Bicycle and Pedestrian Transportation Training for Caltrans Staff

A Report by the Healthy Transportation Network*

NOVEMBER 2010

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Any errors or omissions are entirely the responsibility of the authors.
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SECTION I

Healthy Transportation Network: Bicycle and Pedestrian Transportation Training Study Team

This report on Bicycle and Pedestrian Transportation Training for Caltrans Staff (hereafter, “Report”) is a product of the Healthy Transportation Network (HTN), a project of California Active Communities (CAC) within the California Department of Public Health (CDPH) and the University of California, San Francisco (UCSF). The HTN is a statewide project funded by the Caltrans Statewide Transportation Enhancement program, and is a partnership of California Bicycle Coalition (CBC), California WALKS (CW), Local Government Commission (LGC), and Rails-to-Trails Conservancy (RTC), Western Region Office. The core HTN Study Team for this Report included Project Lead Laura Cohen, of Rails-to-Trails Conservancy Western Region Office with coauthors Wendy Alfsen of California WALKS and Lisa Cirill and Jeffery Rosenhall of California Active Communities (CAC) within the California Department of Public Health/University of California, San Francisco.

Data for this Report was gathered through personal interviews with more than two dozen Caltrans staff in various offices and divisions that play a role in bicycle and pedestrian projects; an online survey submitted by nearly 250 Caltrans staff; and a review of some of the most relevant current training offerings. The HTN Study Team presented the findings at the November 18, 2010 meeting of the Caltrans Active Transportation and Livable Communities Advisory Group chaired by the Deputy Director of Planning and Modal Programs, for discussion and consideration of the draft recommendations.

The purpose of this Report is to provide an overview of some of the primary bicycle- and pedestrian-related technical training strategies and opportunities provided by Caltrans to its staff, and to make recommendations where appropriate. The Report’s ultimate goal is to improve the availability, quality and safety of bicycle and pedestrian transportation in California by supporting and assisting Caltrans in fully implementing its active (non-motorized) transportation policies, including Complete Streets and Smart Mobility.

SECTION II

Caltrans Training Structure

Over the years, Caltrans has provided training to its employees in a number of different ways. This Report focuses on how bicycle and pedestrian transportation technical training is delivered, and profiles some of the main training efforts in the Department, including:

- Planning Division - Office of Workforce Development;
- Project Delivery Program - Capital Project Skill Development;
- Division of Traffic Operations;
- Division of Maintenance; and
- Local Assistance Technology Transfer Program.

Many divisions offer regular training academies tailored to staff functions. There is also a trend toward developing more web-based trainings to reach more staff, and contend with reduced training budgets. Employees also seek training from external sources, such as professional conferences and workshops.

SECTION III

Current Bicycle and Pedestrian Transportation Trainings

The HTN Study Team identified bicycle and pedestrian technical training options available to Caltrans employees for the period 2006-2010 through research, interviews and the online staff survey conducted in 2010. The Study Team then created two documents to synthesize this information:

1) A list of current bicycle- and pedestrian-related educational options are categorized by type of training, and summarized in the Training Course Matrix; this multi-color spreadsheet is attached as Appendix C.

2) The most widely used training curricula were closely reviewed and summarized. Those training summaries that are still current are listed in Appendix D.

SECTION IV

Survey and Interview Responses

In summary, our major findings from the survey and interviews were:

- Significant Progress: Respondents felt that Caltrans has made significant progress, especially in the last five years, in setting policy direction to better address the needs of bicyclists and pedestrians, as evidenced by the adoption of key policies including Context Sensitive Solutions (CSS), Complete Streets Deputy Directive (DD-64-R1) and its Implementation Action Plan (IAP), Smart Mobility Framework, and Caltrans Guide on Main Streets: Flexibility in Design and Operations.
• **Training Format:** Staff indicated a strong preference for classroom instruction combined with field training; followed by classroom training only. Webinars scored the lowest.

• **Training Topics:** Respondents self-identified a strong need for training across a wide variety of bicycle- and pedestrian-related topics, especially application of policies/guidelines to non-motorized modes, intersection design, work zones, roadway retrofitting and Americans with Disabilities Act of 1990 (ADA) compliance.

• **Departmental Policies and Directives:** While there is general familiarity with these directives, there are so many that staff reported they may not be effectively implementing them. Suggestions offered by staff included: implementation training on the highest priorities, and accountability for follow-through (performance measures).

• **Training Promotion:** Many respondents answered they do not have enough time or funding to attend trainings; do not get enough information on available trainings; and that the Department could increase trainings available across divisions and functional units.

• **Caltrans Culture/Leadership:** While more training is needed, many staff answered that training, by itself, is not the solution to improving bicycle and pedestrian transportation; rather, these modes need to be communicated as a higher priority from Caltrans leadership, and this message must be regularly reinforced.

• **Consideration Early in the Process:** Numerous comments from planners, landscape architects and engineers identified a need to address bicycle and pedestrian safety and access earlier in the design process; for example, in Purpose and Need statements, Project Initiation Documents (PIDs) and Project Development Teams (PDTs). Respondents also expressed concern that non-motorized expertise is often lacking or overlooked on PDTs and other collaborative teams.

• **Better Data and Performance Measures:** Respondents cited the lack of bicycle and pedestrian data and performance measures as hurdles in measuring progress and treating active modes as important in an environment where “on-time and on-budget” drives priorities.

### SECTION V: HTN STUDY TEAM RECOMMENDATIONS

**Training Promotion, Program Structure and Content:**

• **Training Content:** Allocate resources to offer additional training on the topics identified by Caltrans staff as most needed, including Complete Streets implementation, ADA accessibility, intersection design and work zones. Develop and/or offer more web-based trainings; expand live training opportunities; take advantage of existing third-party trainings.

• **Training Structure:** Cross-train staff from different functional units to enhance multi-modal knowledge and increase collaboration on multi-discipline teams, such as PDTs. Develop a Continuing Education requirement for bicycle and pedestrian transportation topics, as many staff do not acquire this knowledge in their academic degree programs prior to joining Caltrans.

• **Training Promotion:** Create mechanisms for better sharing of training opportunities across divisions; create a centralized webpage to collect bicycle- and pedestrian-related policies, resources and training opportunities; clarify for staff the role of the Learning Management System (LMS), Training Coordinators, and Professional Development Liaisons (PDLs).

**Departmental Priorities, Processes, and Performance Indicators:**

• **Departmental Priorities and Awareness of Policies:** Caltrans continues to evolve into a more multi-modal department, and the HTN Study Team encourages management to accelerate this trend. The Director and senior management can promote this shift by clearly and regularly articulating that serving bicyclist and pedestrian needs is a Caltrans priority.

• **Department Processes:** Addressing the needs of bicyclists and pedestrians early in the project development process is crucial. Revisions to the Project Development Procedures Manual (PDPM) and Highway Design Manual (HDM), now underway in connection with Complete Streets implementation, need to be accompanied by training on how to implement these new procedures. Purpose and Need statements, PIDs and PDTs should include input from staff with substantial bicycle and pedestrian expertise to ensure these elements are not overlooked or minimized.

• **Departmental and Employee Performance Measures:** To reinforce the importance of effectively serving bicyclists and pedestrians, Caltrans should develop bicycle- and pedestrian-related performance measures based on achieving milestones in the implementation of the Complete Streets Policy and CSS for divisions, offices and Districts.
Section I: Healthy Transportation Network: Bicycle and Pedestrian Training Report Team

Who: Team Members
This Report is a product of the Healthy Transportation Network (HTN), a project of California Active Communities (CAC) within the California Department of Public Health (CDPH) and the University of California, San Francisco (UCSF). The HTN is a statewide project funded by the Caltrans Statewide Transportation Enhancements program, and is a partnership of the following organizations:

- California Bicycle Coalition (CBC);
- California WALKS (CW);
- Local Government Commission (LGC); and
- Rails-to-Trails Conservancy (RTC), Western Region Office.

The purpose of the HTN project is to provide pedestrian and bicycle safety education in order to increase the number of Californians safely walking and bicycling for transportation. The project partners provide pedestrian and bicycle safety resources, materials and trainings to a broad spectrum of stakeholders, including: California residents; traffic and civil engineers, landscape architects and planners at the state, regional and local levels; public health practitioners; educators; law enforcement; emergency responders; officials and staff of local governments, and other key partners.

One of the projects of the HTN is to assess how California could improve the safety and availability of bicycle and pedestrian facilities by looking at improving technical expertise of Caltrans staff relating to bicycle- and pedestrian- transportation. The HTN Study Team for this Report is:

Primary Authors:
- RTC Western Region Office – Laura Cohen, Report Project Manager
- CW – Wendy Alfsen
- CAC, CDPH/UCSF – Lisa Cirill and Jeffery Rosenhall

Why: Team Objective
The purpose of this Report is to provide an overview of some of the primary bicycle- and pedestrian-related technical training opportunities provided by Caltrans to its staff, and to make recommendations where appropriate. The goal is to support and assist the Department in better implementing its multi-modal mission, particularly with respect to providing safe mobility to bicyclists and pedestrians, and encourage the full implementation of the related State and Departmental policies, including:

- Reducing pedestrian and bicycle fatality rates by 50 percent while increasing walking and bicycling rates by 50 percent by 2010 (California Blueprint for Bicycling and Walking and California Implementation of Strategic Highway Safety Plan (SHSP) Challenge Areas 8 and 13 goals);
- Complete Streets Deputy Directive 64 R-1 and its Implementation Action Plan;
- Smart Mobility Framework as it relates to active transportation;
- Incorporating CSS (Director’s Policy 22); and
- California’s greenhouse gas reduction goals as promulgated pursuant to Assembly Bill (AB) 32, Senate Bill (SB) 375, SB 391 and related actions.

Based on interviews, the premise is that adequate and regular staff training on the importance of addressing the needs of bicyclists and pedestrians and on the best planning, design, construction, operations, maintenance and public involvement practices to effectively meet those needs would help to achieve the Department’s stated goals and to best serve bicyclists and pedestrians in California.

