

PRESIDENT'S MESSAGE

In my last message I discussed some of the ways that the District has committed itself financially to supporting Student Initiatives. This time I'd like to tell you about the ways that our members are contributing their time to this important effort as well as provide more information about the programs that result from their hard work. Thanks to Student Initiatives Chair Alyssa Reynolds and Career Guidance Committee Chair Craig Grandstrom not only for providing input on the content of this message, but for the tremendous jobs they are doing in their respective positions.



Dalene J. Whitlock,
President

Student Initiatives

The Student Initiatives program includes a number of different awards and cash prizes. Among these are the prizes for the Best Student Chapter Report, Best Student Paper, Best Student Chapter Website, Outstanding Graduate Student, and Outstanding Undergraduate Student. Additionally, contests held in conjunction with the annual meeting include the Kell Competition Design, where student chapters design a fun, real-world transportation-related activity for the

(Continued on page 5)

WHAT'S IN THIS ISSUE

The Adobe Tower	7
Legislative News	8
Section & Chapter Activities	9
Positions Available	10

TRANSPORTATION GETS GOOGLED MANAGING TRAFFIC DATA USING A WEB-BASED MAP INTERFACE

The transportation engineering profession has transitioned from a data poor environment to a data rich environment where data management is an increasing challenge. Transportation professionals are constantly collecting, processing, and managing more and more data to support planning, operations, and design projects. Convenient access to fundamental traffic count data is critical for ever more detailed transportation analysis. Currently, most transportation organizations and firms have some amount of paper-based transportation data, or their transportation data is stored digitally, but it is restricted to a limited number of people and many times buried in files. Either way it is difficult for an individual to know exactly what data is available without a system for organizing it. Some systems do exist for accessing that

data, but often the interface is difficult to use.

Portland State University partnered with practicing professionals to explore a system that provides rapid, simple, and ubiquitous access to location-based traffic. The system provides a web- interface allowing the viewing, insertion, and management of transportation data using only a web browser. This allows the data to be made available to anyone with access to an internet connection. The idea of using the internet to provide access to transportation data and tools is not new^{1,2}. The purpose was to make transportation data available in a novel way: using web-based mapping. This allows the user to interact with a map and retrieve data spatially by simply zooming to the location they are interested in and querying the types of traffic data that are available. Constraints

(Continued on page 2)

INTERNATIONAL DIRECTOR'S REPORT

Fall Board of Direction Meeting

The International Board of Direction (IBOD) met on Friday and Saturday October 27-28, 2006 in Washington, DC. This was the third and final meeting of the IBOD in 2006 and District 6 was well represented. International President Rich Romer presided eloquently over the meeting with his usual humor and wit. Past International President Tim Harpst once again helped facilitate in his distinguished role of the wise sage. In addition, all three District 6 International Directors (Rock Miller, Rory Grindley, and I) were in attendance. During the Friday Board meeting, the IBOD had the opportunity to hear a panel presentation on the Vehicle Infrastructure Integration Initiative in addition to discussing existing, new, and

potential MEGA Issues, while Saturday's meeting focused on running the institute. The highlights of those presentations and discussions follow.

Vehicle Infrastructure Integration (VII) Initiative Overview

Bill Jones, Technical Director for the USDOT Joint Programs Office, provided an overview of the VII Initiative. He indicated that a significant reduction in highway fatalities and traffic congestion



Julia Townsend,
International Director

(Continued on page 4)

TRANSPORTATION GETS GOOGLED MANAGING TRAFFIC DATA USING A WEB-BASED MAP INTERFACE

(Continued from page 1)

can be placed on the queries allowing the user to quickly access only the data they want. The system is designed so that the data itself can be stored anywhere as long as it is accessible via the internet (via a URL).

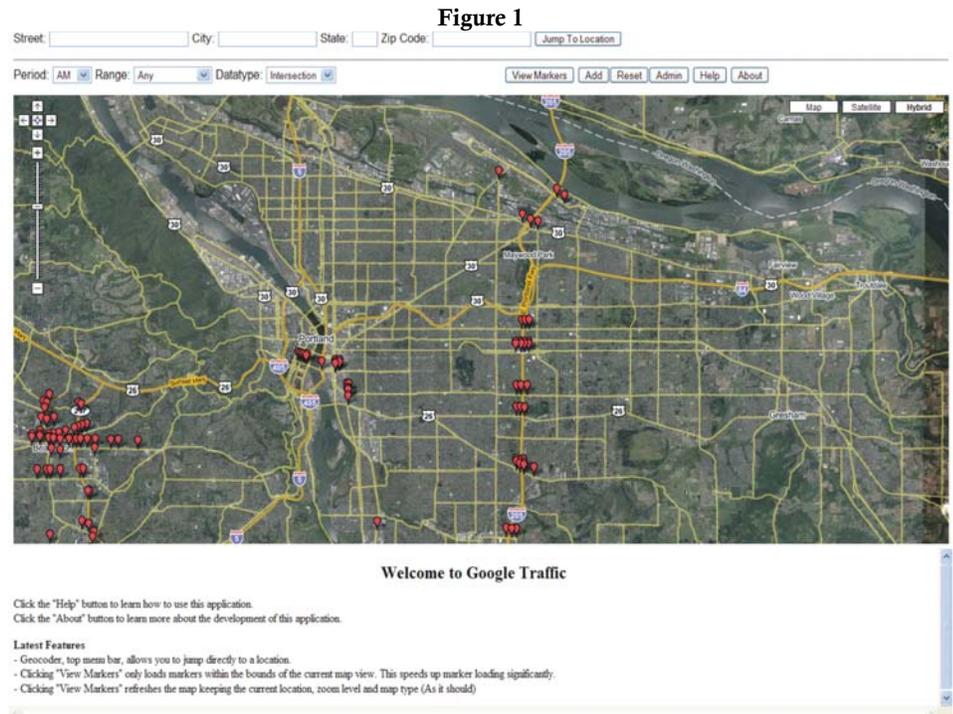
We envision this system being used by all types of transportation professionals as a central place to store and access fundamental traffic data. For example, analysts often need traffic data for generating reports and forecasts, planners need traffic count data for justifying design decisions. This type of data is fundamental to the modeling and decision-making process and would benefit from being available through a single system.

