



TECH TRANSFER



**DOING MORE
WITH LESS**



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The **Technology Transfer Program** is a unit of the Institute of Transportation Studies at the University of California, Berkeley. Our mission is to bridge research and transportation practice by facilitating and supporting the planning, design, construction, operation, and maintenance of efficient and effective state-of-the-art transportation systems. The Technology Transfer Program provides training, technical assistance, conferences and information resources in the areas of planning and policy, engineering, project development, infrastructure design and maintenance, safety, and the environment for motorized and non-motorized roadway traffic, aviation, and rail.

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Tech Transfer newsletter is published quarterly and mailed to 18,500 readers in California and the United States with funds from the California **Local Technical Assistance Program** (LTAP).

The **Technology Transfer Program**, California's LTAP Center, is part of a nationwide network of centers established by the **Federal Highway Administration** (FHWA) in cooperation with state transportation agencies. California's LTAP Center is funded with additional support from the **California Department of Transportation** and is administered by the **University of California, Institute of Transportation Studies, Technology Transfer Program**.

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TECH TRANSFER



TECH TRANSFER PROGRAM NOTES

DOING MORE WITH LESS

This issue of *Tech Transfer* covers a topic about which we are all painfully aware: how to continue to provide a high level of service during difficult economic times.

We include recommended resources that you can use to find new streams of funding (p. 14), information about the American Recovery and Reinvestment Act (also known as the Federal Stimulus Package) and ways to make your project shovel-ready (p. 12). Finally, we explain how Tech Transfer's free Traffic Safety Evaluation (TSE) Service helps cities or counties like yours identify solutions to traffic safety problems (p. 8).

NEW FACE AT TECH TRANSFER

We are pleased to welcome **Eduardo C. Serafin, PE, AICP** as the new Research and Development Engineer at Tech Transfer. Eduardo is a nationally certified planner (specializing in urban and transportation planning) and a professional traffic engineer registered in the State of California. He has over 23 years of professional traffic and transportation experience covering planning, policy, environmental impact analysis, preliminary design, engineering operations and safety.

He brings together his professional experience from California, the northeastern United States, Texas, and his native Philippines.

As a transportation professional, Eduardo strives to champion multi-modal transportation planning, integrated land use-transportation planning, transit planning and transit oriented development (TOD) planning, comprehensive pedestrian and bicyclist planning, environmentally sensitive land development, context-sensitive transportation infrastructure planning and the ethical practice of professional traffic engineering.

Previously, Eduardo served as the first Senior Traffic Engineer for the City of Napa and an adjunct graduate lecturer at San Jose State University. In addition, he has more than 13 years of experience working at private consulting firms specializing in transportation engineering and planning, as well as five years in applied research and training in major universities.

At Tech Transfer, Eduardo will help in the management of ongoing training and technical assistance programs. He will also be key in the development of future training programs to address the dynamic needs of the professional community in transportation engineering and planning. Welcome, Eduardo!

FREE SYSTEMS ENGINEERING TRAINING RETURNS

This free, two-day course is crucial for anyone who is involved in implementing systems engineering principles. The training session goes beyond lectures and discussions—it engages attendees to work on a series of class exercises based on real-world ITS projects, collectively reflecting the practical systems engineering process from beginning to end.

This course is free thanks to funding from Caltrans and the Federal Highway Administration.

Courses are scheduled statewide over the next year:

- San Jose
November 2-3, 2009
- Fresno
November 4-5, 2009
- Diamond Bar
February 9-10, 2010
- Richmond
March 10-11, 2010
- Costa Mesa
June 7-8, 2010
- San Diego
June 9-10, 2010

For more information or to register, visit www.techtransfer.berkeley.edu/itstraining.

NEW IN GOING...GOING...GONE

Going...Going...Gone offers free transportation-related material to public agency employees in California.

We are pleased to announce the availability of two new items from the Federal Highway Administration:

→ Vegetation Control for Safety: A Guide for Local Highway and Street Maintenance Personnel

This guide helps local road agency maintenance workers identify locations where vegetation control is needed to improve traffic and pedestrian safety, to provide guidance for maintenance crews, and to make them aware of safe ways to mow, cut brush and otherwise control roadside vegetation.

→ W-Beam Guardrail Repair: A Guide for Highway and Street Maintenance Personnel

This guide provides highway and maintenance personnel with up-to-date information on how to repair damaged W-Beam guardrail, the most frequently used barrier system.

Place your order at www.techtransfer.berkeley.edu/freestuff.



ACCESS MANAGEMENT: A KEY TO SAFETY AND MOBILITY

Access management can be defined as the process or development of a program intended to ensure that the major arterials, intersections and freeway systems serving a community or region will operate safely and efficiently while adequately meeting the access needs of the abutting land uses along the roadway. The use of access management techniques is designed to increase roadway capacity, manage congestion, and reduce crashes.

Through the years, extensive investment for public roadway infrastructure has been made. This has largely involved public funds, but private monies also have contributed to rebuilding and enhancing the street system. During the past 30 years or more, the ability to increase roadway capacity has been increasingly difficult due to both economic and environmental constraints. Areas that do not practice effective access management face more rapid deterioration of the quality of traffic flow than those areas with a well-thought out access management policy in place.

The purpose of this briefing sheet is to describe the traffic engineering and design considerations in relation to the use of access management techniques to increase safety and reduce crashes.

The lack of an access management plan or policy will ultimately result in a number of negative consequences including:

- Reduction in overall safety reflected by the increase in crashes
- Greater number of conflicts and potential hazards between vehicular bicycle and pedestrian movements
- Diversion of through traffic into abutting neighborhoods in an attempt to bypass added congestion
- Increased congestion with slower travel speeds and delays to arterial traffic

→ Non-transportation effects such as increases in strip commercial development, less pleasing visual settings and ultimately, a poor image for the businesses along the corridor

TRAFFIC ENGINEERING AND DESIGN CONSIDERATIONS TO ENHANCE ACCESS MANAGEMENT

Some of the most significant areas to address in relation to access management are related to traffic signal spacing, the number of drive-ways and the characteristics of an intersection.