The HTN Study Team recognizes the significant progress made by Caltrans, especially in the last five years, to better address active (non-motorized) transportation. As members of the ATLC Advisory Group, the HTN partners have been privileged to be part of that process, partnering with Caltrans to improve safety, access and mobility for all travelers. The most significant policies and actions, in addition to those listed on the previous page, include:

- Caltrans Guide on Main Streets: Flexibility in Design and Operations
- ADA settlement Universal Access Plan Implementation
According to a Caltrans Senior Transportation Planner who is coordinating the Complete Streets IAP, progress on all these fronts was influenced by national organizations promoting concepts like Complete Streets; by motivated individuals within Caltrans (including key management and the staff of the bicycle program); and by external advisory groups, such as Caltrans Bicycle Advisory Committee (CBAC), the Pedestrian Safety Task Force (now CalPED), and the ATLC. External advisory groups have played a big role; the ATLC Advisory Group has been central in seeing this effort move forward.

The adoption and dissemination of these policies are resulting in a noticeable shift in Caltrans, from a Department that considered itself primarily a highway Department toward a more multi-modal organization. The next California Transportation Plan will be a multi-modal system plan, as required by SB 391. That said, there is still structural work to be done. As in any large, dispersed organization, change takes time to permeate. It will take sustained effort and continuous support from senior management to fully integrate and implement Complete Streets and all the related policies throughout every functional unit. The intent of this Report is to share information gathered from employees, key informants, and bicycle and pedestrian experts, and propose some strategies for continuing to advance the Department’s efforts in this regard.

What: Team Products

This Report contains the results of the project research, interviews, and survey data, and includes recommendations for actions that Caltrans and its partners can take to improve the training program and the Department’s ability to best serve the bicycling and walking public. The HTN Study Team has identified the following audiences to receive the Report and be involved in reviewing and implementing recommendations as appropriate:

- ATLC Advisory Group
- CBAC
- Pedestrian/Bicycle Blueprint Steering Committee
- CalPED
- Caltrans Complete Streets Implementation team

Note on Scope: This Report looks only at the primary technical training opportunities provided to Caltrans employees; it does not cover training offered through local assistance to city and county transportation agencies, and it is not an exhaustive review of every Division’s training program.

Note: All quotes included in this report are taken directly from Caltrans employees’ responses to the online survey or from personal interviews with Caltrans employees conducted by the HTN Study Team. The anonymity of employees is maintained in the Report, however, the employees’ Division and District are provided, when available.
While bicycle and pedestrian facilities are often thought of as the province of local government, Caltrans has an important role to play. As noted in the Caltrans Complete Streets IAP:

*Bicyclists and pedestrians have legal access on all conventional highways and state highway system expressways, and about 25 percent of California’s freeways.*

Of particular importance are the state highways that function as the main streets of communities. In addition, Caltrans has an important role in providing leadership and guidance through the Local Assistance Division to local and regional agencies.

**STATE HIGHWAYS AS MAIN STREETS:**
There are hundreds of locations (the latest estimate may be 700) where a state highway functions as the main street of a community, as documented by the Caltrans Community Planning Office. They are located in every Caltrans District across the state. In addition, many other state highways function as arterials. These facilities need to function as far more than corridors for vehicle through-put, and the Department has an obligation to provide safe accommodation for bicyclists and pedestrians. As stated in Caltrans’ report, “Main Streets: Flexibility in Design and Operations“:

*Main streets serve pedestrians, bicyclists, businesses and public transit, with motorized traffic typically traveling at speeds of 20 to 40 miles per hour. Main streets give communities their identity and character, they promote multi-modal transportation, support economic growth, and may have scenic or historic value.*

The Department has a legal responsibility to provide for safe mobility for bicyclists and pedestrians on the state highway system wherever they are legally permitted, and to increase the safety of roads for all roadway users, as reflected in the California SHSP (http://www.dot.ca.gov/SHSP).

**PROVIDING LEADERSHIP TO LOCAL AND REGIONAL AGENCIES:**
Caltrans also has the opportunity to provide leadership and assistance to local and regional agencies by demonstrating excellence in serving non-motorized travelers. Caltrans has seized this opportunity in many facets of its work, most notably (for purposes of this Report) in the areas of Multi-Modal Transportation, Smart Mobility, Complete Streets, and CSS. Caltrans can also set an example for local agencies by treating bicycle and pedestrian mobility as a high priority and ensuring that this message gets through to all Caltrans staff at all levels. The 2007 repair of Highway 580 in Oakland in record time demonstrates the remarkable progress that can be made on a project or program that is clearly identified as a top priority by Caltrans leadership.

**A WELL-TRAINED STAFF REDUCES PROJECT DELAYS AND COST OVERRUNS:**
Finally, a well-trained staff is essential to completing projects on time and on budget. A paper published in 1999, and cited in the 2000 Caltrans report, “Background and History of the Capital Projects Skill Development Plan,” states that the top five causes of project delay and cost overruns, in order, are:

- Low staff experience or skill
- Poor clarity or incomplete specifications
- Low staff morale
- Scope changes generated externally
- Low availability or experience of supervisors

1 Kenneth G. Cooper, “Power of the People” PM Network, July 1999, p. 43.
Section II: Caltrans Training Structure

Over the years, Caltrans has provided training to its employees in a number of different ways. There is a central Workforce Planning and Development Division, which oversees the Learning and Development Office (formerly known as the Office of Training) that serves the entire Department. This Office is responsible for general skills training, but not in-depth technical training, and therefore their activities are outside the scope of this Report.

Each of the divisions within Caltrans serves its staff training needs in a different way. Some of the divisions have a formal structure, such as the Office of Workforce Development (OWD), which serves planners and planning staff within the divisions under the Deputy Director, Planning and Modal Programs. Similarly, the Capital Project Skill Development (CPSD) program serves multiple divisions. The Division of Maintenance develops training for its staff, and Local Assistance provides funding to University of California, Berkeley’s Institute for Transportation Studies Technology Transfer (Tech Transfer) program to make training available to Caltrans staff and partner agencies. Many divisions offer regular training academies tailored to their staff functions. Employees also seek training from external sources, such as professional conferences and trainings offered by consultants. (Consultants also prepare and deliver training under contract to Caltrans, which is sometimes funded by OWD or CPSD). The following sections give examples of internal and external training.

Training within Caltrans

Planning Division – Office of Workforce Development

PURPOSE, ORGANIZATION, AND FUNDING

The Transportation Planning Division created the OWD to “provide information and guidance to planning staff to enhance and encourage career development and upward mobility, and provide oversight and direction in professional development and technical assistance for Districts statewide and all Divisions reporting to the Deputy Director, Planning and Modal Programs.” OWD serves transportation planners and planning staff, both at Headquarters (HQ) and scattered throughout the state, in District offices, in all divisions under Planning and Modal Programs. The Divisions include Aeronautics, Local Assistance, Mass Transportation, Rail, Transportation Planning, and Transportation Systems Information. OWD, for example, provided training to a total of 812 employees in 2010.
Training offered by OWD falls into two basic categories: academies and technical trainings. The Planning Division offers the multi-day Planning Academy two to three times per year, which is an overview course developed and taught by Caltrans personnel and includes a segment on bicycle and pedestrian planning. Planning also offers a Field Academy once a year. According to the OWD Office Chief, these trainings typically get very positive evaluations from attendees. Technical trainings are workshops focusing on particular transportation issues identified in an annual needs assessment, and are typically developed and delivered by an outside contractor, such as the Tech Transfer program or University of California (UC) Davis Extension.

The OWD determines training needs for planners and planning staff, develops trainings or contracts with training developers, and disseminates training opportunities to planners and planning staff within the Planning and Modal Programs’ Divisions. They have a goal of meeting priority training needs as determined through an annual needs assessment described below.

Funding for this training comes from the Division of Transportation Planning. The budget varies from year to year. For example, due to the budget constraints in FY 09-10, the OWD budget was cut by 80 percent. This was sufficient to offer the Planning Academies but no technical contract training. For the FY 10-11 year, funding was restored to about 75 percent of previous levels, which enabled OWD to offer the Academies plus some technical contract training courses.

HOW ARE TRAINING NEEDS DETERMINED?

In 2005, OWD contracted with the California Community Colleges to do a skills assessment and gap analysis as part of their Advanced Transportation Initiative. They conducted a skills assessment of Caltrans planning staff. Based on the Skills Assessment, OWD did a gap analysis to determine needs. Because over five years have passed since the skills assessment and gap analysis were conducted, OWD has indicated that this document no longer accurately reflects the current skills and gaps in skills of transportation planners and planning staff.

OWD is in the process of updating this document to reflect changes in skills and identify gaps.

In addition, OWD conducts an annual statewide training needs assessment. OWD staff compiles a list of approximately 150 course names and descriptions (both externally and internally developed courses), and distributes it to the PDLs, (explained further in the next section), who in turn poll planning staff. The poll also solicits suggestions for courses not listed. The PDLs also ask managers of planning staff to recommend courses that their staff need. Each employee creates an Individual Development Plan (IDP), in consultation with his/her manager, and submits that to the PDL. Based on the information gathered from staff and managers, the PDLs then make recommendations for the courses that should be offered to their District or Division. OWD also asks the PDLs to submit an employee training plan, outlining how they would get the right people to the appropriate trainings, should they be offered. Using the PDLs’ recommendations and assessment of demand for various courses across the Divisions and Districts, OWD determines each District’s and Division’s top three choices for training. OWD creates a list of courses — based on the overlap in interest and the number of trainings that funding allows — that will be offered for the year, specifying the Divisions and Districts for which each course is open. Most courses are offered to staff at HQ in Sacramento, because the concentration of planning staff are there. OWD does not pay for travel, so most District staff are restricted to courses in their District, except for Districts 3, 4 and 10, which are in close proximity to HQ.

