The Technology Transfer Program is a unit of the Institute of Transportation Studies at the University of California, Berkeley. We provide low-cost professional training, workshops, and free technical assistance and information resources. Topic areas cover motorized and non-motorized roadway traffic, aviation, and rail, and include:

- Transportation engineering, operations, and safety
- Traffic signals
- Infrastructure design
- Project development, management, and compliance
- Pavement design and maintenance
- Planning, funding, and the environment
- Work zone safety

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We grant reprint permission for most articles; contact Newsletter Editor Alyssa Sherman at alyssa@berkeley.edu or 510.665.6736.
New federal standards require minimum levels of sign retroreflectivity. To help California cities and counties meet these requirements, we’ve launched a free Retroreflectometer Loan Program that provides California local agencies with access to a measuring device that plays an important role in ensuring quality and accuracy when implementing a roadway sign management program.

**BACKGROUND ON THE NEW STANDARDS**

“Retroreflectivity” refers to the property of a traffic sign to reflect light back to the driver. Retroreflective traffic signs are used to increase sign visibility at night.

On January 22, 2008, FHWA released new standards regarding minimum levels of sign retroreflectivity. As a result, local agencies are now responsible for maintaining their signs to a minimum level of service, and Measured Sign Retroreflectivity using a retroreflectometer is one of the assessment methods authorized in the Manual of Uniform Traffic Control Devices (MUTCD), the standard for signs, signals, and pavement markings in the United States.

Under the new MUTCD standards:
- **By January of 2012,** all cities and counties must establish and implement a sign assessment or management method that will maintain minimum levels of sign retroreflectivity.
- **By January of 2015,** agencies must meet minimum retroreflectivity requirements for regulatory, warning, and ground-mounted guide signs.
- **By January of 2018,** overhead guide signs and street name signs must be in compliance.

**HOW THE LOAN PROGRAM WORKS**

This service is available **free of charge** to employees of California’s local, regional, state, and federal transportation agencies thanks to funding from the Local Technical Assistance Program (LTAP).

The equipment is available for loans of up to two weeks. Agencies must schedule a loan period in advance, and must pick up and return the retroreflectometer and all accessories at the Technology Transfer Program Office in Richmond in Northern California or by appointment with Technology Transfer Program LTAP Field Engineer Dave Royer in Southern California.

When picking up the equipment, our staff will demonstrate proper care and use of the equipment, review the accessories included in the loan, and make sure that agency personnel are comfortable with the equipment.

Borrowing agencies are required to submit a signed Memorandum of Understanding and are responsible for covering the cost of any damages or losses.

**HOW TO REQUEST A LOAN**

1. Download a request form at [www.techtransfer.berkeley.edu/retro](http://www.techtransfer.berkeley.edu/retro)
2. Fill out the form and indicate your preferred loan period.
3. Return the form to us in one of two ways:
   - By Email to: retro@techtransfer.berkeley.edu
   - By Fax to: 510.665.2160

**QUESTIONS?**

Call 510.665.3410.

Need information on how to comply with the retroreflectivity requirements? Check out our resources column on pages 8 and 9 of this newsletter.
NATIONAL UPDATE

The American Recovery and Reinvestment Act of 2009 (Recovery Act) was enacted on February 17, 2009. In its first year, the Recovery Act has impacted government-wide operations with the goal of restoring economic growth and strengthening the American economy. Through the investment of $787 billion, the objectives of the Recovery Act are:

- Job preservation and creation
- Infrastructure investment
- Energy efficiency and investment in science
- Assistance to the unemployed
- State and local fiscal stabilization

The investment in the American economy includes $27.5 billion in highway infrastructure funding and $1.5 billion in National Surface Transportation Discretionary Grants, also known as TIGER grants.

As of March 1, 2010, 100 percent of highway Recovery Act funds were obligated, with 12,071 projects funded, excluding Federal Lands projects. As such, there will be no redistribution of unobligated Recovery Act funds.

THE RECOVERY ACT IN CALIFORNIA

The Recovery Act requires the Federal Highway Administration (FHWA) to report on job preservation, job creation, and expenditures. This reporting can be found at www.recovery.gov. As of the most recent reporting period (December 31, 2009), the Recovery Act had preserved and/or created approximately 1,725 jobs in California. However, it is important to note that only 44 percent of the 771 projects provided information to FHWA. As of the reporting date, there were approximately $204 million in Recovery Act expenditures in the State of California. However, this amount accounts for only 18 percent of projects identified as having expenditures in the reporting period. To create a clear, accurate picture of the impact of the Recovery Act, it is important that agencies awarded Recovery Act funds provide precise reporting of project data and timely invoice submittal.

