conservation, storm water quality requirements and community involvement (*page 314*).

**MODAL TRANSPORTATION 'Cost Centers 800-829'**

Assignments of Cost Centers that are considered Modal Transportation are involved in the following work:

Developing programs; performing conceptual planning; developing preliminary designs for transit components of multi-modal transportation projects; park and ride lot program;

long-range planning and feasibility studies; conceptual planning; development of preliminary designs for park and ride lot projects (*page 318*).

([www.dot.ca.gov/hq/projmgmt/guidance.htm](http://www.dot.ca.gov/hq/projmgmt/guidance.htm))

#### 4.6.4 Maintenance Manual

##### *Park and Ride Lots*

Most Park and Ride lots are owned and maintained by Caltrans. However, some lots are provided by agreement with the landowner.

All maintenance of Park and Ride lots is the responsibility of Caltrans, unless covered by special agreement. Districts are required to consult the agreement to determine the arrangement for maintenance of non Caltrans-owned facilities.

The Adopt-A-Highway program provides for the adoption of Park and Ride facilities for litter removal and landscaping maintenance ([www.dot.ca.gov/hq/maint/manual/ChG.pdf](http://www.dot.ca.gov/hq/maint/manual/ChG.pdf)) (*page G-10*)



## CHAPTER 5: PARK AND RIDE RELATED LAWS AND LEGISLATION

Laws shape the goals of agencies and their responsibilities. They can restrict options to empower divisions to address issues. The laws below address park and ride lots (the legislation included has been recently approved and supports the improvement of the park and ride network):

### 5.1 California Laws

#### 5.1.1 California Streets and Highways Codes

Below are sections of the California Streets and Highways Code that relate to park and ride lots:

**27.** As used in the general provisions and in Divisions 1 (commencing with Section 50), 2 (commencing with Section 900), and 2.5 (commencing with Section 1800), “maintenance” includes any of the following:

(a) The preservation and keeping of rights-of-way, and each type of roadway, structure, safety convenience or device, planting, illumination equipment, and other facility, in the safe and usable condition to which it has been improved or constructed, but does not include reconstruction or other improvement.

(b) Operation of special safety conveniences and devices, and illuminating equipment.

(c) The special or emergency maintenance or repair necessitated by accidents or by storms or other weather conditions, slides, settlements, or other unusual or unexpected damage to a roadway, structure, or facility.

The degree and type of maintenance for each highway, or portion thereof, shall be determined in the discretion of the authorities charged with the maintenance thereof, taking into consideration traffic requirements and moneys available therefore (*Section 27 addresses park and ride lot lease agreements*).

**104.13.** (a) The department shall act as agent for the payment of possessory interest taxes due from persons to whom the department leases property of a type described in subdivision (e).

(b) The department shall annually provide a current list of all such property located in each county to the assessor of the county. Notwithstanding any other provision of law, the assessor shall submit the possessory interest tax bill for each property directly to the department, and the department shall be responsible for the payment of the tax in the manner described in subdivision (c).

(c) All funds distributed to a county pursuant to Section 104.10 shall be deemed to be in full or partial payment on the total possessory interest taxes due on the property described in subdivision (e) located in the county. If the amount transferred to a county pursuant to Section 104.10 in any year is less than the total possessory interest tax due on all the property located in the county, the department shall promptly forward to the county the amount of the balance due.

(d) In lieu of the information required by Section 107.6 of the Revenue and Taxation Code, all leases of property of a type described in subdivision (e) shall contain a statement that the

department will pay all possessory interest taxes arising from the lease and that the amount of rent charged reflects the cost of this added responsibility of the department.

(e) This section shall apply only to real property held for future state highway needs and to real property originally held for that purpose, which the department has determined is no longer needed for that purpose, prior to its sale or exchange by the department.

**146.5.** (a) The department may construct, maintain, and operate fringe and transportation corridor parking facilities along the state highway system when those facilities would reduce motor vehicle traffic congestion or improve highway safety. Those facilities may include childcare projects that are part of an overall traffic reduction plan. For purposes of this code, those facilities are part of the state highway, and the department shall acquire the right-of-way necessary for those facilities in accordance with all of the laws and procedures applicable to other state highway projects.

(b) The department may enter into agreements with other public agencies for the joint financing of fringe and transportation corridor parking facilities. The rights and obligations of the department and other public agencies with respect to those facilities shall be determined by agreement.

(c) Fringe and transportation corridor parking facilities estimated to cost two hundred fifty thousand dollars (\$250,000) or more and located in an urbanized area shall be limited to those facilities included by transportation planning agencies in a regional transportation improvement program prepared pursuant to Section 14527 of the Government Code. Not more than two million dollars (\$2,000,000) of the state funds appropriated by the Legislature each year for state highway construction may be used for the purpose of constructing those facilities. In addition, for projects estimated to cost thirty thousand dollars (\$30,000) or more, the state funds may be used only to match federal or local funds, or both.

(d) It is the intent of the Legislature to allow the department to make available space in underutilized park and ride lots for child care purposes when linked to an overall traffic reduction plan. It is not the intent of the Legislature for the department to enter into the operation of those childcare projects.

**147.** The director shall, without supplanting any other program required to be administered by the department or redirecting funds allocated to other programs, restart program efforts in District 7 of the department to develop and implement additional shared use agreements for public use of private parking lots as park and ride facilities. These shared use agreements shall be developed and implemented to complement and facilitate ridership on existing and planned transit routes in District 7, including, but not limited to, the Los Angeles County Metropolitan Transportation Authority's Metro Rapid Bus route along Ventura Boulevard and the proposed East-West Busway in the San Fernando Valley, for the purpose of reducing congestion on state highways. The department shall not enter into any shared use agreement that would result in costs to the department over the life of the agreement.

**148.** The department may construct and maintain transit related highway facilities along the state highway system. Those facilities may include, but are not limited to, bus turnouts, passenger loading areas, passenger benches and shelters, and special traffic control devices. For purposes of this code, those facilities are part of the state highway.

Facilities estimated to cost two hundred fifty thousand dollars (\$250,000) or more and located in an urbanized area shall be limited to those facilities included by transportation planning agencies in a regional transportation improvement program prepared pursuant to Section 14527 of the Government Code. Not more than one million dollars (\$1,000,000) of the state funds appropriated by the Legislature each year for state highway construction may be used for the purpose of constructing those facilities. In addition, for projects estimated to cost thirty thousand dollars (\$30,000) or more, the state funds may be used only to match federal or local funds, or both.

**163.** The Legislature, through the enactment of this section, intends to establish a policy for the use of all transportation funds that are available to the state, including the State Highway Account, the Public Transportation Account, and federal funds. For the purposes of this section, “federal funds” means any obligational authority to be provided under annual federal transportation appropriations acts. The department and the commission shall prepare fund estimates pursuant to Sections 14524 and 14525 of the Government Code based on the following:

(a) Annual expenditures for the administration of the department shall be the same as the most recent Budget Act, adjusted for inflation.

(b) Annual expenditures for the maintenance and operation of the state highway system shall be the same as the most recent Budget Act, adjusted for inflation and inventory, or, when a maintenance plan has been enacted pursuant to Section 164.6, maintenance expenditures shall be based on planned expenditures in that plan.

(c) Annual expenditure for the rehabilitation of the state highway system shall be the same as the most recent Budget Act, or, when a long-range rehabilitation plan has been enacted pursuant to Section 164.6, shall be based on planned expenditures in that long-range plan.

(d) Annual expenditures for local assistance shall be the amount required to fund local assistance programs required by state or federal law or regulations, including, but not limited to, railroad grade crossing maintenance, bicycle transportation account, congestion mitigation and air quality, regional surface transportation programs, local highway bridge replacement and rehabilitation, local seismic retrofit, local hazard elimination and safety, and local emergency relief.

(e) After deducting expenditures for administration, operation, maintenance, local assistance, safety, and rehabilitation pursuant to subdivisions (a), (b), (c), and (d), and for expenditures pursuant to Section 164.56, the remaining funds shall be available for capital improvement projects to be programmed in the state transportation improvement program. *The last paragraph in this section (e) is referred to in section 164.*

**164.** (a) Funds made available for transportation capital improvement projects under subdivision (e) of Section 163 shall be programmed and expended for the following program categories:

(1) Twenty-five percent for interregional improvements.

