

Westernite

Official Publication of District 6 of the Institute of Transportation Engineers

January-February 2008 Vol. 62 No. 1

President's Message

I hope you enjoyed the holidays and are ready for a great new year in 2008! I am excited about continuing opportunities and setting visions and plans for the future. On January 25th, the Western District Board will be meeting in Denver, Colorado for the Midyear board meeting. At that time, we will be identifying actions and activities for the Western District. The District has a strategic plan which can be found on our website: <http://www.westernite.org/about/plan.htm>. The goals of the current strategic plan for the Western District follow.



Jennifer Rosales,
President

Student Initiatives

Encourage, support and provide opportunities to attract, retain and develop the most talented students into transportation professionals.

Career Development

Provide opportunities for professionals to advance their transportation career development by promoting the growth of

(Continued on page 4)

What's In This Issue

Where Will Transportation Funding Come From Next?	5
Adobe Tower	7
Section & Chapter Activities	10
Positions Available	12

Bridge Inspection and Ratings

Introduction

In response to the August 1, 2007 collapse of the I-35W Bridge over the Mississippi River, there has been heightened public interest in bridge safety and in the condition of the highway bridges in California. Approximately 3,000 of the 24,000 bridges in California have been categorized as structurally deficient. This article will describe some of the terms and procedures used in the federally sponsored Highway Bridge Program.

The three bridges that access Terminal Island in Los Angeles and Long Beach are used to illustrate the bridge inspection and rating system. These bridges are some of the larger bridge structures in Southern California. They are not typical of freeway bridges in the state: they are large steel bridges. Most California bridges are smaller

in size and constructed with concrete and steel reinforcing. The bridges are the Vincent Thomas Bridge and the Schulyer Heim Bridge on SR 47 and the Gerald Desmond Bridge on the future extension of the I-710 freeway.

The US Department of Transportation, on August 2, 2007, issued a "Fact Sheet on the I-35W Bridge Collapse" which stated:

"Structurally deficient means there are elements of the bridge that need to be monitored and/or repaired. The fact that a bridge is "deficient" does not imply that it is likely to collapse or that it is unsafe. It means they must be monitored, inspected and maintained. Most "deficient" bridges are left open to traffic while it undergoes

(Continued on page 2)

International Board of Directors Meeting

Another IBD Board Meeting

At the International Board of Direction (IBD) meeting held on Friday August 3rd and Saturday August 4th 2007 in Pittsburgh, Pennsylvania. District 6 was again well represented by your three International Directors (Rory Grindley, Julie Townsend, and Randy McCourt) and Past International President Rich Romer. Other District 6 members in attendance included International Director Elect and 2008 LAC Chair Zaki Mustafa, Public Agency Chair Ray Davis, and Chair of the Transportation Professional Certification Board, Gene Wilson.

Earl and the Board

International President Earl Newman did a fantastic job of presiding over the meeting and keeping all of us on task as we worked our way through a 200+ page packet. Starting with the typical house

keeping items of approving the Spring Conference meeting minutes, the Board quickly approved the proposed District 1 Charter revisions along with confirmation of a prior email ballot that authorized Executive Director Tom Brahm to execute the necessary contracts for the Annual Meetings from 2012 to 2016.



Julia Townsend,
International Director

(Continued on page 8)

Bridge Inspection and Ratings

(Continued from page 1)

maintenance and repair. If inspectors find unsafe conditions they will restrict access or close the bridge .”

The Gerald Desmond Bridge was thoroughly inspected by State and County staff in April 2007 and no serious imminent deficiencies were found. However, the bridge was rated as structurally deficient. The Port of Long Beach recently completed the first phase of a repair program to correct deficiencies identified in the bridge inspection. The condition of the bridge deck, the riding surface, had been rated as “critical”, level 2. If the condition had been rated as “imminent failure”, level 1, inspectors would have recommended that the bridge be closed. The recent repairs are expected to raise this rating to “serious”, level 3. The structure is strong enough to allow overweight trucks by permit. The bridge can be kept in operation until a planned replacement bridge is opened. The Port has contracted with LADPW to conduct the initial repairs. The bridge is regularly inspected by Caltrans and the LA County Department of Public Works (LADPW).

On August 7, 2007 the LA County Board of Supervisors directed staff to report within 60 days on the condition of all bridges that they inspect and prepare recommended actions to the bridge owners. Factors affecting bridge life such as truck weight limits, typical failure mechanisms, and inspection techniques will be described. This article emphasizes aspects of interest to transportation engineers and planners.

National Bridge Inspection Program/Bridge Ratings

Federal law requires that every public highway bridge be inspected every two years. The Federal Highway Administration (FHWA) funds Caltrans to inspect all bridges in California. Caltrans and local governments each own about 12,000 bridges. Local bridges in Los Angeles County are inspected by the Los Angeles County Department of Public Works (LADPW) under contract with Caltrans. Bridge inspection reports are delivered to the bridge owners, Caltrans, and the FHWA. Bridge ratings are published in a National Bridge Inventory (NBI). The Caltrans website lists the sufficiency ratings for local bridges at: <http://www.dot.ca.gov/hq/structur/strmaint/sr.htm>.

The National Bridge Inventory (NBI) is used for preparing the eligible list of bridges for Federal-aid funding and for allocating bridge funds to states. Each bridge is rated on three scales: a sufficiency rating (SR) (a number between 0 – 100) and whether it structurally deficient (SD) or functionally obsolete (FO). The Sufficiency Rating (SR) is used primarily for prioritizing grant applications under the “Highway Bridge Program” (HBP). The rating measures the current ability of the bridge to meet functional and structural design standards established by FHWA. To be eligible for HBP funding a bridge must have a SR less than 80 and also be rated either SD or FO. If the SR is between 50 – 80 the bridge is eligible for rehabilitation funding. If the SR is less than 50 the bridge is eligible for rehabilitation or replacement funding. HBP funds can also be used for preventive maintenance. During Federal Fiscal Years 1998 – 2006, California received a total of \$500 million under a non-discretionary part of the Highway Bridge Program. Caltrans often has to reprogram these funds due to the inability of local agencies to advance projects primarily due to the lack of local matching funds.

The method for determining the Sufficiency Rating and whether bridges are Structurally Deficient or Functionally Obsolescent is described in a FHWA publications and its updates, “Recording and Coding Guide for the Structure Inventory and Appraisal of the Nations Bridges”, Report No. FHWA-PD-96-001. Table 1 presents a very short summary.

TABLE 1
Sufficiency Rating

<p>0% < Sufficiency Rating = S₁ + S₂ + S₃ – S₄ <100%</p> <p>S₁ (Structural Adequacy and Safety) Depends on: Superstructure, Substructure, Culverts, Inventory Rating</p>
<p>S₂ (Serviceability, Functional Obsolescence) Depends on: Lanes on Structure, ADT, Roadway Width, Structure Type, Bridge Roadway Width, VC Over Deck, Deck Condition, Structural Evaluation, Deck Geometry, Underclearance, Waterway Adequacy, Roadway Alignment, STRAHNET Highway Designation</p>
<p>S₃ (Essentiality for Public Use) Depends on : Detour Length, ADT, STRAHNET Highway Designation</p>
<p>S₄ (Special Reductions) Depends on: Detour Length, Traffic Safety Features, Structure Type Main</p>

A bridge will be rated structural deficient (SD) if the condition of one of the three main bridge subsystems, the deck (riding surface), super structure (structure that supports the deck), or substructure (support columns and foundation) receives a condition level rating of 4 or less out of 9. A bridge can also be rated structurally deficient if it is limited to loads below legal truck weights. A bridge with an ADT

(Continued on page 3)



Gerald Desmond Bridge closed to traffic while crews repair concrete deck spalls, stripe, and install overhead speed feedback sign. View from 6% east-bound down grade.

Bridge Inspection and Ratings



Westbound traffic lanes of Gerald Desmond Bridge are closed while workers repair upper cable restraint plates.

(Continued from page 2)

> 5000 that is limited to trucks weighing less than 35,700 pounds would be rated structurally deficient. Exposed foundations in a waterway in need of erosion protection are a condition level 4.

A bridge will be rated functionally obsolete if the deck geometry, clearances or approach alignment receives a condition level of 3 or less out of 9. For example, a four-lane freeway with a roadway width of 55.8 feet would receive a condition level rating of 3. If the width were 72 feet, the condition level would be 9. A bridge on an arterial with an clearance less than 14 feet would receive a rating code of 3 out of 9. An approach roadway would be rated condition level 3 out of 9 if the horizontal or vertical curvature caused substantial reductions in speed. A bridge that is rated structurally deficient will not be rated for functional obsolescence.

The following briefly discusses the conditions and ratings of each of the Terminal Island bridges and the impact of heavy truck loads on these bridges.

Vincent Thomas Bridge

The Vincent Thomas Bridge was constructed in 1963 and is owned by Caltrans. It is entirely within the Port of Los Angeles. It links SR 47 to I-110. It has a sufficiency rating of 56.7. Permit loads are allowed.

Schulyer Heim Bridge

The Schulyer Heim Bridge is a lift bridge built by the Navy in 1948 and was transferred to Caltrans in the 1970s. It is part of State Route 47. Caltrans and the Alameda Corridor Transportation Authority (ACTA) are currently conducting a study to replace the lift bridge with a fixed bridge with a 47 foot vertical clearance over the Cerritos Channel. The estimated cost of the replacement bridge and elevated truck expressway between the new bridge and Pacific Coast Highway is \$728 million. The existing bridge has not been seismically upgraded. Caltrans is planning to seismically retrofit the bridge approaches this year, a \$7 million project. The sufficiency rating of the existing bridge is 27.9.