This article describes the initial implementation of this system that supports the storage and retrieval of traffic count data for intersections and roadways. We describe the main features of the interface and how to use them including querying, viewing and insertion of traffic data. This system was developed within the Portland State University Portal system (<http://portal.its.pdx.edu>) which provides the foundation for the system including user management, database access, storage and network resources.

SYSTEM DESIGN

Google Local was used for the mapping component because it is easy to use. The objective of this transportation data source was to provide speed for the user in retrieving information in a platform that requires little or no instruction to utilize. Google maps met this requirement. The second key design element was to provide flexibility that would allow various transportation data to be accessible using the same interface (going beyond vehicle, bike and pedestrian counts to other transportation data sources). This aspect of expanded data accessibility will be subject of future research.

Google Local provides the necessary features for the initial system implementation, is widely used by the public, and provides a public application programming interface (API), allowing the service to be used by any web application as long as Google's API Terms of Use are met⁴. The Yahoo! Geocoding web service was used to translate location information into latitude and longitude coordinates. This service is also provided through a public API which is easy to use and well-documented⁵. The user provides a street address, intersection, city or state and a



request is sent to Yahoo! If the location given is valid then its latitude and longitude is returned.

USING THE SYSTEM

Querying Traffic Counts

To query for traffic counts the user specifies where to look using the Google map, the central part of the user interface (Figure 1). The controls in the top left corner of the map allow the user to pan and zoom to the location and level of detail that they want. In addition, the Yahoo! geocoder interface, located in the top of the browser window (Figure 2), allows a user to type in a location and jump directly to it on the map. The user can give a specific address/intersection or simply a city or state. Once the desired area has been brought up on the map, the user can then specify the type of data that they are interested in. They can specify the time of day (AM, PM), range of time (last 2 years, last 6 months, etc.), data type (intersection or roadway) and finally a specific roadway type if the roadway data type was chosen (classification count, tube count, etc). Selecting "view markers" then queries the system's traffic count records and refreshes the map with markers. Each marker represents a location that contains traffic counts that meets the user's criteria.

Viewing Traffic Counts

Markers can be selected to reveal additional information about the location including a descriptive name and the types of actions that can be taken (See the marker info "bubble" in Figure 2, similar to other Google map applications). Selecting "View Counts" loads the bottom frame of the application with a tablet of available counts where each row provides metadata and options for each count available at the location selected (See bottom of Figure 2). The metadata consists of essential information about a given count including the count type, day of the week it was collected, year, start time and end time. In addition, a "File" link is provided in each row allowing the user to download the count and a "More Info" link is provided in each row allowing the user to view additional metadata and options available for an individual count. By clicking on the specific count, the data is displayed on the screen. This can be in the native format (an Excel spreadsheet, a .pdf file or other electronic file). The analyst can then print or save the file for their use. Future research considerations would be to develop methods by which data is extracted for use within transportation analysis models and tools.

Clicking the "More Info" link in any row of the table shown in Figure 2 reloads

(Continued on page 3)

TRANSPORTATION GETS GOOGLED MANAGING TRAFFIC DATA USING A WEB-BASED MAP INTERFACE

(Continued from page 2)

the bottom frame of the application with a new table containing all of the metadata and options available for that count. The additional metadata includes the “essential” information listed previously and also includes the file format that the count is in, the username of the person that inserted the count, a timestamp of when the count was received, the city, state, and country that the count is located within and finally any additional comments. All of this information is collected at the time that the count is inserted into the system, some of it in an automated way. In addition this table provides links for downloading the count and, if the user is a moderator, options for editing and deleting the count from the system.

Insertion of new locations into the system is done by selecting the “Add” button in the top menu and clicking a spot on the map to place the marker. This brings up a form in the bottom window frame allowing the user to provide information about the location and type of data then submit it. The latitude and longitude of the spot clicked is stored with the location record in the database. Once submitted the new location marker can be seen by clicking “view markers” to refresh the map.

Inserting Traffic Counts

If the user is a moderator or administrator, then every marker info window will give them the option to add a

count to that location. Selecting “Add Count” loads a form in the bottom window frame and allows the user to enter all of the required parameters for a count record. First, if the count file is located on the user’s local machine, and they want to upload and store it on the central file server, then they browse and select the appropriate file. If the file is stored on a remote web server then the web address of the count is provided. Finally, the user enters the start time, end time and data type of the count and submits the data.

When a user inserts a traffic count, a check is first done for duplicate counts of the same type at the same location. If any duplicates exist then the user is queried for whether they want to continue inserting the count. Automatic checks such as this are essential to maintaining the integrity of the data.