(2) Seventy-five percent for regional improvements.

(b) Sixty percent of the funds available for interregional improvements under paragraph (1) of subdivision (a) shall be programmed and expended for improvements to state highways that are specified in Sections 164.10 to 164.20, inclusive, and that are outside the boundaries of an urbanized area with a population of more than 50,000, and for intercity rail improvement.

(c) Not less than 15 percent of the amount of funds programmed under subdivision (b) shall be programmed for intercity rail improvement projects, including separation of grade projects.

(d) Funds made available under paragraph (1) of subdivision (a) shall be used for transportation improvement projects that are needed to facilitate interregional movement of people and goods. The projects may include state highway, intercity passenger rail, mass transit guideway, or grade separation projects.

(e) Funds made available under paragraph (2) of subdivision (a) shall be used for transportation improvement projects that are needed to improve transportation within the region. The projects may include, but shall not be limited to, improving state highways, local roads, public transit, intercity rail, pedestrian, and bicycle facilities, and grade separation, transportation system management, transportation demand management, soundwall projects, intermodal facilities, safety, and providing funds to match federal funds.

**731.** Any vehicle or structure parked or placed wholly or partly within any state highway, for the purpose of selling the same or of selling therefrom or therein any article, service or thing, is a public nuisance and the department may immediately remove that vehicle or structure from within any highway.

Any person parking any vehicle or placing any structure wholly or partly within any highway for the purpose of selling that vehicle or structure, or of selling therefrom or therein any article or thing, and any person selling, displaying for sale, or offering for sale any article or thing either in or from that vehicle or structure so parked or placed, and any person storing, servicing, repairing or otherwise working upon any vehicle, other than upon a vehicle which is temporarily disabled, is guilty of a misdemeanor.

The California Highway Patrol and all peace officers from local law enforcement agencies may enforce the provisions of this chapter with respect to highways under their respective jurisdiction and shall cooperate with the department to that end. Whenever any member of the California Highway Patrol or any peace officer from a local law enforcement agency removes a vehicle from a highway under the provisions of this section, then all of the provisions of Article 3 (commencing with Section 22850), Chapter 10, Division 11 of the Vehicle Code with reference to the removal of a vehicle from a highway shall be applicable.

This section does not prohibit a seller from taking orders or delivering any commodity from a vehicle on that part of any state highway immediately adjacent to the premises of the purchaser; prohibit an owner or operator of a vehicle, or a mechanic, from servicing, repairing or otherwise working upon any vehicle which is temporarily disabled in a manner and to an extent that it is impossible to avoid stopping that vehicle within the highway; or prohibit coin-operated public telephones and related telephone structures in park and ride lots, vista points, and truck inspection facilities within state highway rights-of-way for use by the general public.

**891.2.** A city or county may prepare a bicycle transportation plan, which shall include, but not be limited to, the following elements:

A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.

([www.leginfo.ca.gov/calaw.html](http://www.leginfo.ca.gov/calaw.html))

### 5.1.2 California Vehicle Code

22518. Fringe and transportation corridor parking facilities constructed, maintained, or operated by the Department of Transportation pursuant to Section 146.5 of the Streets and Highways Code shall be used only by persons using a bicycle or public transit, or engaged in ridesharing, including, but not limited to, carpools or vanpools. No person shall park any vehicle 30 feet or more in length or engage in loitering or camping, or vending or any other commercial activity, on any fringe or transportation corridor parking facility.

([www.dmv.ca.gov/pubs/vctop/vc/vctoc.htm](http://www.dmv.ca.gov/pubs/vctop/vc/vctoc.htm))

## **5.2 California Legislation**

### 5.2.1 Assembly Bill 32 – Global Warming Solutions Act

The Global Warming Solutions Act (Health & S C §§38500-38598) was enacted in 2006 to require a reduction in greenhouse gas emissions to 1990 levels by 2020. The California Air Resources Board (ARB) is the lead agency for implementing Assembly Bill (AB) 32, which set the program milestones. The ARB must develop a “Scoping Plan” to lower the State’s greenhouse gas emissions to meet the 2020 limit. This draft Scoping Plan, developed by ARB with input from our Climate Action Team, proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, and enhance public health while creating new jobs and enhancing the growth in California’s economy.

*Park and ride lots help California meet greenhouse gas emission reductions by moving more people in fewer vehicles*

(<http://ab32.org/> and [www.arb.ca.gov/cc/scopingplan/document/draftscopingplan.pdf](http://www.arb.ca.gov/cc/scopingplan/document/draftscopingplan.pdf)).

### 5.2.2 Assembly Bill 3034 – Safe, Reliable High Speed Passenger Train Bond Act

Existing law, Chapter 697 of the Statutes of 2002, as amended by Chapter 71 of the Statutes of 2004 and Chapter 44 of the Statutes of 2006, provides for submission of the Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century to the voters for approval at the

November 4, 2008 general election. Subject to voter approval, the act would provide for the issuance of \$9.95 billion of general obligation bonds, \$9 billion of which would be available in conjunction with any available federal funds for planning and construction of a high-speed train system pursuant to the business plan of the High-Speed Rail Authority, and \$950 million of which would be available for capital projects on other passenger rail lines to provide connectivity to the high-speed train system and for capacity enhancements and safety improvements to those lines. *Future funding for High-Speed Rail projects may provide opportunities to fund park and ride lots to link existing transit services to the High-Speed Rail network* ([www.cahighspeedrail.ca.gov/library.asp?p=8200](http://www.cahighspeedrail.ca.gov/library.asp?p=8200)).

### 5.2.3 Senate Bill 375 – Sustainable Communities and Climate Protection Act

Senate Bill (SB) 375 enhances the Air Resources Board's (ARB) ability to reach our AB 32 goals by directing ARB to develop regional greenhouse gas emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. ARB will also work with California's 18 metropolitan planning organizations to align their regional transportation, housing and land-use plans and prepare a “sustainable communities strategy” to reduce the amount of vehicle miles traveled in their respective regions and demonstrate the region's ability to attain its greenhouse gas reduction targets. Spending less time on the road is the single-most powerful way for California to reduce its carbon footprint.

Additionally, SB 375 provides incentives for creating attractive, walkable and sustainable communities and revitalizing existing communities. The bill also allows homebuilders to get relief from certain environmental reviews under the California Environmental Quality Act if they build projects consistent with the new sustainable community strategies. It will also encourage the development of more alternative transportation options, which will promote healthy lifestyles and reduce traffic congestion.

*Park and ride lots can be utilized and improved to help meet the region's sustainable communities strategy* (<http://gov.ca.gov/press-release/10697>).

## CHAPTER 6: PARK AND RIDE FUNDING

Below are funding sources for planning, building, and improving park and ride facilities. Local agencies with park and ride lot projects compete with other agencies for the funding. Funding is either for planning or capital. Other funds such as bridge tolls, public-private partnerships, and local/regional programs can fund park and ride projects.

### 6.1 *Park and Ride Planning Funding*

#### 6.1.1 Transportation Planning Grants

Caltrans has competitive planning grant programs and allocates funds for planning studies and not focused on individual projects such as building a park and ride lot, but a system can be studied that looks at *park and ride lots* and the overall system. Below are the planning grant summaries ([www.dot.ca.gov/hq/tpp/grants.html](http://www.dot.ca.gov/hq/tpp/grants.html)):

- *Statewide Transit Planning Studies* - Fund studies on transit issues having statewide or multi-regional significance to assist in reducing congestion.
- *Transit Technical Planning Assistance* - Fund public transportation planning studies in rural or small urban areas of California (transit service area with population of 100,000 or less).
- *Transit Professional Development* - Fund student internship opportunities in transit planning at public transit agencies.
- *Planning Partnership* - Fund transportation planning studies of multi-regional and statewide significance in partnership with Caltrans.
- *Community Based Transportation Planning* - Fund coordinated transportation and land use planning that promotes public engagement, livable communities, and a sustainable transportation system, which includes mobility, access, and safety.
- *Environmental Justice and Context Sensitive Solutions* - Promote community involvement in planning to improve mobility, access, and safety while promoting economic opportunity, equity, environmental protection, and affordable housing for low-income, minority, and Native American communities.