Traffic Signal Spacing

Figure 1 shows comparative accident rates for a given signal density and number of unsignalized access points per mile. The graph clearly shows that a greater number of access points and signals per mile translate into increases in crash rates. As an example, if the number of access points are held constant at less than 20 unsignalized access points per mile, and the number of signals per mile are categorized as less than two, as compared to two to four signals per mile, there is a 50 percent increase in the crash rate (from 2.6 million vehicle miles of travel (mvmt) to 3.9 mvmt.)

FIGURE 1

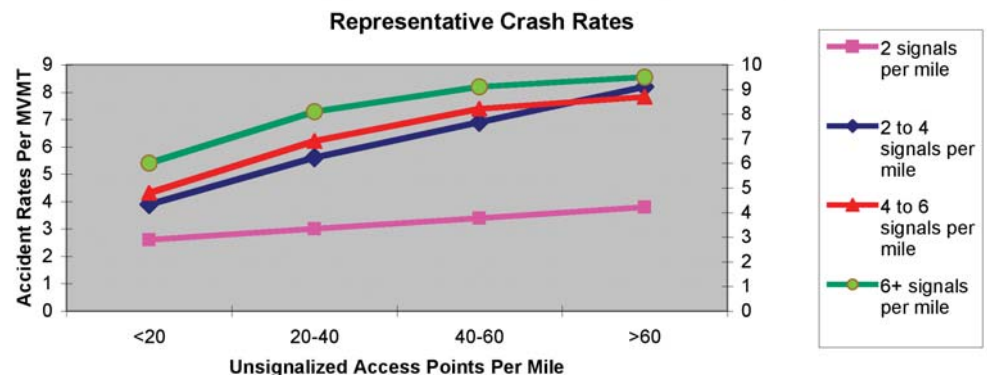




Table 1 considers the number of signals per mile in comparison to crash data compiled from seven states. As shown, there is an increase in the crash rate of 158 percent (from 3.53 crashes per mvmt to 9.11 crashes per mvmt) when under conditions of less than two signals per mile as compared to six or more signals per mile.

Intersection Spacing

As the number of intersections per mile increases, the opportunity for crashes increases. The existence of too many intersections per mile also increases delay and congestion. Table 2 provides a few rules of thumb for intersection spacing.

The Iowa Department of Transportation conducted an access management research project and collected data in seven communities in conjunction with the development of an access management awareness program. Figure 2 shows the number and type of accidents per year (and percentage reduction) prior to and after implementation of a series of access management techniques. As shown, total accidents were reduced by approximately 39 percent; and rear-end and left- turn accidents were reduced by 41 and 42 percent, respectively.

Functional Areas of Intersections

The functional area of an intersection is that area beyond the physical intersection of two roadways that comprises decision and maneuvering distance, plus any required vehicle storage length. The functional area includes the length of road upstream from an oncoming intersection needed by motorists to perceive the intersection and begin maneuvers to negotiate it.

The upstream area consists of distance for travel during a perception-reaction time, travel for maneuvering and deceleration and queue storage. The functional area includes the length of road downstream from the intersection needed to reduce conflicts between through traffic and vehicles entering and exiting a property.

Driveways located within the functional area may create too many conflict points within too small an area for motorists to safely negotiate. The integrity of functional areas of intersections can be protected through corner clearance, driveway spacing and intersection spacing requirements. Intersections should be spaced far enough apart so that functional areas do not overlap.

TABLE 1

Signals Per Mile	Crashes Per MVMT
Under 2	3.53
2 to 4	6.89
4 to 6	7.49
6+	9.11

TABLE 2

Intersection Spacing/ Roadway Types	Suggested Spacing
Arterial (major roadway) to arterial (intersecting minor roadway)	≥ 1 mile
Arterial (major roadway) to collector (intersecting minor roadway)	≥ 0.5 mile
Intersection of local roads with arterials is not recommended; However if required, follow suggested spacing	500 to 660 feet
Rural areas, intersections between public roads	0.5 mile; preferred 1 mile

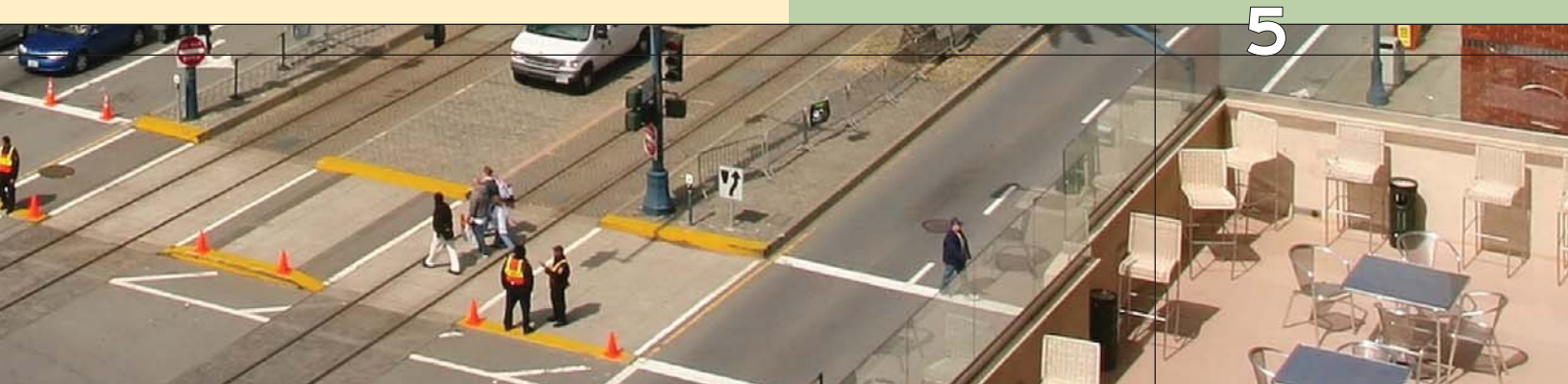
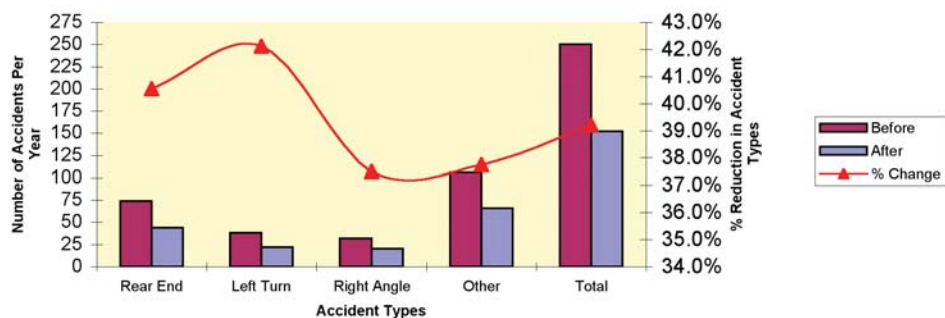