This needs assessment approach enables OWD to be very flexible with its offerings. The Chief of the Office of Community Planning believes that OWD does a good job of tailoring training to meet the needs of staff. The Chief stated that “the former centralized Caltrans training structure wasn’t always helpful, and trainings were not always tailored to the needs. I think decentralized is better and more able to customize offerings.”
According to the Chief, OWD has not received strong demand for bicycle or pedestrian trainings in the past. The Chief stated that, “There are so few employees who focus on those modes. But maybe there are people that need training and don’t know they need it. Ideally bicycle and pedestrian planning issues should be incorporated into all of their general planning trainings, rather than offered as stand alone training, and it appears that Caltrans is moving in this direction.”

This illustrates one potential weakness in polling employees for training needs: employees cannot always self-identify gaps in their knowledge or skill set or emerging trends or needs. To be most effective, managers would need to propose courses to address these gaps. The Office of Community Planning allocates more seats in trainings to those who need it most, as Districts vary in their skill and awareness levels.

In 2010, the OWD needs assessment process showed demand for a Bicycle Planning and Design class (offered through UC Davis) and Designing Safe, Accessible Pedestrian Facilities (offered through UC Berkeley). In past years the greatest demand was for non-technical classes, but current demand is primarily for technical training courses.

**HOW ARE TRAINING OPPORTUNITIES PUBLICIZED?**

After OWD finishes the annual needs assessment process, they notify the PDLs of the trainings that will be offered to their planning staff. As training dates are scheduled and as those dates approach, the OWD Training Coordinator (who is also responsible for managing the needs assessment process) sends out notices for the PDLs to share with their staff. These emails are also sent to division- or District-based Training Coordinators, who serve as another local point of contact for disseminating information. While a PDL is responsible for assisting with the needs assessment process, the Training Coordinator is responsible for helping to disseminate information about upcoming trainings. In some smaller Districts or offices, the Training Coordinator and PDL are the same person. Being a PDL or a Training Coordinator is a role that is in addition to staff’s other regular responsibilities.

Training notices are also publicized in District newsletters, association newsletters, and partner websites. The OWD is trying to improve the OWD web page to include course offering information.

The OWD routinely opens its academies and trainings to partner agencies such as transit agencies, city and county transportation agencies, Councils of Government, Regional Transportation Planning Agencies (RTPA) and others.

Caltrans instituted the LMS to help with training enrollment throughout the Department. The LMS is an electronic system that is only available to employees as it works through their timesheet system. When PDLs and local Training Coordinators send an announcement about a training, those staff who wish to attend obtain approval from their supervisors and sign up for the training through the LMS. The LMS includes all classes that Caltrans develops in-house and through contractors.

**EXAMPLES OF TRAININGS**

- **Planning Academy:** This Academy was held in Redding in 2010, and included a field component at the end of Day 1 for 15 people to join a bicycle facilities tour led by a Transportation Planner in District 2.
- **Context Sensitive Solutions:** OWD was hoping to offer training in CSS in FY 09–10 and worked with an expert consultant to develop a module. Due to budget constraints, the training was not offered.
- **Planning Horizons:** The Division of Transportation Planning conducts this speaker series. Speakers from within and outside Caltrans are invited, on a bi-monthly basis, to come speak to HQ planning staff during the work day, with attendance often up to 100–150 people. It is also available to the Districts via webcast. Topics vary widely, and bicycle and/or pedestrian issues are occasionally addressed.
• Bicycle Planning and Design: In this consultant-designed and delivered course, students learn the critical elements of planning and design for bicycle circulation. The course examines broad legal and policy issues, community-wide planning, policy needs, and detailed designs for bicycle systems and facilities. Included is a half-day guided bicycle tour through the city of Davis and the UC Davis campus.

• Designing Safe, Accessible Pedestrian Facilities: This new course covers principles and good practices, including how to plan, design, and operate a wide range of pedestrian-friendly facilities, including sidewalks, crosswalks, and other public spaces adjoining or intersecting the vehicular transportation system. Application of current standards and guidelines is emphasized. Case studies and in-class exercises supplement lectures.

• Complete Streets – Learning Modules: Caltrans’ web-based training includes Designing Streets for Pedestrian and Bicycle Safety, Multi-modal 01 Introduction and is available online at [http://www.dot.ca.gov/hq/tpp/offices/ocp/learning_modules.html](http://www.dot.ca.gov/hq/tpp/offices/ocp/learning_modules.html)

Project Delivery Program – Capital Project Skill Development Program

PURPOSE, ORGANIZATION AND FUNDING

The purpose of the Capital Project Skill Development (CPSD) Program is to provide the Department’s capital project staff with the knowledge and skills needed to deliver transportation projects. The Chief Engineer of Project Delivery has overall authority for the CPSD program. The CPSD program originated from the Department’s 1998 Strategic Plan, and was developed and is composed of an interdisciplinary team managed by the Chief of the CPSD Office in the Division of Project Management. This office coordinates the program with CPSD Managers from the following Divisions, which represent the target audience for CPSD training efforts:

• Construction
• Design
• Engineering Services
• Environmental
• Project Management
• Right of Way/Surveying

CPSD is responsible for developing and providing technical training to the nearly 10,000 Capital Project staff statewide. In addition, CPSD provides discretionary training funds to the Districts for securing courses in software, non-technical skills and management. The FY 09-10 annual goal was to provide over 420,000 hours of student training time through both non-technical skill and technical training courses.

There are 32 staff in the CPSD program, dispersed throughout various divisions and District offices. They assist with the development of trainings, and perform coordination and administrative functions.

In the current climate of increased efficiency and reduced budgets, CPSD managers are looking for ways to stretch the available training dollars, by curtailing travel for training and developing more online courses.

HOW ARE TRAINING NEEDS DETERMINED?

CPSD is working with California State University (CSU), Sacramento to survey Caltrans supervisors on staff training needs. This gap analysis was expected to be completed by the end of June 2011.

Each of the participating divisions sets their own goals and targets for employee training. The Division of Design and Division of Environmental Analysis each perform an annual needs assessment, engaging District Executive Managers in the identification of focus needs, training curricula content or updates, and training priorities for each classification of employee. These assessments assist the Division in the development of its training plan and budget request.

Because a majority of project delivery happens in District offices, the bulk of training resources are directed to District staff who are developing project approval documents, plans, estimates, and specifications and overseeing construction activities. Training is generally open only to Capital Outlay Support employees within Caltrans; some trainings are made available to other functional areas if a specific training need must be addressed or if cross-training is required.

HOW ARE TRAININGS PUBLICIZED?

Information and an online course catalog for CPSD-funded classes are available on the LMS, and information is disseminated, largely via email, through the CPSD and District Training Officer staff.

Many Caltrans staff receive bulletins from other training organizations, such as the Tech Transfer program and Mineta Transportation Institute at San Jose State University, on training programs and courses pertaining to transportation.

EXAMPLES OF TRAININGS

• Caltrans Project Management Certificate Program: This program is part of the CPSD training effort, and teaches the fundamentals of Project Management relating to the delivery of the capital projects at Caltrans; it also prepares employees to seek Project Management Professional (PMP) industry certification. The certificate program consists of eight courses (six online and two in-classroom), and is [continued on page 15]
As part of the Division of Design, the Landscape Architecture Program (LAP) participates in the CPSD program. The Division of Design does not have a separate training office or a full-time training coordinator; it accomplishes these functions through integration of training responsibility into other positions within the division.

As part of an effort to develop expertise of their staff in providing for the safe mobility of bicyclists and pedestrians, the 225 Landscape Architecture staff have been targeted to participate in the non-motorized training effort since 2007, including the Federal Highway Administration’s (FHWA) Designing for Pedestrian Safety Action Plan (two-day course), the HTN’s Designing for Bicycle and Pedestrian Safety (one-day course), and a variety of other online training courses and webinars.

The LAP develops specialized training for landscape architects (LAs). One of the subject areas is multi-modal mobility, which has coursework on mobility for bicyclists and pedestrians, funding, accessibility and Complete Streets. Much of the classroom training is funded by CPSD; due to budget constraints, training deliveries are often limited. Therefore, LAP staff also developed on-job-training (OJT), which requires eight hours of practitioner time. The LAP includes OJT for the staff statewide related to multi-modal mobility.
The Division of Design and the LAP were involved early on in the Department’s adoption of the CSS policy in 2001, which was followed immediately by development of a statewide training for Caltrans and local agency staff with Transportation Enhancement (TE) funds under the bicycle and pedestrian safety and education category. Since 2002, LAP has overseen CSS training delivery to over 800 Caltrans and local agency staff. Caltrans is currently developing a CSS Implementation Workshop planned for delivery in the future to all 12 Districts, creating District-based CSS experts around the state. The Division of Design and the LAP provide modules related to Complete Streets, Non-motorized Mobility and Context Sensitive Solutions in their training academies and Senior Seminars with planned rollouts statewide at least annually for each training mode. Recent trainings are enumerated in the summary of Non-motorized Training in Caltrans (attached as Appendix H), and some new trainings in development are discussed below.

"The Division of Design and LAP have got a good training program. The challenge is: there’s often a lack of resources to get it out there."

SENIOR LANDSCAPE ARCHITECT

LAP and other Divisions of Caltrans have participated in web-based training, including the following webinars developed by outside agencies or organizations (additional webinars are listed in Appendix H):

- Pedestrian and Bicycle Information Center, Livable Communities Webinar Series (March and April, 2010)
- FHWA, CSS.org, and Institute of Transportation Engineers, Walkable Urban Thoroughfares Manual (March 2010)
- TRB, Pedestrian and Bicyclist Safety and Mobility in Europe Scan: Findings and Recommendations (May 2010)

District LAs are encouraged by HQ LAP to have their staff speak up on relevant questions and issues related to non-motorized travel when participating in PDTs, and when involved in developing Purpose and Need, and PIDTs, all of which are critical phases in the project development process when bicycle and pedestrian expertise may be lacking. The overall goal is to encourage development of non-motorized expertise through a variety of training modes for all LAs, and also put it on the web to share with other state and local agency staff.
offered in partnership with CSU Sacramento. Caltrans supports employees seeking to obtain the Project Management Professional Certification offered by the Project Management Institute. Over 340 employees have obtained this project management credential since 1998. Training and exam preparation simulation is offered and exam and renewal costs are reimbursed for employees.