#### 6.1.2 Transportation, Community, and System Preservation Program

The Transportation, Community, and System Preservation (TCSP) Program is a federal program that provides funding for a comprehensive initiative including planning grants, implementation grants, and research to investigate and address the relationships between transportation, community, and system preservation and to identify private sector-based initiatives.

States, metropolitan planning organizations, local governments and tribal governments are eligible for TCSP Program discretionary grants to plan and implement strategies which improve the efficiency of the transportation system, reduce environmental impacts of transportation, reduce the need for costly future public infrastructure investments, ensure efficient access to

jobs, services and centers of trade, and examine development patterns and identify strategies to encourage private sector development patterns which achieve these goals.

Authorized funding for the TCSP Program is \$25 million in FY 2005 and \$61.25 million per year for FY 2006 through 2009. These funds are subject to the obligation limitation. The federal share payable on account of any TCSP project or activity shall be 80% or subject to the sliding scale rate in accordance with 23 U.S.C. 120 (b) ([www.fhwa.dot.gov/tcsp/pi\\_tcsp.htm](http://www.fhwa.dot.gov/tcsp/pi_tcsp.htm)).

Goals:

- Improve the efficiency of the transportation system.
- Reduce the impacts of transportation on the environment.
- Reduce the need for costly future public infrastructure.
- Ensure efficient access to jobs, services and centers of trade.
- Encourage private sector development patterns.

*The goals of this fund source seem to support the planning of park and ride lots, but further research is needed to verify inclusion of park and ride lot projects.*

## **6.2 Park and Ride Capital Funding**

### **6.2.1 FTA Section 5307 – Large Urban Cities**

Section 5307 is a formula grant program for urbanized areas providing capital, operating, and planning assistance for mass transportation. This program was initiated by the Surface Transportation Act of 1982 and became Federal Transit Administration's (FTA) primary transit assistance program in fiscal year (FY) 1984. Funds are apportioned to urbanized areas utilizing a formula based on population, population density, and other factors associated with transit service and ridership. Section 5307 is funded from both General Revenues and Trust Funds.

Section 5307 urbanized area formula funds are available for transit improvements for 34 urbanized areas over 1 million population, 91 urbanized areas with populations between 200,000 and 1 million, and 283 urbanized areas between 50,000 and 200,000 population. For urbanized areas over 200,000 in population, funds flow directly to the designated recipient. For areas under 200,000, the funds are apportioned to the Governor of each state for distribution.

Several changes became effective to this program in fiscal year 1998 with the passage of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). One percent of appropriated Section 5307 funds are set-aside to be used for transit enhancement projects that physically or functionally enhance transit service or use. Preventive maintenance, defined as all maintenance costs, became eligible for FTA capital assistance at an 80 percent Federal share. FY 1999 operating assistance is available only to urbanized areas with populations under 200,000. An exception is made for urbanized areas over 200,000 population if the number of total bus revenue vehicle miles operated is under 900,000 or if the number of buses operated does not exceed 15. Up to 10% of an area's apportionment may be used for complementary ADA paratransit service cost ([www.fta.dot.gov/funding/data/grants\\_financing\\_1107.html](http://www.fta.dot.gov/funding/data/grants_financing_1107.html)).



Allowable projects include ([www.fta.dot.gov/laws/circulars/leg\\_reg\\_4125.html](http://www.fta.dot.gov/laws/circulars/leg_reg_4125.html)):

a. Bus and Bus-Related Activities:

1. Public buy-out of private operators;
2. Replacement of buses;
3. Overhaul of buses (includes paratransit vehicles);
4. Rebuilding of buses;
5. Expansion of bus fleets;
6. Crime prevention and security equipment;
7. Purchase and installation of service and support equipment;
8. Accessory and miscellaneous equipment such as mobile radio units, bus stop signs, supervisory vehicles, fareboxes, computers, and shop and garage equipment;
9. Construction of maintenance facilities, including land acquisition, design, engineering, demolition;
10. Rehabilitation of maintenance facilities, including design and engineering, land acquisition, and relocation;
11. Construction of other facilities, e.g., transfer facilities, intermodal terminals and bus shelters, including design and engineering, land acquisition, etc.; and
12. Capital support equipment, including computer hardware, software, bus diagnostic equipment, and other equipment that enhances operating efficiency.

b. Fixed-Guideway Systems

1. Rolling stock, including rail cars, locomotives, work trains, ferryboats;
2. Overhaul of vehicles;
3. Rebuilding of vehicles;
4. Track;
5. Line equipment;
6. Line structures;
7. Passenger stations, depots and terminals, including ferry terminals;
8. Signals and communications;
9. Power equipment and substations;
10. Projects to improve safety and security;
11. Operational support, including computer hardware and software;
12. Systems extensions or new system construction, including engineering, demolition, etc.; and
13. Land acquisition, design, and construction for fixed guideways.

The lists above are representative of eligible projects, but are not all-inclusive. Please contact the appropriate FTA Regional Office regarding the eligibility of other projects.

If a program category represents an individual project, it should include all of its associated costs, including land acquisition, relocation, demolition, engineering, construction, construction management, equipment acquisition, force account, and administration.

*Other topics include:*

- g. *Livable Communities*. FTA also has established “initiatives” on which it encourages grantees to focus. In 1994, for example, FTA established the “livable communities initiative” to emphasize the FTA goal of strengthening the link between transit and communities. This initiative promotes customer-friendly, community-oriented, and well-designed transit facilities and services. Projects that are physically or functionally related to transit and support the concept of livable communities by enhancing personal mobility, increasing transit patronage, and improving the quality of community life are eligible for funding under the Urbanized Area Formula Program. Community-sensitive transit projects are ones that support mixed-use development and incorporate on-site services to help foster livable communities. It is important that the transit investments reinforce land-use policies that encourage transit-oriented development. Other examples of transit projects that enhance community livability are those that contain pedestrian-oriented physical improvements and enhance the convenience and security of transit customers.
- j. *Concerning Improving Mobility, Fuel Consumption, and Air Pollution*. The grant applicant must certify that it will comply with 49 U.S.C. Section 5301(a). That section states, “It is in the interest of the United States to encourage and promote the development of transportation systems that embrace various modes of transportation and efficiently maximize mobility of individuals and goods in and through urbanized areas and minimize transportation-related fuel consumption and air pollution.” (Such certification is required by 49 U.S.C. 5307(d)(1)(H); see also Category XII, item A(8) in Appendix G.)
- q. *Expenditure on Transit Enhancements*. For urbanized areas with populations 200,000 and over, TEA-21 establishes a minimum annual expenditure requirement of one percent for transit projects and project elements that qualify as enhancements under the Urbanized Area Formula Program. The term “transit enhancement” includes projects or project elements that are designed to enhance mass transportation service or use and are physically or functionally related to transit facilities.
  - 1. *Eligible enhancements*. Following are the transit projects and project elements that may be counted to meet the minimum enhancement expenditure requirement.
    - a. historic preservation, rehabilitation, and operation of historic mass transportation buildings, structures, and facilities (including historic bus and railroad facilities);
    - b. bus shelters;

- c. landscaping and other scenic beautification, including tables, benches, trash receptacles, and street lights;
- d. public art;
- e. pedestrian access and walkways;
- f. bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles;
- g. transit connections to parks within the recipient's transit service area;
- h. signage; and
- i. enhanced access for persons with disabilities to mass transportation.

### 6.2.2 FTA Section 5309 – Capital Investment Program

The Capital Investment Program (CIP) is authorized by 49 U.S.C. 5309. Under this section, the Secretary of Transportation is authorized to make grants to assist in financing specified capital projects that will benefit the nation's transit systems. The Secretary has delegated that authority to the FTA Administrator ([www.fta.dot.gov/laws/circulars/leg\\_reg\\_8642.html](http://www.fta.dot.gov/laws/circulars/leg_reg_8642.html)).

Section 5309 authorizes the Secretary to make grants for buses and bus facilities, fixed guideway modernization, New Starts and Small Starts, and the development of corridors to support new fixed guideway capital projects. These encompass "capital investment projects" as defined in this circular ([www.fta.dot.gov/documents/Final\\_C\\_9300\\_1\\_Bpub.pdf](http://www.fta.dot.gov/documents/Final_C_9300_1_Bpub.pdf)).