FIGURE 2

Iowa Study: Accidents Per Year, by Crash Type: Before and After Implementation of Access Management Techniques



Access Management Tools and Techniques

There are a number of other tools and techniques available to consider for use as part of an access management plan. They include both physical design techniques as well as policy related to addressing land development and roadway design standards. Examples of common and highly effective techniques are:

- Consolidate and minimize left turn exits from driveways
- Use of a two-way center left-turn lane
- Use of a raised center median
- Encourage shared driveways for adjacent land parcels/developments
- Create service roads for direct land access parallel to major arterials
- Provide adequately designed turn lanes

RESOURCES FOR FURTHER INFORMATION

- American Association of State Highway Transportation Officials. *A Policy on Geometric Design of Highways and Streets*. Washington, DC: AASHTO, 2001.
- Center for Transportation Research and Education (CTRE). *Access Management Toolkit: Answers to Frequently Asked Questions*. www.ctre.iastate.edu/Research/access/toolkit.
- Federal Highway Administration. *Benefits of Access Management*, FHWA Document FHWA-OP-03-066.
- Institute of Transportation Engineers. *The Traffic Safety Tool Box: A Primer on Traffic Safety*. Washington, DC: ITE, 1993.
- Iowa Department of Transportation and the Iowa Highway Research Board. *Access Management Awareness Program, Phase II Report*. Iowa DOT Project TR-402, CTRE Management Project 97-1. Center for Transportation Research and Education, December 1997.
- Parsonson, P.S. M. Walters, and J. S. Fincher. *Effect on Safety of Replacing an Arterial Continuous Two-Way Left-Turn Lane with a Raised Median*. 1st National Conference on Access Management. Vail, Colorado: 1993.
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- Transportation Research Board. *Access Management Manual*. Washington, DC: TRB, 2003.
- Transportation Research Board. *NCHRP 348, Access Management Guidelines for Activity Centers*. Washington, DC: TRB, 1992.
- Transportation Research Board. *NCHRP 420, Impacts of Access Management Techniques*. Washington, DC: TRB, 1999.

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UPCOMING ACCESS MANAGEMENT TRAINING SESSION

Attend Tech Transfer's Access Management and Site Design course, taught by Philip Demosthenes and Nazir Lalani. This course focuses on best practices for management of access between the roadway and various sites, including commercial and residential sites. The course is scheduled on January 28-29, 2010 in Monrovia, California. Learn more and register at www.techtransfer.berkeley.edu.



HIGHLIGHTS FROM THE 2009 CALIFORNIA PAVEMENT PRESERVATION CONFERENCE

The Fourth Annual California Pavement Preservation Conference was held in Oakland, California on April 8 and 9, 2009. Major topics included strategy selection, new technologies, and funding pavement preservation programs. Many speakers stressed the importance of partnered efforts between industry, academia, and user agencies in convincing elected officials to fund pavement preservation practices. Several presentations also discussed the use of environmentally friendly technologies such as hot and cold recycling, the incorporation of waste rubber tires into asphalt pavements, warm mix technology for energy and emission reductions, and porous pavements to regenerate ground water tables.

OPENING SESSIONS

In the opening session, Randy Iwasaki, Chief Deputy Director for Caltrans, noted that \$206 million is now spent on pavement preservation by Caltrans, up from \$90 million. He mentioned the I-710 perpetual pavement project in southern California, the importance of developing a pavement management system, and the role of the California Pavement Preservation Center at California State University, Chico in getting the word out about pavement preservation. Mr. Iwasaki also discussed the need to push pavement preservation as a

major part of the next transportation bill, the university involvement in research at the University of California, Davis, and the need to attract students into the field of pavement preservation. He also noted that \$2.7 billion in stimulus money will be available for highways and streets in California with about 67% of it headed to cities, counties, and local agencies and 33% going to Caltrans.

In a session on economic stimulus and funding issues, Walter "Butch" Waidelich, California Division Administrator of the Federal Highway Administration, discussed the future direction of the nation's transportation program and the emphasis on pavement preservation.

Larry Patterson from the City of San Mateo described his agency's experience with pavement management. Mr. Patterson noted that San Mateo has 189 centerline miles of streets (126 miles of local streets) with an estimated investment of \$196 million. San Mateo initiated a pavement management program using The Metropolitan Transportation Commission's StreetSaver software in 1995 and had it fully implemented in 2001. They went from rehabilitating five-to-10 miles of street per year to more than 50 miles per year. The pavement management program provided San Mateo with an accurate

and complete condition assessment, offered information for education of the public and elected officials, and led to more pavement preservation treatments such as slurry seals and chip seals.

A DISCUSSION OF MORE ENVIRONMENTALLY-FRIENDLY PAVEMENTS

Sessions describing more environmentally beneficial pavement preservation treatments included a presentation by Francois Chaignon of COLAS on the energy and emission issues associated with road construction. The discussion covered new and existing technologies such as Warm Mix Asphalt and the use of emulsified asphalts as ways to reduce energy consumption and emissions in an increasingly environmentally sensitive world. Sohila Bemanian, a consultant formerly with the Nevada Department of Transportation described various hot and cold in-place recycling strategies.

John Harvey of the University of California Pavement Research Center discussed quiet pavement research. Dr. Harvey described the equipment that researchers use to monitor pavement noise from passing vehicles on various types of pavement surfaces including modified open

graded friction courses. Selection of certain pavement surfaces to reduce pavement noise may be a viable alternative to the construction of expensive sound wall barriers.