Approximately $2.55 billion in Recovery Act funding was made available in California for highway infrastructure projects. By March 1, 2010, 100 percent of California’s Recovery Act funding was obligated. By early February of 2010, the Recovery Act funded 109 California Department of Transportation (Caltrans) projects, amounting to approximately $1.35 billion, and 790 locally administered projects, amounting to approximately $1.1 billion.

Caltrans, local agencies, and FHWA worked quickly to identify, select, and authorize projects for Recovery Act funding. This has enabled California to meet all fund obligation deadlines to date. To continue the successful implementation of Recovery Act projects, local agencies that receive Recovery Act funds must be aware of the following key upcoming deadlines and be informed about the results of recent field reviews.
The dates noted above are Federal Recovery Act deadlines. Local agencies are encouraged to consult with Caltrans regarding any State mandated Recovery Act due dates and deadlines. Caltrans maintains a website containing information about state Recovery Act funding: www.dot.ca.gov/Recovery.

A critical factor impacting Recovery Act project obligation requirements relates to de-obligations resulting from a decrease in project costs. Reports of de-obligations should be made in a timely manner and consistently with the State’s process for taking such actions. In accordance with 23 CFR 630.106(a)(4), the state shall revise the federal funds obligated within 90 days after it has determined that the estimated federal share of project costs has decreased by $250,000 or more.

RECOVERY ACT OBLIGATION REQUIREMENTS TIMELINE

Transportation funding in the Recovery Act is available for expenditure through September 30, 2015. The Recovery Act timeline contains several important deadlines that agencies must consider. Descriptions of the relevant deadlines are shown below.

- **March 2 - September 30, 2010 (11:59 PM).** Regular obligation and de-obligation rules apply. Funds can be used for new and existing projects. Any funds released from existing Recovery Act projects are available for obligation on any project eligible for Recovery Act funds. Recipients of redistributed funds will have until September 30, 2010 to obligate the funds.

- **October 1, 2010.** All funds must be obligated. Any funds de-obligated after this date will be withdrawn to FHWA Headquarters and are available for upward adjustments to existing projects on a case-by-case basis.

- **September 30, 2015.** Obligated balances are available for incurred expenses through this date. Any unexpended balances will be canceled.

The Recovery Act includes new accountability and transparency requirements. To achieve this, FHWA and Caltrans staff conduct field reviews. Data and detailed information derived from these reviews concerning the effects of the Recovery Act is available at the FHWA California Division Office.

Due to the large expenditure of Federal funds, Recovery Act projects are subject to substantial scrutiny. The Recovery Act requires that review authority by the United States Comptroller General and the United States Department of Transportation’s Inspector General (OIG) be included in the contract specifications. Reviews conducted by the Comptroller General and the OIG are compliance reviews. The OIG completed reviews of California local agency projects in June of 2009 and February of 2010, and future reviews will be conducted. The FHWA California Division also conducts compliance reviews as part of the annual financial integrity certification process. To prepare local agencies for these compliance reviews, FHWA, at both the national and California Division level, are also conducting multi-disciplinary team project reviews. The purpose of these reviews is to clarify Federal laws and regulations for local agencies and recommend improvements to potential contract administration and/or project documentation deficiencies.

As of February of 2010, the California Division had completed reviews of more than 100 Recovery Act projects.

The article on pages 6 and 7 of this newsletter contains tips for compliance with the Recovery Act, based on findings from those reviews.

COMMITMENT TO AMERICA’S RECOVERY

The intent of the Recovery Act is to reinvigorate the nation’s critical infrastructure, strengthen the economy, and improve mobility throughout California. By complying with Federal regulations as outlined in this article and meeting all deadlines, California local agencies can attain those goals.
1. Contract change orders should not be used to expand a project scope or limits to utilize “cost savings.” Cost savings are the difference between the federal construction authorization amount and the construction contract award amount. Many construction bids are lower than the original engineer’s estimates. However, once there has been a federal construction authorization and the project has been advertised, the project scope and limits should not change. FHWA recommends that, prior to authorization, local agencies update the engineer’s estimates based on current market conditions. Local agencies could also consider using an additive/deductive bid process for advertising Recovery Act projects.