- *Bus and Bus-related Facilities* - The major purchases under this category are buses and other rolling stock, ferry boats, ancillary equipment, and the construction of bus facilities (i.e., maintenance facilities, garages, storage areas, waiting facilities and terminals, transit malls and centers, and transfer facilities and intermodal facilities). This category also includes bus rehabilitation and leasing, park-and-ride facilities, parking lots associated with transit facilities, bus passenger shelters, and intercity bus stations and terminals which are eligible under Section 5302(a)(1)(G).
- *Modernization of Fixed Guideway Systems* - This includes infrastructure improvements such as track and right-of-way rehabilitation, modernization of stations and maintenance facilities, rolling stock purchase and rehabilitation, and signal and power modernization. Modernization of ferry terminals and the transit portion of ferryboats are also eligible costs. While funds are apportioned based only on fixed guideway segments that have been in operation seven years or longer, a recipient may use the funds apportioned to it for eligible modernization projects on any part of its fixed guideway system.
- *New Fixed Guideway Capital Projects (New Starts and Small Starts)* - Capital projects under this category include preliminary engineering (PE), acquisition of real property (including relocation costs), final design and construction, and initial acquisition of rolling stock for the system. Small Starts also includes corridor bus projects that either operate in a separate right-of-way during peak hours or contain significant investment in corridor-based bus improvements.

- Corridors to Support New Fixed Guideway Projects - These projects may include protecting rights-of-way through acquisition; construction of dedicated bus and high-occupancy vehicle (HOV) lanes; and park-and-ride lots. These projects may also include “nonvehicular” capital improvements that will increase transit use in the corridor. Examples include additional safety features that would encourage riders to use transit, walkways and pathways that make transit more readily available, bus shelters, and joint development projects that would improve the livability of a community and increase the benefits transit offers. These items are eligible categories of expenditures within the New Starts and Small Starts programs when part of a fixed guideway or corridor-based bus project.

### 6.2.3 FTA Section 5311 – Rural and Small Urbanized Areas

FTA Section 5311 is a non-urbanized area formula funding program authorized by 49 United States Code (U.S.C) Section 5311. This federal grant program provides funding for public transit in non-urbanized areas with a population fewer than 50,000 as designated by the Bureau of the Census. FTA apportions funds to governors of each State annually. DMT is the delegated grantee. ([www.dot.ca.gov/hq/MassTrans/5311.html](http://www.dot.ca.gov/hq/MassTrans/5311.html)).

*Page III-9 has a list of the eligible project types ([www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/5311/C9040-1F.pdf](http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/5311/C9040-1F.pdf)) that includes park and ride lots.*

*5311 funding is apportioned as follows:*

- 75% Regional Apportionment - is distributed to non-urban areas based on population through Transportation Planning Agencies (TPA) whose county or region contains a non-urbanized area as identified by the United State Census Bureau. This Regional Apportionment is based on the population. The TPA submits a Program of Projects that identifies subrecipients and projects to receive Section 5311 funds in their planning area by December 31st of each year. The subrecipient must complete and submit a Section 5311 Program Application, including all required other submittals by the appropriate deadline.
- 15% Intercity Bus Program - is apportioned to the Intercity Bus Program (FTA 5311(f). For more information contact Fred Lenhart at (916) 654-7601, or Brady Tacdol at (916) 654-3860.
- 10% State Administrative Expenses - is distributed to administer both the 5311 & 5311(f) grant funding programs.

*OMB Circular 87 lists maintenance as an allowable funding cost:*

25. Maintenance, operations, and repairs. Unless prohibited by law, the cost of utilities, insurance, security, janitorial services, elevator service, upkeep of grounds, necessary maintenance, normal repairs and alterations, and the like are allowable to the extent that they: (1) keep property (including Federal property, unless otherwise provided for) in an efficient operating condition, (2) do not add to the permanent value of property or appreciably prolong its

intended life, and (3) are not otherwise included in rental or other charges for space. Costs that add to the permanent value of property or appreciably prolong its intended life shall be treated as capital expenditures (see sections 11 and 15).

#### 6.2.4 Community Development Block Grants

The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs. Beginning in 1974, the CDBG program is one of the longest continuously run programs at HUD. The CDBG program provides annual grants on a formula basis to 1180 general units of local government and States.

*The CDBG program has been used for fund park and ride lots. These grants are for urban redevelopment, but park and ride lot projects in urban redevelopment areas will be considered. Additional information is found at: [www.hud.gov/offices/cpd/communitydevelopment/programs/](http://www.hud.gov/offices/cpd/communitydevelopment/programs/)*

#### 6.2.5 Transportation Development Act

The Transportation Development Act (TDA) provides two major sources of funding for public transportation: the Local Transportation Fund (LTF) and the State Transit Assistance fund (STA). These funds are for the development and support of public transportation needs that exist in California and are allocated to areas of each county based on population, taxable sales and transit performance. Some counties have the option of using LTF for local streets and roads projects, if they can show no unmet transit needs exist. The Division of Mass Transportation (DMT) provides oversight of the public hearing process used to identify unmet transit needs. It provides interpretation of and initiates changes or additions to legislation and regulations concerning all aspects of the TDA. It also provides training and documentation regarding TDA statutes and regulations. DMT ensures local planning agencies complete performance audits required for participation in the TDA (*This information was taken from Caltrans' DMT website - [www.dot.ca.gov/hq/MassTrans/State-TDA.html](http://www.dot.ca.gov/hq/MassTrans/State-TDA.html)*).

*The funding goes to Metropolitan Planning Organizations (MPO) and Regional Transportation Planning Agencies (RTPA) which allocate funds to local agencies. The Transportation Development Act GuideBook 2009 includes park and ride lots as eligible expenses. TDA funding can be used for planning and construction of transit oriented development*

#### 6.2.6 State Transportation Improvement Program

The STIP is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the Transportation Investment Fund and other funding sources. STIP programming generally occurs every two years. The programming cycle begins with the release of a proposed fund estimate in July of odd-numbered years, followed by California Transportation Commission (CTC) adoption of the fund estimate in August (odd years). The fund estimate serves to identify the amount of new funds available for

the programming of transportation projects. Once the fund estimate is adopted, Caltrans and the regional planning agencies prepare transportation improvement plans for submittal by December 15<sup>th</sup> (odd years). Caltrans prepare the Interregional Transportation Improvement Plan (ITIP) and regional agencies prepare Regional Transportation Improvement Plans (RTIPs), funding allocated from the Interregional Improvement Program and the Regional Improvement Program. Public hearings are held in January (even years) in both northern and southern California. The STIP is adopted by the CTC by April (even years). This process, as well as the fund distribution process are outlined in charts available on the Transportation Programming website <http://www.dot.ca.gov/hq/transprog>.

Local agencies work through their Regional Transportation Planning Agency (RTPA), County Transportation Commission, or Metropolitan Planning Organization (MPO), to nominate projects for inclusion in the STIP.

- *Interregional Improvement Program* - The interregional improvement program consists of STIP projects funded from the interregional program share, which is 25% of new STIP funding. Caltrans will nominate a program of projects for the interregional share in its interregional transportation improvement program (ITIP). The interregional program has two parts:
  - The first, funded from up to 10% of new STIP funding, is nominated solely by Caltrans in the ITIP. It is subject to the north/south 40%/60% split and otherwise may include projects anywhere in the State. The projects may include State highway, intercity passenger rail, mass transit guideway, or grade separation projects. Non-capital costs for transportation system management or transportation demand management may be included where Caltrans finds the project to be a cost effective substitute for capital expenditures.
  - The second part, funded from at least 15% of new STIP funding, is not subject to the north/south split. It is limited to intercity rail projects (including interregional commuter rail and grade separation projects) and to improvements outside urbanized areas on interregional road system routes (which are specified in statute). At least 15% of the 15% (or at least 2.25% of new STIP funding) must be programmed for intercity rail projects, including interregional commuter rail and grade separation projects.
- *Regional Improvement Program* - Except for project planning, programming, and monitoring, all STIP projects will be capital projects (including project development costs) needed to improve transportation in the region. These projects generally may include, but are not limited to, improving State highways, local roads, public transit (including buses), intercity rail, pedestrian and bicycle facilities, grade separations, transportation system management, transportation demand management, soundwalls, intermodal facilities, and safety. Non-capital costs for transportation system management or transportation demand management may be included where the regional agency finds the project to be a cost-effective substitute for capital expenditures. Other non-capital projects (e.g. road and transit maintenance) are not eligible.