CONCLUSION

Overall, the system is a step toward an ambitious goal of providing open ubiquitous access to a broad amount of traffic data in the easiest way possible. Throughout the development of the current system the main focus was on the user interface. The combination of a mapping component and the ability to view the data in progressively greater detail allows the user to quickly query the system and access the data they need in an efficient manner. Most users are able to use the web interface right away. The system in its current state is not a complete

solution. More work needs to be done to streamline the insertion process by automating as many steps as possible.

In addition, research can be done on methods for sharing between servers hosting traffic data records. It’s not feasible to store all records on one server, but if a server could query other known traffic data servers then the data would be truly ubiquitous. This would also allow the participating entities to contribute their resources in a distributed network while still maintaining control over their own data.

Future work could also include adding support for additional types of traffic data to the system. This could include crashes, traffic signal timing cards, freeway management system data, transit stop data, speed limit conditions, traffic control conditions, probe vehicle data and automatic traffic recording stations. Steps should be taken to require the data be provided in formats that maintain the underlying structure of the data. This would make the data much more valuable because it can then be analyzed further using additional software by the user. For example a user could download a spreadsheet, database, CAD drawing, or GIS layer. Ultimately the goal would be to develop interfaces that could extract information from the database directly into analytical applications, eliminating data entry errors and labor costs.

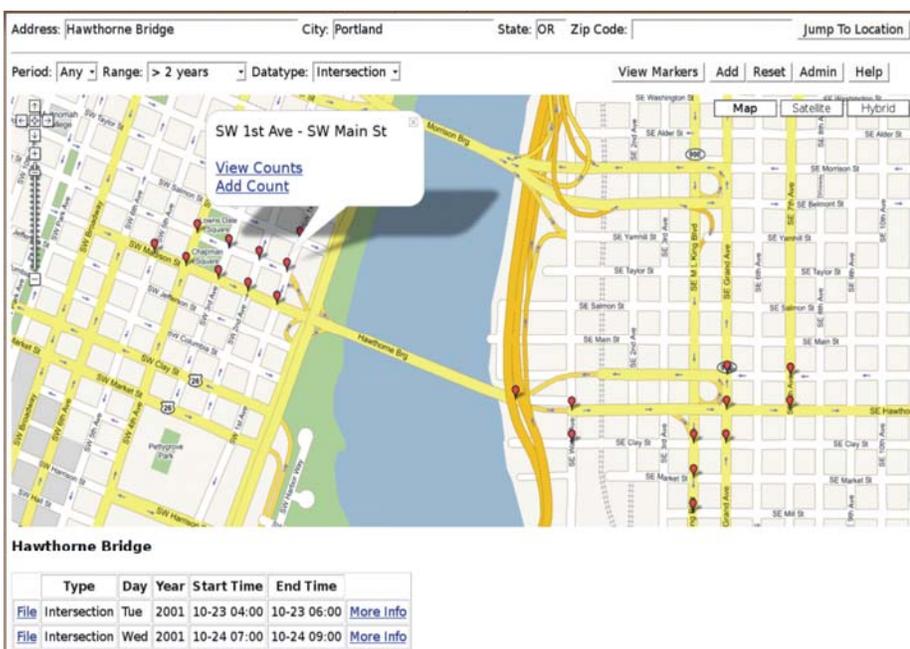
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Figure 2



TRANSPORTATION GETS GOOGLED

MANAGING TRAFFIC DATA USING A WEB-BASED MAP INTERFACE

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Bob Bertini

(Continued from page 3)

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INTERNATIONAL DIRECTOR'S REPORT

(Continued from page 1)

could be achieved through implementation of a national wireless communications infrastructure that would allow communication between traveling vehicles and between vehicles and the roadside. The short-range communications and GPS are to be installed by the automobile companies while the public sector is to install the communications in the roadways. A total of 250,000 hotspots (much like WiFi) are planned that can gather communications from the 15-17 million new vehicles that are being put on the roadways each year. Bill stressed that information that is gathered will be "anonymous". Emil Wolanin, of Montgomery County, Maryland discussed the structure and organization of the program. An Executive Leadership Team has been established as well as local working groups and subcommittees. District 6 is represented in the process with Wayne Tanda (Monterey County, CA) serving on the Work Group and John Fisher (Los Angeles, CA)

serving on the Technical Subcommittee.

Gary Euler, of Parsons Brinkerhoff, followed with a presentation on the applications and use of the VII system. Shelly Row, ITE Associate Executive Director for Technical Programs, reported on the current and potential future role of the Institute. She indicated that Tom Brahm, Executive Director and CEO of ITE serves as a non-voting member on the Executive Leadership Team. A decision will be made in late 2008 and a roll out of the system could be on the street and in new vehicles by 2011 with minimal infrastructure in place. ITE will continue to be involved in the VII initiative and the ITE membership should be kept informed of the initiative and how it may impact our profession.

Mega Issue: Is the Institute an International organization or a North American organization with International members?

The Board discussed this Mega Issue in great detail. It was concluded that the Institute was a source of information to and a

network for the transportation profession and thus the Institute should continue to focus on International activities. In order to implement International ties to other organizations, task driven strategic partnerships are to be explored to assist in the mining of relevant technical information from around the world to share. ITE will also pursue and publish additional "international content" in the ITE Journal, e-newsletter and on the ITE website.

MEGA Issue – Public Relations

The Mega Issue of Public Relations is scheduled to be formally discussed by the IBOD later in 2007. However, as this Mega Issue has such a broad array of components, preliminary discussions have already been initiated in order to narrow the topic for meaningful future discussions.