2. The plans, specifications and estimates (PS&E) package should be substantially complete at the time of the Federal construction authorization. If a construction authorization indicates that a project is ready to be advertised and constructed, advertisement must occur expeditiously, especially for Recovery Act projects. In addition, local agencies should obtain all appropriate clearances and permits to keep project construction on track. Errors and omissions in the PS&E package can lead to change orders, cost overruns, delays, permit violations and/or substandard products on Federal-aid projects.

3. Engineers’ daily diaries and other project files must provide adequate documentation of material incorporated in the project and of material quantities placed. (23 CFR 635.118, 23 CFR 635.122, 23 CFR 637.207 and 209, and 49 CFR 18). Local agencies must ensure that materials incorporated in the project meet specifications and that procedures outlined in the adopted Quality Assurance Program (QAP) are followed and documented. For material accepted by certifications, the certifications should be retained in the project files. For example, if the project requires more than a minimal amount of iron or steel, then a Buy America certification is required. Contractors or suppliers must provide the certification to the local agency when the material is brought to the construction site.

Furthermore, agencies must maintain a clear trail for total quantities paid, including measurements and calculations for each bid item. Quantity determinations and all related source documents, including but not limited to weigh tickets and certified payroll, must be part of permanent project files.

4. Local agencies must comply with the Davis-Bacon Act of 1931 in the contract award process and in administration of construction contracts. (40 USC 276, 23 U.S.C. 113, 23 CFR 633, and 29 CFR 1 - 5). The Davis-Bacon Act requires the payment of prevailing wage rates to all laborers and mechanics on Federal or Federally assisted construction contracts. Overall program responsibilities are administered by the U.S. Department of Labor. Project specific responsibilities are administered by the contracting agency.

RECOVERY ACT COMPLIANCE TIPS

Given the substantial scrutiny, it is crucial that federal, state and local agencies comply with all federal laws and regulations. In addition, agencies must be aware of potential signs of fraud, waste or abuse of federal funds while implementing projects. Based on the field reviews performed in California to date, FHWA has identified the following issues that agencies should be aware of because they could lead to ineligibility for federal reimbursement or susceptibility to fraud, waste, and abuse:

By Federal Highway Administration – California Division Staff:
Dustin Bailey, Financial Specialist; Jean Mazur, Transportation Engineer; Rodney Whitfield, Financial Specialist
All Recovery Act projects are subject to the Davis-Bacon wage rates. However, for typical Federal-aid projects 23 USC 113(a) limits the applicability of the Davis-Bacon prevailing wage rates to roads functionally classified as freeways, arterials and collectors. Agencies must comply with the Davis-Bacon Act by incorporating current prevailing wage determinations in the contract award process, including applying the ten day rule (i.e. checking the Federal wage rates ten days before bid opening and sending out an addendum to the bid package). In addition, FHWA has generally accepted the States’ right to establish their own prevailing wage rates, and rates higher than the Federal wage rates are implicitly approved for Federal-aid contracts. Therefore, the higher of the Federal or State wage rates should be used on all Federal-aid projects.

As part of construction contract administration, the Caltrans Local Assistance Procedures Manual (LAPM) requires a spot check of prevailing wage reports to verify that contractors are in compliance with wage determinations for standard and overtime compensation. The LAPM is available at www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm.

5. The prime contractor must erect a bulletin board on the construction site for posting notices required by Federal and State laws. The bulletin board must be located in a conspicuous place and be available at all times to employees and applicants for employment. Employees must be able to view the required United States Department of Labor and FHWA posters. A binder with the required posters has been deemed an unacceptable alternative to a bulletin board. Federal Posters are posted at: www.fhwa.dot.gov/programadmin/contracts/poster.cfm.

The Recovery Act has an additional jobsite poster requirement for whistleblower protection that is posted at: www.oig.dot.gov/recovery/whistleblower_protections.jsp.

6. Public interest findings and cost-effectiveness findings should be prepared and retained in the project files. Several federal requirements (e.g., use of a proprietary product, use of public equipment, or contract award based on other than competitive bidding) may be waived under specific conditions if it is found to be in the public interest or cost effective. The local agency should prepare these findings and determinations using the LAPM.

For Recovery Act projects, FHWA must approve public interest cost effectiveness findings for projects to be constructed using local agency forces. For all other Federal-aid projects, Caltrans Division of Local Assistance Engineers approve cost-effectiveness findings for sole-source and force account contracting, and local agencies are delegated approval authority for the remaining public interest/cost-effectiveness findings.