Gerald Desmond Bridge

The Gerald Desmond Bridge was constructed by the Port of Long Beach in 1968. The Port owns the bridge and is responsible for its maintenance. It will be included in the planned extension of the I-710 Freeway to Terminal Island. Approval and funding are being sought for a large replacement bridge. It was seismically retrofitted in 1997, and the roadway was widened from four to five lanes in 2002. There are now three lanes up and two lanes down grade in each direction. This accommodates the many heavy trucks moving slowly up the 6% grades and resolved the problem with two on-ramps that are too close to each other. Safety has increased as a result of these replacements. Congestion on the bridge has decreased. The 2005 PierPass Program which shifted approximately 1/3 of existing truck trips to the off-peak hours has also reduced congestion. More than \$30 million in federal funds were used for these two projects. In 2004 nets were installed under the bridge over roadways to prevent falling concrete chips, some weighing up to four pounds, from injuring personnel. The current sufficiency rating for the Gerald Desmond Bridge is 43.



Gerald Desmond Bridge closed to traffic while crews install overhead speed feedback sign.

The March 2005 inspection report on this bridge identified several major, but correctable deficiencies. The concrete deck was rated as being in a “critical condition” (level 2 out of 9), primarily due to the large area of damaged surface. There were many spalls (pot holes) and broken expansion joint steel fingers. If the condition rating had been an “imminent failure condition” (level 1 out of 9), the inspectors would have recommended that the bridge be closed. The substructure was rated as good (level 7 out of 9). There was no rating for pier protection since they are not located in the water. The superstructure was rated as poor (level 4 out of 9). Pack rust, a thick layer of rust that can bend mating steel members, was cited at several locations. No significant cross section loss was observed due to corrosion on major steel members. However, corrosion is expected to occur at a more rapid rate due to the poor paint condition. Another key deficiency was corroded suspension cable socket keeper plates (they restrain the ends of the suspension cables from horizontal

(Continued on page 6)

WANTED — ITE District 6 Webmaster

ITE District 6 is taking applications for a new District 6 Webmaster. The role of the District 6 Webmaster is to insure proper visibility of District 6 and make the website a hub and reference point for many of the District 6 Sections and Chapters on the Internet. The District web site is www.westernite.org. The tenure of this position is a three year term. The duties of the position include:

- Select the proper Internet Service Provider to provide efficient navigation for users, and maintain the site.
- Coordinate with the District 6 Website Committee and the District Board to project the desired image of District 6 on the web. Coordinate with the WesternITE Managing Editor to post the WesternITE Newsletter on the

Internet. The Managing Editor will be responsible for providing WesternITE in Adobe Acrobat PDF (or other agreed upon) format and it is the responsibility of the webmaster to post the newsletter on the web site.

- Prepare enhanced web pages for the site to enhance its value and usefulness to District 6 Members and its Board of Directors, including conversion of incidental documents to HTML or Adobe Acrobat PDF format for web posting.
- Coordinate with Section's webmasters to insure proper linkage and management of information on the site.
- Coordinate with WesternITE Technical Editor to post advertisers links and ads on the WesternITE website, if needed.

- Prepare web traffic reports (at the mid-year meeting and the Annual Meeting) to the Board to keep them informed about the site users.

- Selection of the Annual Best Section Web Site Award.

Please send a letter of interest with resume stating your qualifications to perform these responsibilities to:

Monica M. Suter, District 6 Vice President at msuter@santa-ana.org.

Note: this position has a stipend associated with it.

Applications are due by Wednesday, April 30th, 2008.

President's Message

(Continued from page 1)

mentoring and professional liaison programs in the District, and engaging young professionals into Institute activities.

Technical Excellence

Generate opportunities and support for the development of technical excellence in the profession.

Social/Networking

Create a platform for the transportation professional to interact outside the work environment to share information and create relationships that are both profession and family friendly.

Promoting the Profession

Enhance the transportation profession by increasing awareness of accomplishments, recognizing professional achievement and developing better skills to communicate with the public frequently, effectively and proactively.

The District's Student Endowment Fund is growing (much thanks to the membership for your continuing support and donations), and we have an Endowment Fund workshop planned for January 24th. The future of the transportation profession depends on attracting and developing students who are excited and passionate about career opportunities in transportation.

Over the next year, I would like to focus on the Young Professional (professionals age 35 years and younger). It's my goal to attract young professionals to ITE and to our District Annual meeting activities. I plan to work with Craig Grandstrom, Career Guidance Chair, to

develop new incentives for employers to support younger professionals in ITE. In addition, I plan to work with Craig to enhance the District's mentoring program and encourage young professionals to take advantage of ITE's professional development programs and training. It will be one of my top priorities to reach out to potential new members (young professionals) and encourage current members to bring young professionals to ITE meetings.

I want to thank the Border Section (San Diego) for hosting me in San Diego in December. The Border Section had a wonderful holiday party, and I had an opportunity to install their new officers at the meeting. It was my pleasure to recognize Ahmed Aburahmah with a Presidential Proclamation for his distinguished service and contributions to ITE. Ahmed is a Past President of the Section, serves as Student Chapter Liaison, coordinates the Sections awards and annual reports, and is committed to being actively involved ITE's events and meetings.

I would also like to thank the Washington Section for hosting me in December. I would like to thank the Washington Section for their generous donation \$2500 to the Student Endowment Fund during the meeting. It was my pleasure to recognize Terry Gibson with a Presidential Proclamation for his distinguished service and contributions to ITE. Terry is a Past President of the Washington Section, has chaired the

Student Activities committee for several years, created their annual golf tournament, and is committed to enhancing the safety and operations of schools.

I would like to thank Jon Pascal for his time and commitment that he gave to the District as the District WesternITE Web Manager. Jon has accomplished a significant amount over the past six years for the District including bringing electronic registration/credit card for Annual meeting registration. I want to personally thank Jon for his time and energy that he gave to the position. At this time, the District is looking for a new WesternITE Web manager and taking applications which are due on April 30th. Please see the www.westernite.org for details if you interested.

Several of you are most likely aware that Federal Highway Administration has released the long awaited Notice of Proposed Amendment in the Federal Register. This contains comprehensive revisions that are proposed for incorporation into the next edition of the MUTCD. The comment period closes on July 31, 2008. The proposed MUTCD text, figures, and tables are also available for public review and comment at <http://mutcd.fhwa.dot.gov/>. All ITE members are encouraged to review this document and provide comments to FHWA. ITE is having several webinars on the topic.

Please mark your calendars for the 2008 District Annual Meeting (joint with International) in Anaheim from August 17-20, 2008.

Where Will Transportation Funding Come From Next?

Our transportation industry is different than most sectors that claim to be part of the transportation trade. Engineering and planning in transportation is heavily dependent upon public funding. Since the Eisenhower administration (Republican) raised motor vehicle taxes in 1956 to fund the interstate system, our profession has been built upon a petroleum-based tax. At that time, the administration provided a vision and sense of purpose for the federal transportation program that the public and politicians were able to support. Today you cannot get a similar sense of purpose for the federal program (or the state programs for that matter). We remain locked in a revenue system which becomes more vulnerable every day while our federal policies mandate reductions in the use of gas and oil. Given the interstate system's defense role for this country, this presents a true national conundrum.

Our current transportation funding vision seems to be clouded by earmarks and a process in which every six years every state battles to get back what they generate. This is in contrast to a strategy where transportation funding is used to eliminate fatalities that annually exceed the sum total of those from the middle east conflict by ten fold. A strategy where transportation funds create communities for the future - neighborhoods and businesses that have real choices for mobility and investments and use technology to document adherence to objectives for mobility and environmental enhancement. A new world where politicians use transportation funding as an essential economic stimulus to our economy - American dollars spent on Americans, supporting American jobs and American technologies.

At the 2008 TRB conference in January a panel spoke to the future of transportation funding preceding the release of the National Surface Transportation Policy and Revenue Study Commission report on January 15, 2008 (<http://www.transportationfortomorrow.org/>). I have tried to summarize the highlights of this discussion and the issues that were presented to stimulate discussion, input and thought on this subject within our profession. It was clear that our transportation policy discussion is becoming polarized between at least two beliefs:

1. Those that see rapidly escalating construction costs and a short term funding gap. This group sees increasing the motor vehicle fees (such as gas tax) as a politically

more acceptable way to meet these needs (compared to tolling). Some speak of the highway trust fund being bankrupt. Bankruptcy would imply there is little or no revenue. That is not the case. There is substantial revenue. However, our planned needs far exceed the revenue sources we have.

2. Those who believe the federal funding system is flawed. They see better deployment of funds to avoid squandering resources through the current political process. They believe that people's expectations of transportation service is so low that any increase of the current funding approach will generate little traction with the public. The connection between transportation customers and the service they receive is frayed at best (or broken). They purport that we should have accountable infrastructure responsive to customer decisions through pricing. They believe that current consumers have no understanding of what they pay to use the current system and less of an idea of the cost of their demand on that system (most people pay about \$300 to \$400 per year in gas tax per vehicle). They believe a direct pricing model would change consumer expectations, maximize use of current systems and elevate funding for services that deliver results to customers. The system must measure performance to demonstrate the level of customer service.

As with all debates, both sides are partially right. A bridge is needed to take us from where we are to where we need to be without leaving us high and dry in the short term. We do have enormous backlogs of preservation and maintenance needs not to mention huge capital and modernization projects. Increased funding in 2009 is needed to have any hope of meeting a fraction of these needs nationwide. Most of these needs have been through significant public review and acceptance.

In the long term, a change over from a petroleum-based transportation funding model to a new model seems pretty rational. If we want to begin to change transportation funding, it is time to start this debate now. Trying to do both right now (increase funding and have a debate about the proper funding mechanisms) is political suicide. Changing the funding model to a pricing strategy (such as tolling) which has little traction with the electorate currently (since they hardly know why a change is needed) and doing that while stemming a short term funding shortfall is probably not the best political strategy. Taking one action at a

time would seem to have a better likelihood for success, given that not one of the presidential candidates is advocating tolling. By the next transportation funding cycle (2015) the impact of improved fuel economy on petroleum-based taxes and the need to disconnect the funding for our national defense system of highways from petroleum should reach its zenith providing a better foundation for change (assuming that a strategic vision is applied now).

With a debate as broad as this one, there are many observations. A few of them from the TRB panel are highlighted below.