INNOVATIONS, TECHNOLOGIES AND STRATEGIES

In a session on innovations, new technologies, and strategies in the pavement preservation arena, Mary Stroup-Gardiner of the California Pavement Preservation Center identified some new materials and pavement systems that are not yet fully integrated with California's pavement preservation program. Examples include RAC-O-HB field projects that appear to be performing well, various interlayer systems, fog and rejuvenating seals, European quiet pavement systems, and cold and hot in-place recycling.

Conference sponsors included the American Concrete Pavement Association-Southwest, California Chip Seal Association, Caltrans, California Pavement Preservation Center, and the Technology Transfer Program.

To view conference presentations, visit www.techtransfer.berkeley.edu/pavementpres09.

In 2010, the California Pavement Preservation Conference will take a year off, and the 1st Annual International Conference on Pavement Preservation will be held in its place. The conference will be held April 13-15 in Newport Beach, and it will bring together researchers and experts working in pavement preservation worldwide to exchange ideas and discuss critical issues. Register at www.pavementpreservation.org/icpp.

HOW A TRAFFIC SAFETY EVALUATION CAN HELP IMPROVE YOUR ROADS

Is your city or county struggling to find the right solution to a recurring traffic safety problem, such as an intersection with a high number of crashes, a spot where drivers frequently speed, or a street where traffic doesn't circulate properly? If so, the Technology Transfer Program's free Traffic Safety Evaluation (TSE) Service can help.

At your request, two safety experts—one traffic engineer and one traffic enforcement expert—will visit your city for two days to evaluate traffic safety problems and recommend appropriate engineering and enforcement solutions. After their visit, our evaluators will present you with a complete report that describes the safety issues they examined, their observations on-site, engineering and enforcement recommendations to mitigate any safety problems identified, best practices and lessons learned from cities like yours, safety resources for further reference, and potential funding sources to help implement recommended solutions.

This service is free for California cities and counties. Funding for this program was provided by a grant from the California Office of Traffic Safety (OTS), through the National Highway Traffic Safety Administration (NHTSA).

Engineers and Police personnel from cities and counties where we have conducted evaluations have told us they find the evaluation service valuable because the evaluators bring wide experience and knowledge of best practices to the city. The evaluations provide technical assistance to support local agencies that do not have in-house traffic safety expertise. In many cases, our evaluators provide the credible third-party analysis that a jurisdiction needs to support grant proposals or plans submitted to their City Council. The following case studies explain the evaluation process and describe how five jurisdictions in California have improved traffic safety as a result of the free TSE service.

IMPROVING AN UNSAFE ARTERIAL

One Southern Californian city requested review of an arterial that had no sidewalks, along with narrow shoulders, isolated streetlights, high speed traffic, few traffic signals, and businesses on both sides of the road that attracted pedestrians to cross at uncontrolled intersections. Despite the city's efforts to improve safety on this arterial, there were more than 30 fatal collisions during a ten-year span and more than 450 total collisions in a five-year span.

During the visit to the city, the evaluators reviewed issues with city staff then spent time in the field gathering relevant information. After the visit, they prepared a comprehensive report for the city. The report included both short-term and long-term recommendations for traffic safety and operational improvements. The evaluators provided a list of cost-effective steps that the city could take to improve marked crosswalks in the short term. They also provided recommendations to address the need for additional signals and roadway design improvements as funding becomes available in the longer term.

The city found the TSE recommendations useful as a means to determine cost-effective solutions for them and is currently preparing a project scope for the improvements.

BRINGING ENFORCEMENT AND ENGINEERING CLOSER TOGETHER

Another Southern California city requested a TSE to review 10 intersections and five roadway segments with the highest annual crash totals within the city and evaluate traffic circulation around schools. In response to this request, a traffic

engineer evaluator and traffic enforcement specialist reviewed traffic records and related information from the city. The team then visited the city for two days, where they met with local officials, discussed the city's request, and performed field evaluations.

Based on the data and their field observations, the evaluators made many recommendations for improvements on streets and at intersections and provided references for further information. They also made several recommendations aimed at enhancing the efficiency and effectiveness of the city's enforcement programs. These include establishing traffic safety goals at high collision intersections and roadway segments, and encouraging shared use of safety data and information including pre-drawn intersection diagrams of major intersections.

After receiving the TSE report, city personnel told us that they especially appreciated that the enforcement and engineering recommendations were provided side-by-side in the report. In any city or county, it is beneficial for the two departments to coordinate so as to ensure safety on the streets, yet frequently there are significant gaps in how much one department understands or knows





about the work of the other. The report in this case, among other things, emphasized coordination between the two departments.

FINDING COST-EFFECTIVE SOLUTIONS FOR A CASH-STRAPPED CITY

A residential neighborhood in a large California city requested a TSE to address community concerns about traffic volumes, speed, and circulation on neighborhood roads. Like many California cities, this city has a limited budget and was concerned that some recommendations might not be feasible due to the associated costs.

Enforcement and engineering recommendations focused on low-cost improvements. Many of the evaluators' enforcement solutions involved adjustments to the existing enforcement priorities that the department could make to improve efficiency and efficacy of existing safety programs with little or no added cost. Most of the engineering solutions suggested re-striping, additional signage and other low cost improvements. In addition, evaluators provided information about potential funding sources in their report, including grants available from the California Office of Traffic Safety.

Even with suggestions for low cost solutions and potential funding resources, the city staff realized it may not be possible to implement all of the recommendations, so the city provided a citizen's group with a copy of the report and asked them to prioritize solutions and then encourage the City Council to fund the high priority solutions first. The city plans to implement the recommendations as soon as possible.

COMPREHENSIVE & MULTI-YEAR TRAFFIC PLANNING

A city in Southern California has been ranked by OTS's safety rankings of California cities as one of the highest frequencies of collisions among cities within its population group—a problem recognized by the city's police department (PD) and traffic engineering group. The city's PD, with participation from the city's public works department, requested a TSE be performed to help them identify ways to significantly improve traffic safety within the city.

The TSE report identified numerous enforcement areas that could be improved, including developing and monitoring traffic safety action plans, enhancing or streamlining police reporting of collisions, and more effective deployment of limited traffic unit staff. The TSE evaluators

recommended that more strategic and tactical effort be focused on the DUI problem in the city. In addition, the PD is now working more closely with traffic management department staff to address some of the engineering issues identified in the TSE.