7. Contracts for engineering and design services (A&E) directly related to a construction project using Federal-aid highway funding must be awarded in the same manner as a contract for engineering and design services negotiated under the “Brooks Act” provisions. (Chapter 11 of 40 U.S.C. (1101-1104)). The Brooks Act requires agencies to promote open competition by advertising, ranking, selecting, and negotiating contracts based on demonstrated competence and qualifications for the type of engineering and design-related services being procured, and at a fair and reasonable price. Other procurement methods can only be used in very limited circumstances and with the approval of the Division of Local Assistance Engineer.

8. Prior to awarding a construction contract, local agencies should ensure the contractor is not suspended or debarred. The prime contractor and lower tier participants in the Federal-aid highway program must certify “that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency ... and that they have not been convicted or had civil judgment rendered within the past three years for certain types of offenses.”

The General Services Administration maintains a government-wide list of excluded parties. This web-based system titled, “Excluded Parties List System” (GSA List), is located at www.epis.gov. Local agencies should check contractor status prior to awarding construction contracts.
RESOURCES FROM THE TRANSPORTATION LIBRARY
SIGN RETROREFLECTIVITY

Sign Retroreflectivity Guidebook
FHWA, September 2009, FHWA-CFL/TD-09-005
safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit

California public agencies:
Order a FREE copy from Going...Going...Gone:
www.techtransfer.berkeley.edu/g3

→ This guidebook provides an overview of retroreflectivity and outlines the different levels of responsibility for maintaining signs under new FHWA requirements. It includes the Sign Retroreflectivity Toolkit on CD-ROM which describes several maintenance methods and includes an interactive budget estimation tool. Sample inspection sheets and forms are also included with the guidebook.

New MUTCD Minimum Sign Retroreflectivity Requirements

→ Provides an overview of the new requirements and ways agencies can comply, noting that it is important for agencies to adopt policies and methods for compliance, even if individual signs do not meet the requirements. It also recommends that agencies examine the life cycle costs of different types of sheeting, warning that lower grades might degrade faster.

Countdown to Compliance: Meeting Retroreflectivity Requirements
D. Kniffin, Public Works, v. 140, n. 4, April 2009, pp. 28-32

→ Provides a number of assessment methods for completing a sign inventory, describing how much time each method takes and possible costs. It is important to set up a feasible timetable for both the inspection and any maintenance or replacement of signs so that the project is manageable and could potentially save money. The more time agencies allow to document and implement a plan for meeting the minimum requirements, the less costly implementation should be.

Page 3 of this newsletter includes a brief overview of FHWA’s new standards regarding minimum required levels of sign retroreflectivity, and information about our sign retroreflectometer loan program for California local agencies.
Methods for Maintaining Traffic Sign Retroreflectivity
P.J. Carlson and M.S. Lupes, FHWA, November 2007

Details FHWA-recommended methods for maintaining, assessing, and managing traffic sign retroreflectivity. These methods function to help agencies maintain their signs at or above the required minimum standard for retroreflectivity. The assessment methods focus on visual nighttime and measured sign inspections. The management methods explain the difference in cost and effort between expected sign life cycle and blanket sign replacement.

Analysis of Traffic Sign Asset Management Scenarios

Tests and analyzes 30 different sign asset management scenarios, taking into account the annual maintenance costs for each scenario and the percentage of signs non-compliant with the new minimum requirements.

A Control Sign Facility Design to Meet the New FHWA Minimum Sign Retroreflectivity Standards

Discusses the lack of information about long term wear for ASTM Type III and IX road signs, and looks at what sort of facility could test and determine these wear patterns. It also provides a template for local agencies to maintain compliance, and recommends regional testing facilities to address the many climates in the U.S.

Minimum Retroreflectivity Levels for Blue and Brown Traffic Signs
A.J. Holick and P.J. Carlson, FHWA, April 2008

The 2003 MUTCD update provided guidelines for the minimum required retroreflectivity for most traffic signs, but did not address information signs (blue background with white text) or cultural resource signs (brown background with white text). This report recommends requirements for these types of signs, addressing topics such as glare from headlamps and the presence of fixed roadway lighting.

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 will scan and e-mail the requested material.

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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). For details, see library.its.berkeley.edu or contact:

All requests must include your name, job title, agency name, mailing address, and, if requesting material, the title and call number.
California once revolutionized the freeway system, and now it plans to do the same for transportation’s impacts on the environment. Much of the state developed during the early expansion of the automobile, and at that time land use plans and road networks were developed to accommodate long-distance driving at optimal speeds. In recent years, greenhouse gas (GHG) emissions have been recorded at increasing levels, and in California transportation contributes more than 40% of GHG emissions such as carbon dioxide. It has become clear that the development patterns of the past are no longer sustainable.