- Rural needs and funding are unlikely to be compatible with congestion pricing - since they have little of it. Any road pricing will need to address a serious equity issue between the insatiable need for urban capacity and the rural need for safety, maintenance and preservation needs.
- Vehicle miles traveled may be a compromise to tolling or gas tax but misses the mark in terms of congestion impact of user decisions and may not reflect emissions (since two cars can travel the same miles and have vastly different emissions).
- Some of the fastest growing transportation funding sources are indirect charges (property tax, sales tax, impact fees) where a nexus is made to a list of highly desired projects.
- The federal role/vision needs to be clarified addressing the great connecting system of our country. It should include goals for maintenance/operation versus new capacity and address how these meet our economic, energy, environmental and mobility needs.
- This vision should consider how to make best use of the private sector opportunity in transportation. It should move toward customer needs rather than politician or analyst needs.
- Transportation is a great economic stimulus - funds used pay for planners, engineers, designers and contractors - ALL MADE IN THE USA - who help build the middle class.
- We need to move beyond the modal debates (between highways and rail for example) which are viewed negatively in the public arena and contribute to funding stalemates rather than consensus. Seeking a balanced system

(Continued on page 8)

Bridge Inspection and Ratings

(Continued from page 3)

movement). The bridge does not have shoulders and its grade is greater than 5%. This factor requires a rating of functionally obsolete. However, the FHWA rating system does not rate a bridge for functional obsolescence if it is already rated as structurally deficient.

The first phase of repair work by LADPW under contract to the Port was completed on July 29. Nine weekend days of partial and full bridge closures were required. Most of the work had to be done during daylight. LADPW repaired all of the critical items that had been identified: over 70 out of 104 suspension cable socket keeper plates, 120 potholes (spalls) in the concrete deck, 30 broken expansion joint steel fingers, and a recently damaged expansion joint on the connector from the southbound I-710. A program to monitor the durability of the deck repairs has been established, which includes the marking of bridge pier (support column) numbers on the median barrier. The ride on the bridge has been greatly improved. When repairing the 120 concrete deck spalls, no significant corrosion was observed of the deck steel reinforcing bars. Additional work performed by other contractors during the bridge closures included: new traffic striping, upgrading of the speed feedback signs, and repair of the street lights. Paint was used on the concrete portions of the deck and thermoplastic striping on the asphalt approaches. Repair of the upper and lower suspension cable socket keeper plates required crews to access parts of the bridge that are not thoroughly covered in normal inspections. The LADPW bridge workers did not report any unexpected conditions in these less accessible areas.

April 2007 Inspections

In April 2007, two inspections of the Gerald Desmond Bridge were performed: the normal biennial inspection by LADPW and a more intensive Fracture Critical Member inspection by Caltrans. If the bridge piers had been in the water, Caltrans would have also inspected them. The normal biennial inspection relies mostly on visual inspection and tapping areas that the inspector can reach with a hammer. The Fracture Critical

inspection examines pins and other details whose failure could result in collapse. It requires specialized equipment. The frequency of these inspections is being increased from five years to every two years. In each inspection several critical members are sampled. Within a 10 year period every critical element is inspected. Caltrans uses ultrasonic (high frequency sound similar to a sonogram) testing to reveal hidden cracks in pins, and liquid dye and ultraviolet light to make suspected cracks more visible.

Bridge Wear and Tear

There are 1620 structurally deficient bridges on the California state highway system with approximately 95% of the bridges designated as structurally deficient due to minor cracks in the concrete deck or the condition of the paint. Some of the bridge maintenance activities that provide the biggest benefit for the smallest level of investment generally include: eliminating deck joints in old bridges, repairing or installing new expansion dams on bridge decks, repairing bridge decks, maintaining proper deck drainage, restoring or replacing bridge bearings, repairing or replacing bridge approach slabs, repairing bridge beam ends and beam bearing areas, and bridge painting.

Limitations and Success of Inspections

For an existing bridge, inspectors are limited by what they can reach. Test equipment can be used to help reveal cracks and corrosion in steel and concrete. Non-destructive evaluation equipment can be used to measure the strength of existing decks or beams. Newer bridges sometimes include strain gauges and corrosion sensors that can be remotely monitored. Since the start of the National Bridge Inspection Program in 1971 three bridges out of 600,000 have collapsed unexpectedly without being impacted by an earthquake, barge, fire, or truck. FHWA (<http://www.tfhr.gov/hnr20/nde/home.htm>) and State DOT's (<http://www.caltrans.ca.gov/hq/structur/stmaint/>) are developing and testing additional inspection methods.

About the Author:

Louis Rubenstein, P.E., is a California licensed Traffic, Civil, and Mechanical Engineer. He has worked at the Port of Long Beach since 1987. His major accomplishments include: managing the traffic engineering group, reorganizing the street names and pier names into a geographic sequence as part of the Port Guide Signing Program, implementation of the 5th lane on the Gerald Desmond Bridge as a truck climbing lane, development of the long train warning system for at-grade railroad highway crossings, development of the overweight vehicle special permit program, and establishment of the Port small businesses enterprises program.

He previously worked for the Jet Propulsion Laboratory and the New York City Department of Transportation. He has a M.S. in Transportation Planning and Engineering from Brooklyn Polytechnic University and a M.E. in Mechanical Engineering from the City College of the City University of New York.



Fortuitous 'Fifty-Six'

After decades of interest, discussion, debate, and failed attempts at legislation, Congress approved funding and construction of the National System of Interstate and Defense Highways in the Federal-Aid Highway Act of 1956. For several reasons, the time was right for virtually unanimous passage of the legislation. One crucial element was that President Eisenhower, members of Congress, and the trucking industry continued discussions after proposed legislation failed decisively in 1955. Ultimately, they reached agreement on user tax increases and equitable cost sharing.

Public opinion also played a part. Vehicle registrations had doubled since the end of World War II, surpassing 65 million in 1956. A major force in shaping and expressing public opinion was William Randolph Hearst, Jr., chairman of the nation's largest newspaper company. In late 1952, he assigned one editor the exclusive task of covering the highway problem, and by the end of 1955, Hearst papers around the country had printed the equivalent of 1,229 full newspaper pages on the need for better roads.

A third factor was the growing body of knowledge about planning, designing, and building highways. Since 1944, the Bureau of Public Roads (BPR) had conducted and refined origin-and destination and home-interview studies. In conformance with the Federal-Aid Highway Act of 1954, the BPR had also studied the costs of building the proposed Interstate System. Furthermore, in 1955 the American Road Builders Association (ARBA, now ARTBA) completed a Congressionally requested ten-year study to assess the nation's construction industry capability of accomplishing a project of this magnitude.

With the stage appropriately set, Congress passed the legislation and the President signed it on June 29, 1956. Implementation began immediately. One hour after Eisenhower signed the Act, Secretary of Commerce Sinclair Weeks signed a Certificate of Apportionment for the first year's (FY 1958) authorization of \$1.125 billion. A month later, Weeks issued the apportionment for the \$2.55 billion authorization for FY 1959. On July 12, the state highway departments adopted the BPR-approved standards for Interstate-level highway improvements.

One of the BPR's most challenging tasks was to decide the locations of road segments that would be added to the 40,000-mile Interstate System authorized by Congress in 1944. Some new mileage was added by the

1956 Act, and some was available because of refinements to the previously designated system. In a 1957 speech, Federal Highway Administrator Bertram Tallamy said, "If there was ever a problem and a headache that was given to the Bureau of Public Roads, it was to be the Solomon to distribute the newly authorized 1,000 miles plus some 1,102 miles in saving when there were 13,775 miles of requests." BPR initially rejected 8,490 requested miles for not being well integrated with the rest of the System. Then it used a weighted ranking system based on defense importance, system integration, population served, and economic importance to select the best remaining routes.

A second important aspect of the 1956 Act was its time considerations. It ambitiously anticipated completion of the Interstate System in thirteen years. In a departure from the then-normal practice of building roads to meet existing demands, the roads were to be planned for traffic volumes expected twenty years in the future.

Equitably funding the new Highway Trust Fund posed another challenge. For the first time, the Act's Title II, the Highway Revenue Act of 1956, designated certain taxes for highways (both the Interstate System and the federal-aid ABC system). Although it merely formalized an existing tacit relationship between user taxes and highway expenditures, earmarking funds worried some legislators who feared it would set a precedent for other types of programs and diminish Congress's control over federal spending. In one sense, the funding mechanism was set, since the Act identified what proportion of which taxes would go into the Trust Fund—for example, all of the federal taxes on gasoline and diesel fuel (in 1957 they accounted for 89 percent of Trust Fund receipts). On the other hand, a new annual road-use tax on heavy vehicles (exceeding 26,000 pounds) contributed only 2 percent of 1957 Trust Fund receipts but was significant because of its impact on the trucking industry. To ensure equity, the Act directed the Secretary of Commerce to study various classes of road users and evaluate their contributions to the Fund in relation to their proportional share of highway costs. Despite careful planning and thorough analyses, cost estimates for the Interstate System quickly escalated. Congress initially authorized \$25 billion (90 percent of the expected System cost of \$27 billion). After two years, the estimated cost rose to \$41 billion, making the federal share \$37 billion. This reflected, in part, the transition from theory to reality following the beginnings of

construction. In 1968, the estimate climbed to \$56.5 billion. A 1967 study attributed a fourth of that increase to the double-digit inflation rates in prior years. Unanticipated traffic volumes, the addition of more urban interchanges, and enhanced bridge and pavement designs also contributed. Even the Cold War had an impact, as the intercontinental ballistic missiles that had to be transported on US highways were large enough to require greater bridge and tunnel clearances than foreseen in the early 1950s. By the time it was deemed "substantially complete," the System took thirty-five years to complete, cost \$114 billion in as-spent dollars, and exceeded 46,000 miles in length.

The Adobe Tower



About the Authors:

Jerry Hall, a professor of Civil Engineering at the University of New Mexico, has served District 6 as president and international director.

Loretta Hall, a member of the Construction Writers Association, is a freelance writer concentrating on engineering and construction.

They can be contacted at jerome@unm.edu and lorettahall@constructionwriters.org, respectively.

This is the eighth in a series of articles tracing the development of the Interstate Highway System.