### 6.2.7 Congestion Mitigation and Air Quality Improvement Program

Congestion Mitigation and Air Quality (CMAQ) Improvement Program was established by the 1991 Federal Intermodal Surface Transportation Efficiency Act (ISTEA) and was re-authorized with the passage of SAFETEA-LU. Funds are directed to transportation projects and programs which contribute to the attainment or maintenance of National Ambient Air Quality Standards in nonattainment or air quality maintenance areas for ozone, carbon monoxide, or particulate matter under provisions in the Federal Clean Air Act.

Public transit improvements; high occupancy vehicles (HOV) lanes; Intelligent Transportation Infrastructure (ITI); traffic management and traveler information systems (e.g., electric toll collection systems); employer-based transportation management plans and incentives; traffic flow improvement programs (signal coordination); fringe parking facilities serving multiple occupancy vehicles; shared ride services; bicycle and pedestrian facilities; flexible work-hour programs; outreach activities establishing Transportation Management Associations; fare/fee subsidy programs; engine diesel retrofits, alternative fuel vehicles, vehicle congestion pricing, freight intermodal projects, idle reduction projects, and under certain conditions PM-10 projects. Routine rehabilitation projects are not eligible. Operations projects may be funded for only three years ([www.dot.ca.gov/hq/LocalPrograms/lam/Transportation\\_Funding\\_Guidebook.pdf](http://www.dot.ca.gov/hq/LocalPrograms/lam/Transportation_Funding_Guidebook.pdf))

### 6.2.8 Regional Surface Transportation Program

The Regional Surface Transportation Program (RSTP) was established by the 1991 Federal Intermodal Surface Transportation Efficiency Act and continues with the passage of the Safe Accountable Flexible Transportation Equity Act: A Legacy for Users (SAFETEA-LU). A portion of the STP apportionment is set aside for Transportation Enhancement (TE) projects. After the TE set aside, 62.5 percent of the remainder is distributed as Regional Surface Transportation Program (RSTP) funding, based on population, among the urbanized and non-urbanized areas of the State through Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs).

Eligible Federal-aid projects include: Highway projects; bridges (including construction, reconstruction, seismic retrofit and painting); transit capital improvements; carpool, parking, bicycle and pedestrian facilities; safety improvements and hazard elimination; research; traffic management systems; advanced truck stop electrification systems; projects relating to intersections that have disproportionately high accident rates, have high congestions, and are located on a Federal highway; environmental restoration and pollution abatement on 4R projects (the expenditures for this activity may not exceed 20 percent of the total costs of the project); surface transportation planning; transportation enhancement activities and control measures; and wetland and other environmental mitigation ([www.dot.ca.gov/hq/LocalPrograms/lam/Transportation\\_Funding\\_Guidebook.pdf](http://www.dot.ca.gov/hq/LocalPrograms/lam/Transportation_Funding_Guidebook.pdf))

### 6.2.9 State Highway Operation Protection Program

The Department develops and manages the State Highway Operation Protection Program (SHOPP) as authorized in Government Code Section 14526.5, Streets and Highways Code

Section 164.6 (refer to Appendix A), and the Department's Policy for Management of the SHOPP. The purpose of the SHOPP is to maintain and preserve the investment in the California SHS and its supporting infrastructure. Capital improvements programmed in the SHOPP are limited to maintenance, safety and rehabilitation of the transportation infrastructure projects that do not expand the system capacity ([www.dot.ca.gov/hq/transprog/shopp.htm](http://www.dot.ca.gov/hq/transprog/shopp.htm)).

The SHOPP has eight categories: (1) Emergency Response, (2) Collision Reduction, (3) Legal and Regulatory Mandates, (4) Bridge Preservation, (5) Roadway Preservation, (6) Mobility Improvement, (7) Roadside Improvement and (8) Facility Improvement. At minimum, park and ride lot resurfacing projects can be funded through the SHOPP.

- *Roadway Preservation* - The goal of the roadway preservation category is to keep the distressed roadway lane miles at a steady managed state. The historic goal of the Department has been to reduce the number of distressed lane-miles of pavement to 5,500, or approximately ten percent of the total system. Due to funding constraints, the Department is reevaluating this goal.
- *Mobility Improvement* - The goal of the mobility improvement category is to reduce congestion and restore productivity of the SHS. The list of mobility improvements includes operational improvements, transportation management systems, weigh stations and weigh-in-motion facilities. As stated in Section 13 of the adopted 2006 State Transportation Improvement Program (STIP) Guidelines, state highway operational improvements that do not expand the design capacity of the system and are intended to address spot congestion are eligible for SHOPP. Regions may nominate these types of projects in their Regional Transportation Improvement Program (RTIP) if timely implementation through the SHOPP is not possible.
- *Roadside Improvement* - The goal of the roadside improvement category is to reduce the long-term maintenance costs of roadside infrastructure, improve worker and traveler safety, reduce deficient landscaping and comply with ADA and California Occupational Safety and Health Administration (Cal-OSHA) mandates at rest areas and vista points.

#### 6.2.10 Public Transportation Modernization, Improvement, and Service Enhancement Account

The Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA) was created by SB 1266, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 (Proposition 1B). Of the \$19.925 billion available to Transportation, PTMISEA is comprised of \$3.6 billion dollars available to transit operators over a ten-year period. Funds are to be used for Public Transportation Modernization, Improvement and Service Enhancements that can include upgrading transit fleets or expanding service to increase ridership and therefore reduce emissions and energy use by reducing the number of single occupancy trips. The \$3.6 billion is to be distributed by formula, based on population and fare-box revenue, to transit operators for capital projects.

*Funding goes to either MPOs, RTPAs, or transit operators to fund the building of transit related projects and park and ride lots have been funded through this program ([www.dot.ca.gov/hq/MassTrans/Proposition-1B.html](http://www.dot.ca.gov/hq/MassTrans/Proposition-1B.html)).*



### 6.2.11 Environmental Enhancement and Mitigation Program (EEMP)

The Environmental Enhancement and Mitigation Program (EEMP) was established by the Legislature in 1989. It offers a total of \$10 million each year for grants to local, state, and federal governmental agencies and to nonprofit organizations for projects to mitigate the environmental impacts caused by new or modified public transportation facilities. Eligible projects must be directly or indirectly related to the environmental impact of the modification of an existing transportation facility (CA Constitution, Art.XIX, Sec.1) or construction of a new transportation facility.

*The information from the EEMP website: (<http://resources.ca.gov/eem/>). Park and ride lots are among the transportation facilities that EEMP funds can be used to mitigate the environmental impacts of their construction or improvement.*

### 6.2.12 Regional Transportation Impact Fees

Regional impact fees are established by local agencies to require developers to provide funding to mitigate negative impacts of their projects. These impact fees can be combined with other fees to build projects. *Park and ride lot projects can be funded through impact fees.*

### 6.2.13 Local Transportation Funding – Self Help Counties

Local agencies can pass a measure to increase sales taxes to raise revenues for transportation projects. These taxes are approved at the county level and those agencies that approve the sales tax increase are called ‘Self Help Counties.’ *Park and ride lot projects can be funded through transportation sales tax measures*

### 6.2.14 Federal Earmarks

Federal earmarks can be used to fund park and ride projects. Earmarks are funds provided by Congress for individual projects, generally through approved bills such as SAFETEA-LU, in a manner that circumvents established funding allocation processes. Earmarks can provide needed funds for park and ride lot projects, but they are inconsistently awarded and require congressional support.

### 6.2.15 Public Private Partnerships

Public-Private Partnerships (P3) are being developed in California as a method of injecting private funding into public transportation projects. Caltrans and regional transportation agencies have been temporarily authorized to enter into comprehensive development lease agreements with public or private entities for transportation projects. The temporary authorization for these P3 projects comes from the California Streets and Highways Code Section 143, which had been modified by Chapter 2 of the Statutes of 2009 (Senate Bill 4, Second Extraordinary Session). Senate Bill 4 allowed for a limited number of P3 projects, but it is possible that in the future this may change and more will be allowed and might include potential park and ride lot projects.