With the passage of two landmark pieces of legislation, California has positioned itself at the forefront of efforts to reduce the effects of surface transportation emissions on the natural environment.

ABOUT AB 32

Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, was signed into law in California on September 27, 2006. It established a timeline for the state to reduce GHG emissions to 1990 levels by 2020, which constitutes a reduction of approximately 25 percent in most areas. That bill put the California Air Resources Board (CARB) in charge of developing plans and regulations to reduce GHG emissions from the car and light truck sector.

ABOUT SB 375

California’s Senate Bill 375 (SB 375), Linking Regional Transportation Plans to State Greenhouse Gas Reduction Goals, went into effect on January 1, 2009. It provides the means for achieving AB 32’s goals of reducing emissions from cars and light trucks. The goal of the legislation is to reduce GHG emissions by reducing vehicle miles traveled (VMT). The legislation hopes to achieve its goal by requiring the state’s 18 federally-mandated Metropolitan Planning Organizations (MPOs) to coordinate land use, housing, and transportation decisions. These MPOs include 37 of 58 counties in California and the majority of the state’s population.

SB 375 provides the following mechanisms to achieve its goal of controlling GHG emissions statewide:

- Establishes a process for individual MPOs and CARB to collaborate to establish GHG emissions reduction targets for each region
- Requires CARB to set passenger vehicle GHG emissions reduction targets for 2020 and 2035 for each of California’s MPOs by September 30, 2010.
- Sets standards for local agency input and participation in the process of setting the targets, and allows local agencies to retain their current authority over land use planning decisions.
- Requires CARB to set passenger vehicle GHG emissions reduction targets for 2020 and 2035 for each of California’s MPOs by September 30, 2010.
- Provides the means for achieving AB 32’s goals of reducing emissions from cars and light trucks.
- Allows local agencies to retain their current authority over land use planning decisions.
- Enables local agencies to determine targets.
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- Requires CARB to set passenger vehicle GHG emissions reduction targets for 2020 and 2035 for each of California’s MPOs by September 30, 2010.
- Sets standards for local agency input and participation in the process of setting the targets, and allows local agencies to retain their current authority over land use planning decisions.

Taking the RTAC’s findings into consideration, on June 30, 2010, CARB released draft regional GHG emissions reduction targets for automobiles and light trucks, relative to per capita emissions in 2005. The draft 2020 reduction targets for the four largest regions1 are 5-10 percent, and 1-7 percent for the MPOs in the San Joaquin Valley2.

The agency was reluctant to set long-term targets for 2035 out of a realization that changes in land use patterns and transportation infrastructure make long-term forecasts imprecise, but they set place holders between 3 and 19 percent for the four largest MPOs, and of 1 to 7 percent for the San Joaquin Valley MPOs.

For the remaining six MPOs, which represent a small portion of the state’s population and VMT, CARB recommends using the most current GHG per capita projections from each MPO, adjusted for economic considerations, to set targets.

1 Metropolitan Transportation Commission (MTC), Sacramento Area Council of Governments (SACOG), San Diego Association of Governments (SANDAG), and Southern California Association of Governments (SCAG).

2 Council of Fresno County Governments, Madera County Transportation Commission, Merced County Association of Governments, Kern Council of Governments, Kings County Association of Governments, San Joaquin Council of Governments, Stanislaus County Council of Governments, and Tulare County Association of Governments.
MPOs are now drafting their own target recommendations for their regions, and CARB is administering a public workshop process to gather input on the methods and formulas it will use to establish final targets. The agency’s final proposal will be released for approval in September. Once set, the targets must be updated every eight years.

Requires each MPO to develop a Sustainable Communities Strategy (SCS) as part of its Regional Transportation Plan (RTP)

Once the GHG emissions reduction targets for each region are established, each MPO must develop an SCS that outlines the feasible measures the region will use to attain its GHG emissions reduction targets. Each MPO’s SCS must include several designated elements, including an identification of the general location of uses, residential densities, and building intensities and areas sufficient to house projected population growth, along with a transportation network to service regional transportation needs. Also, the SCS must set forth a forecasted development pattern which, when integrated with transportation network and other transportation policies, will achieve CARB’s GHG emissions reduction targets for the region.