Currently, the city is using the TSE to develop a comprehensive, multi-year traffic plan to address many of the safety issues identified in the TSE, as well as the goals and objectives for traffic safety citywide. The PD is also planning to update its records management system to obtain detailed information essential to traffic goal setting and supervision. Moreover, the TSE is being used to obtain state-of-the-technology devices for red-light-running enforcement and to seek appropriate funding to better address traffic safety and operations in the city.

TRAFFIC SAFETY MONITORING OVER TIME

A mid-sized Northern California city requested a TSE for their city twice in the last seven years, mindful that traffic patterns and safety issues can change dramatically over time in a fast-growing suburban environment. As part of the most recent evalua-

tion, the TSE evaluators reviewed the traffic enforcement recommendations from the previous TSE report to determine how much progress had been achieved in the seven years since. From the new TSE, the recommendations to the city police department included record keeping (e.g., automated traffic collision database for collisions and citations) and traffic school training (e.g., Standardized Field Sobriety Test training for traffic officers).

In the new TSE, the city found the traffic engineering recommendations for city-wide application extremely helpful. The TSE evaluators identified multiple, specific recommendations for traffic signal operations, roadway signs and markings, marked crosswalks, analysis of crash data, use of a digital-images-based photolog system, technical training, and risk management.

TO REQUEST AN EVALUATION FOR YOUR CITY

City or county traffic engineering and police departments can request an evaluation for their city by emailing tse-info@techtransfer.berkeley.edu. Learn more about the Traffic Safety Evaluation (TSE) Service at www.techtransfer.berkeley.edu/tse.



MANDATORY RACE CONSCIOUS DBE PROGRAM REQUIRED OF ALL FEDERAL-AID FUNDED PROJECTS

In early March of 2009, the Federal Highway Administration (FHWA) approved the California Department of Transportation (Caltrans) 2009 Disadvantaged Business Enterprise (DBE) Annual Overall Goal. FHWA's approval required the immediate implementation of the new DBE Program that includes a Race Conscious component (RC DBE Program). Effective immediately, Caltrans and local agencies receiving Federal-Aid funds must begin transitioning to the new RC DBE Program.

The traditional implementation of the DBE program includes six groups as defined by the Code of Federal Regulations (49 CFR Part 26): Asian

Pacific Americans, African/Black Americans, Native Americans, Women, Latino/Hispanic Americans, and Asian Subcontinent Americans. The Caltrans Availability and Disparity Study found "statistically significant" underutilization of four DBE groups, which are now also referred to as Underutilized DBE (UDBE):

- Asian Pacific Americans
- African/Black Americans
- Native Americans
- Women

As a result of the Caltrans Availability and Disparity Study, Caltrans has shifted to the Race Conscious DBE program to address the underutilization of the four UDBEs above.

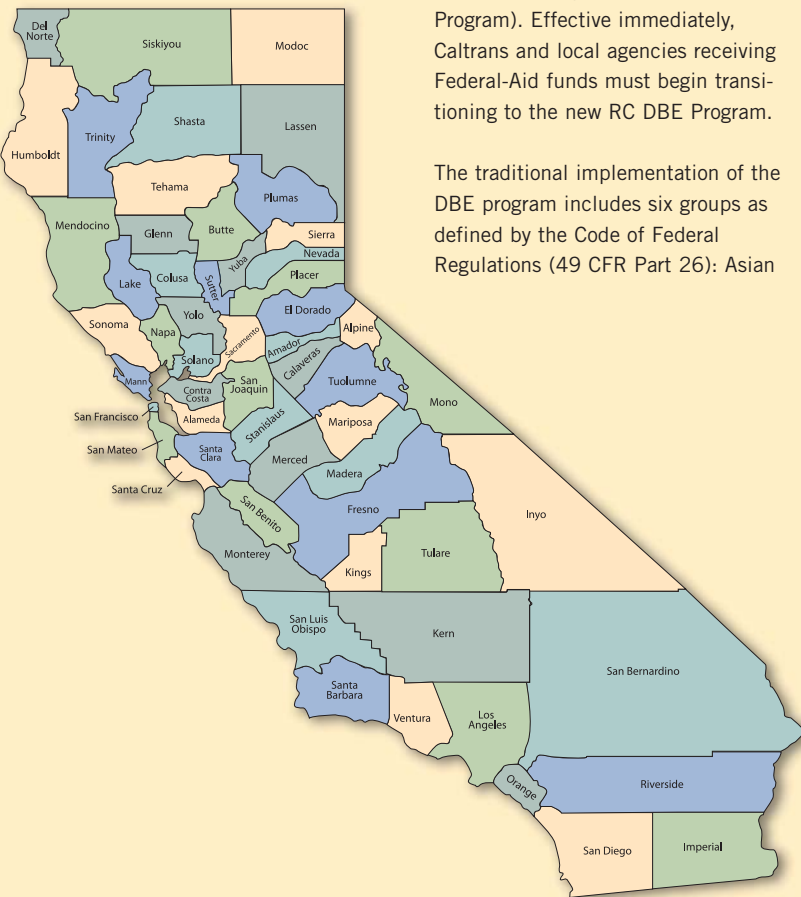
All local agencies (i.e., cities and counties, metropolitan transportation organizations, and regional transportation planning agencies) are strongly encouraged to begin their transition to the new RC DBE Program immediately. Under the new RC DBE Program, local agencies must incorporate the new race conscious contract specifications into all Federal-Aid consultant and construction contracts.

To help Caltrans quickly launch the new mandatory Race Conscious (RC) DBE program, Tech Transfer hosted a total of 16 free training seminars in April throughout the state. 791 people participated in the training statewide. The main goal of the training program was to help train local agencies to administer the new RC DBE Program required for all Federal-Aid funded projects. The training program focused on the following key elements:

- Program Overview for Underutilized DBE (UDBE)
- Calculating Annual Anticipated DBE Percentage Levels (AADPL)
- Evaluating Good Faith Efforts (GFE)
- DBE Reporting
- DBE Contract Administration

We are now working on an online version of the training for those who were unable to attend the DBE training sessions or need a refresher. Watch for release by September 30, 2009.

For more information about the Race Conscious Disadvantaged Business Enterprise program, please visit Caltrans' webpage at www.dot.ca.gov/hq/LocalPrograms/DBE_CRLC.html.