International Board of Directors Meeting

(Continued from page 1)

Future International Meeting Sites

2012	Atlanta, GA
2013	Boston, MA
2014	Seattle, WA
2015	Hollywood, FL
2016	Toronto, ON.

Tom Brahm's negotiating skills benefit Districts, too

With multi-year contracts, the Institute will receive additional concessions beyond those received in the past that includes benefits for the hosting District such as savings on audio/video rental and meal concessions. After much discussion and a lot of brainstorming from the Board regarding complimentary hotel room nights, Tom artfully crafted for a motion that captured the discussions. The motion, which subsequently passed, further benefits the hosting District by crediting International payment for complimentary room nights. This new concession takes effect at the 2008 meeting in Anaheim and will help the District offset some of the additional costs associated with hosting a joint meeting in District 6.

Future Spring Conferences

The Site Selection Committee recommended several host cities for future Spring Conferences. Executive Director Tom Brahm will negotiate and execute contracts for the 2010 to 2015 conference sites to maximize the concessions provided to the Institute, similar to those recently completed for the Annual Meetings. While the dates could change based upon Tom's negotiations, it is likely that the Spring Conferences will be in District 6 in 2012 and 2015.

Mega Issues

The Board then proceeded to the MEGA Issue of Public Information/Public Image. Cathy Gullen of PTG Enterprises/TransCom Partners presented her white paper on Effective Public Relations for the Transportation Professional. Subsequently, a Public Relations Committee was formed to review the recommendations and to work with staff.

A New Name

At the request of Mark Norman, the Coordinating Council Chair, the name of the Goods Movement Council has been changed to the Freight Mobility Council in order to better describe council activities.

Improving the Institute

In order to better serve the membership, additional training for all IBD members will take place at the October Board meeting. The Board is also working on updating many of the current procedures in addition to developing new ones in order to allow the Board to conduct business more effectively between meetings. Currently a Board procedure relating to email balloting is being developed.

The Board has also formed a committee to deal with two of the eastern District's boundaries. A second committee was formed to develop procedures relating to young transportation professions.

Canadian District Site Design Software

James Gough, the International Director for Canada, gave a great presentation on new software that the Canadian District is developing.

What to expect for 2008

After much discussion by the Board, District 6 members will see a \$5 increase in their dues. The cost for the 2008 Conference and Annual Meeting Registration are also likely to increase, but not more than 5%.

Where Will Transportation Funding Come From Next?

(Continued from page 5)

- with choices results in more favorable outcomes.
- We need a system to fund management of our transportation system or we will never be able to measure performance across all choices – a great opportunity exists today to utilize technology to manage transportation data, for planning and operations – to hold ourselves accountable to the public.
- With a gargantuan backlog of maintenance projects (especially bridges) and shortages of capacity in every metropolitan area it is simply flawed logic to purport that we can just price our way out of our problems. Pricing will be a helpful congestion management tool but will not fully substitute for transit, bicycle, pedestrian, freight and motor vehicle capacity serving a mobile and growing society.
- The industry must be vigilant in

monitoring use of transportation fees for general fund or non-transportation purposes. The concept of user pays "loses its way" with the public when it is not accountable to the infrastructure.

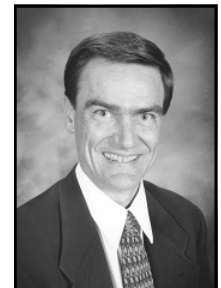
- Oregon's use of weight mile fees and innovative GPS/vehicle miles/gas tax strategies are a starting point for more robust hybrid funding concepts.

The TRB session presented many interesting points for critical thought. It ended with a riddle: "Why do they broadcast traffic and weather at the same time?" Answer: "Because of the lack of control people see they have in both."

It is our time to step forward and change this.

About the author:

This article was contributed by District 6 International Director **Randy McCourt**.



Slate of District 6 Candidates Announced

Candidate for President

Monica M. Suter

Candidates for Secretary-Treasurer

Edgar Perez

Larry Wymer

Candidates for International Director

Ken Ackeret

Alex Ariniello

Candidate for Vice President

Michael Sanderson



Find Which International ITE Council is For You!

Check <http://www.ite.org/councils/index.asp> to get more involved and to partner on key projects with members across the globe!

MUTCD Proposed Amendments

On January 2nd, 2008, the Federal Highway Administration (FHWA) published the Notice of Proposed Amendment (NPA) to the Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition in the Federal Register for public review. It contains several significant revisions and additions, many of which will require public agencies to replace existing signs, and modify traffic signal or other traffic control devices by the required compliance dates. Other changes will require jurisdictions to change the way their existing devices currently operate such as for pedestrian signal timings. Advanced planning for these changes is recommended to minimize the implementation impact to staff and funding resources. Non compliance with the MUTCD (based on federal law) can also affect an agency's liability. As a result, agencies are recommended to closely review the proposed changes and provide substantive comments to the docket before **Thursday, July 31, 2008**.

The changes can be reviewed in various formats on the website at <http://mutcd.fhwa.dot.gov/>. FHWA's slide show provides a visual overview of changes and additions throughout. Specific changes throughout the document can be reviewed in "clean text" or text where edits are shown. Changes to Tables and Figures are summarized to help focus where more significant changes are located. New Sections, Figures and Tables should also be reviewed to identify new options, recommendations and requirements of agencies.

The significant changes are anticipated to affect public agencies and all transportation professionals due to proposed changes, deletions and additions to the manual. It is recommended that the actual NPA document be reviewed by agency transportation practitioners. Additionally, FHWA adopted Revision 2 of the MUTCD in December of 2007. This includes new retro-reflectivity requirements. Consequently, Revision 2 should also be reviewed by agencies to provide comments and access anticipated impacts since its changes will be merged with the NPA version of the MUTCD for the next edition. It is recommended that agencies continue to use their current, state-adopted version of the MUTCD while reviewing proposed amendments to provide important comments and to plan for how compliance will be obtained with limited resources prior to the deadline of **Thursday, July 31, 2008**. Comments may be submitted to the docket by mail or go to www.regulations.gov to submit comments electronically.

Section and Chapter Activities



Hawaii Section

January 2008

Hawaii State Senate President Colleen Hanabusa spoke at ITE Hawaii Section January 2008 Meeting.

Ms. Hanabusa informed us the issues regarding to traffic, safety, and planning on the Leeward side. Congestion during peak hours and safety are the major concerns along Farrington Highway in Waianae. Ms. Hanabusa emphasized the needs for utility undergrounding. In December 2007, 16 utility poles along Farrington Highway snapped or were bowled over by wind gusts up to 70 mph, knocking out power to hundreds of residents for days and choking traffic on the Leeward Coast. Some of the damaged poles had been replaced little more than a year before, when strong winds in March 2006 had toppled more than a dozen poles. Because there is no alternative access to Farrington Highway, the accidents caused long traffic delays, too. She understands that utility undergrounding is a costly project and she is willing to discuss phasing the project.

Ms. Hanabusa also touched upon the issues of the Waianae community being disadvantaged compared to other communities on Oahu. Waianae holds the only two landfills and only live fire exercise field on the island. The majority of the Hawaiian Homestead homes and homeless reside in Nanakuli. The infrastructure is falling behind other communities.

Ms. Hanabusa also shared her perspectives on Superferry and the city landfill issues.

February 2008

David Arakawa, Director of the Land Use Research Foundation (LURF) and David Tanoue, Deputy Director of Department of Planning and Permitting spoke at ITE Hawaii Section February 2008 Meeting.

Mr. Arakawa informed us that LURF is the voice of landowners and developers

in Hawaii. It was established in 1979 to promote and advance the interests of the development community, particularly in the areas of land use laws and regulations. Over the years, LURF has been a strong voice of reason, working to represent the interests of its membership and at the same time find common ground for the concerns of government, business, and the community. LURF accomplishes this through a three-pronged program of Research, Information, and Advocacy.

Mr. Tanoue briefed us on his views on Transit Oriented Development (TOD), traffic related land use regulation, the city's position on Environmental Assessment. TOD will allow density and grow surrounding the planned fixed guideway stations. It not only benefits the surrounding communities, but also relieves the growth pressure for North Shore and East Honolulu. Only with the planned growth in Ewa, Kapolei, and Central Oahu, is "keeping country country" possible. One of the big challenges for TOD is areas such as Moilili and Makiki where many small lots have multiple land owners.

Honglong Li,
Secretary



San Francisco Bay Area Section

January 2008

How can the San Francisco Municipal Railway (Muni) improve overall transit system performance? This question was the focus of the SF Bay Area ITE Section's monthly technical meeting held January 24, 2008 at the San Francisco County Transportation Authority. Britt Tanner, Associate Engineer for the San Francisco Municipal Transportation Agency (SFMTA), and Peter Strauss of Muni

provided an overview of initial study findings from the Transit Effectiveness Project (TEP). The TEP is a joint effort of SFMTA and the San Francisco Controller's Office.

It has been over 25 years since the last comprehensive review of the entire Muni transit system. Initiated 18 months ago, the primary goals of the TEP are to make service more attractive to the public and to stabilize operating costs. The TEP is an ongoing process that has included review and evaluation of all aspects of the existing system, including service policies, operations, and management. TEP staff have also conducted a comparative analysis of other major transit systems, forecasting of future transit demand, and gathered extensive input from citizens and MTA employees.

Among Muni's current challenges is systemwide on-time performance, currently around 70 percent, which is below the recent voter-mandated goal of 85 percent. MTA found that overall, Muni service is approximately 10 percent slower than 10 years ago because of increased traffic congestion. Operational costs have risen the last several years, as costs such as health care have skyrocketed, while operational speeds have decreased, requiring more vehicles to keep up with current service obligations.

MTA collected real-time data using automatic passenger counters (APCs) that were installed on approximately 10 percent of Muni transit vehicles. The APCs are able to measure transit boardings and alightings, as well as dwell times of transit vehicles. These data provided very valuable information on current performance of select Muni lines. In addition, MTA facilitated several community workshops to determine rider expectations of the Muni system. First and foremost, Muni riders want reliability. They also would like quicker service.