If the SCS doesn’t meet the targets set by CARB, the region must prepare an Alternative Planning Strategy (APS), which is an additional plan that shows how the region could meet the targets by implementing different development patterns or transportation policies.

Ties regional transportation funding to the SCS

SB 375 requires transportation funding for projects included in each region’s RTP to be consistent with the SCS, as well as all other elements of the plan, including the land use element. The land use element must be based on the most recent planning assumptions, which are taken, in part, from city and county general plans.

Neither the SCS nor the APS supersede a city or county’s general plan, or other planning policies, nor must a local agency’s planning policies be consistent with the SCS or APS. Instead, these strategies offer a foundation for determining which local agency projects are eligible for the California Environmental Quality Act (CEQA) streamlining incentives outlined in the following section.

Creates a CEQA streamlining Process

Two types of development are eligible for a streamlined CEQA review process, or in some cases, exemption from CEQA requirements, if they conform to the SCS. CEQA review for residential or mixed-use projects that are included in the SCS does not need to address growth-inducing impacts or cumulative or project-specific climate change impacts. Certain “transit priority projects” that meet requirements outlined in the legislation are eligible for exemption from CEQA or a streamlined process, as well.

CONCLUSION

California’s air quality legislation is groundbreaking because it aligns funding for transportation and housing projects with efforts to reduce the environmental impacts of development. As MPOs and CARB continue to work together to establish emissions reduction targets, this is certainly an exciting time for local agencies to become involved in the process of setting regional policy.

Arnie Sherwood, Local Technical Assistance Program Field Agent, Technology Transfer Program, contributed to this article.

SB 375 RESOURCES

A number of organizations in California provide web pages, fact sheets, and analyses to inform agencies about the implementation of SB 375. These resources include:

- American Planning Association – California Chapter
  www.calapa.org/en/cms/?2841
- California Air Resources Board
  www.arb.ca.gov/cc/sb375/sb375.htm
- California Planning and Development Report
  www.cp-dr.com/node/2185
- California State Legislature
  (for full text of bills)
  www.legislature.ca.gov
- Institute for Local Government
  www.ca-ilg.org/SB375
- Metropolitan Transportation Commission
  www.mtc.ca.gov/library/sb375.htm
- Southern California Association of Governments
  www.scag.ca.gov/sb375
CRAFTING A COMMUNICATIONS PLAN THAT WORKS

TIPS FOR WRITING A STRATEGIC COMMUNICATIONS PLAN

The funding is in place, design work is complete and your project is finally on track. Before you break ground, it’s essential that you think strategically about how you’re going to communicate about the project, particularly to the local residents and businesses that construction will affect. It’s not a one-size-fits-all exercise. Strategies and tactics that may have worked for other projects may not be appropriate for this project. Again and again, we see the enormous benefit that comes from taking the time upfront to develop a strategic communications plan that is tailored to a specific project before the construction begins.

A good strategic communications plan starts with the thorough identification of who your audience is and what their issues and concerns are. This helps you anticipate potential stumbling blocks so you can avoid or minimize them before they occur. Putting a plan in place means key stakeholders, like elected officials and staff, are never caught unaware of new activities and developments. Residents are kept informed and have an outlet for their complaints. Reporters and bloggers understand the project and help you communicate about it. Having a plan propels you out of reactive mode and puts you in control of telling your story.

How to get started? Below are some key considerations that will help you develop an effective strategic plan for communications before, during and after construction.

SET YOURSELF UP FOR SUCCESS

➢ Who is “the public?” Look for the individuals—especially community leaders—in the sea of faces and understand their distinct needs, fears, issues and opinions. Before construction begins, it is important to identify and understand not just the issues, but the values of your stakeholders. To get an accurate picture, this may involve meeting with stakeholders to discuss their concerns, such as noise impacts, traffic congestion or safety issues.

➢ What do they want to know? Understanding who you’re talking to will inform development of key messages, which are the most important things you want people to understand about the project. Key messages should address the community’s concerns.

➢ How do they want to receive the information? Once you know who you need to inform and what you want to tell them, identify the best tools to use to communicate. Do you need to set up a Twitter feed? Contact the media? Write a fact sheet? Develop a speakers’ bureau or hold public meetings?

➢ Determine how your team will work together. When several partners are involved, the communication protocols can become obscured. Often, when things get busy on a project, internal communications can break down, which can affect the timeliness or clarity of your external communications. Defining roles and responsibilities and establishing a review/approval process and timeline ahead of time keeps the team working together smoothly.