Institute Finances

Vice President Earl Newman presented an update of the ITE Finances for 2006. Based on the 2006 budget and subsequent

(Continued on page 5)

PRESIDENT'S MESSAGE

(Continued from page 1)

competition, with the winner administering it at the meeting, as well as the Kell Competition itself which pits groups of students against each other within the format designed by their peers. The competition is usually held on Sunday afternoon, ending about the time the opening Get Acquainted Social starts, and is always fun to watch. If you're going to be in Portland this summer, I urge you to make time to come out and cheer the students on as they apply their knowledge to a new and exciting challenge.

While these annual activities are wonderful for engaging students and bringing them back to ITE after they've joined the professional ranks, there's so much more that we can be doing. I know that my home section has been working hard this year to establish liaisons for each and every student chapter. These professionals are urged to cultivate relationships with the members of one student chapter, volunteering just a few hours a month to keep the student chapter informed and involved. They attend their meetings, make sure they're invited to the Section's meetings, and provide contacts for speakers. Some other areas where these liaisons can support student chapters include helping them with their annual chapter reports, giving them ideas for research papers or the Kell Competition, and assisting in the preparation of scholarship applications. They can create special events just for the students, such as a student traffic bowl, or develop a labor pool for interested students that could be available to collect data for budget-constrained local agencies. Finally, they can help the students get involved in their community by volunteering for events such as bike rodeos or "Future Cities" competitions, and even by visiting local high schools to generate interest in transportation engineering as a career choice.

All of these things are hallmarks of successful student chapters. The more activities a chapter participates in, the more successful their annual report becomes and the better their chance to win the Best Student Chapter Award. Student chapters that win the award also win a trip to the annual meeting, which is generally enough to get the students hooked on ITE and the profession. They in turn become dedicated professionals who can serve as ambassadors and recruit the next generation of traffic engineers and transportation professionals.

To be successful, this process needs professionals who will commit themselves to just one student chapter, being their mentor and liaison. If this is a role that would suit and appeals to you, I hope you'll contact your local Section or Chapter, and ask about being a Student Chapter Liaison.

Career Guidance

In addition to efforts directed toward young professionals, the Mentoring Program is designed to match up student chapter members with a professional mentor. This program is only in its second year, but to date over 50 people have signed up for the 2007 program. Because our profession is made up of so many caring people who want to help our industry grow, it is our belief that this program will continue to be a success. As with some of the other programs, the ability to get information out to the student chapters is heavily dependent on the chapter's faculty advisor, so while some chapters are well informed, others do not always receive notification. Establishing Student Chapter Liaisons with all student chapters will help us ensure that important information, like the invitation to participate in the mentoring program, gets out to the students.

Ultimately, for this program to have an optimal impact, we need more professionals volunteering to be mentors to help ensure that everyone who volunteers to be a mentee

can be readily matched with a mentor. Mentoring is an important relationship that plays a critical role in the lives of both students and young professionals. Those who have participated in this and similar programs have found that there is tremendous benefit for both the mentee and the mentor. If you're interested in getting involved in this program, more information can be found at: www.westernite.org/membership/mentoring.htm.

The bottom line is this: If you think you are busy now – imagine how much busier we will be in the future if we don't recruit even *more* talented individuals. It is in everyone's interest to invest "an ounce of prevention" to get that "pound of cure." If you're wondering where we'll find the new talent needed to get all our important work done, then you need to also think about what you can do to reach out to youngsters of any and all ages to get them **excited** about becoming a Civil Engineer/Transportation Professional!

ITE is, at its heart, a volunteer organization. Some of us find our path in serving as officers or committee chairs at the District, Section or Chapter level. There are still so many other ways that each member can contribute. You can take a few hours to meet with Scouts and other community or religious youth groups, informally or as part of career day events, to bring engineering and transportation to the next generation. If every member of the Western District volunteered just four hours a year, think how much of an impact that would have, and how many more young professionals we might have in the future.

I hope that every member can find an outlet to volunteer that fits within the time you have available, because this issue is so important to all of us. Thank you to all of those whose generous contributions make ITE our professional home.

INTERNATIONAL DIRECTOR'S REPORT

(Continued from page 4)

amendments, a deficit of approximately \$250,000 was projected. However, based on a delay in several publications, attendance at both the Technical Conference and Annual Meetings that exceeded budget projections, and a variety of cost savings measures that were implemented by ITE staff, a projected increase in net revenue of about \$285,000 will likely result at the end of 2006. This surplus results in ITE's cash reserve projection increasing to about \$3.6 million or 67% of annual operating expense.

Earl also presented an overview of the

proposed 2007 budget. The proposed budget is similar to the 2006 financial update in format and content as most of the categories and relative projections vary only slightly from year to year. The primary revenue sources for general operations continue to be from membership dues and ITE Journal advertising. The 2007 budget, which was subsequently approved by the IBOD, projected a deficit of about \$375,000 for 2007. Any deficit realized at the end of the year, results in a reduction of reserves and will reduce the Institute's net worth by that amount. However, even with the projected

deficit for 2007, the estimated cash reserve for 2007 is still anticipated to be about \$3.3 million or 55% of the annual operating expenses.