- **Web-based ADA Design Trainings:** Caltrans Division of Design has web-based trainings under Manuals and Guidance. This series covers real life examples of design issues for persons with disabilities in the public rights of way. The trainings are available at [http://www.access-board.gov/news/sidewalk-videos.htm](http://www.access-board.gov/news/sidewalk-videos.htm) or [http://www.dot.ca.gov/hq/oppd/access/access.htm](http://www.dot.ca.gov/hq/oppd/access/access.htm).

- **ADA Path of Travel Design:** The Division of Design’s four-hour ADA Path of Travel Design course, developed by David Cordova (Office of Geometric Design Standards), has been delivered to more than 1,000 Caltrans employees over the last decade. A more comprehensive ADA Access mandatory training (through Traffic Operations and Maintenance as well as Design) will be available to Caltrans staff within the next year. Expected new federal regulations, Public Rights-of-Way Accessibility Guidelines (PROWAG), will require additional training during the next several years to maintain the Department’s promised ADA compliance.

- **Understanding Bicycle Transportation:** This one-day course was developed by the Office of Geometric Design Standards in the Division of Design, in conjunction with a consultant. Staff delivered two sessions of this workshop in June 2010 in Los Angeles. Further delivery is pending upon a budget allocation for the current fiscal year.

**Division of Traffic Operations**

**PURPOSE, ORGANIZATION AND FUNDING**

Within the Traffic Operations Division, several programs develop and publicize technical training targeted to particular functions, including the Traffic Safety Program, the Strategic Highway Safety Program, and the Office of Signs, Markings and External Support. District Liaisons perform a coordinating function between HQ and District Traffic Operations staff by reviewing projects at the District level and facilitating policy and program development, including training.

**HOW ARE TRAININGS PUBLICIZED?**

The trainings are publicized in a variety of ways: listing in the LMS, emails to particular staff, and notifications passed by Training Coordinators in the Districts to managers and supervisors and then to general staff.

**EXAMPLES OF TRAININGS**

Regularly offered training programs include the Traffic Safety Academy, the Freeway Operations Academy, Traffic Management Plans training, Performance Management System training, Traffic Safety Investigations training and Uniform Signage training (using the California Manual on Uniform Traffic Control Devices). The trainings are managed and administered by the individual offices and programs that focus on each topic, so management of the training schedule and programming is distributed through the Division.

The Traffic Safety Investigations trainings are mandatory for employees new to their positions. The Traffic Safety Academy and Traffic Safety Systems course were previously funded through the CPSD, but this is no longer the case. The Traffic Safety and Freeway Operations Academies have been developed internally. The other trainings, depending on the components, have been developed either with Traffic Operations personnel or in concert with external entities.
These courses each include sections in which information about non-motorized transportation infrastructure is addressed. Traffic Operations has developed a new resource, Complete Intersections: Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians, and delivered a well-received pilot staff training. The Pedestrian Program Manager for Traffic Operations hopes that the materials can be adapted as a webinar to be offered statewide.

**Division of Maintenance**

**PURPOSE, ORGANIZATION AND FUNDING**

Responsibility for training coordination is centralized in the Office of Personnel and Field Support.

The Maintenance Division offers various formal training programs to maintenance staff. Training includes new-user training for the Integrated Maintenance Management System (IMMS), the asset and maintenance field work management system; equipment operation and safety-related courses provided at the Maintenance Equipment Training Academy (META); and the Maintenance Leadership Forum (MLF), a leadership class designed to instill and reinforce leadership principles, techniques, and values to field supervisors and higher level leaders in the Maintenance Division. Some of these trainings are held at the Maintenance Training Center for field personnel.

While there is no maintenance training course specific to bicycle and pedestrian facilities, maintenance issues for these modes are incorporated into existing trainings and into the Maintenance Manual. Staff from the Bicycle Facilities Unit submitted proposed updates on bicycle safety for the Manual last fiscal year, and these are currently in the process of being incorporated.

**HOW ARE TRAINING NEEDS DETERMINED?**

The Office of Personnel and Field Support assists maintenance staff with finding training courses through the LMS, or researching opportunities not listed in the LMS. Training goals are identified by each employee in their IDP as part of their yearly review with their supervisor. Copies of the IDP are sent to the Office of Personnel and Field Support, and the staff coordinates with the employee to secure the desired training.

**HOW ARE TRAININGS PUBLICIZED?**

Training opportunities are listed in the LMS and publicized through training coordinators in the Districts and through the 29 Regional Administrative Officers for field maintenance employees.

The current financial climate has made it more challenging for staff to obtain all the training they need and want. According to the Office of Personnel and Field Support, the furlough days had a bigger impact than the budget cuts; three fewer work days per month made it difficult for employees to carve out time away from the job to attend training. Nevertheless, the Maintenance and Operations Deputy Director strongly supports continuing to dedicate resources to training to increase effectiveness and efficiency of staff performance. In lean budget times, the focus is on “just in time” training in skills that the employee will immediately put to use.

According to the Deputy Director, there is an especially strong need for additional training on ADA standards, and on Complete Streets to better serve bicyclists and pedestrians. In his role on the Complete Streets Implementation team, the Deputy Director worked to develop a better tracking system for maintenance activities affecting bicyclists and pedestrians.

The Maintenance Division regularly conducts a Level of Service (LOS) evaluation on a sample of lane miles throughout the state, using a set of dashboard indicators to evaluate how effectively they are keeping up with maintenance issues within existing resources. The Deputy Director noted that the LOS program is another opportunity to identify some bicycle and pedestrian-specific measures to better evaluate safety for these modes. The LOS program can also serve as a “report card” on whether the employee training provided by the Division is translating into better results on the system.
Additional Training Opportunities

TECH TRANSFER PROGRAM

The Cooperative Training Assistance Program (CTAP) was developed to create and deliver low-cost short-course training targeted for public agencies at locations throughout the state. CTAP was conceived around 1989 to pool transportation training dollars across the state and improve access for staff to core professional training. The program is operated through Tech Transfer at the University of California, Berkeley.

Tech Transfer is currently funded at $1 million annually with half of that amount coming from California’s 47 RTPAs at varying levels based on population. The RTPAs’ dollars are matched by Caltrans State Highway Account funds through the Division of Local Assistance and used to fund a Cooperative Agreement with Tech Transfer. Additional funds are generated through registration fees from course participants. California’s public transportation agency staff receives discounts from Tech Transfer on CTAP classes. Prior to 2010, about 23 percent of all CTAP participants were Caltrans staff. For the period January through June of 2010, less than 13 percent of all CTAP participants were Caltrans staff, presumably due to impacts from furlough days and budget-based restrictions on training and travel.

Tech Transfer sends out a training needs assessment survey every other year to a statewide mailing list to determine the demand for specific training topics. The mailing list consists of 22,000 professionals, many Caltrans staff from each District, and the Caltrans Division of Local Assistance training coordinator.

Every year, Tech Transfer also meets with Local Assistance to discuss which courses will be offered in the upcoming year.

There is an annual catalog of open enrollment courses that are offered every year. Among these are several courses relating to pedestrian and bicycle safety and design. “Design, Implementation and Operation of Bicycle Facilities” and “Designing Safe, Accessible Pedestrian Facilities” are each offered once a year at varying locations throughout the state. During the period from January through June 2010, only one person from Caltrans enrolled in the “Design, Implementation and Operation of Bicycle Facilities” class, and no one from Caltrans enrolled in the “Designing Safe, Accessible Pedestrian Facilities” class. These classes were offered again in the fall of 2010. The Director of Tech Transfer stated that they are unable to offer these classes more than once a year because of low enrollment numbers. These classes were developed over five years ago with CTAP funding. Unfortunately, course updates and curriculum development is more expensive than administering existing courses and no additional CTAP funding has been available for course updates. Other courses currently offered that relate to pedestrian and bicyclist safety include “ADA and Transportation Facility Design,” “Roundabout Design,” “Traffic Calming: Strategies that Work” and “Good Practices in Improving Safety at Intersections.” Each of these classes are offered at least once per year.

Designing for Bicycle and Pedestrian Safety Workshops

The HTN has delivered nine “Designing for Bicycle and Pedestrian Safety” full-day workshops throughout the state since Spring 2009. These are offered to local professionals, Caltrans staff and interested community leaders at no charge. Five more workshops were delivered in FY 10–11; this TE project ends in August of 2012.
In addition to open enrollment courses, any agency can request a course in the catalog at any time. Tech Transfer will deliver the course if the agency contracts for the entire delivery, or if the agency and Tech Transfer can collectively generate sufficient demand to support the course. Caltrans used to contract with Tech Transfer to make certain trainings available at no cost to staff, such as CSS, Geometric Design and Systems Engineering. However, as of the fiscal year beginning July 2009, existing training contracts have expired and no new training contracts have been executed.

**OTHER TRAINING OPPORTUNITIES**

**Symposia and Conferences:** Employees seek out conferences, such as New Partners for Smart Growth, Walk Bike California, Pro Walk-Pro Bike, Association of Pedestrian and Bicycle Professionals (APBP) Professional Development Seminar, RTC’s TrailLink, Safe Routes to School, Pedestrians Count! and WALK 21.

**Professional Development:** Examples of popular off-site trainings include those offered through Tech Transfer, National Highway Institute, CSU Sacramento, UC Davis Extension, FHWA, APBP, Transportation Research Board, League of American Bicyclists, etc.

**Committees:**
- CBAC
- CalPED
- ATLC Advisory Group
- Safe Routes to School Advisory Committee

**Webinars:** APBP, FHWA, National Highway Traffic Safety Administration, Pedestrian and Bicycle Information Center, RTC, America Walks and others offer webinars, which have become quite popular recently, and email notifications about them are regularly distributed among Caltrans staff.
Section III: Current Bicycle and Pedestrian Transportation Trainings

The HTN Study Team identified bicycle and pedestrian technical training options available to Caltrans employees for the period 2006–2010 through research, interviews and the online staff survey conducted in 2010. The HTN Study Team then created two documents to synthesize this information:

1) A list of current bicycle- and pedestrian-related educational options are categorized by type of training, and summarized in the Training Course Matrix; this multi-color spreadsheet is attached as Appendix C.