6.2.16 Creating New Opportunities for Solar Energy Systems Deployment on State of California-Owned/Department-Controlled (SODC) Facilities (DD-104)

The recently approved Deputy Directive (DD)-104 encourages Caltrans to create new opportunities for solar energy systems deployment on State or California-owned and Department controlled facilities. Park and ride lots are specifically mentioned in the DD as facilities that can be utilized to develop solar energies. This is an opportunity to generate alternative energy sources and potential funding resources for future transportation improvements. DD-104 states: “The Department obtained conceptual concurrence from the Federal Highway Administration to use highways for generating solar energy, consistent with its March 27, 2009 memorandum Guidance on Utilization of Highway Right of Way. This allows the Department to install solar energy systems, enter into joint projects with the solar industry, or work with other State and local agencies to implement solar projects.”

## CHAPTER 7: PERFORMANCE ANALYSIS AND RESEARCH

Quantifying the benefits of a park and ride lot justifies the expense of constructing, improving, and maintaining facilities. With limited resources and excess demand for a variety of transportation projects, it is necessary to have analysis tools that demonstrate the expected benefits of park and ride lots. Performance analysis estimates benefits and compares park and ride lot projects to other proposed improvements, so agencies make the best investment in the transportation system. Below are summaries of a few performance analysis methods and useful research studies.

### 7.1 *Performance Analysis*

#### 7.1.1 FDOT State Park and Ride Lot Programming Planning Manual

The Florida Department of Transportation (FDOT) updated key sections of their park and ride lot programming manual in 2001. The objective of the update was to make the manual user-friendlier. The updated sections are:

- Chapter 3—Planning formulas related to site selection
- Chapter 4—Demand and facility size estimation
- Chapter 6—Economic analysis and project justification

*Final report:* [www.dot.state.fl.us/research-center/Completed\\_Proj/Summary\\_PTO/FDOT\\_BC137\\_13\\_rpt.pdf](http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PTO/FDOT_BC137_13_rpt.pdf)

#### 7.1.2 AASHTO Guide for Park-and-Ride Facilities, 2nd Edition

*The information below is taken directly from the AASHTO website:*

Information presented in this guide is intended to provide a general knowledge of the park-and-ride planning and design process. Applicable local ordinances, design requirements, and building codes must be consulted for their affect on the planning and design process. Local data resources, development patterns, and transit networks may present unique opportunities for park-and-ride implementation, and should be explored. Chapter content includes: Defining the Park-and-Ride System, Park-and-Ride Planning Process, Operations and Maintenance of Park-and-Ride Facilities, Design Considerations for Park-and-Ride Facilities, and Architecture, Landscape, and Art: Integral Parts of the Park-and-Ride Facility.

*The report can be purchased here:* [https://bookstore.transportation.org/Item\\_details.aspx?id=121](https://bookstore.transportation.org/Item_details.aspx?id=121)

### 7.1.3 The BusPool Project: Caltrans Park and Ride and HOV Transit Enhancement Project

*The information below is taken directly from the report:*

#### *Needs Assessment*

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. Recommendations made at this point are at the "concept level," which means they contain a general description of features, services parameters, advantages, disadvantages, etc.

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.

#### *Evaluation and Prioritization of Improvements*

An evaluation method was established in the BusPool Project to determine which park and ride lot projects would provide the greatest benefits. The analysis put the existing park and ride lots into highest priority, medium priority, and lowest priority. The categories could help Caltrans determine which lots should be improved first to receive the greatest benefit to the system.

#### *Final report:*

[www.dot.ca.gov/hq/traffops/systemops/buspool/CALTRANS\\_buspool\\_final\\_report\\_COMPLETE.pdf](http://www.dot.ca.gov/hq/traffops/systemops/buspool/CALTRANS_buspool_final_report_COMPLETE.pdf)

### 7.1.4 Transit Capacity and Quality of Service Manual (TCRP 100)

*The information below is taken directly from the TRB website:*

TRB's Transit Cooperative Research Program (TCRP) Report 100: Transit Capacity and Quality of Service Manual, 2nd Edition contains background, statistics, and graphics on the various types of public transportation, and provides a framework for measuring transit availability and quality of service from the passenger point of view. The report contains quantitative techniques for calculating the capacity of bus, rail, and ferry transit services, and transit stops, stations, and terminals.

The Transit Capacity and Quality of Service Manual is TCRP 100 and provides transit analysis methodology. Park and ride lot analysis tools are included in the report, including park and ride access; an overview of park and ride lot users; park and ride facility type; park and ride market areas; Guidelines for Assessing Park-and-Ride Service Coverage, and case studies that include park and ride lots.

([http://trb.org/news/blurb\\_detail.asp?id=2326](http://trb.org/news/blurb_detail.asp?id=2326))

### 7.1.5 Park and Ride/Pool: Traveler Response to Transportation System Changes (TCRP 95)

*The information below is taken directly from the TRB website:*

Park-and-ride facilities and associated transit services along with park-and-pool facilities formalize and make readily available the option of mixed-mode travel. The combination they facilitate allows use of a low-occupancy mode, most often driving alone, where travel densities are low and high-occupancy modes are inconvenient. It allows transfer to a high occupancy mode — rail transit, bus, vanpool, or carpool — where travel densities become higher and more supportive of high-occupancy mode efficiencies. Park-and-ride and park-and-pool facilities range from multi-story parking garages with customer amenities to simple surface parking lots. They may vary in purpose from serving a major intermodal transportation center to simply facilitating carpools. This chapter covers travel demand and related aspects of providing and supporting park-and-ride and park-and-pool facilities.

*Additional information:*

The report includes these sections: Objectives of Park-and-Ride/Pool Facilities; Types of Park-and-Ride/Pool Facilities; Analytical Considerations; Traveler Response Summary; Traveler Response by Type of Park-and-Ride Facility; Underlying Traveler Response Factors; Related Information and Impacts; and Case Studies. The Park and Ride/Pool report is chapter 3 of a 19 chapter Traveler Response to Transportation System Changes Handbook that covers Multimodal/Intermodal Facilities; Transit Facilities and Services; Public Transit Operations; Transportation Pricing; Land Use and Non-Motorized Travel; and Transportation Demand Management.

(<http://trb.org/Search.asp> - Type Park and Ride into the search engine)

### 7.1.6 Effective Use of Park-and-Ride Facilities (NCHRP Synthesis 213)

*The information below is taken directly from the TRB website:*

TRB's National Highway Cooperative Research Program (NCHRP) Synthesis 213: Effective Use of Park-and-Ride Facilities examines the current status of park-and-ride facilities in the United States. The various aspects of park-and-ride facilities, including conceptual issues, location, design, administration, operation, maintenance, and other supporting elements are addressed in this synthesis. The report also provides information on the current usage of park-and-ride facilities throughout the nation, operating and maintenance practices at selected sites, descriptions of safety and security measures used at various facilities, and the relationship of ridesharing and travel demand management programs to the success of park-and-ride facilities.

*The report can be purchased here:*

<http://trb.org/Search.asp> - Type effective use of park and ride facilities into search engine)

### 7.1.7 Highway Capacity Manual (2000)

*The information below is taken directly from the Highway Capacity Manual:*

#### *CHAPTER 14 – TRANSIT CONCEPTS*

##### **QUALITY-OF-SERVICE FRAMEWORK**

###### *Transit Trip Decision Making*

Urban transport involves many individual decisions. Some decisions occur infrequently, such as planning the commute to a new job, or locating a home outside an area with transit service, or purchasing a second automobile. Some decisions, however, are made for every trip, through a two-step process illustrated in Exhibit 14-21 and Exhibit 14-22. *Both processes include park and ride lots in the analysis.*

###### *Quality-of-Service Factors*

###### *Service Coverage*

Whether or not transit service is provided near a person's origin and destination is key in use of transit. Ideally, transit service is provided within a reasonable walking distance of the origin and destination, or demand-responsive service is available. The reasonableness of the walking distance varies from source to source and depends on the situation. For example, people will walk farther to rail stations than to bus routes and the elderly will not walk as far as younger adults. As discussed later, potential barriers, such as wide or busy streets, hills, or the absence of pedestrian facilities, also play an important role. In general, 1,300 ft or 5 min of walk time is the limit for a bus route's typical service area; for a rail transit station, these figures can double (21).