Other current challenges for Muni include the need for additional schedulers to manage a system that has approximately 700,000 boardings per day, the most of any Bay Area transit system. Also, there is a need for improved transit vehicle operator availability, more route supervisors, and improved enforcement of double-parked vehicles blocking Muni routes and bus stops. Among the toolkit of options to improve system performance, San Francisco is launching a pilot project to install cameras that would help enforce double parking in transit lanes, similar to

Section and Chapter Activities

how red-light cameras are used.

For more information on the SF Transit Effectiveness Project, visit the project website at <http://www.sftep.com/>. Ongoing project updates can be received by subscribing to the project newsletter at info@sftep.com.

March 2008

On March 20, 2008, the SF Bay Area ITE Section (SFBayITE) monthly technical meeting topic was "Transportation and the Media". SFBayITE invited three of the Bay Area's top traffic news media experts to participate in a Q & A session with Section members on March 20, 2008 at New Delhi Restaurant in San Francisco. The panelists were Gary Richards of the San Jose Mercury News, who writes a popular column for the motoring public called "Mr. Roadshow"; Kim Wonderley, morning traffic reporter for KCBS-AM; and Stan Burford of ABC-7 Morning News and KGO-AM. The forum provided an opportunity for the media panelists to relate what they are hearing from the public regarding traffic issues, as well as for transportation engineers to communicate ideas to the panelists for sharing with the public.

Mr. Richards' column relies to a great extent on the input of transportation engineers. Often, commuters write to him on specific traffic issues, such as the function of a particular freeway metering signal or progress of a roadway construction project. Answers to these questions require input from engineering officials. He expressed his appreciation for engineers' past help in answering reader questions.

Ms. Wonderley also provided helpful insights into the minds of commuters. Based on what she has seen as a traffic reporter, she suggested that more research should be done on effective use of major transportation corridors. Congestion pricing is one such measure that if planned effectively could provide travel with minimal delay on both weekdays and weekends. She also emphasized that transportation engineers should find more ways to encourage people to use carpool lanes in the Bay Area.

Mr. Burford provided a graphic for a proposed freeway route through San Francisco that would connect the Golden Gate Bridge to Daly City. The aim of his suggested route through the Sunset

District, Golden Gate Park, and the Richmond District would be to remove regional traffic that currently uses local San Francisco streets. Bay Area transportation professionals with long memories will recall that a similar route was considered before the local freeway revolt in the 1950's and 1960's.

Mr. Burford also noted that the Bay Area freeway system is reaching the end of its lifespan, and engineers need to find effective ways to forecast freeway problems and upgrade the system accordingly. He emphasized the utility of having one transportation organization overseeing varied transportation services such as light rail, bus, and freeways. He cited Sydney, Australia as an example where light rail transit and local municipal transportation services are doing an excellent job in minimizing congestion within the city.



*Andrew Kluter,
Co-Scribe*



*Allen Huang,
Co-Scribe*



New Mexico Section

February 2008

"US Route 60: the Ocean-to-Ocean Highway" presented by Spencer Wilson. Mr. Wilson is a retired History Professor from the New Mexico Institute of Mining and Technology. Mr. Wilson presented a slideshow on the history of US Route 60. US Route 60 had as its endpoints the Atlantic and Pacific Oceans, (Virginia Beach, Virginia to Los Angeles, California,) it was given the nickname, "the Coast-to-Coast Highway."

Ross E. Lujan, Secretary/Treasurer



Colorado-Wyoming Section

January 2008

The annual Colorado/Wyoming Section of ITE vendor show was held on Friday, January 25, 2008 at the Arvada Center. This year's event included 23 company vendor registrations. Exhibits included information pertaining to various components of the transportation industry. Section President, Joe Henderson, presided over the meeting that was attended by 215 members and guests.

The meeting portion of the event began with half of the vendor introductions, following by several announcements. Joe Henderson recognized ITE International Vice Presidential Candidate Gene Wilson. Mr. Henderson also announced the Section is now accepting nominations for the Transportation Professional of the Year. Scot Lewis, Section Student Coordinator, recognized Brian Kelley, a part-time intern at LSC Transportation Consultants as the recipient of the Student Scholarship Award. The winner of the Newsletter Contest last month was Jessie Slaton of Carter-Burgess who donated her award to the ITE Scholarship fund. Thanks Jessie! After presentation of the announcements, the remaining half of the vendor representatives provided a brief introduction about their company and the services they provide.

February 2008

A Colorado/Wyoming Section of ITE luncheon was held on Friday, February 29, 2008 at the Hilton Garden Inn, Colorado Springs. Section President, Joe Henderson, presided over the meeting that was attended by 42 members and guests. The meeting began with self introductions of all those present.

Mr. Henderson first announced that the Section is accepting nominations for Secretary-Treasurer. If interested, please

Section and Chapter Activities

contact Section Past-President, Bill Hange, of the City of Loveland. Section Newsletter Editor, Greg MacKinnon, identified Doug Eberhart as being the February quiz winner. However, since there was an error in the quiz, two quizzes will appear in the next edition.

Karl Packer, Section Continuing Education Committee, announced the next meeting is the Joint ITE, ITS Rocky Mountain, and WTS Spring Transportation Symposium and is set for Friday, April 4, 2008 in Lone Tree. The Symposium will include morning sessions and a luncheon. For more information and to make reservations, visit the Section website.

Section Vice President, Craig Faessler, then introduced the program speaker, Mr. Dave Poling, from CDOT Region 2. Mr. Poling presented *COSMIX – Project Summary and Lessons Learned*. The presentation was very informative and covered the lessons learned throughout the project, which will provide assistance for future design-build projects. The Colorado/Wyoming Section contact is Joe Henderson of Short Elliott and Hendrickson, Inc., 303-441-5401; jhenderson@sehinc.com. Also, please visit our Section's website at www.cowyite.org.

Curtis Rowe,
Secretary



Positions Available Ads:

To place your ad, e-mail your ad to nate_larson@urscorp.com. The deadline is the 28th of the previous odd-numbered month. The cost is \$1.50 per word, with a minimum cost per ad of \$100.00. Ads are also posted on our web site at www.westernite.org. More information is available on our Web site.

Positions Available

LSA

LSA ASSOCIATES, INC.

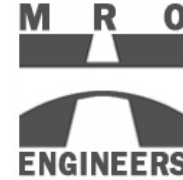
LSA is a diversified environmental, transportation, and community planning firm with California offices in Berkeley, Carlsbad, Fresno, Irvine, Palm Springs, Point Richmond, Riverside, Rocklin, San Luis Obispo, and South San Francisco, and one office in Fort Collins, Colorado. Our firm is distinguished by the comprehensive nature of the services we provide and by our commitment to providing responsive and expert support to our clients. The staff at LSA includes experts in environmental analysis, transportation planning and engineering, biology and wetlands, habitat restoration, resource management, geographic information systems (GIS), community and land planning, landscape architecture, archaeology and paleontology, water quality, noise, and air quality. LSA is recognized as innovators in the field of environmental impact assessment and have developed a reputation among clients and professional peers in both the public and private sectors as being thorough, innovative, and objective.

LSA is currently seeking experienced and qualified candidates for several job opportunities. A full listing of each position and contact information can be found on the employment page of our company Web site, www.lsa-assoc.com.

LSA's greatest asset is its employee ownership. LSA offers excellent compensation and benefits, including competitive pay; medical, dental, vision, group life, long-term care, and long-term disability insurance plans; vacation, sick, and holiday pay; an Employee Stock Ownership Plan (ESOP); and a Profit Sharing and Savings Plan (with 401k and company match). LSA is an AA/EOE.

For any additional information, please send an e-mail to Human Resources at employment@lsa-assoc.com, or send a letter to:

LSA Associates, Inc.
Attn: Human Resources
20 Executive Park, Suite 200
Irvine, CA 92614



TRAFFIC ENGINEER NEEDED IN GREATER SACRAMENTO AREA

MRO Engineers, located in Rocklin California, was founded in 1991 to focus on the planning and design of transportation infrastructure projects, for both public agencies (federal, state and local) and private clients. We are Caltrans Certified DBE. We employ 15 professional and support staff in our Rocklin corporate office and our statewide construction management offices.

Job Responsibilities

In this role you will be prepare traffic impact studies, traffic signal warrant analyses, traffic signal timing/optimization, gravity-based transportation modeling, intersection and roadway level of service analyses, site access/circulation analyses, and report preparation. Ideally you will have proficiency in some or all of the following software packages: HCS, Synchro, SimTraffic, MinuTP, TP+, Traffix, VISSIM, and AutoCAD. In addition, experience making public presentations is helpful.

Job Requirements

10+ years experience in the analysis of proposed development projects and roadway infrastructure needs for both the public and private sectors. A California P.E. in Civil or Traffic is preferred.

www.mroengineers.com

Resumes may be sent to
mro@helpingyouhire.net

TRANSPORTATION ENGINEER Salt Lake City Corporation, Salt Lake City, Utah

\$55,140 - \$78,876 yr. (salary commensurate with qualifications)

Civil Engineer Degree and four years transportation engineering experience. Municipal transportation engineering design and planning experience desired. PE license from State of Utah. Out of State PE must obtain Utah PE with six months of employment. Apply: www.slcgov.com/jobs or Fax resume to: 801-535-6633. E.O.E

Positions Available



ITERIS, INC.

Transportation Engineers and Planners

Iteris, Inc. leads the traffic management market in the development and application of advanced technologies that reduce traffic congestion, minimize environmental impact and improve the safety of our surface transportation system. We have created a dynamic team of professionals throughout the country who are passionate about transportation and making an impact in the industry.

We have many exciting opportunities available throughout our growing offices across the U.S.

TRANSPORTATION ENGINEERS/ PLANNERS

Long Beach and Los Angeles, California

We're seeking mid to senior level professionals with the ability to assist with and/or take charge of conducting transportation plans, planning studies and operational studies while managing small to medium sized projects. These positions may also require business development activities. We're seeking highly motivated individuals with excellent communication and analytical skills. 5 – 10 years experience required.