➢ Be prepared for a crisis. Plan for worst-case scenarios. Establish the communications framework for dealing with a crisis. Designate a communications command center to centralize information both internally and externally. Hold a few drills to practice and evaluate if your system will work. See page 13 for additional crisis communication tips.

COMMUNICATE EFFECTIVELY DURING CONSTRUCTION

➢ Establish credibility. You want to be who the public and the media turn to first for information. This requires that you bend over backwards to be available, respond to issues in a timely manner, thoroughly understand everything about the project (including the technical aspects) and always do what you say you’re going to do.

➢ Proactively tell your story. In addition to keeping the media up to date, Web and social media technology enable you to communicate directly with the public. Ways to further bring the project to life may include showcasing interesting engineering accomplishments, innovative equipment, or project history; posting photos, video, real-time data and blog entries to the project website; or providing real-time updates via Twitter.
➜ **Balance the benefits with the inconvenience.** While it’s important to acknowledge the inevitable inconveniences, positioning the project in terms of its ultimate benefits to the community goes a long way to building project support and trust.

➜ **Stay flexible and try to prepare for the unexpected.** Construction projects are dynamic by their very nature. Reacting to issues like weather delays and anticipating where problems might occur requires that you constantly adapt your communications strategy throughout the life of the project.

➜ **Make the media your ally.** Help reporters help you by educating them about the project through presentations, site tours, and informational materials. When they accurately understand the project, they can help the public understand the project.

**CELEBRATE PROJECT COMPLETION**

➜ **Reinforce why it was all worthwhile.** The team put in a lot of hard work. The community put up with a lot of inconvenience. You’ve completed a great project that improves the area’s mobility. It’s okay to celebrate a little bit.

➜ **Hold an event.** A press conference/community event can be an appropriate way to celebrate and thank the public for their patience and cooperation. Provide key messages and develop talking points to help keep speakers on track to make the project’s legacy clear.

To learn about how one agency implemented a successful strategic communications plan, please see the companion case study on page 14 that documents the closure of the San Francisco-Oakland Bay Bridge during reconstruction in September of 2009.

Anyone who has worked on a transportation construction project could tell you that most projects encounter problems or delays. While the overwhelming majority of these problems are minor and are usually resolved quickly and quietly, there are occasions where a major issue may occur during the course of a project. When a problem mushrooms into a crisis, such as when an injury occurs at a project site or when a project attracts opposition protesters, it becomes necessary to communicate with the public about the situation. It is important to stay calm and to form a game plan for sharing information about a problem situation while the crisis is being resolved. Below are 11 quick tips to help you plan how to communicate with the public during a crisis.

- Always respond to concerns, and never with “no comment.” If you don’t know, say “I don’t know, but I’ll get back to you with an answer.” Be sure to follow through.
- Never promise anything you can’t deliver; don’t make guarantees or be overly reassuring.
- Engage in direct, two-way communication with the public as much as possible. Social media enables your information to spread through users’ networks and allows you to listen and monitor to understand public concerns.
- Be prepared with a plan and the tools and networks in place that allow for two-way communication (e.g., “dark” ready-to-launch crisis website, social media tools such as Twitter and Facebook).
- Be prepared with a message map that addresses all likely questions and concerns to guide timely, accurate, and consistent messages.
- Establish partnerships with credible resources such as experts or stakeholders ahead of time.
- Establish a crisis center to centralize information both internally and externally.

- Be honest, open, and transparent. Be accessible to the media and stakeholders.
- Always communicate with compassion. Acknowledge the validity of people’s emotions and the inconvenience caused.
- Respond immediately—if you don’t tell your story, someone else will.
- Accept ambiguity and be frank about the uncertain nature of a crisis.
OVERVIEW
The “nearly unthinkable” was required: to completely close the San Francisco-Oakland Bay Bridge, a vital transportation artery in the San Francisco Bay Area, for four days in September of 2009. One of the busiest bridges in the country, the Bay Bridge supports approximately 300,000 vehicles per day. The closure was needed to perform a technological feat: to cut and slide out a 300-foot-long, 3,200-ton double-deck section of the East Span, 150 feet above Yerba Buena Island and then move into place a new 3,600-ton double-deck section to connect the bridge to a short detour.

STRATEGIC COMMUNICATIONS PLANNING
The communications objectives were threefold:
➜ ensure awareness about the bridge closure;
➜ educate travelers about transit options and alternate routes; and
➜ continue to advance public support of the project. The campaign cast an incredibly wide net to reach every audience that could potentially impact traffic, including visiting travelers.