DBE Q&A WITH CALTRANS

How do the Disparity Study results affect the local agencies' Annual Anticipated DBE Percentage Levels (AADPLs)?

The Disparity Study results require local agencies to split out their AADPLs into Race Neutral and Race Conscious portions. The Race Conscious portion of the AADPL is limited to the four underutilized groups. The Race Neutral portion of the AADPL is inclusive of all six groups.

The Overall Statewide Goal is 13.5% (6.75% Race Neutral, 6.75% Race Conscious). Can local agencies adopt this goal instead of calculating their own AADPLs?

No, in order to maintain a narrowly tailored DBE Program, local agencies must calculate their AADPLs based on their respective market areas, types of work, and total dollars.

What is a UDBE?

A UDBE is an underutilized Disadvantaged Business Enterprise. UDBEs fall into one of the following groups: African American, Asian Pacific American, Native American, and Women.

How do local agencies and contractors locate UDBEs in the California Unified Certification Program (CUCP) database? Is there a UDBE certification?

There is no specific certification for UDBEs. To facilitate locating UDBEs, the CUCP database breaks out DBEs by gender and ethnicity.

Do local agencies count participation by DBEs that are owned by Hispanic Males and Subcontinent Asian Male—the two groups that were found not to have statistically significant disparity in the Study?

Yes, but they are not counted towards the contract goals nor the Race Conscious portion of the local agencies' AADPLs. Participation by Hispanic Males and Subcontinent Asian Males is counted towards the Race Neutral portion of the local agencies' respective AADPLs.

Are we reinstating the Good Faith Effort requirement in the procurement process for federal-aid contracts? Where can one find Good Faith Effort guidance?

Yes. The Good Faith Effort requirement is being reinstated but is limited to UDBEs. Guidance may be found at www.dot.ca.gov/hq/LocalPrograms/DBE_CRLC.html.

If local agencies have previously submitted their 2009 AADPLs prior to the transition back to a Race Conscious DBE Program, are they required to resubmit their AADPLs?

No, local agencies are not required to resubmit their 2009 AADPLs. They are, however, required to determine the portion of the AADPLs they believe they can meet through race neutral means, and the portion of their AADPLs they can meet through using contract goals (race conscious), and set individual contract goals. To determine the Race Neutral portion of the AADPL, local agencies may use the previous year's actual DBE attainment level. The remaining percentage of the AADPL may constitute the Race Conscious portion.

Are local agencies' proposed AADPLs subject to a 45-day public comment period and consultation with minority, women's and general contractor groups, etc.?

A public comment period is not required in the development of local agencies' AADPLs.

Are contractors on federal-aid contracts required to substitute UDBEs with UDBEs or make a good faith effort to do so?

Yes, contractors on federal-aid contracts are required to notify the local agency and document good faith efforts to replace the UDBE with another UDBE.



RESOURCES FROM THE TRANSPORTATION LIBRARY

SHOVEL READY PROJECTS AND THE FEDERAL STIMULUS PACKAGE



INFORMATION FROM CALTRANS

Caltrans Economic Recovery Website

Caltrans

www.dot.ca.gov/recovery

→ Gives an overview of the American Recovery and Reinvestment Act (ARRA) and how funds are being allocated in California. It also provides information on how the approval process has been expedited and instructions for project certification.

Caltrans Local Assistance – American Recovery and Reinvestment Act of 2009

Caltrans

www.dot.ca.gov/hq/LocalPrograms/EconomicRecovery/index.htm

→ This website provides clear and organized information pertaining to how the ARRA relates to Caltrans. The website also provides information about how local agencies can access the stimulus money for their projects.

INFORMATION FROM THE UNITED STATES DEPARTMENT OF TRANSPORTATION (USDOT)

USDOT Information Related to the American Recovery and Reinvestment Act of 2009

www.dot.gov/recovery

→ This resource provides an overview of how the ARRA affects transportation initiatives and projects, as well as background information on the recovery process. This site also lists projects that are pending and approved from agencies across the country.



**Recovery.org Agency
Summary for USDOT**
www.recovery.gov

→ Provides reports and information about the allocation and disbursement of stimulus money. It also aggregates news about projects funded throughout the country.

**INFORMATION FROM
LOCAL AGENCIES**

MTC – Funding – ARRA

Metropolitan Transportation Commission
www.mtc.ca.gov/funding/ARRA

→ Outlines the impact of ARRA on Bay Area transportation projects. Also includes forms and guidance for proposals from the area to gain ARRA funding. Many of these projects are transit-oriented.

Orange County Ready to Work

OCTA
www.octa.net/stimulus

→ Outlines different shovel ready projects throughout Orange County, and provides a timeline for the use of ARRA funds. OCTA uses channels such as YouTube (www.youtube.com/user/OCReadyToWork) and Facebook to give information and status updates on these projects.

**American Recovery and
Reinvestment Act (2009)**

Sacramento Area Council of
Governments
www.sacog.org/projectdelivery/
2009/03/19

→ The region's Metropolitan Transportation Plan for 2035 received funding from ARRA, allowing for earlier completion of projects. The Metropolitan Transportation Plan for 2035 encompasses transportation projects in the six counties around Sacramento.

REPORTS AND ARTICLES

**President Obama Signs Economic
Stimulus Bill, New Law Contains
Nearly \$50 Billion for
Transportation Improvements**

D. Bauer, *Transportation Builder*, v.21,
n.1, January-February 2009, pp. 28-29.

→ Provides an overview of the impact of ARRA across the transportation sector, outlining which kinds of projects will receive funding and roughly how much.

**Stimulus Bill Gives 'Shovel Ready'
Projects Priority**

B. Naylor, National Public Radio,
February 11, 2009.
[www.npr.org/templates/story/story.
php?storyId=100295436](http://www.npr.org/templates/story/story.php?storyId=100295436)

→ Discusses what "shovel ready" means in terms of project scheduling and the environment, as well as how these projects are eligible for money from the economic stimulus package.