SENIOR TRANSPORTATION ENGINEER

Ontario, California

This position will function as an Assistant Manager for our growing office in the Inland Empire. Duties will include managing transportation projects including budgets for design and planning activities, client interface, agency coordination and providing technical expertise to staff. 10 – 15 years experience with excellent communication skills required.

SENIOR TRANSPORTATION ENGINEER

Las Vegas/Reno, Nevada

This position will serve as Project Manager, Task Leader and Project Engineer with planning, design, implementation and integration of ITS systems. At least 5 years experience in ITS and traffic engineering required.

TRANSPORTATION ENGINEER/ PLANNER Boise, Idaho

This position will be responsible for conducting transportation/traffic planning studies, operational studies, preparing reports, managing small and medium projects and attending client meetings. 5-10 years experience required.

If you are interested in working for a company that offers a casual working environment, flexible work schedule, competitive salary and benefits package as well as the opportunity to transport your career – and Iteris – to the next level, we encourage you to learn more about Iteris!
<http://www.iteris.com>

Confidential resumes or letters of inquiry can be sent to jobs@iteris.com. EOE

TRAFFIC ENGINEER Kimley-Horn & Associates Los Angeles

KHA is looking for energetic Traffic Engineers to work in our Woodland Hills office. Successful candidates will be responsible for the production of various traffic engineering and ITS designs including the preparation of traffic signal, signing & striping, interconnect plans, traffic control, CCTV and communication design plans.

Individuals will plan and coordinate small projects and/or detailed phases of larger projects using engineering judgment in analysis, methods and procedures, and the development of engineering solutions. They may also assist in business development through preparation of proposals and statements of qualifications.

Candidates will have:

- 2-4 years experience in traffic engineering
 - Knowledge of consulting business practices
 - Fundamentals in traffic and transportation engineering
 - Familiarity with QA/QC procedures
- Software Skills:
- Working knowledge of AutoCAD
 - Microstation
 - SYNCHRO

Personality Traits:

- Motivated, ambitious, self starter (i.e. desire to do more than expected)
- Good interpersonal skills
- Goal & Team oriented

Education / Credentials:

- BS/MS Civil Engineering
- EIT and/or PE, PTOE

KHA application link: <http://www.kimley-horn.com/kha/disciplines.asp?MenuID=90&RefCode=CA3000>

TRANSPORTATION ENGINEER Buckeye, Arizona \$56,024 - \$82,772

Buckeye, Arizona, seeks Transportation Engineer who can envision the future, respond creatively to challenges, and thrive in a non-traditional environment.

Work tasks include transportation planning (traffic impact, master planning, capital improvement), operations (safety and speed studies, plan checking, signal timing) and design (signing, striping, and signals).

Bachelor's in civil/mechanical engineering or urban/transportation planning; two years professional traffic/transportation experience preferred. EIT required.

Job description and application at www.buckeyeaz.gov or from HR at 623-349-6250.

LEAD TRAFFIC ENGINEER Phoenix, Arizona

URS has an immediate opening for a traffic engineer that can pursue work with public clients and serve as project manager or task manager on a variety of projects involving traffic signal design, intersection design, maintenance of traffic, signing and striping, and traffic studies. Candidate must be PE or PTOE and eligible to be registered in Arizona and have ten years or more of related experience.

URS is a multinational firm with over 300 offices worldwide and over 250 employees in Arizona. The transportation engineering practice is well established in Arizona with on-going contracts with ADOT, several counties and more than a dozen cities. Send resume to betsy_carroll@urscorp.com.

DON'T FORGET...

The latest Positions Available ads are always on our Website!

COMMERCIAL SUPPLIERS

ALL TRAFFIC DATA SERVICES, INC.

Atlanta, GA 404-374-1283
 Denver, CO 303-216-2439
 Jacksonville, FL 904-707-8618
 Seattle, WA 206-251-0300
 Portland, OR 503-833-2740

Call with any traffic data collection needs or visit
www.alltrafficedata.net

COUNTS UNLIMITED

Traffic data collection specialists serving Southern California since 1990. Intersection turning movement counts volume-classification • Roadway Tube Counts (volume-classification-speed-gap • Radar Speed Surveys • Travel Time Studies Visit us @ www.countsunlimited.com
 Barbara N. Sackett 951.247.6716
 Or Abe Campos 951.485.7934

INTERNATIONAL ROAD DYNAMICS

World Leader in Transportation Technology Solutions
 ITS Solutions • Traffic Data Collection • Truck Enforcement • In-Vehicle Systems • Toll Systems • Work Zone Safety Systems
www.irdinc.com

QUALITY COUNTS, LLC

We provide transportation data collection services using the latest technology for surveying and product delivery.
 • Web-based ordering and report database
 • Video record surveys
 • Responsive nationwide survey capabilities.
www.qualitycounts.net - 1-877-580-2212

PROFESSIONAL SERVICES

ABRAMS ASSOCIATES TRAFFIC ENGINEERING

Traffic Planning & Engineering • Development Services • Litigation Consulting
 1660 Olympic Boulevard, Suite 210
 Walnut Creek, CA 94596
 (925) 945-0201 FAX (925) 945-7966
 Web: www.abramsassociates.com

ADVANTEC CONSULTING ENGINEERS, INC.

ITS • Communications • Systems Engineering • Traffic Engineering • Signal Design • Traffic Control • Traffic Impact Studies • Parking Studies (DBE/MBE)
 21700 Copley Drive #350, Diamond Bar, CA 91765
 (909) 860-6222 FAX (909) 860-6722
www.advantec-usa.com info@advantec-usa.com

ALBERT GROVER & ASSOCIATES

Signal System Design • Coordination • Operations • Impact Studies • Modeling • Design/Build • Parking & Access • Inspection • Implementation
 211 E. Imperial Highway, Suite 208
 Fullerton, CA 92835
 (714) 992-2990 FAX (714) 992-2883

ALBERT A. WEBB ASSOCIATES

Traffic Engineering and Design • Transportation Planning • Highway Design • Environmental Documentation
 3788 McCray Street Phone (951) 686-1070
 Riverside, CA 92506 Fax (951) 788-1256
www.webbassociates.com

AUSTIN-FOUST ASSOCIATES, INC.

Traffic & Civil Engineering • Transportation Planning • Traffic Signal Design • Parking Analysis and Design
 2223 E. Wellington Avenue, Suite 300
 Santa Ana, CA 92701
 (714) 667-0496 Fax (714) 667-7952

CARTER & BURGESS, INC.

Comprehensive transportation planning and engineering:
 Denver, CO (303) 820-5240
 Las Vegas, NV (702) 938-5400
 Los Angeles, CA (213) 239-1300
 Oakland, CA (510) 457-0027
 Phoenix, AZ (602) 253-1200
 Salt Lake City, UT (801) 355-1112
 Seattle, WA (206) 490-4200

CRAIN & ASSOCIATES OF SOUTHERN CALIFORNIA

Traffic Engineering • Transportation Planning
 2007 Sawtelle Boulevard, Suite 4 • Los Angeles, California
 90025 • 310 473-6508 • Fax: 310 444-9771

ROBERT CROMMELIN & ASSOC., INC.

Consulting Traffic Engineers, Experienced in Traffic Engineering Evaluation and Testimony as part of Litigation
 73-255 El Paseo, Suite 9 (760) 568-6838
 Palm Desert, CA 92260 FAX (760) 568-9850
RCTraffic@aol.com

DARNELL & ASSOCIATES, INC.

Transportation Planning • Traffic Engineering & Design Services • Traffic Control Signal Systems • Impact Studies • Bikeways • Parking • Air Quality Analysis
 1446 Front Street, Suite 300
 San Diego, CA 92101
 (619) 233-9373 FAX (619) 233-4034

DAVID EVANS AND ASSOCIATES, INC.

23 offices throughout the western states.
 Traffic Engineering • Transportation Planning and Design • Transit Planning and Engineering • Highway/Roadway Design and Engineering • Heavy Rail Engineering
 Washington (425) 519-6500
 Oregon (503) 223-6663
 Colorado (720) 946-0969
 California (909) 481-5750

DKS ASSOCIATES

Traffic and Transportation Engineering and Planning • Intelligent Transportation Systems
 Oakland CA (510) 763-2061
 Offices in: Irvine and Sacramento, CA; Tampa, FL; Portland and Salem, OR; Seattle, WA
 Web page: www.dksassociates.com
 email: rts@dksassociates.com

DOWLING ASSOCIATES, INC.

Traffic Engineering • Transportation Planning • Research • Traffic Software • Computer Models
 180 Grand Avenue, Ste 250, Oakland, CA 94612
 (510) 839-1742 phone (510) 839-0871 fax
 428 J St, Ste 500, Sacramento, CA 95814
 (916) 266-2190 phone (916) 266-2195 fax
www.dowlinginc.com

FEHR & PEERS ASSOCIATES, INC.

Transportation Planning, Traffic Engineering
www.fehrandpeers.com (925) 930-7100
 Walnut Creek, CA Los Angeles County, CA
 Salt Lake City, UT San Francisco, CA
 Roseville, CA Denver, CO
 Sacramento, CA San Jose, CA
 Orange County, CA Reno, NV

HEXAGON TRANSPORTATION CONSULTANTS

Transportation Planning • Traffic Engineering • Travel Demand Forecasting • Traffic Simulation • Traffic Operations
 • Environmental Impact Studies • Traffic Impact Studies • Parking Studies • Transit Studies • Signal Design
 40 South Market Street, Suite 600
 San Jose, CA 95113 (408) 971-6100

HIGGINS ASSOCIATES

Traffic Engineering • Signal Operations • Comprehensive Transportation Planning • Geometric Design • Signal Design • Parking
 1300-B First Street, Gilroy, CA 95020
 (408) 848-3122 Fax: (408) 848-2202
 email: info@kbhiggins.com

ITERIS

ITS • Traffic Engineering • Transportation Planning • Traffic Control Systems • Communications • Transit • Parking • Construction Management
 1700 Carnegie Avenue, Suite 100
 Santa Ana, CA 92705 (949) 720-9400
 Los Angeles, CA (213) 488-0345
 Long Beach, CA (562) 432-8484
 Ontario, CA (909) 230-6880
 Sacramento, CA (916) 772-7976
 Boise, ID (208) 345-4630
 Idaho Falls, ID (208) 528-8538
 Las Vegas, NV (702) 384-2525
 Salt Lake City, UT (801) 479-5866
 Denver, CO (720) 898-0265
 Minneapolis, MN (612) 371-9200
www.iteris.com

ITS ENGINEERS & CONSTRUCTORS, INC.