2) The most widely used training curricula were closely reviewed and summarized. Those training summaries that are still current are listed in Appendix D.

In reviewing the interview and online survey comments (described further in Section IV) and the various curricula identified by respondents, two themes rose to the surface: on-the-job training is essential and a wealth of high quality training resources are already available.

On the-job training is essential, because many employees will not have acquired bicycle and pedestrian transportation skills prior to joining Caltrans. Few, if any, Caltrans employees had the opportunity, as part of their degree curriculum, to acquire basic pedestrian and bicycle transportation knowledge, whether in design, planning, traffic operations, construction, maintenance or landscape architecture. Therefore, in order for employees to acquire basic multi-modal transportation skills and then continue to develop best practices knowledge throughout their careers, bicycle and pedestrian transportation technical training must be acquired on the job.

There is a wealth of high quality training resources available to Caltrans employees from within the Department as well as from other state, federal and local agencies, and from non-profits and private consulting firms. Thus, while some training should be tailored specifically to Caltrans needs, it is not necessary to “re-invent the wheel” on many bicycle and pedestrian technical training topics. The challenges really lay in discerning who needs training, and securing the resources to deliver that training (discussed further in Section IV).

A summary of Non-motorized Training in Caltrans was presented by Landscape Architecture with the Division of Design at the May 2010 ATLC Advisory Group meeting (Appendix H), indicates that from 2007 through May 2010, Caltrans sponsored and delivered non-motorized classroom training to 973 people, including 545 Caltrans employees and 428 local agency staff. This training has consisted mostly of multiple deliveries of the FHWA/Caltrans “Designing for Pedestrian Safety” two-day workshop (18 deliveries), FHWA/Caltrans “Planning and Designing for Pedestrian Safety” three-day course (four deliveries), and a variety of workshops offered by the HTN partners (detailed in Appendix D).
It is estimated that 10 to 12 functional units within the Department have a role in developing or maintaining multi-modal transportation, which includes about one-third of all Caltrans’ 22,000 employees. The Department will need to accelerate the depth, breadth and pace of its non-motorized training efforts in order to meaningfully implement Complete Streets and related active transportation policies within the next decade.

It is noteworthy that the FHWA “Planning and Designing for Pedestrian Safety” training is the most highly-rated and widely attended pedestrian safety training available to Caltrans employees, and is frequently over-subscribed. Also, during the fall of 2010, FHWA is offering more than eight two-day “Designing for Pedestrian Safety” trainings in Los Angeles County alone in response to continuing high demand.

While it is encouraging that there is demand for the trainings, and that significant numbers of Caltrans staff are participating in bicycle and pedestrian focused training, there are many more who need to be trained on topics ranging from ADA compliance to fully implementing Complete Streets. And, as updates and revisions to key manuals are adopted, such as those now in process for the PDPM, the HDM, and the Maintenance Manual, widespread manual update training will also be essential.

Comprehensive working knowledge of multi-modal transportation systems and best practices will be increasingly important to meet the climate change related mandates of AB 32, SB 375 and SB 391 (See below). Training is an implementation strategy as well as a deliverable of the California Blueprint for Bicycling and Walking, the Complete Streets IAP, SHSP implementation, the ADA Curb Ramp and Sidewalks Access Program (per Caltrans Settlement Agreement), and the Smart Mobility Framework.

**CLIMATE CHANGE RELATED MANDATES**

| **AB 32** | (Nunez, 2006) calls for a reduction in greenhouse gas emissions to 1990 levels by 2020. |
| **SB 375** | (Steinberg, 2008) requires greenhouse gas targets to be set and Sustainable Communities Strategies to be developed through Metropolitan Planning Organizations’ Regional Transportation Plans. |
| **SB 391** | (Liu, 2009) requires Caltrans to update the California Transportation Plan (CTP) to address how the state will achieve “maximum feasible emissions reductions” consistent with AB 32. |
Section IV: Survey and Interview Responses

Interview and Online Survey Methodology

Survey Design
In 2010, the HTN Study Team, in coordination with the Caltrans Office of Community Planning staff, designed a survey tool using Survey Monkey™ in order to gather data from a wider audience, as a supplement to the personal interviews conducted for this Report. The broad sample (1,000 surveys distributed to current Caltrans employees, which netted 243 respondents) provided an opportunity to better understand training needs, interests, and barriers and to solicit suggestions for improving training on bicycle and pedestrian planning, design and maintenance.

Survey Participation Selection
Our target audience was staff who play some role in the development or maintenance of bicycle or pedestrian facilities; we expected to find them primarily in planning, design, construction and maintenance.

The process of selecting the audience was somewhat limited by the capability of the Lotus Notes email program used by Caltrans. We coordinated with staff in the Caltrans Office of Community Planning and sorted Caltrans staff to identify those with the following in their title: “transportation engineer” or “transportation planner.” In addition, 25 staff from Landscape Architecture were also included. This yielded 3,000 potential survey respondents, and 1,000 staff were randomly selected from that pool.

In March 2010, an email transmittal with a link to the survey was sent to 1,000 staff from Deputy Director of Planning and Modal Programs, Chief Engineer, and Interim Deputy Director, Maintenance and Operations.

Interview Design and Selection
The HTN Study Team commenced key informant interviews in 2007, conducting phone or in-person interviews with 25 staff in HQ and several Districts. At the close of FY 07–08 the survey process was put on hold due to contractual delays. The HTN project ramped up again in 2009, when many of the interviews were updated with more current information.

The survey was closed on April 5, 2010; 243 completed responses were received out of 1,000 emailed surveys, for a response rate of 23.7 percent. The response pool included staff from HQ and every District, and more than a dozen functional units (see Display A).

### Display A: Online Survey Respondents by Functional Unit and Location (N=243)

<table>
<thead>
<tr>
<th>Numbers by Location</th>
<th>Numbers by Functional Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HQ</td>
<td>Construction</td>
</tr>
<tr>
<td>District 1</td>
<td>Design</td>
</tr>
<tr>
<td>District 2</td>
<td>Landscape Architecture</td>
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<tr>
<td>District 3</td>
<td>Engineering Services</td>
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<td>District 4</td>
<td>Environmental</td>
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<td>District 5</td>
<td>Local Assistance</td>
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<tr>
<td>District 6</td>
<td>Maintenance</td>
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<tr>
<td>District 7</td>
<td>Transportation Planning</td>
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<tr>
<td>District 8</td>
<td>Program/Project Mgmt</td>
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<tr>
<td>District 9</td>
<td>Traffic Operations</td>
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<tr>
<td>District 10</td>
<td>Encroachment Permits</td>
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<tr>
<td>District 11</td>
<td>Mass Trans and Rail</td>
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<tr>
<td>District 12</td>
<td>Other (please describe)</td>
</tr>
</tbody>
</table>
The survey included both multiple-choice type questions, as well as some open-ended questions, and many staff chose to offer comments on a variety of subjects. A copy of the survey summary results and transmittal memo are included as Appendix A.

We were also interested in comparing our results to a 2003 email survey conducted by Alta Planning + Design, to determine if there were any noteworthy trends.

Summary of Findings

The bulk of questions in the interviews and online survey focused on how Caltrans employees find and receive training on topics related to bicycle and pedestrian transportation. We have presented the findings from those questions below under the heading, “Training Promotion, Program Structure and Content Findings.” This includes data on preferred training topics; understanding of Departmental Directives and Policies; and accessing and publicizing training (funding, time constraints, finding and advertising available courses, etc).

However, both in the interviews and in the open-ended online survey questions, respondents provided many comments and suggestions that went beyond training per se, and those comments have been grouped for purposes of this discussion under “Departmental Priorities, Processes and Performance Indicators.” It was clear from the feedback that, while staff feels more and better training is important, that by itself, training is not sufficient to improve the Department’s performance on serving bicyclist and pedestrian transportation needs. These comments included perceptions of the need for cultural change and higher prioritization of serving non-motorized customers; better integration of bicycle and pedestrian needs at earlier stages of the planning and project development process; and better data collection and development of non-motorized performance measures.

In summary, the major findings from the survey and interviews are:

• Significant Progress: Caltrans has made significant progress, especially in the last five years, in addressing the needs of bicyclists and pedestrians, as evidenced by the adoption of key policies including CSS, Complete Streets Policy and IAP, and Caltrans Guide on Main Streets: Flexibility in Design and Operations.

• Training Format: Staff indicated a strong preference for indoor instruction combined with field training; followed by classroom training; while webinars scored the lowest.

• Training Topics: Respondents self-identified a strong need for training across a wide variety of bicycle- and pedestrian-related topics, especially: application of policies/guidelines to non-motorized modes, intersection design, work zones, roadway retrofitting and ADA compliance.

• Departmental Policies and Directives: While there is general familiarity with these directives, staff indicated that there are so many directives and policies that they are not effectively implementing them. Suggestions offered by staff included: implementation training on the highest priorities, and accountability for follow-through (performance measures).

• Training Promotion: Many respondents feel they do not have enough time or funding to attend trainings; do not get enough information on available trainings; and that the Department does not make trainings accessible across Divisions and functional units.

• Caltrans Culture/Leadership: While more training is needed, staff often commented that this, by itself, is not the solution to improving bicycle and pedestrian transportation; rather, providing for these modes needs to be communicated as a higher priority from Caltrans leadership and regularly reinforcing this message.

• Consideration early in the process: Numerous comments from planners, landscape architects and engineers identified a strong need to address bicycle and pedestrian safety and access earlier in the design process, in Purpose and Need statements, PIDs and PDTs, and to increase non-motorized expertise on PDTs. Respondents also expressed concern that non-motorized expertise is often lacking or dismissed on PDTs and other collaborative teams.

• Better Data and Performance Measures: Respondents cited the lack of bicycle and pedestrian data and performance measures as a hurdle in measuring progress and treating these modes as important in an environment where “on-time and on-budget” drives priorities.