Coordinating Council Report

Mark Norman, Coordinating Council Chair, reported that the Coordinating Council is continuing to enhance communication portfolios of the ITE Councils, improve the coordination between the ITE Board Mega Issues and Council activities, focus greater attention and resources on "cannot fail" projects, and

(Continued on page 6)

INTERNATIONAL DIRECTOR'S REPORT

(Continued from page 5)

reevaluate how we measure success. In response to a District 6 members concern relating to LED traffic signals that was the topic of earlier Board discussion, Mark indicated that a task force had been assembled with representation from the Traffic Engineering Council, Public Agency Council, the Safety Councils, ITE's LED Committee, AASHTO, IMSA, and NEMA. The task force is currently in the process of distributing surveys to various representative groups. The results of their work are tentatively scheduled to be presented to the IBOD at the October Board meeting.

Mark also reported a change in the Council leadership, several of whom are District 6 members. Pat Noyes, who recently completed her 3 year term on the IBOD, will be replacing Kay Fitzpatrick as the Vice Chair of the Coordinating Council. As the Coordinating Council Chair is an ex-officio member of the Board and the natural progression for the Vice Chair, Pat may actually be in line to close the gap on Wes Pringle's reign as the longest running Board member. Monica Suter, who is currently serving as Secretary-Treasurer for District 6, was reappointed as Vice Chair of the Public Agency Council. Ray Davis, whom is also a past ID, was appointed as the Chair of the Public Agency Council. Welcome one and all.

Professional Development

The Professional Development program has reached a break-even point. In 2006, about 170 different webinars were offered at over 1,300 sites serving over 7,000 individual participants.

Publications

ITE has plans to release three new publications in 2007. The New Geometric Design handbook is due out in early 2007 while the Traffic Planning Handbook and Trip Generation publications are due out in late 2007.

Annual Meeting Site Selection

As reported previously, the Annual Meeting site selection process was revised in an effort to allow more flexibility in hotel negotiations and avoid conflicting conventions. The following tentative list was approved by the IBOD:

- **2012** 1st choice: Atlanta, GA
2nd choice: Miami, FL
- **2013** 1st choice: San Francisco, CA
2nd choice: San Diego, CA
- **2014** 1st choice: Toronto, ON
2nd choice: Montreal, QB
- **2015** 1st choice: Boston, MA
2nd choice: Chicago, IL

The actual city selections (as well as the specific year) will be determined as negotiations for the meeting facilities progresses. Many of you may have noticed that District 6 rotation for the International ITE Annual Meeting is now tentatively slated for 2013 instead of 2012 as previously reported. This change was a result of International's desire to hold the International Meeting in San Francisco when it rotated to District 6 coupled with the fact that the 2012 District 6 Annual Meeting would have a California venue that would not be in San Francisco (as San Francisco has already been secured as the venue for the 2010 District 6 Meeting). As such, the international tentative schedule was juggled to avoid competing International and District meetings. While it is still possible that a joint International/District 6 meeting may occur within this four year span, it is rather unlikely.

Nominating Committee Update

Past International President Tim Harpst provided an update on the Nominations Committee activities. New Campaign Conduct procedures were implemented and current practices clarified. Following the Board meeting, the Nominations Committee finalized their work with the selection of Ken Voigt (Wisconsin) and Rod Kelly (Texas) as candidates for International Vice President.

Partnering and "Coopetitions"

ITE is taking an active role in partnering with other organizations such as AARP, the Institution for Highways and Transport and the International Parking Institute. These partnerships are aimed at expanding services and sharing information. AND yes, cooperation is really a word.

Section/Chapter Practices

So what has your Section/Chapter been doing? International would like to know what activities work in your Section/Chapter. International will be assembling a document for future distribution, so make sure that your Section/Chapter participates.

Proposed Excellence in Journalism Award

ITE will be co-sponsor the new Excellence in Journalism Award and working with the co-sponsors to develop the procedure for the award.

Elected Leadership

An elected leadership directory is now up and running. All elected leaders will have access to this directory via their ITE password.

Constitutional Amendments and Membership Grade Changes

All of the Constitutional Amendments passed. One of the most significant of the

amendments eliminated the Associate Membership classification. With passing of the amendment, all Associate Members have now been transferred to the grade of Member. ITE will issue new certificates. The Member +10 category was also eliminated, resulting in over 700 applications being received to transfer to the Fellow grade in response to a special invitation using an abbreviated application process. ITE will also be issuing new certificates for these folks as the transfers are processed.

Upcoming Meetings

Please mark your calendars for the following ITE International Technical Conference and Annual Meeting.

- *ITE 2007 Technical Conference, "Managing Congestion—Can We Do Better?"* March 25-28, 2007, San Diego, California
- *ITE 2007 Annual Meeting and Exhibit,* August 5-8, 2007, Pittsburg, Pennsylvania

Welcome and Goodbye

Randy McCourt is the District's newest International Director. Welcome Randy! With Randy's arrival, we must say goodbye to Rock Miller who completed his term on the IBOD and District Board. His insightful participation and member interaction will be missed. At the same time, we must also say goodbye to Tim Harpst as his term as Past International President expired at the end of 2006. Tim's knack for remaining focused on the "big picture" and his facilitation skills will also be missed. We wish you both well in your future endeavors! In addition, Shelley Row has also left ITE to join the USDOT. She will be missed by all.

If you have any questions or suggestions about ITE activities, please feel free to contact one of your current ITE International Directors (Rory Grindley, Julie Townsend, or Randy McCourt). We are also available to travel to your Section/Chapter meetings to meet with you and the membership.

Editor's Note: Coopetition is a buzzword coined to describe cooperative competition. It focuses on cooperation between companies in imperfectly competitive markets.