Intelligent Transportation Systems • Traffic Engineering • Traffic Control Systems • Transportation Planning • Design/Build Specialists • Communications
 Phoenix, AZ (602) 943-2525
 Salt Lake City, UT (801) 281-9695

KOA CORPORATION

Traffic Engineering • Transportation Planning • Signal Design • Traffic Signal Timing • ITS • GIS • www.koacorporation.com
 1055 Corporate Center Drive, Suite 300
 Monterey Park, CA 91754 (323) 260-4703
 Oakland, CA (510) 839-0061
 Ontario, CA (909) 890-9693
 San Diego, CA (619) 683-2933
 Orange, CA (714) 573-0317

KIMLEY-HORN AND ASSOCIATES, INC.

Traffic Engineering • Transportation Planning • ITS • Communications • Software • Civil Engineering
 Regional offices in: San Diego, Orange, Los Angeles, Riverside, Santa Clarita, San Ramon, Oakland, Sacramento, Roseville, Stockton CA; Las Vegas, Reno, NV; Phoenix, Mesa, Avondale, Tucson, AZ; Denver, CO; Boise, ID
www.kimley-horn.com

LANCASTER ENGINEERING

Traffic and Transportation Engineering • Light Rail • Traffic Control • Traffic Impact & Planning Studies
 321 SW 4th Ave, Suite 400, Portland, OR 97204
 (503) 248-0313 FAX (503) 248-9251
 email: info@lancasterengineering.com

LEE ENGINEERING, LLC.

Traffic Engineering • Transportation Planning • ITS
 Phoenix Office
 3033 N. 44th Street, Suite 375
 Phoenix, AZ 85018 (602) 955-7206
 Albuquerque Office
 8500 Manual Blvd. NE, Suite A-420
 Albuquerque, NM 87112 (505) 338-0988
www.leeengineering.com email: info@lee-eng.com

LSC TRANSPORTATION CONSULTANTS, INC.

Transportation Planning • Traffic Engineering • Transit Planning & Facilities • Signal/Roundabout Design • Resort Planning • Parking
 Tahoe City, CA (530) 583-4053
 Denver, CO (303) 333-1105
 Colorado Springs, CO (719) 633-2868

LIN CONSULTING, INC. (DBE/MBE)

Traffic, Civil, and Electrical Consulting Engineers
 21660 E. Copley Drive, Suite 270
 Diamond Bar, CA 91765 (909) 396-6850
www.LinConsulting.com FAX (909) 396-8150
inbox@LinConsulting.com

LINSCOTT, LAW & GREENSPAN

Engineers & Planners • Traffic • Transportation • Parking
 Costa Mesa, CA (714) 641-1587
 Pasadena, CA (626) 796-2322
 San Diego, CA (858) 300-8800
 Las Vegas, NV (702) 451-1920
www.ligengineers.com

LOCHNER

Transportation Planning • Traffic Engineering • Land Use Planning • Signal Design • Traffic Impact Studies • Parking • Highways • Bridge Design and Inspection • Environmental Studies • Corridor Planning • Public Involvement • Construction Engineering and Inspection
 H.W. Lochner Engineers and Planners
 5917 Sunset Drive
 Western U.S. Offices:
 Cheyenne, WY 82009 (307) 632-9646
 Bellevue, WA (425) 454-3160
 Salt Lake City, UT (801) 262-8700
 Portland, OR (503) 586-0100
 Boise, ID (208) 336-2983
 Big Fork, MT (406) 837-6878
bgreene@hwlochner.com

LSA ASSOCIATES, INC.

Transportation Engineering and Planning • Parking Studies • Capital Project Development
 20 Executive Park, Suite 200 Irvine, CA 92614
 P (949) 553 0666 F (949) 553 1670
tony.petros@lsa-assoc.com
 Riverside, CA (909) 781-9310
 Ft. Collins, CO (970) 494 1568
 Pt. Richmond, CA (510) 236-6810
 Berkeley, CA (510) 540-7331

MIRAI TRANSPORTATION

Multimodal Transportation Planning • Traffic Engineering Design
• Travel Demand Forecasting • Growth Management • Traffic
Operations
11410 NE 122nd Way, Suite 320
Kirkland, WA 98034
(425) 820-0100 FAX (425) 821-1750
www.miraiassociates.com

THE MOBILITY GROUP

Transportation Planning • Transit Planning • Parking • Traffic
Planning & Engineering • Management
18301 Von Karman, Suite 580, Irvine, CA 92612
(949) 474-1591 Fax (949) 474-1599
www.mobilitygrp.com

MORTON & PITALO, INC.

Civil Engineering • Traffic Engineering • Traffic Signal Design
Traffic Impact Studies • Traffic Control • Street Lighting
Signing & Striping • Transportation and Land Use Planning
1788 Tribute Rd. #200 Sacramento, CA 95815
(916) 927-2400 Office (916) 567-0120 Fax
Offices in Roseville and Folsom
www.mpengr.com

MULTITRANS TRANSPORTATION CONSULTANTS, INC.

Traffic Operations • Transportation Planning • Traffic Impact
Studies • Speed Limit Studies • CMP Projects • Parking •
Transit • Collection of all types of traffic data
2410 Camino Ramon, Suite 166, San Ramon, CA 95583
San Ramon: (925) 355-7300 Fax (925) 355-7303
davidy@multitransusa.com

OLSSON ASSOCIATES

Traffic Engineering/Operations • ITS • Traffic Studies • Signal
System Design • Transportation Planning • Lighting •
Landscape Architecture and Urban Design
Phoenix, Arizona (602) 748-1000
Denver, Colorado (720) 962-6072
www.oaconsulting.com

OMNI-MEANS, LTD.

Transportation and Public Works Engineering and Planning •
Landscape Architecture • Traffic Engineering • Civil Engineering
• Surveying • GIS
Roseville, CA (916) 782-8688
Redding, CA (530) 242-1700
Visalia, CA (559) 734-5895
Walnut Creek, CA (925) 935-2230
www.omnimeans.com

ORTH-RODGERS & ASSOCIATES, INC.

Traffic/Highway Engineering & Design • Transportation Planning
• Environmental Science/Planning • Municipal Services
SOUTHWEST OFFICE Ph: (702) 233-4060
3120 S. Durango Drive, Fax: (702) 233-4560
Suite 404 www.orth-rodders.com
Las Vegas, NV 89117
Principal: Richard T. Romer, P.E., PTOE

PAT NOYES & ASSOCIATES

Public Process Design & Facilitation • Neighborhood Traffic
Management • Traffic Incident Management Programs
1566 County Rd. 83 • Boulder, CO 80302
(303) 440-8171 www.patnoyes.com
e-mail: pat@patnoyes.com

PBS&J

Transportation • Highways • Transit • ITS • Toll Services •
Traffic Management • Water Resources • Urban Planning •
Construction Management • Risk and Emergency Management
1200 Second Street
Sacramento, CA 95814
(916) 325-4800 FAX (916) 325-4810
www.pbsj.com smgreene@pbsj.com

PENFIELD & SMITH

Traffic Engineering • Transportation Planning • Civil Engineering
• Construction Management • Surveying • Land Use Planning
Quality & Service for Over 60 Years
With four California offices to serve you
(805) 963-9532
www.penfieldsmith.com

PRIORITY ENGINEERING, INC.

Traffic Engineering and Design • Traffic Impact Studies
Signal Systems • Geometric Design • Parking Studies
Municipal Engineering • Traffic Control • Counts
23084 Maple Avenue (800) 475-5557
Torrance, CA 90505 (866) 783-2519 FAX
e-mail: info@priorityeng.com • Torrance • San Diego

RBF CONSULTING

RBF Provides Transportation Planning • Public Works • Traffic
Engineering • Intelligent Transportation System Engineering •
Aviation Engineering Services
Fourteen offices located in California, Arizona, and Nevada
(800) 479-3808 www.rbf.com

RICK ENGINEERING COMPANY

Traffic and transportation services for public and private clients
throughout the Southwest.
Bakersfield • San Diego • Orange • Sacramento • Riverside •
San Luis Obispo • Phoenix • Tucson
www.rickengineering.com

RK ENGINEERING GROUP, INC.

Transportation Planning—Traffic Engineering
Acoustical and Transportation Demand Management Studies
3991 Macarthur Blvd., Suite 310
Newport Beach, CA 92657
(949) 474-0809 Fax (949) 474-0902
www.rkengineer.com

ED RUZAK & ASSOCIATES, INC.