If transit service is not provided near the origin, other options include driving to a park-and-ride lot or riding a bicycle to transit. Both of these options require that the transit operator provide additional facilities, such as parking lots, bicycle storage facilities, and bicycle racks.

However, if transit service is not provided near the destination, the choices are more limited. A bicycle might be carried in a bicycle rack, but a customer must have some degree of confidence that space will be available in the bike rack when the bus arrives. A small number of systems allow bicycles onboard transit vehicles (typically rail), but often not during peak commute hours or in the peak commute direction.

#### *CHAPTER 27- TRANSIT*

##### *QUALITY OF SERVICE*

This section presents transit quality-of-service measures for transit availability and comfort and convenience of transit stops and route segments, as well as other performance measures that analysts may want to consider for specific applications.

These measures are presented to give all users of the HCM an understanding of the overall magnitude of and interrelationships within transit quality of service (*I*). The four service measures related to transit facilities (transit stops and route segments) per the transit quality-of-service framework presented in Chapter 14 are service frequency, hours of service, passenger loads, and reliability. Two other performance measures relating to transit systems, service coverage, and transit or automobile travel time and their application to corridor and area wide analysis are discussed in Chapters 29 and 30 of this manual.

Each quality-of-service measure has been divided into six LOS, each representing a range of values defined by the characteristics of a particular service measure. Where appropriate, descriptions of the changes in conditions that occur at LOS thresholds are provided with each service measure.

### *Availability Measures*

Transit service availability can be used as a measure of quality of service. Availability measures for transit stops and route segments are described in the following sections. *Four categories are included in this section of the HCM, two of them are below and the other two (Passenger Loads at Transit Stops and Route Segment Hours of Service) are not included.*

#### *Accessibility at Transit Stops*

Pedestrian, bicycle, automobile, and ADA (Americans with Disabilities Act of 1990) accessibility to transit stops is difficult to quantify. An evaluation of pedestrian accessibility should consider whether sidewalks are provided, the condition of the sidewalks, terrain, traffic volumes on streets that pedestrians must cross to access a transit stop and the kind of traffic control provided on those streets, and whether out-of-direction travel is required. Sidewalks are usually needed on arterial or collector routes used by buses, especially at the bus stop. Sidewalks are less critical on low-volume local streets with bus service. One possible measure could be pedestrian travel time to a stop from a certain point, with different walking times assigned to different walking environments and with delays involved in waiting for a Walk indication at signalized intersections and waiting for a sufficiently large gap in traffic in order to cross a street at an unsignalized intersection accounted for. *The Manual on Uniform Traffic Control Devices (2)* and the *ITE Manual of Transportation Engineering Studies (3)* provide guidance on pedestrian travel speeds and assessing gaps in traffic.

Assessment of automobile access should consider the capacity of park-and-ride or transit station parking lots relative to demand and the pedestrian environment within parking lots and between lots and the transit stop. For transit systems that use a zone based fare system, consideration should be given to the parking requirements of transit stops located near a zone boundary where a drop in fare occurs.

#### *Route Segment Accessibility*

The same accessibility considerations that apply to transit stops also apply to route segments. A potential measure of pedestrian, bicycle, and ADA accessibility for a route segment could include the percentage of transit stops along the segment that meet certain accessibility criteria. Assessment of automobile access should also consider the frequency of park-and-ride lots along

a route, to minimize the number of vehicle-miles traveled on the area's roadway system by motorists traveling to transit.

### *PARAMETERS OF BUS FACILITIES*

Regardless of the kind of bus facility—loading area, bus stop, or bus lane—being analyzed, there are some fundamental components common to each that are required to calculate the facility's vehicle and person capacity. Dwell time is the most important of these, but all have some effect on capacity. This section presents procedures for calculating each of these components.

#### *Dwell Time*

Dwell time is the amount of time a bus spends while stopped to serve passengers. When buses operate in mixed traffic and stop in a travel lane, the reduction in the roadway capacity is directly related to the amount of time the buses stop. It is the time required to serve passengers at the busiest door plus the time required to open and close the doors. A value of 2 to 5 s for door opening and closing is reasonable for normal operations.

Dwell time,  $t_d$ , can be measured in the field. Field measurement of dwell time is best suited for determining the capacity and LOS of an existing transit line. In the absence of other information, dwell time can be assumed to be 60 s for central business district (CBD), transit center, major on-line transfer point, or major park-and-ride stops; 30 s for major outlying stops; and 15 s for typical outlying stops (11). *The Equation can be found in the HCM.*

#### 7.1.8 NCHRP Report 398 – Quantifying Congestion

This report provides a summary on methods of qualifying congestions. The report explains why measuring congestion is important, how the measurements should be organized, and how to interpret congestion measurements. This report does not specifically analyze park and ride lots, but it provides an overview of congestion management practices and park and ride lots should be an integral part of effective congestion management strategies.

([http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_398.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_398.pdf))

## **7.2 Research**

### 7.2.1 Evaluation of Shared Use Park and Ride Impact on Properties

*The information below is taken directly from an FDOT project summary:*

Shared use park and ride typically involves property owners making their parking lots available to commuters for parking personal vehicles so that they can access public transit or use a carpool/vanpool to travel to their final destinations. However, the benefits of shared-use park and ride facilities located at commercial retail centers have not been widely documented. Transit agencies usually perceive shared-use park and ride arrangements as mutually beneficial to the transit agency, through savings in land and development costs, and to the park and ride parking lot providers, through increases in customer sales and customer base. However, potential shared-use park and ride providers often feel that allowing shared-use park and ride on their property may not be cost beneficial. The objections include that allowing park and ride service will create



problems such as increased liability, vandalism, and litter, and that it will result in the use of parking spaces by park and ride commuters instead of by potential shoppers (i.e., that commuters using the parking lot will use parking spaces that might otherwise have been used by potential customers). Very little research has been done in this area since the early 1980s.

The results indicate that the park and ride users at the survey sites are, indeed, shopping at the shopping centers when they park at the park and ride. Sixty-nine percent of the 68 respondents from the smaller park and rides shopped at the shopping center at least once a week when using the park and ride, spending a weekly average of \$37.79 per shopper. Forty-four percent of 70 respondents from a hospital shuttle park and ride shopped at the shopping center at least once a week when using the park and ride, spending a weekly average of \$25.06 per shopper. Fifty percent of the 124 respondents from the football shuttle park and ride shopped at least once a football season when using the park and ride, spending an average of \$72.09 per shopper each football season. These weekly averages could translate into annual expenditures of \$1,965.08 per shopper for users of the smaller park and rides and \$1,303.12 per shopper for users of the hospital shuttle park and ride. Furthermore, a significant proportion of those users would not have shopped at the retail center if the park and ride lot did not exist. Overall, 42.9% of the 70 shoppers would have either made their purchases elsewhere or would not have made the purchases at all if they had not used the park and ride at the subject shopping center. These results show that the shared use park and rides studied actually increased the shopping centers' customer bases.

Another major finding was that the presence of park and ride lots did have an impact on modal choice. Almost half of all of the survey respondents reported that they would have driven their cars all the way to their destination if the park and ride lot had not been there. This significant modal shift from automobile trips to using transit indicates that the presence of a shared use park and ride does generate ridership for transit service providers.

Further research conducted on a larger scale and with direct transit agency involvement would help to identify parameters for an ideal park and ride location and operational considerations, and it could provide an account of all types of shared use park and ride facilities. Surveying property owners hesitant to participate in shared park and ride facilities might provide a better understanding of partnership issues and benefits. Future research should explore the shopping center's point of view, in terms of how much profit they hope to make from this type of arrangement in order to make it worthwhile for them.