FISCAL FOUNDATIONS OF THE INTERSTATE SYSTEM

Although the federal government paid for constructing the National Road in the early 1800s, it generally shied away from roadbuilding through most of the 19th Century. By the 1890s, however, Congress recognized two compelling national interests in the evolving road system. First, in 1893, it acknowledged the importance of transporting farm goods to markets by including in the Agricultural Appropriations Act a \$10,000 authorization to study existing road conditions, investigate possibilities for improvements, and disseminate the information. As a result, the Office of Road Inquiry was established as the first federal road agency. One of its major activities was to build object-lesson road sections using the best available technology in nearly every state. Many sections were only a few hundred feet long, but they stimulated public demand for better roads.

Second, Congress recognized that the ability to deliver mail depended on adequate roads. In 1896, the U.S. Post Office began rural free delivery (RFD) of mail on roads that met specified standards. During the next decade, local governments invested \$70 million to improve roads for RFD service.

States, counties, and cities funded roads primarily through vehicle registration fees and property taxes. Some communities either required or allowed property owners to spend between one and ten days a year working on road maintenance. By the early 1900s, a few states supported county road construction by providing matching funds amounting to one-third the cost of selected routes. Overall, however, state governments contributed only 3 percent of the \$80 million spent on roads in 1904.

Federal funding re-emerged in 1912, when Congress authorized money for road construction in National Forests and as 1:2 matching funds for improving postal roads. The Federal Aid Road Act of 1916 authorized \$75 million in federal-state matching funds (on a 1:1 ratio) over five years. It also included a politically expedient apportionment formula, allocating funds in equal proportion according to land area, population, and post road mileage.

With the five-year authorization expiring, Congress passed the Federal-Aid Highway Act of 1921, approving expenditures of \$75 million a year distributed as reimbursement after federal inspectors approved construction. With the increased funding came a requirement that each state designate 3 percent of their roads as “interstate in character,” ensuring that they connected with routes in adjacent states. These “primary” roads would receive at least 60 percent of the au-

thorized federal funds.

Seeing an interstate road system as an important economic stimulus, President Franklin Roosevelt struggled to envision funding. In 1935, he suggested the federal government sell gasoline or concessions along roads it built. In 1938, he proposed a system of six superhighways built as toll facilities. However, a Bureau of Public Roads analysis showed this to be unfeasible, recommending instead that funds be raised by excess taking of land. Roosevelt explained the concept this way: “The Government, which puts up the cost of the highway, buys a wide strip [up to 1 mile wide] on each side of the highway itself, uses it for the rental of concessions and sells it off over a period of years to home builders and others who wish to live near a main artery of travel.”

World War II interrupted plans for an interstate highway system and debates about funding it. The Federal-Aid Highway Act of 1944 did call for the states to designate routes for the National System of Interstate Highways, but it did not include any mechanism for federal funding. In 1952, Congress finally authorized a little financial help for the states to get the system started—\$25 million annually for two years in 1:1 matching funds.

When President Eisenhower took office the following year, he resolved to get the interstate highway system under way. Initially, he envisioned a toll road system, but state governors preferred selling bonds that would be repaid with gasoline tax revenues. Congress, reluctant to approve any funding mechanism that would increase the national debt, devised the alternative of financing the system on a pay-as-you-go basis. Highway user products, such as gasoline and tires, would be taxed and the revenues deposited in a new Highway Trust Fund. Money from the Fund would then be dispersed to repay states for building the Interstate System and other federal-aid highway projects. The plan was incorporated in the Federal-Aid Highway Act of 1956 and a companion revenue bill, along with a provision that set at 90 percent the federal share of funding the Interstate System.

In July 1956, the federal gasoline tax increased from 2¢ to 3¢ per gallon, with all of the revenue going into the Highway Trust Fund. With higher than anticipated costs for building the Interstate System and increasing demand for other highway construction, the gasoline tax was raised to 4¢ per gallon in 1959.

The Highway Trust Fund’s concept of user funding for highway construction remained intact for 27 years. In 1983, with the

originally designated Interstate System was 95 percent complete, the federal gasoline tax was raised to 9¢ per gallon, with 1¢ of that being directed toward mass transit rather than highways. By 1990, mounting federal budget deficits led Congress to raise the gas tax to 14.1¢ per gallon, diverting 2.5¢ to the general revenue fund while increasing the highway and mass transit apportionments to 10¢ and 1.5¢, respectively. In 1997, Congress restored the transportation focus of the Highway Trust Fund, directing 84 percent of the current 18.4¢ per gallon gasoline tax to the highway account.

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 Society for Technical Communication and 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 second in a series of articles tracing the development of the Interstate Highway System.

LEGISLATIVE NEWS

The November 2006 election results were generally favorable for transportation interests around the country, here is a recap from District 6. Overall, the election included activity on over thirty transportation measures (including seven statewide initiatives) in 13 states, with approximately \$55B in potential funding for transportation:

California – Voters approved statewide bond measures providing for over \$20B in long-term transportation project funding and increased security of key infrastructure; also a Measure approving an administrative change to Prop 42 funding regulations will help prevent non-recoverable diversions to the state's general fund. Since the new bond funds are expected to become approvable via the CTC (California Transportation Commission) soon, regional transportation agencies are already moving ahead with prioritizing existing and/or new projects to support applications to CTC early next year. Ten counties in the state had transportation-related measures on the ballot, with measures passing in Fresno, Orange, San Joaquin, and Tulare Counties. Measures requiring two-thirds majorities were defeated in Merced, Stanislaus, Kern, and Santa Barbara Counties, while a Measure supporting a rail project in Marin and Sonoma counties failed as a two-thirds majority was required in both counties, and while Sonoma County provided sufficient votes for approval, Marin

County fell slightly short, which defeated the entire Measure.