Training Promotion, Program Structure and Content Findings

The 2010 online survey addressed a range of topics relating to the content, format and communication of training opportunities within Caltrans relating to bicycle and pedestrian transportation.

Preferred Training Formats and Length

(Questions #3–4)

For the five training formats, respondents listed their preferences from most preferred to least preferred: Combination of indoor instruction with field training 4.75 (out of 6) Classroom training 4.39 Conferences with a variety of sessions 3.84 Web-based training taken independently 3.69 Webinars with live instructor 3.40
As to the length of training courses, staff ranked their preferences as follows (again, most to least preferred):

- Half-day workshops: 4.31 (out of 6)
- Full day workshops: 4.14
- Multi-day workshops: 3.64
- Field Academy (1 week): 3.35
- Multiple part-day sessions: 3.28

The preferences are consistent with comments in the interviews and survey responses that furlough days and other time pressures means less time for training.

**Need for Training by Topic (Question #6)**

The responses to this question indicated a need for training across a wide variety of bicycle and pedestrian related topics; there was not a clear consensus around a few topics (see Display B). In fact, of the 23 topics listed, 17 topics were rated as strongly or fairly strongly needed (i.e., rated either 5 or 6 on a scale of 1–6) by at least 40 percent of the respondents. Thus, while no one or two topics were rated significantly higher than the others, the following topics received one of the top two scores by the most respondents:

- Intersections, interchanges and roundabouts
- Application of policies, standards and guidelines to non-motorized modes
- Legal and liability issues
- Accommodating bicyclists and pedestrians in work zones
- ADA compliance
- Sidewalks and crossing treatments
- Incorporating bicyclist and pedestrian travel into projects
- Bridges and undercrossings
- Retrofitting existing roadways
- Complete Streets
- State highways as Main Streets projects
- How to evaluate and prioritize safety improvement projects

The following topics garnered the next highest ratings:

- Accommodating bicyclists and pedestrians in work zones
- ADA compliance
- Sidewalks and crossing treatments
- Incorporating bicyclist and pedestrian travel into projects
These results are parallel to a somewhat similar email survey in 2003, when the Department contracted with Alta Planning + Design to conduct two email surveys regarding non-motorized transportation, the results of which were reported in a July 14, 2003 Memorandum. The first survey, the Caltrans User Needs Assessment Survey, was sent to 1,000 randomly selected Caltrans employees to understand future training needs and interests relating to non-motorized transportation; 190 responses were received. Respondents to this 2003 survey indicated a strong interest in trainings that address the following topics:

- Integrating bicycles and pedestrians into projects (at 62 percent, the top choice)
- General planning (55.9 percent)
- Bridges and undercrossings (53.7 percent)
- Intersections, interchanges and roundabouts (53.7 percent)
- Planning and designing bicycle paths, lanes and routes (47 percent)
- ADA compliance (46.9 percent)
- Retrofitting existing roadways (46.9 percent)

These results are fairly consistent with the results found in the HTN Study Team 2010 survey, as illustrated in Display B. Caltrans employees continue to express a strong interest in receiving trainings on how to accommodate bicycles and pedestrians at intersections, interchanges, and roundabouts, how to retrofit roadways to meet the needs of non-motorized modes, and how to ensure that all projects are ADA compliant.

**Departmental Policies And Directives (Questions #8–10)**

While a strong majority of respondents were generally familiar with Departmental policies and directives (68.7 percent), the responses were split on whether they were easy to implement and use, with the largest number of respondents (44 percent) answering, “don’t know/not sure.”

DD-64-R1 relating to Complete Streets was moderately to very familiar to over 40 percent of respondents; 22.6 percent were not familiar with it; and 15.6 percent considered it not relevant to their job function (see Display C).

“I learned today from a design reviewer, who went to a large auditorium-sized project engineers meeting, that when they were asked, ‘how many people are familiar with DD-64-R1,’ only one person raised a hand. The [challenge] is getting the policy knowledge down to all levels.”

**DISTRICT 4, TRANSPORTATION PLANNING STAFF**

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**ADA Access Program**

In order to maintain full compliance, Caltrans’ ADA Access Program will include widespread mandatory staff training, not only in Design but expanded to Traffic Operations (accessible signals and signage), Maintenance (Capital Preventative Maintenance as well as ADA-compliant curb ramp, sidewalk and crossing upgrade requirements) and Construction (ADA construction work zone access).

This is part of the implementation to meet the terms of a class action lawsuit settlement (approved April 2010), that requires Caltrans to provide 30 years of dedicated State Highway Operation and Protection program (SHOPP) funding ($1.1 billion) to improve access to pedestrian facilities such as curb ramps, crosswalks and sidewalks for persons with disabilities.

Caltrans must ensure that temporary pedestrian routes around construction and all pedestrian facilities newly constructed or altered after April 2010 are fully compliant with federal and state access requirements.

This more comprehensive ADA Access training will become widely available to Caltrans staff beginning in FY 10–11. For more information on the settlement, visit [link](http://www.caltransadapublicrightofwaysettlement.com/).
A significant number of staff offered suggestions to make the policies and directives easier to implement, including:

**More training on policy implementation:**

“The policies are good, the Department can do more to promote their implementation by providing the training for all the functional areas as it appears is being planned for bicycle/ped.”

DISTRICT 4, TRANSPORTATION PLANNING STAFF

**Need accountability for addressing bicycle and pedestrian needs:**

“The Complete Streets IAP was not taken very well as most people see dollar signs and a lack of a program to pay for it as a barrier… There needs to be some accountability to comply with the policy as many people are not taking it seriously.”

DISTRICT 2 STAFF

Main barriers to obtaining bicycle or pedestrian related training (Questions #11 and 18)

Among the six reasons offered, the majority of respondents (51.9 percent) identified lack of money as the main barrier to accessing training, followed by “not enough trainings on this subject matter” (47.7 percent). Only about 5 percent of respondents indicated their supervisor discourages them from attending this type of training (see Display D).

Question #18 also addressed level of supervisor support, asking respondents to rate their agreement with the following statement: “My manager is generally supportive of my seeking training on bicycle and/or pedestrian topics when training funds are available.” About 50 percent strongly agreed and about 12 percent disagreed.

Among the other barriers to training cited by respondents, one of the most interesting was the idea, mentioned more than once, that there should be training directed specifically to construction personnel to ensure that what is ultimately built meets the intended bicycle and/or pedestrian service goal.

“If Caltrans is serious about it, then training should be mandatory for all designers and detailers — perhaps different training for the designers versus detailers.”

HQ, ENGINEERING SERVICES STAFF
“The staff who really NEED the training are the least likely to attend voluntarily (e.g., engineers who work on PIDs).”
DISTRICT 7, TRANSPORTATION PLANNING STAFF

“Construction personnel never get training on construction of bicycle and pedestrian (ADA) facilities.”
HQ, CONSTRUCTION STAFF

“With the time allotted to perform my duties, bike- or pedestrian-related training is insignificant.”
DISTRICT 1, DESIGN STAFF

Publicizing Training Opportunities (Questions #12–15)
A vast majority of Caltrans staff respondents (70 percent) learn about training opportunities on active-transportation-related topics through emails sent by Caltrans. The Caltrans LMS was the next most common source (see Display E). Among the other sources offered by respondents using the comment box, the following were the most commonly used: the District Non-motorized Coordinator; other professionals in the field; web searches; FHWA manuals and HDM; and word-of-mouth.

While some use the LMS as a way to find trainings, its primary purpose is to facilitate the registration and tracking of staff attendance at trainings, which is why it is integrated with the electronic timesheet system. Employees expressed frustration in using the LMS as a training search tool, which is not its intended purpose. Here are some sample comments:

“What are the main barriers you have experienced to getting more training related to bicycle and/or pedestrian planning, design, operations and maintenance? (choose up to 3) (N=243)

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is no money available to pay for trainings</td>
<td>60.0%</td>
</tr>
<tr>
<td>There aren’t enough trainings available on this subject matter</td>
<td>50.0%</td>
</tr>
<tr>
<td>It’s difficult to find information about trainings that are available</td>
<td>40.0%</td>
</tr>
<tr>
<td>I have no time to attend trainings</td>
<td>30.0%</td>
</tr>
<tr>
<td>I have no interest in receiving this training</td>
<td>20.0%</td>
</tr>
<tr>
<td>My supervisor discourages me from attending this type of training</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

“Searching in LMS is not very user friendly — if you don’t have the course number then finding it via the title or specific word search is labor intensive.”
HQ, ENGINEERING SERVICES STAFF

“LMS really isn’t helpful for finding classes on a subject. You need to know what you’re looking for. Unfortunately, I have to rely on notices that get passed down, and often those come too late to take action.”
DISTRICT 5, ENVIRONMENTAL SERVICES STAFF

“I find the LMS system difficult to use and therefore have to manage my time, so I rarely spend/waste it looking at LMS and instead rely upon e-mails from a training coordinator.”
DISTRICT 12, TRAFFIC OPERATIONS STAFF

A majority of respondents (51 percent) responded “no” when asked if Caltrans does an effective job of advertising bicycle/pedestrian training offered by one office or division to staff in other divisions or Districts. 16 percent responded “yes” that Caltrans did do this effectively, and 33 percent responded with “don’t know/not sure” (see Display F).

“Lack of communication. I found out about the FHWA PSAP Training in Stockton just one week before — it was not advertised well. We need a central place to publicize all training related to multi-modal and then individual staff can tell all District staff, who in turn put pressure on management to allow them to go to upcoming trainings.”
HQ, TRANSPORTATION PLANNING STAFF
Design’s bicycle facility design training was made available to our District’s Traffic Operations. I found out about it through the grapevine and had to work to get myself invited to the class. It was so in demand that it was standing room only and I know there were others who wanted to be there.”