PLAN EXECUTION

Pre-closure Stakeholder Outreach: A primary challenge was to effectively communicate with local, state and regional agencies; transit agencies; media; and elected officials prior to the closure to explain technical components. To increase agency transparency and public trust, the team solicited involvement months in advance of the closure, offering site tours and interviews with project engineers.

Pre-closure Public Outreach: The team framed the bridge closure as a world-class technological feat rather than a major regional inconvenience. Every audience with potential to affect traffic over the Labor Day weekend was targeted with communication tools such as direct mailings, flyers, advertisements, and changeable message signs. Also, the team made advance multimedia presentations to area residents, businesses and agencies that were most directly impacted by the closure. The presentations, as well as the statewide ad campaign, used construction animations to describe the work, as well as simulated drive-throgs to illustrate the upcoming commute changes.

Closure Weekend Communications: Throughout the weekend, the team communicated with the media using press releases and live updates. An on-site media hold location provided an exclusive view of the operation and updates from the spokesperson and senior project staff. Other communications tools included the project website, 24-hour hotline and information kiosks at airports and rental car agencies. Notably, the team communicated with a robust online community via Twitter, which was used to provide real-time updates, as well as baybridgeinfo.org’s “media bar,” which provided a virtual experience with broadcast-quality video clips and photos. The team also made high-resolution footage available to media twice a day at the project site. Since media access to the construction site was restricted, footage from the heart of the operation was critical to keep the media and the community up-to-speed and engaged.

RESULT
The strategic communications plan the team executed helped ensure there was no gridlock on the freeways over the holiday weekend. Transit agencies were prepared for and handled record ridership. And the bridge was cleared in just 21 minutes, allowing work to begin two hours earlier than planned. Furthermore, when an unexpected repair was needed on another portion of the bridge, the investment the team had made in establishing public and inter-agency communication before the closure weekend ensured everyone was aware of and could manage the delayed opening.

ABOUT THE AUTHOR
Ben Strumwasser has more than 22 years of experience developing and managing strategic communications for infrastructure projects. CirclePoint is a strategic communications and environmental planning firm that has been helping clients communicate about transportation projects for more than 22 years. CirclePoint has managed communications for infrastructure projects including the San Francisco-Oakland Bay Bridge Seismic Retrofit, Presidio Parkway, and Caldecott Tunnel Fourth Bore. For information about CirclePoint and more case studies, visit www.circlepoint.com.
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| Traffic Signal Design  
TE-02 | $425/$695 | Oct 5-7 | Sacramento |
| Signal Timing and Operations  
TE-04 | $325/$475 | Oct 12-13 | Sacramento |
| Advanced Traffic Signal Operations  
TE-10 | $325/$475 | Oct 19-20 | Sacramento |
| Synchro and SimTraffic  
TE-13 | $325/$475 | Oct 26-27 | Sacramento |
| Type 170 Traffic Signal Controller  
TE-08 | $325/$475 | Nov 15-16 | Sacramento |
| Type 2070 Traffic Signal Controller  
TE-09 | $325/$475 | Nov 17-18 | Sacramento |
| Construction Inspection of Traffic Signals  
PD-02 | $225/$325 | Nov 30-Dec 1 | Sacramento |

### WORK ZONE SAFETY

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| Traffic Control for Safe Work Zones NEW!  
TS-10 | $125/$195 | Oct 4 | Bishop |
| TS-10 | $125/$195 | Nov 2 | Ukiah |

### TRAFFIC ENGINEERING AND OPERATIONS

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| California Traffic Engineering License Exam Review NEW!  
TE-29 | $495 | Sept 16-17 | Richmond |
| Traffic Flow Principles for Practitioners  
TE-27 | $175/$245 | Sept 17 | Sacramento |
| Fundamentals of Traffic Engineering  
TE-01 | $595/$895 | Sept 20-24 | Oxnard |
| MUTCD Update Workshop  
TE-06 | $125/$195 | Sept 30 | Los Angeles |
| Improving Safety at Intersections NEW!  
TS-04 | $125/$195 | Oct 27 | Richmond |

### INFRASTRUCTURE DESIGN

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| Geometric Design for California  
IDM-01 | $425/$695 | Sept 28-30 | Costa Mesa |

### 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](http://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](http://www.techtransfer.berkeley.edu/subscribe) or 510.665.3466