**ABOUT THE INSTITUTE OF
TRANSPORTATION STUDIES
LIBRARY**

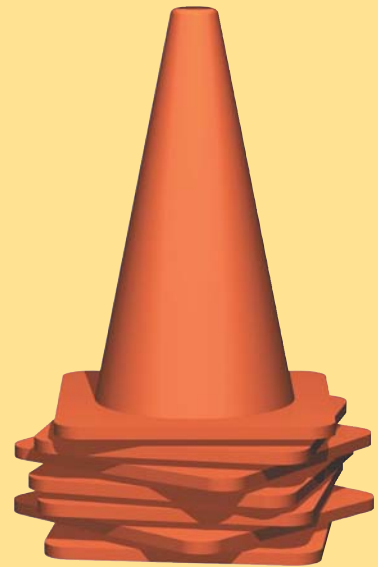
→ Employees of California public sector transportation agencies at the local, state, and regional levels, including federal agencies located in California, are eligible to request anything in the transportation library's catalog for free. The library will even provide up to 50 pages of photocopies of articles from journals, trade magazines, or conference reports, or scan and e-mail the requested material.

→ We encourage public agency employees to contact the Library for reference services and loans. Specialized services are provided free to public agency employees with funding from the California Local Technical Assistance Program (LTAP). See library.its.berkeley.edu for details, or contact:

Kendra Levine

Reference and Outreach Librarian
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GRANT WRITING TIPS FOR SUCCESS

Money may not grow on trees, but with a little diligence, you may be able to secure grants. Nearly \$450 billion in federal assistance is awarded every year. Much of this funding is distributed through state and local agencies, and many private companies provide grants as well. Grant-writing does not need to be difficult; the key to successful grant writing is to convince grantors to fund your agency's projects. Below are tips on how to do so.

- **Identify the Grant, Then the Need.** Like dating, successful grant writing is about finding the right match. Instead of looking for grants to fund a particular project, look at grants and see if there's anything the agency needs.
- **Find the Money.** With the advent of the Internet, locating grants has never been easier. The secret is in diligent searches. Use keywords that will get the information and eliminate a lot of the useless Web sites.
- **Ask Your Legislator.** Ask about pending legislation or make a suggestion for a competitive grant.
- **Follow the Grant Guidance.** Because most grants are competitive, it's important to make a good case for why your agency deserves funding. Knowing what the grantor is looking for and aligning your agency's needs with the grantor's priorities improves your chances of landing the grant.
- **Assemble the Right People.** Agencies should assign more than one person to the responsibility of applying for grants. Instead, once a grant has been identified, agencies should assemble a team of subject matter experts to help write and review the grant's narrative.
- **Don't Be Afraid to Ask Questions.** If you have questions, call the grant sponsor for clarification.
- **Edit Your Application.** Ask someone who's a particularly strong editor to review the final document. Misspellings, awkward sentence structure and poor grammar can torpedo even the most admirable project.
- **Avoid Excessive Formatting.** Just because your computer can produce "word art," doesn't mean it's appropriate for a grant proposal. Limit fancy typefaces, keep the use of bold and italic typefaces to a minimum and avoid exclamation points at all costs. Clear and professional is your goal.
- **Ask Around.** Look for tips from agencies that have already been awarded grants. Most agencies are willing to share their grant-writing success stories. Use the Internet to search for agencies that have applied for similar grants and ask for suggestions.

Reprinted with permission from the April 2008 issue of *Public Safety Communications*, the magazine of the Association of Public Safety Professionals. The magazine is available online at www.apcointl.org.

CALIFORNIA FUNDING RESOURCES

Looking to fund a transportation project in California? Below are several resources that might help.

California Office of Traffic Safety (OTS)

ots.ca.gov

OTS administers traffic safety grant funds to reduce traffic deaths, injuries and economic losses. Examples of OTS-funded programs include DUI-reduction programs, pedestrian and bicycle safety programs for children, occupant protection, including child passenger safety outreach, and support for increased law enforcement services and resources. Local agencies in California are eligible to apply for OTS grants.

Caltrans Division of Local Assistance

www.dot.ca.gov/hq/LocalPrograms

Caltrans' Local Assistance Program oversees more than one billion dollars annually available to over 600 cities, counties and regional agencies in California for the purpose of improving transportation infrastructure or providing transportation services. This funding comes from various federal and state programs specifically designed to assist the transportation needs of local agencies. Annually, over 1,200 new projects are authorized through the Local Assistance Program of which approximately 700 are construction projects.

3M Sign Grant Program

solutions.3m.com/wps/portal/3M/en_US/3M_Sign/Grant

3M offers a sign grant program to help local agencies upgrade their signs in accordance with new federal retroreflectivity requirements. The purpose of the grant is to assist agencies in replacing underperforming signs with ones made from higher performance prismatic reflective sheeting at lower cost.

Metropolitan Planning Organizations (MPOs)

www.dot.ca.gov/hq/tpp/offices/orip/index.html

Check your local MPO's website for information about funding availability. Caltrans maintains information about state MPOs at the URL above.



NOW AVAILABLE FOR LOAN: NEW REFERENCE AND TRAINING MATERIAL

Looking for a training refresher or a reference book? Interested in learning about a new best practice or reading up on a standard? Want to train your entire staff using a DVD? We can help.

The Technology Transfer Program offers local agencies in California free access to multimedia and print library resources through Local Technical Assistance Program funding. Videos and CD-ROMs can be used for self-guided training, and books and manuals are important reference resources. Browse our newest selection of material below, and request a resource today.

MULTIMEDIA LIBRARY

Our Multimedia Library Collection contains more than 700 CD-ROMs, DVDs, and VHS tapes and is constantly updated with new material. Browse our entire collection at www.techtransfer.berkeley.edu/videos.