DISTRICT 7, LOCAL ASSISTANCE STAFF

“I took a class on ADA related design and construction taught by Dave Cordova and a FHWA rep in late 2005. It was the first and only time we were aware of that class being taught. It was for Division of Design folks only, but I got myself invited. It was about three or four hours long. Seemed like people learned a lot from the class. It was new and critical information for most of us.”

DISTRICT 7, LOCAL ASSISTANCE STAFF

Technical training at Caltrans is decentralized, with each Division providing the appropriate technical skills tailored to their staff. The advantage of this approach is that trainings can be more customized to meet the needs of each functional unit or office. There are also some disadvantages, including missed opportunities and reduced efficiency in connecting trainings with those who need it from various divisions, and fostering better communication and understanding among divergent disciplines.

Respondents felt this could be remedied with some additional internal coordination about how trainings are advertised within Caltrans, and making the training information more transparent for staff throughout the Department. However, the decentralized nature of technical training in the Department means that different Divisions are funding their training from different budgets and therefore prioritize training their own Division personnel before opening up training opportunities to staff from other Divisions. This is an issue that ought to be addressed by the Complete Streets Implementation Task Force, so that the Department can realize the benefits of bicycle and pedestrian skills training across Divisions and functional units while addressing the equity issue of which division’s budget is paying for the training.
“[We need to get] other Departments, like Operations and Maintenance, to understand the importance of and implement the Complete Streets Policy.”

DISTRICT 8, TRANSPORTATION PLANNING STAFF

“The training classes should have a mix of functional areas participating to support the need to work collaboratively within the Department. It is also important to have external partners in the training.”

DISTRICT 4, TRANSPORTATION PLANNING STAFF

The survey responses included the following suggestions for improving the sharing of training opportunities:

- Send an alert by e-mail when training is forthcoming.
- A statewide coordinator with designated District contact would really help. Currently in the respondent’s District, training in all areas is very fragmented.
- Should have a training calendar published every year and then stick to it. Develop training plans for each employee and carry out the plan.
- Create a Departmental Complete Streets program and support the significance of the policy by offering training internally and externally.
- Transportation Planning Division does a good job because they have a unit dedicated to providing training and disseminating information. This is a good model.

- The training classes should have a mix of functional areas participating to support the need to work collaboratively within the Department. It is also important to have external partners in the training.

Departmental Priorities, Processes and Performance Indicators

The second broad category of findings are those relating to Departmental priorities, processes and performance indicators around addressing the needs of bicyclists and pedestrians in all phases of Caltrans’ work from planning through design, construction and maintenance. In the online surveys and personal interviews, one consistent message received is that staff found that more and better training is important, but by itself is not the solution. A number of other necessary components were shared, which can be grouped into the following categories:

1) Priorities: Reinforce at Caltrans that bicycle and pedestrian transportation is an important part, on par with other modes, of its mission to improve mobility. Promote more awareness of the Department’s policies and legal responsibility to serve bicyclist and pedestrian needs.

2) Process: Integrate bicycle and pedestrian considerations early in the planning and project development process.
3) **Data Collection and Performance Measures:**

Gather more comprehensive data about bicycle and pedestrian transportation, and the health impacts of auto and truck trips/traffic, so Caltrans can measure progress. Create organizational and individual performance measures relating to serving active transportation.

**Integrating into Existing Priorities**

Caltrans has already adopted a strong statement about accommodating bicycle and pedestrian modes in all of its work with the adoption of DD-64 and its successor DD-64-R1, “Complete Streets: Integrating the Transportation System.” The U.S. Department of Transportation adopted a strong policy on bicycle and pedestrian accommodation in March 2010. Adoption of these policies did not immediately result in dramatic changes. In fact, some of the interview and email survey responses indicate that there is resistance and resentment surrounding the Complete Streets IAP, due to a lack of resources to implement it. It will take sustained effort and guidance by Caltrans leadership, as well as additional resources, to fully integrate these policies into the culture and processes of the entire department.

“More support from the top is needed. Deputy Directors and many District directors are too focused on delivery, but have the ability to make important decisions related to trainings and incorporating bicycle/peds.”

DISTRICT 4, LOCAL ASSISTANCE STAFF

“Bicycle/ped trainings seen as optional. They need encouragement from their supervisors to attend. This push is missing from the “middle management” level, which includes Division chiefs, office chiefs, project managers, and chief engineers.”

HQ, LOCAL ASSISTANCE STAFF

“We need a class on how to mix cars and bicycles so everyone understands their role in the street. Many staff don’t see that as viable”.

DISTRICT 11, LOCAL ASSISTANCE STAFF

“The message has to come down consistently from management on down; mid-level managers have to ensure that rank and file incorporate good lessons from training.”

HQ, TRANSPORTATION PLANNING STAFF
“Regardless of the lip service Caltrans provides regarding bicycle/ped accommodation, it is a car-focused agency whose bottom line directive is to accommodate cars as the first priority. This is currently reflected in the training process, and needs to be expanded to take on a more multi-modal perspective.”
HQ, TRAFFIC OPERATIONS STAFF

“Many engineers are unaware that it’s CA law that you can’t build a freeway and cut off bicycle and pedestrian access.”
HQ, DESIGN STAFF

“Live training: The most critical thing is to have good speakers or even one-on-one instruction to properly train the engineers on how to accommodate cyclists and pedestrians. There is no question that this is the most important. A book or a video does not allow someone to ask questions when they come up and allow interaction on specific points.”
DISTRICT 11, LOCAL ASSISTANCE STAFF

“Need some way to get from being on paper as a policy to a viable working standard process/procedure. Currently, our planners are ignored by the engineers when we ask for improvements consistent with policies — ‘adds costs and time to projects’!”
DISTRICT 7, TRANSPORTATION PLANNING

Improving the Project Development Process

The HTN Study Team received many comments on this point, from a wide cross-section of Districts and functional units. It is interesting to note that planners, landscape architects and engineers in the comments below all identify a strong need to address bicycle and pedestrian safety and access earlier in the design process. A significant number of interviewees and survey respondents pointed to the importance of ensuring more bicycle and pedestrian planning and design expertise on PDTs, and that all members of the PDTs are fully aware of the requirement (in law and department policy) to provide for bicyclist and pedestrian transportation needs.

As noted above, the policy statements to support early integration of bicyclist and pedestrian needs are already in place with the Complete Streets directive. In DD-64-R1, the Deputy Directors of Planning and Modal Programs and Project Delivery are directed to, “provide tools and establish processes to identify and address the needs of bicyclists, pedestrians and transit users early and continuously throughout planning and project development activities.” This directive has been carried over into the Complete Streets IAP which includes modification of the PDPM as one of the six Highest Focus Areas, which are recognized by the Complete Streets Implementation Task Force as “essential for success.” Chapter 8 of the PDPM, as updated this year, references this issue and states, “Include the District bicycle, pedestrian and transit coordinators on the PDT whenever users of these modes of transportation are present or if there are multi-modal needs to address.” However, the language could be stronger to emphasize the importance of having bicycle and pedestrian design expertise on all teams where it might be needed.
A recent issue that has arisen in connection with the update of the PDPM is the Department policy of not referring directly to Deputy Directives and Directors Policies in the document when they are not readily available to the public on the internet. This means that there is no reference in the PDPM to DD-64-R1, which contains critical direction to Caltrans staff on how to effectively serve bicyclist and pedestrian needs. This may partially explain why nearly a quarter of those who responded to the online survey stated they were unfamiliar with the Complete Streets directive.

The reason for not posting directives and policies online is unclear; there may be portions of some policies or directives that are intended only for internal Caltrans consumption. But Caltrans has publicized its Complete Streets policy (which is posted on the Department’s Complete Streets webpage) and been deservedly lauded as a national leader in this area.

“From the perspective of Division of Structure Design, Districts are typically unaware of the need to address pedestrian and bicycle safety early in the process. It is common for the Districts to make requests for changes to accommodate alternate modes — for instance, addition of a Class I Bicycle Route on a pedestrian structure — at a design stage that is so late in the process that it cannot be implemented without causing significant delays and re-design.”

HQ, ENGINEERING SERVICES STAFF

“Provide more funding and have them scoped in the PID.”

DISTRICT 7, LANDSCAPE ARCHITECTURE STAFF

“The department takes the approach that all functions are responsible for incorporating pedestrian and bicycle facilities. This is fine but there should be a design functional unit, such as Landscape Architecture, that serves as an advocate during the project approval and environmental document and plans, specifications and estimate phases.”

DISTRICT 5, LANDSCAPE ARCHITECTURE STAFF

“Caltrans may not involve the bicycle and pedestrian stakeholders at the right time. When Caltrans staff (could be a planner or project engineer) does initial on-site inspection of proposed project and sees no obvious bike/ped use, they’ll often conclude they don’t need to design for it.”

HQ, LANDSCAPE ARCHITECTURE STAFF

Another major focus of the Complete Streets IAP is revising the HDM to more effectively address bicyclist and pedestrian needs. This item is one of the six Highest Focus Areas, and modifications are currently underway. One area called out in the interviews was the necessity for design exceptions in cases where there should really be more flexibility in the standards.

Design Exception System:

“There should be a separate set of urban design standards that make narrower lanes the standard. For example, for Road overlay, to stripe for bicycle lane, we would need to narrow a 16’ lane to 11’ by design exception. Eleven foot lane, or 10’, should be a standard alternative and not require an exception. The manual should build in project design flexibility for commonly recurring exceptions where judgment is required, without subjecting staff to the pressure of potentially increased liability by granting design exceptions.”

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HQ, TRANSPORTATION PLANNING STAFF
In addition to data, respondents cited a need to create Departmental and individual performance measures for non-motorized transportation. Both data gathering and performance measures are also included among the six Highest Focus Areas of the Complete Streets IAP.

With the adoption of DD-64-R1 and the Complete Streets IAP, the Department has made significant strides toward better accommodation of bicyclists and pedestrians.