Arizona – Voters approved, by a nearly 59% margin, a statewide referendum allowing municipalities to issue additional bonds to fund transportation and public safety projects. Prop 104 allows incorporated cities/towns to issue bonds up to 20% of the valuation of the projects, versus the previous 6% limit, but still subject to voter approval.

Colorado – Voters in Boulder County defeated Issue 1A by a factor of 58% to 42%, a proposed .2% county sales tax intended to fund transit and trails through 2020, when the tax would have decreased to .05%.

Utah - In Salt Lake County nearly 65% of the voters approved Prop. 3, which increases the local-option sales tax by ¼ cent to fund UTA's commuter rail and light rail expansion, as well as highway projects. In Utah County nearly 70% of the voters approved Question 3 which provides a 1/4 % sales tax increase, which will primarily be used for FrontRunner commuter rail funding, as well as other transit and road projects.

Washington – Seattle's proposition 1 passed by a wide margin, which will provide for a nine-year, \$500M plus series of safety, repair, transportation, and bike/pedestrian trail projects. King County (which includes Seattle) voters, by a 56-43% margin, approved Prop 2, a .1 cent sales tax which is expected to provide about \$50M per year for

Transit Now, with a primary focus on improved Metro Bus corridor and employment-related Shuttle services. In Selah County (Yakima) and Union Gap, voters approved .3/.2 cent sales tax increases to support local transit. However in Spokane, two proposed funding measures to support future Light Rail to a northern suburb, Liberty Lake, were defeated.

Other measures were under consideration in Broward County, Florida; Grapevine, Texas; Providence, Rhode Island; Kalamazoo County and Holland Township, Michigan; Columbus, Ohio; and Minneapolis, Minnesota in other ITE Districts. Thanks to American Public Transportation Association (APTA) for portions of the above information.

At the federal level, as this column is written, a lame duck Congressional session is underway with both Chambers focused on Committee and other internal changes. There has been no specific action on transportation funding yet, which increases the likelihood of continuing resolutions being used as a bridge to the next Congress in January 2007.



Walt Stringer,
Legislative Chair

CALL FOR TECHNICAL PAPERS

INTERMOUNTAIN SECTION 2007 ANNUAL MEETING INSTITUTE OF TRANSPORTATION ENGINEERS

Members and friends of ITE wishing to make a technical presentation at the annual meeting on May 17-19, 2007 should contact Lee Cabell before **February 16, 2007**.

Lee Cabell, PE
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St. George, Utah 84770
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Fax 435/986-7889
Email: lee@horrocks.com

SECTION AND CHAPTER ACTIVITIES

SOUTHERN CALIFORNIA SECTION

September 2006

The Southern California Section Mini-Seminar and Annual Business Meeting were held on Thursday, June 15, 2006 at the Monterey Hill Restaurant in Monterey Park, CA. The meeting was attended by over 60 members, including several student members.



The day kicked-off with a presentation on "Traffic Signal Pre-emption Design for Railroad Grade Crossings" presented by Naresh Patel, SCRRA/Metrolink. Mr. Patel discussed the importance of proper pre-emption design for grade crossings. He provided examples of grade crossing treatments and focused on how proper preemption can increase safety at grade crossings.

The second presenter was Bill Shao, City of Los Angeles, Department of Transportation, who presented "Construction Traffic Management: A Local Agency Perspective". Mr. Shao described the impacts that large scale public work projects can have on traffic circulation and safety. Mr. Shao provided a case study of one specific project that required extensive coordination with the contractor and traffic control.

The next presentation of the Mini-Seminar was "ITS Applications for Southeast Los Angeles County" presented by Jerry Wood, Gateway Cities Council of Governments. Mr. Wood discussed how the Gateway Cities are moving forward with ITS applications to facilitate the movement of goods and people. Mr. Wood identified the various improvements throughout their corridors.

Rick Grebner, Orange County Transportation Authority presented The Upcoming Call for Projects and the Measure M Reauthorization Plan. Mr. Grebner discussed the various funding sources available for agencies to obtain money for capitol improvements.

The final presentation of the Mini-Seminar was "Can Systems Engineering Help You Manage Traffic" presented by Jessie Glazer, Federal Highway Administration. Mr. Glazer provided an overview of the systems engineering

process and discussed how advanced planning can facilitate the procurement and deployment of ITS products. By understanding what functionality you want the ITS product to have up front, you can identify what ITS products are most suited for your application.

Following the Mini-Seminar, the Annual Business Meeting commenced with committee reports and election results. The officers elected for 2004-2005 Southern California Section of ITE were: Joaquin Siques, President; Ruth Smith, Vice President; and Carlos Ortiz, Secretary/Treasurer. Congratulations to all three.

Numerous awards were presented at the meeting. Arief Naftali was awarded the Young Transportation Engineer Award for 2005-2006 and Weston Pringle was awarded the Classic Transportation Engineer Award for 2005-2006. Irwin Chodash was presented with a Life Member Certificate and, Ken Ackeret, ITE District 6 President, presented a presidential proclamation declaring Walter Okitsu Day, in recognition of Mr. Okitsu's dedication to ITE.