*Websites:*

*Project summary:* [www.dot.state.fl.us/research-center/Completed\\_Proj/Summary\\_PTO/FDOT\\_BC137\\_49a.pdf](http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PTO/FDOT_BC137_49a.pdf)

*Final report:* [www.dot.state.fl.us/research-center/Completed\\_Proj/Summary\\_PTO/FDOT\\_BC137\\_49rpt.pdf](http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PTO/FDOT_BC137_49rpt.pdf)

### 7.2.2 Maricopa Association of Governments Park-and-Ride Site Selection Study

In January of 2000, Maricopa Association of Governments (in the Phoenix, Arizona area) initiated a study to identify sites for twenty new park and ride lots across the region to support express bus service as well as car and vanpools using the regional freeway system. The study was completed and approved by the MAG Regional Council in January of 2001. The report includes their selection and design criteria, target area evaluations, site evaluations, and a management and operations plan.

*Final report:* [www.mag.maricopa.gov/project.cms?item=735](http://www.mag.maricopa.gov/project.cms?item=735)

### 7.2.3 Puget Sound Park and Ride System Update

The purpose of this study was to identify regional long-range park-and-ride lot needs in King, Kitsap, Pierce and Snohomish Counties in Washington. The development of a performance measurement assessment tool was necessary for this study and Parsons Brinckerhoff created it.

*Below is a summary of the project taken directly from the report:*

A three-part demand estimation methodology was utilized to calculate existing year 2000 demand estimates, as well as year 2010 and 2020 forecasts. The three-part process involved:

- Estimation of existing “unconstrained” park-and-ride facility demand using a regression based Park-and-Ride Demand (PRD) Model developed for the Puget Sound region.
- Forecasting future demand based on existing “unconstrained” estimates, future service assumptions, and population growth rates taken from the PSRC EMME2 travel forecasting model.
- Forecasting future demand based on existing “unconstrained” estimates, future service assumptions, and transit ridership growth rates taken from the Sound Transit EMME2 travel forecasting model, or from the PSRC model where appropriate.

*Final report:* [www.wsdot.wa.gov/NR/rdonlyres/F30205A6-DD95-4835-8813-DC0CE8326BA4/0/PSPRSUBeginning\\_thru\\_Chap3.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/F30205A6-DD95-4835-8813-DC0CE8326BA4/0/PSPRSUBeginning_thru_Chap3.pdf)

### 7.2.4 2004 Park-and-Ride Utilization Study (Old Colony Metropolitan Planning Organization, MA)

*The information below is taken directly from the report:*

The purpose of this study is: (1) To analyze the utilization rates of each parking lot; (2) Decipher trip movements of commuters who travel to those parking lots; and (3) To determine the different trends that exist at each location. Many commuters take advantage of the options of leaving their vehicles behind to take a bus, carpooling or using vanpools. The collected data will indicate the demand for each parking lot and will serve as a reference in maintaining the locations, and help in planning future projects and transit services.

*Final report:* [www.ocpcrpa.org/OCPC-Reports/2004%20Park-and-Ride%20Report.pdf](http://www.ocpcrpa.org/OCPC-Reports/2004%20Park-and-Ride%20Report.pdf)

### 7.2.5 Technical Solutions to Overcrowded Park and Ride Facilities

*The information below is taken directly from the report's abstract:*

This report presents the results on potential techniques to more efficiently utilize existing park and ride technologies and plan for future changes to the park and ride facilities. It presents:

- A summary of parking monitoring and parking guidance systems and recommendations. It includes a cost analysis using three technologies: magnetometer, video image processing and inductive loop detectors for a typical parking installation.
- A prototype parking information and reservation system through the web and cell phone. It includes a parking reservation algorithm and solution methodology, a web-based parking reservation system and a cell-phone based parking reservation and information system. The establishment of a web and cell phone based parking information and reservation system is recommended as the main technology to efficiently allocate the parking spaces from overcrowded to underutilized park and ride facilities.
- A prototype Park and Ride intermodal transportation planning model and a case study implementation. This model is recommended to be expanded as a Real-time traffic and park and ride forecasting system to enhance the operations and planning of park and ride facilities.

([www.nj.gov/transportation/refdata/research/reports/FHWA-NJ-2007-011.pdf](http://www.nj.gov/transportation/refdata/research/reports/FHWA-NJ-2007-011.pdf))

### 7.2.6 Park-and-Ride Lot Redevelopment Through Transit Development (Triangle Transit, North Carolina)

*The information below is taken directly from the report's introduction in Chapter 2:*

The Triangle Transit Authority (TTA) regional rail project is focused on three general goals: 1) to increase travel choices, 2) to shape development patterns, and 3) to reduce congestion. In regards to goal 2, shaping development patterns, TTA policy states that the agency will encourage more compact forms of development that will reinforce community identity and facilitate infill and redevelopment opportunities (FEIS, 2002). TTA is therefore not only in the business of moving passengers through its transit system, but is also committed to using its resources and influence to help build more compact and sustainable communities.

In accordance with this role, TTA has created station designs and adopted policies intended to maximize the potential for future transit-supportive development in and around station areas. However, the design of park-and-ride facilities and the creation of policies affecting them is a difficult issue. While adequate commuter parking facilities are important, park-and-ride lots can interfere with or completely inhibit transit-supportive development around transit stations. Indeed, some observers consider park-and-ride lots and transit-oriented development (TOD) to be mutually incompatible. The argument is that high-density, mixed-use development is impossible in and around station areas surrounded by large surface parking lots. Our position, however, is that TOD and park-and-ride lots are not always mutually exclusive.

It is possible for TTA to reconcile its need to provide adequate commuter parking with its community-building mandate. One approach is to carefully design station areas to encourage pedestrian activity and minimize the negative impacts of parking lots. The second is to pursue a policy of phased transit joint development (TJD) that aims to eventually redevelop surface parking lots into TOD-supportive structured parking decks.

([www.triangletransit.org/uploads/board\\_photos/Park\\_and\\_Ride\\_Chapter\\_Two.pdf](http://www.triangletransit.org/uploads/board_photos/Park_and_Ride_Chapter_Two.pdf))

### 7.2.7 Evaluation of Transit Applications of Advanced Parking Management Systems – Final Evaluation Report

*The information below is taken directly from the report's Abstract:*

This report presents the results of an independent national evaluation of two transit applications of parking management systems: one that was deployed in conjunction with two Metro Stations in suburbs southwest of Chicago, Illinois and the other which was deployed in conjunction with two Metro Stations in Montgomery County, Maryland.

The study documents quantified system impacts in terms of parking utilization, transit ridership and mode choice, traffic circulation within and between transit park and ride lots, and customer satisfaction. It also includes an institutional issues review that includes organizational and institutional challenges encountered by the project stakeholders throughout the course of deployment and operation of these systems.

The evaluation involved conducting passenger intercept surveys of transit riders, gathering data on transit ridership, gathering archived system data that documents in and out counts at the lots, as well as conducting a series of interviews with the staff.

([www.fta.dot.gov/documents/ParkingManagementEvaluationReport.pdf](http://www.fta.dot.gov/documents/ParkingManagementEvaluationReport.pdf))

### 7.2.8 Park and Ride: Characteristics and Demand Forecasting. Land Transport New Zealand Research Report 328.

*The information below is taken directly from the report's Executive Summary:*

This report was developed by Booz Allen Hamilton as part of the Land Transport New Zealand Research Programme 2004–2005, primarily to examine the modeling of park and ride (P&R) public transport usage in a New Zealand context. The report provides an overview of the concept of P&R, as well as local and international evidence on the usage and support of P&R schemes. International modeling methodologies are summarized and approaches are then applied to a New Zealand situation.

([www.trb.org/news/blurp\\_detail.asp?id=8273](http://www.trb.org/news/blurp_detail.asp?id=8273))

### 7.2.9 Guide to Calculating Mobility Management Benefits

*The information below is taken directly from the report's Abstract:*

Mobility Management (also called Transportation Demand Management or TDM) consists of various policies and programs that change travel behavior in order to increase transport system efficiency. It includes strategies that improved travel options, incentives to use the most efficient option for each trip, and more accessible land use patterns. Mobility management can provide various economic, social and environmental benefits. Conventional transportation evaluation practices tend to overlook and undervalue many of these benefits. More comprehensive analysis tends to support more mobility management implementation, and can help optimize mobility management policies and programs. This guide provides guidance for comprehensive mobility management evaluation. Examples illustrate how such analysis can be applied in particular situations.

([www.vtpi.org/tdmben.pdf](http://www.vtpi.org/tdmben.pdf))

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