“Assessments should be performance based, and bicycle/ped access for communities should be considered when evaluating how well Caltrans is serving a community. Right now there is no monitoring for bicycle/ped access, but there is for roads and highways (number of lanes, etc.).”
HQ, TRAFFIC OPERATIONS STAFF

“On-time and on-budget — this is the narrow focus and directive that started happening in the mid-80’s... Speed and quantity are monitored; quality is not a priority right now.”
HQ, TRAFFIC OPERATIONS STAFF

Data Collection and Performance Measures
Several interviewees pointed to the need to gather more comprehensive data about bicycle and pedestrian transportation, to more accurately measure progress. Measuring progress on the quality and safety of bicycle and pedestrian transportation has always been hampered by scarce and inconsistent data. Caltrans has already taken some steps to gather more comprehensive data by providing additional funding to include more questions about bicycle and pedestrian transportation in California’s portion of the National Household Transportation Survey.

“Project coordination would help. Design engineers will follow through on what’s in the project description. It’s an engineering mindset that DD-64 is constantly fighting — if bicycle-ped elements are not in the project description, they won’t be incorporated. PID engineers design the original project.”
HQ, LOCAL ASSISTANCE STAFF
“There are no Performance Measures for bicycle or pedestrian modes, so these aren’t emphasized. If you don’t measure it, it has no value.”

HQ, LANDSCAPE ARCHITECTURE STAFF

“System planning is all about cars. Regarding sidewalks, it’s always the minimum rather than the optimum design. Designing well for pedestrians is not part of the culture yet, but it should be infused into everything we do.

HQ, LANDSCAPE ARCHITECTURE STAFF

“In SHOOP, many project elements that would enhance the experience (especially for bicycles and peds) are stripped out — such as roadside enhancements. The concept of the “complete corridor” from the 70’s still hasn’t been realized. Caltrans still spends SHOOP just on pavement maintenance (with exception of stormwater compliance, where it’s used for berms, swales, etc. to comply with federal and state regulations).

HQ, LANDSCAPE ARCHITECTURE STAFF

“We can set policy, but need defined performance measures to make changes. Caltrans operates around performance standards. Bulk of philosophy and work pattern centers on performance standards, and making it more challenging is having to acknowledge current liabilities in engineering design.”

HQ, LOCAL ASSISTANCE STAFF

“The focus of Capital Programs is getting projects completed on-time and on-budget. It’s difficult to get the Capital Programs people to focus on the same issues as the Modal people (i.e. the planners) do. There needs to be connection made between the Capital Programs people putting in the roads and facilities, and the quality of experience for cyclists and pedestrians.”

HQ, TRAFFIC OPERATIONS STAFF

“For pedestrian, bicycle and transit design, operation and safety issues, there is a big gap in knowledge. It is not made a priority. Districts are focused on project delivery — on time, within budget. HQ is more focused on policy; Districts are focused on project delivery (on-time and on-budget) — not on quality of project delivered.”

DISTRICT, COMMUNITY PLANNING STAFF
The HTN Study Team began developing the recommendations for this report in 2008, but as noted previously, the project was stalled for two years. It is encouraging to note that, in the intervening two years, a number of HTN Study Team’s recommendations have been proposed and/or are being implemented by Caltrans, including various items in the Complete Streets IAP.

Training Promotion, Program Structure and Content

PROMOTION

The marketing and promotion of non-motorized trainings directly impacts the number and diversity of employees who attend. To improve employees’ access to information about bicycle- and pedestrian-related policies and training opportunities, the following is recommended:

- Create, and advertise to employees, a page on the Caltrans website that provides information about bicycle- and pedestrian-related policies (including regulations and directives from Caltrans), resources and Caltrans-sponsored training opportunities. To make maintenance of the information more manageable, the page should include links to external website resources (such as the Sacramento Area Council of Governments Complete Streets Resource Toolkit) for outside training and resources. The Caltrans training website could better support staff by having a dynamic feature to allow staff to register to receive automatic alerts on topics of interest to them.

- Clarify for staff the role that the LMS system has in training promotion. Some staff treat it as a place where trainings are advertised and others see it simply as a mechanism for enrolling in trainings that have been advertised by other means, such as email.

PROGRAM STRUCTURE

The decentralized structure of the training program within Caltrans can make it difficult for employees to learn about and access trainings. To improve access to pedestrian- and bicycle-related trainings, the following is recommended:

- Develop more web-based trainings related to non-motorized transportation. Even though web-based trainings were not the preferred educational mode of respondents, it is an appropriate delivery tool for large audiences. Caltrans is already moving to increase its web-based trainings based on their cost-effectiveness to serve many people without incurring additional travel and training costs. Ideally, web-based trainings are interactive and use a variety of media to meet the needs of all types of learners and keep staff engaged in the material. Web-based training addresses the need for just-in-time trainings. With trainings available online at any time, staff could access them when they need the information and will have immediate opportunity to apply what they have learned.

- Continue/expand live classroom training. The survey results from 2010 show a strong preference for in-person training, especially combined with field training. The challenge is that these trainings are more expensive to sustain over the long-term, although there are models and funding available for low-cost live training.

- Provide a mechanism for more cross-training opportunities between Divisions and functional units to promote better collaboration and more effective integration of bicycle and pedestrian needs into the project development process. This would also foster better communication and understanding among divergent disciplines, particularly between planners and engineers. This type of training would be especially effective if developed and/or delivered with active participation by Caltrans staff.

- Promote opportunities for Continuing Education Units that enhance skills related to bicycle and pedestrian transportation: This strategy provides an incentive for more staff to attend these trainings.
To better address the needs of bicyclist and pedestrians, it is recommended that Caltrans make the following additions to the content of its trainings:

- Provide additional training for Caltrans staff on the topics that were identified as most needed in the email survey (see page 23).
- Provide Complete Streets Implementation training to better equip Caltrans staff to properly and effectively apply DD-64-R1 to their work.
- Develop and offer bicycle- and pedestrian-related content specifically to cross-train staff from different functional units (e.g., engineering, design, construction, maintenance, landscape architecture, and others). Create training goals for each functional unit to ensure diversity at the training. Mixing staff from different disciplines would not only promote the cross-collaboration required on project development teams, it would also increase the expertise, which is necessary to deliver safe, non-motorized transportation projects.

- Include non-motorized field investigations in trainings. The experience of bicycling and walking on roads that are ill-designed or well-designed for non-motorized transportation is crucial to staff’s ability to meet the needs of bicyclists and pedestrians. Field investigations by both bicycle and foot should be included in topical trainings as well as trainings on the project development process and how to conduct job site visits.

**Departmental Priorities, Processes and Performance Indicators**

**PRIORITIES AND AWARENESS**

The culture at Caltrans continues to evolve into a more multi-modal department, and training opportunities can help accelerate this trend. The following recommendations are intended to help increase awareness among Caltrans staff about Caltrans’ policies and legal responsibilities around serving bicycling and pedestrian modes:

- Showcase successful examples of projects where DD-64-R1 has been fully implemented and Complete Streets fully realized. These projects, in which bicyclists and pedestrians have been considered at every stage of the process, would be highlighted as models and made available to other Caltrans staff through the aforementioned bicycle and pedestrian page of the Caltrans website, training academies, top management communications, and other channels.

- Include regular messages highlighting bicycle- and pedestrian-related policies and priorities in the Caltrans newsletter. Make clear that it is Caltrans’ mission to provide mobility for all users, including those on bicycle and foot; focus on training.

- Produce a video about the importance of better serving bicyclists and pedestrians, demonstrating that doing so is central to the mission of Caltrans. This video could be released in conjunction with Bike to Work Day in May or Walk to School Day in October.

**PERFORMANCE INDICATORS INFORM TRAINING: DATA COLLECTION, DEPARTMENTAL GOALS AND EMPLOYEE PERFORMANCE MEASURES**

Performance indicators are necessary to motivate, measure progress, and to determine needs for more advanced training. These must encompass data collection for bicycle and pedestrian activity as well as internal Caltrans performance measures. Caltrans staff prioritize their work to fulfill their job functions and stated performance measures. To effectively serve bicyclists and pedestrians, the following is recommended:
The California Blueprint for Bicycling and Walking called for performance measures for volume and safety; the Complete Streets IAP identifies Data Collection and Performance Measures Highest Focus Areas. The Blueprint recommended gathering comprehensive data regarding mode share, multimodal trips, accident data and before-and-after data at selected bicycle and pedestrian major improvement projects.

Develop bicycle- and pedestrian-related department performance measures based on Complete Streets Policy and CSS for the divisions, offices, and Districts. For managers, one of their performance measures needs to relate to providing training to their staff to ensure they have the requisite skill and understanding to fully address bicyclist and pedestrian needs in their job performance.

FURTHER IDEAS: VISUAL TOOLS

- Create a video that shows the experience of being a bicyclist from the bicyclist’s point of view. There are already good examples of this, including one developed by Dan Gutierrez in Los Angeles that has generated positive reviews. His video was shot by mounting cameras on his helmet facing both forward and backward. This video could be incorporated into academies as well as non-motorized trainings.

- Create a similar video to the one described above, but from the perspective of a pedestrian. The film could also depict the experience of a person in a wheelchair to demonstrate the challenges that persons with disabilities face in navigating streets and sidewalks.

- Develop training tools that addresses “The Most Common Design Mistakes in Accommodating Bicyclist and Pedestrians, and How to Fix Them.” This document could be developed in collaboration with members of the ATLC Advisory Group or consultants, and be widely disseminated throughout the Department.
The HTN Study Team has appreciated the opportunity to assess Caltrans' bicycling and pedestrian training activities. It is hoped this report will assist Caltrans in its efforts to fully implement its multi-modal mission, particularly with respect to providing safe mobility for bicyclists and pedestrians, and encouraging the full implementation of the related State and Departmental policies.

Appendices

A. Online Survey—Summary Results and Transmittal Memo
B. List of Interviewees by Functional Unit and Location
C. Bicycle and Pedestrian Training Course Matrix
D. Curricula Reviews
E. Caltrans DD4-R1 Complete Streets Policy Directive
F. Caltrans Complete Streets Implementation Action Plan Summary Chart
G. U.S. DOT Policy Statement on Bicycle and Pedestrian Accommodation, March 2010
H. Non-motorized Training Summary, May 2010

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