Traffic & Transportation Engineering • Consulting for
Litigation
10061 Talbert Avenue., Suite 200 Fountain Valley, CA 92708
(714) 964-4880 FAX (714) 964-7219
999 Green Street, Ste 1103, San Francisco, CA 94133
(415) 929-8745

SIEMENS ITS

A business unit of Siemens Energy & Automation, Inc.
Project Management • ITS Strategic Planning • ITS Design •
Systems Integration • Operations and Management
• Communications Network Analysis and Design
250 W. Colorado Blvd, Suite 110, Arcadia, CA 91007
Phone: 626.294.9255 Fax: 626.294.9259
San Francisco 510.540.7659 Tucson 520.290.8006
Salt Lake City 801.539.4919 Denver 303.905.7008
Visit our Website for more information: www.itssiemens.com

TJKM TRANSPORTATION CONSULTANTS

Traffic Engineering and Planning • ITS and Modeling Services •
Signal Design/Operations • Traffic Impact Studies • Parking/
Safety Studies • Freeway Operations • Staff Services
Pleasanton, CA 94588 (925) 463-0611
Santa Rosa, CA (707) 575-5800
Sacramento, CA (916) 449-9095
Fresno, CA (559) 325-7530
www.tjkm.com

TRANSCORE

Traffic Management Systems • Communications Network
Design & Integration • ITS Planning & Design • Traffic
Engineering • Traffic Signal Design • Toll & HOT Systems •
Transit Systems • Port of Entry Systems
Regional offices in Salt Lake City, San Diego, Pleasanton,
Woodland and Scottsdale.
629 Wilshire Blvd., Suite 818, Los Angeles, CA 90017
213.327.0922
www.transcore.com Offices nationwide

THE TRANSPO GROUP

Traffic Engineering • Transportation Planning • Roadway Design
• Corridor Planning • Intelligent Transportation Systems • Traffic
Impact Analysis
11730 118th Ave NE, Suite 600, Kirkland, WA 98034
(425) 821-3665
www.thetranspogroup.com

TRANSPORTATION MANAGEMENT SERVICES

TSM/TDM Planning • Management • Evaluation
236 North Chester Avenue, Suite 200
Pasadena, CA 91106 (626) 796-3384
FAX (626) 796-2425 info@tms85.com

TRANSTECH ENGINEERS, INC.

Traffic Engineering • Transportation Planning • Construction
Management • Highway Design • Municipal Engineering
624 Brea Canyon Road
Walnut, CA 91789 (909) 595-8599

T.Y. LIN INTERNATIONAL

Traffic Engineering • Transportation Planning • Highway
Planning and Design • Structural Engineering and Inspection •
Intelligent Transportation Systems • Traffic Signal Design &
Timing • Construction Traffic Handling • Program/Construction
Management • Serving Clients Throughout the Nation
2290 N First St, Suite 102 Tel (408) 544-2477
San Jose, CA 95131 Fax (408) 544-2478
www.tylin.com

URBAN CROSSROADS, INC.

Transportation Planning • Impact Studies • Traffic/Acoustical
Engineering • Transportation Modeling • GIS • TDM
41 Corporate Park, Suite 300
Irvine, CA 92606
(949) 660-1994 FAX (949) 660-1911
www.urbanxroads.com

URBANTRANS CONSULTANTS, INC.

Multimodal Transportation Planning • Market-Based Policies •
Demand Management Programs • Stakeholder Outreach •
Strategic Planning • Creative Development • Complete
Marketing Services
Offices in Denver, Atlanta, Houston, and Washington, DC
730 17th Street, Suite 400 – Denver, CO 80202
720.570.3343 www.urbantrans.com

VRPA TECHNOLOGIES, INC.

Certified SMBE
Traffic Engineering • Transportation Planning • ITS • Modeling •
Signal Systems • Parking • Environmental Assessments
Fresno, CA (559) 271-1200
San Diego, CA (858) 566-1766

WGM GROUP, INC.

Comprehensive Transportation Engineering • Civil Engineering
and Planning Services, including Street/Highway Design, Traffic
Engineering, Computer Modeling, Surveying, Land Use Planning,
Utility Engineering, R/W Acquisition, Environmental Permitting,
Construction Management, and Creative Financing Solutions
3021 Palmer, Missoula, MT 59808
(406) 728-4611 E-mail: bcampbell@wgmgroup.com
www.wgmgroup.com

WHITLOCK & WEINBERGER TRANSPORTATION

"W-Trans," a certified DBE/WBE
Traffic Engineering • Transportation Planning • Designs for
Livable Communities • Municipal Services • Bicycle &
Pedestrian Planning • Traffic Calming • Roundabouts • Traffic
Signal Design/Timing
Santa Rosa, CA www.w-trans.com (707) 542-9500

WILBUR SMITH ASSOCIATES

Traffic Engineering • Transportation Planning • Rail •
Highways • Transit • Parking • Traffic Signals • ITS •
Bicycle and Pedestrian Planning • TSM
San Francisco, CA (415) 495-6201
Los Angeles, CA (213) 627-3855
Salt Lake City, UT (801) 363-3955
Seattle, WA (425) 821-4887
Phoenix, AZ (480) 477-8650
www.wilbursmith.com

WILLDAN

Engineers and Planners • Traffic Engineering • Transportation
Planning • Complete Municipal Services • Revenue
Management
2401 E Katella Ave #300
Anaheim, CA 92806-6073 (714) 940-6300
Regional Offices in Anaheim, Las Vegas, Los Angeles, San
Bernardino, San Diego, Phoenix, Pleasant Hill, Sacramento and
Ventura

Professional Services Directory Listings

To place or modify your ad, send an e-mail to
nate_larson@urscorp.com. The deadline is
the 28th of the previous odd-numbered
month. The cost is \$200 per year for the first
seven lines, plus \$40 per additional line. Web
links on our Web site, with logo placements,
are available for an additional \$120 per year.

Save for your
RFP lists!

District 6 Officers for 2007 – 2008

WILSON & COMPANY, INC.

Transportation Planning & Engineering • Transit Planning •
Traffic Engineering & Design • Roadway Design
Phoenix, AZ (602) 283-2701
San Diego, CA (619) 330-5200
Denver, CO (303) 297-2976
Colorado Springs, CO (719) 520-5800
Albuquerque, NM (505) 348-4000
Salt Lake City, UT (801) 364-3164
www.wilsonco.com

WOOD RODGERS, INC.

Transportation Planning & Design • Traffic Engineering •
Civil & Structural Engineering • Land Development • Urban
Planning
3301 C St, Suite 100 B, Sacramento, CA 95816
(916) 341-7760 Fax (916) 341-7767
Offices in Reno, Las Vegas, San Francisco, Oakland, Modesto
www.woodrogers.com

Y&C TRANSPORTATION CONSULTANTS, INC.

Certified DBE/MBE
Traffic Engineering • Traffic Signal & Lighting Design •
Signing and Striping • Construction Zone Traffic Control
3250 Ramos Circle, Sacramento, CA 95827
(916) 366-8000 Fax (916) 366-8008
www.yctransportation.com

President

Jennifer A. Rosales, P.E.
Parsons Brinckerhoff
400 SW 6th Avenue, Suite 802
Portland, OR 97204-1628
(503) 478-2347
(503) 274-1412
rosales@pbworld.com

Vice President

Monica M. Suter, P.E., PTOE
City of Santa Ana
20 Civic Center Plaza, M-43
Santa Ana, CA 92702
(714) 647-5645
(714) 647-5616 fax
msuter@santa-ana.org

Secretary-Treasurer

Michael Sanderson, P.E., PTOE
Engineering Inc.
1300 North Transtech Way
Billings, MT 59102
(406) 656-5255
(406) 656-0967 fax
msanderson@enginc.com

Past President

Dalene J. Whitlock, P.E., PTOE
Whitlock & Weinberger Transp.
490 Mendocino Avenue, Suite 201
Santa Rosa, CA 95401
(707) 542-9500
(707) 542-9590 fax
dwhitlock@w-trans.com

Managing Editors

Douglas E. Smith, P.E., PTOE
URS Corporation
2020 E. First St., Ste. 400
Santa Ana, CA 92705
(714) 433-7666
(714) 973-4087 fax
Douglas_smith@urscorp.com
Michelle Bitner Smith, PTP
westernite@cox.net

District International Director

Julia Townsend, P.E., PTOE
KDAAnderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555
(916) 660-1535
juliatownsend@infostations.com

District International Director

Ransford S. McCourt, P.E., PTOE
DKS Associates
1400 SW Fifth Avenue, Suite 500
Portland, OR 97201
(503) 243-3500
(503) 243-1934
rsm@dksassociates.com

District International Director

Zaki Mustafa
City of Los Angeles
100 S. Main St., 10th Floor
Los Angeles, CA 90012
(213) 972-8436
(213) 928-9611
zaki.mustafa@lacity.org

District Administrator

Jenny Grote, P.E., PTOE
City of Phoenix Street Transp. Dept.
200 W. Washington St, 6th Floor
Phoenix, AZ 85003-1611
(602) 262-7597
(602) 495-0336 fax
jenny.grote@phoenix.gov

Advertising Manager

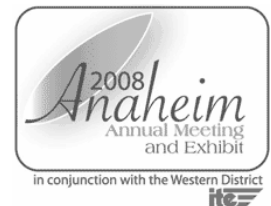
Nate Larson, P.E., PTOE
URS Corporation
999 18th Street, Suite 900
Denver, CO 80202
(303) 299-7835
(303) 293-8585 fax
Nate_larson@urscorp.com

International President

Alfred A. Guebert, P.Eng., PTOE
THS Associates
M: 601—5920 1A Street SW
Calgary, AB T2H 0G3
(403)258-1171
(403) 258-1174 (fax)
aguebert@tsh.ca

International Vice President

Kenneth H. Voigt, P.E.
Ayres Associates
17865 Elm Terrace Cir.
Brookfield, WI 83045
(414)870-2054
(262)523-4477 (fax)
khvoigt@sbcglobal.net



2008 Annual Meeting, Anaheim, CA
August 17-20, 2008

WesternITE newsletter is the official publication of District 6 of the Institute of Transportation Engineers. Its purpose is to share information on transportation topics between members and to communicate to members the activities of District 6. Articles relating to these purposes are always welcomed and may be sent to either editor. The opinions, findings, techniques and specific equipment cited by individual authors of *WesternITE* newsletter articles do not constitute the endorsement of same by *WesternITE*. Reprint of any newsletter material (except if copyrighted) for the purpose of sharing technical information is permissible given that proper reference and the above paragraph accompany the reprint.

Westernite
www.westernite.org

Institute of Transportation Engineers
District 6
c/o Douglas Smith
URS Corporation
2020 E. First St., Ste. 400
Santa Ana, CA 92705

Dated Material - Time Value

NON-PROFIT
ORGANIZATION
US POSTAGE
PAID
LOS ANGELES, CA
PERMIT # 32365

Change of Address:

To change your mailing address information, please visit www.ite.org, or call, fax, or mail changes to:

Institute of Transportation Engineers
1099 14th Street, NW, Suite 300 West
Washington, DC 20005-3438
(202) 289-0222 / Fax: (202) 289-7722