New in the Multimedia Training Library:

Administration and Finance

- **Private Partnerships for Public Needs**, APWA, CD-ROM, 2009. *CD-755*
- **Strategic Communication: Capitalize your Time with the Public, Councils Media**, APWA, CD-ROM, 2005. *CD-757*

Heavy Equipment

- **Fuel Crisis Toolkit**, American Trucking Associations (ATA), DVD, 2008. *DV-746*
- **S-Cam Brake Adjustment**, ATA, VHS, 2006. *VH-747*

Infrastructure Design

- **Complete Streets**, American Planning Association (APA), CD-ROM, 2007. *CD-751*
- **Infrastructure Planning: An Expanded View**, APA, CD-ROM, 2007. *CD-750*
- **Lessons Learned in Streetscaping Projects**, APWA, CD-ROM, 2006. *CD-758*
- **Traffic Calming: Retrofitting Existing Neighborhoods**, APWA, CD-ROM, 2003. *CD-752*

Maintenance

- **Innovative Ideas for Sidewalk Management**, APWA, CD-ROM, 2004. *CD-754*
- **Porous Pavement – How is it Performing?** APWA, CD-ROM, 2008. *CD-756*

Safety

- **Developing an Effective Safety Program**, American Public Works Association (APWA), CD-ROM, 2007. *CD-753*
- **Playing it Safe with PPE: Personal Protective Equipment – Your Last Line of Defense**, American Road and Transportation Builders Association, DVD, 2009. *DV-749*

- **Protecting Our Future: Reducing Traffic Fatalities on Tribal Lands**, Washington Traffic Safety Commission, DVD, 2009. *DV-748*

TRANSPORTATION LIBRARY

Employees of California public sector transportation agencies are eligible for free loans of material from the vast collection of the Institute of Transportation Studies Library at the University of California, Berkeley. Search the collection and request an item at library.its.berkeley.edu.

New books in the Transportation Studies Library:

Bridges

- **AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, 4th Edition, 2009 Interim Revisions**, American Association of State Highway and Transportation Officials (AASHTO), 2009.
- **AASHTO Transportation Glossary, 4th Edition**, AASHTO, 2009.
- **Guide Specifications for LRFD Seismic Bridge Design**, AASHTO, 2009.
- **Bridge Management**, by M.J. Ryall, Butterworth-Heinemann, 2001.

- **Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, 5th Edition**, AASHTO, 2009.

Pavements

- **Pavement Cracking: Mechanisms, Modeling, Detection and Case Histories**, Edited by Imad L. Al-Qadi, Tom Scarpas, and Andreas Loizos, CRC Press, 2008.
- **Pavement Engineering: Principles and Practice**, by Rajib B. Mallick and Tahar El-Korchi, CRC Press, Taylor & Francis Group, 2008.
- **Porous Pavements**, by Bruce K. Ferguson, CRC Press, 2005.
- **Principles of Pavement Engineering**, by Nick Thom, Thomas Telford Ltd., 2008.

Walkability

- **Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities**, Institute of Transportation Engineers, 2005.

TRAINING CALENDAR

Some of these courses are offered again in the spring and most are available by request.
Read detailed course descriptions and register online at www.techtransfer.berkeley.edu/training.

SEPTEMBER 2009 - DECEMBER 2009

TRAFFIC SIGNALS

Interested in enrolling in the **Traffic Signal Engineering Academy**? Get started with a course listed below. The entire line-up of Academy classes is offered this Fall in Northern California, and next Spring in Southern California. Learn more at www.techtransfer.berkeley.edu/trafficsignals.

Construction Inspection of Traffic Signals

PD-02	\$225/\$325	Sep 23-24	Richmond
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Signal Timing and Operations

TE-04	\$225/\$325	Oct 5-6	Richmond
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Synchro and SimTraffic

TE-13	\$325/\$475	Oct 7-8	Richmond
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Traffic Signal Design

TE-02	\$425/\$695	Oct 13-15	Richmond
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Type 170 Traffic Signal Controller

TE-08	\$325/\$475	Oct 19-20	Richmond
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Type 2070 Traffic Signal Controller

TE-09	\$325/\$475	Oct 21-22	Richmond
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Advanced Traffic Signal Operations

TE-10	\$325/\$475	Oct 26-27	Richmond
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TRAFFIC ENGINEERING AND OPERATIONS

Traffic Flow Principles for Practitioners

TE-27	\$175/\$245	Oct 1	Richmond
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Annual MUTCD Workshop

TE-06	\$125/\$195	Dec 2	Redding
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Fundamentals of Traffic Engineering

TE-01	\$595/\$895	Dec 7-11	Monrovia
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INFRASTRUCTURE DESIGN

Geometric Design for California

IDM-01	\$425/\$695	Oct 13-15	Oakland
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IDM-01	\$425/\$695	Dec 8-10	Monrovia
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ADA and Transportation Facility Design

TE-18	\$125/\$195	Nov 17	Ontario
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PAVEMENT DESIGN AND MAINTENANCE

Asphalt Pavement Maintenance for Local Agencies

IDM-04	\$125/\$195	Nov 4	San Diego
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PLANNING, FUNDING, AND ENVIRONMENT

Funding and Programming Transportation Projects in California

PL-02	\$225/\$325	Dec 15-16	San Bernardino
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INTELLIGENT TRANSPORTATION SYSTEMS

Applying Systems Engineering Principles to ITS Projects in California

TE-21	FREE	Nov 2-3	San Jose
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TE-21	FREE	Nov 4-5	Fresno
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FEDERAL-AID PROJECT DEVELOPMENT: A FIVE COURSE SERIES

Getting Your Federal-Aid Project Started PD-08

Federal Procedural Requirements for Environmental Analysis for Transportation Projects / NEPA EV-03

Procedures for Right-of-Way Acquisition PD-09

Federal-Aid Project Development: Design to Construction PD-10

Federal Rules for Contract Administration and Project Completion PD-11

Sessions are scheduled across California throughout the year.

For more information, visit: www.techtransfer.berkeley.edu/federal-aid-series

EXPERT ASSISTANCE

LTAP FIELD AGENTS

Field agents provide free peer-to-peer technical assistance to local transportation agencies on request. Call a field expert when you need advice or help with a technical issue. This program is funded through the California Local Technical Assistance Program (LTAP). Find someone who can help at www.techtransfer.berkeley.edu/engineers.

ASK-AN-EXPERT

Our Ask-an-Expert program provides answers to transportation-related questions via email from our network of experienced professionals. Request assistance at www.techtransfer.berkeley.edu/ask.

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TO REGISTER

Fees for most courses are two-tiered: the lower rate is for California public agencies and is subsidized by the Cooperative Training Assistance Program (CTAP); the higher rate is for all others.

- Additional course and registration information: www.techtransfer.berkeley.edu/training
- Course content related questions: training_info@techtransfer.berkeley.edu or 510.665.3410
- Registration related questions: registrar@techtransfer.berkeley.edu or 510.665.3466
- Mailing list changes: www.techtransfer.berkeley.edu/subscribe or 510.665.3466