October 2006

The ITE Southern California Section monthly meeting was held on Wednesday September 20, 2006, at the Monterey Hill Restaurant in Monterey Park. Mr. Steve Wylie, Assistant Executive Officer, for the Southern California Regional Rail Authority (SCRRA), which operates Metrolink presented Metrolink's Sealed Corridor Project. Approximately 45 members including several students attended this meeting.

Mr. Wylie explained that Metrolink began operating in October 1992 and now has 137 daily weekday trains traveling over seven routes in five counties, totaling 512 route miles. Along these seven routes, Metrolink crosses over 440 at-grade crossings. Combined with freight trains and Amtrak, over 250 trains operate daily in these corridors, sharing the same at-grade crossings. As such, when an incident occurs at a grade crossing, the impact is felt by motorists, train passengers and other rail operators alike. The most tragic of these incidents occurred on January 26, 2005, when a Metrolink train struck a Jeep Cherokee that was intentionally parked on the tracks by a distraught individual. The Metrolink train struck the Jeep and derailed, subsequently hitting a Union Pacific train parked on the siding, and then jackknifed to be hit by an outbound Metrolink train on a separate track. Eleven

people died and more than one-hundred were injured resulting from this incident. The collision prompted Metrolink to develop a safety strategy focused on two prime principles, mitigation and avoidance. Mitigation is being addressed by modifying equipment with crash energy management technologies such as crumple zones and anti-derailing equipment. Avoidance is being addressed through the Metrolink Sealed Corridor Project.

Mr. Wylie discussed that while Metrolink has a strong track record for grade crossing safety improvements in the last 14 years of service, this project goes beyond that by developing a comprehensive strategy to enhance the safety of trains, passengers, motorists, pedestrians, and neighboring land uses within and along a railroad corridor, using appropriate safety measures to systematically reduce the opportunity for accidents at grade crossings or elsewhere within the corridor. The initial SCRRA corridors that are part of the Sealed Corridor Project are the Antelope Valley Line (from Sun Valley to Sylmar/San Fernando) and the Ventura County Line (Union Station through Moorpark). These lines total 65 miles of railroad and include 55 public highway-rail grade crossings as well as 4 private and 4 pedestrian only crossings.

Safety Enhancements along these Sealed Corridors will include the installation of four-quadrant gates, median separators or raised islands, new signs and pavement markings, locked right-of-way gates and fencing, crossing geometry improvements, ITS technologies like crossing signal analyzers, and grade separations or crossing closures.

Mr. Wylie discussed the various elements that are required for this Sealed Corridor to be implemented. The first element is the Outreach Phase, which includes outreach to corridor cities, member agencies and other stakeholders. From there come the Planning and Engineering Activities, updating studies, identifying improvements and prioritizing those improvements. A Technology Element is also included where the art of railroad safety technology will be assessed. The final element is the Funding Element. The current \$250,000 FRA Study Grant has led to \$3 million appropriated in FY 05/06. However, much more funding will be needed to implement the improvements at the initial corridor locations.

POSITIONS AVAILABLE

CITY OF RENTON, WASHINGTON

Renton is a beautiful city of 60,000 located 14 miles from Seattle on the south shore of Lake Washington with spectacular views of the lake, the Olympic and Cascade mountain ranges, and 14,000-foot tall Mount Rainier. The fifth largest city in King County and the 14th largest city in Washington, Renton is quite literally at the center of an extensive regional and international transportation network.

TRANSPORTATION OPERATIONS MANAGER

Salary Range: \$71,304 to \$86,904 annually (2006 Rate)

Date Open: November 3, 2006
Open Until Filled

This position in the Transportation Division is responsible for all traffic engineering responsibilities in the city including: the operations and maintenance of the city's traffic control devices (over 100 signals), street illumination, street channelization, communications equipment, and neighborhood traffic calming. This position supervises 16 employees. **MINIMUM REQUIREMENTS:** A degree in civil engineering with preference for traffic engineering training and experience, and at least five years experience in traffic engineering, including two years of supervisory experience. A professional engineering license is preferred.

TRANSPORTATION PROGRAM COORDINATOR II

\$63,744 to \$77,676 annually (2006 Rate)

Date Open: October 6, 2006
Open Until Filled

Coordinates and prepares the transportation capital improvement program for the Transportation Systems Division, including accountability for funding, preparation of the annual Six-Year Transportation Improvement Program, submittal of grant proposals and coordination of transportation program and funding activities with developers, consultants and other departments and agencies.

To be considered for either of these positions, complete and submit a City of Renton Application Form, Cover Letter, and Resume to HR & RM, 1055 South Grady Way, Renton, WA 98055. Please visit our website for detailed information about these opportunities, how to apply and to download an application

www.rentonwa.gov. For questions, email bsandler@ci.renton.wa.us. EOE

TRAFFIC ENGINEER III

RECRUITMENT DATES:
September 11, 2006 - Until selection is made.

SALARY: \$62,254 - \$92,851 annualized. *Starting salary is determined by education and experience.*

EXPERIENCE: Requires three years of experience in the field of traffic engineering including one year at a professional traffic engineering level and a bachelor's degree in engineering, including courses in traffic and/or transportation engineering. Experience interacting with City management and public officials, as well as with other public agencies is highly desirable. Other combinations of experience and education that meet the minimum qualifications may be substituted.

DUTIES: Perform advanced professional traffic engineering work in one of the following areas - neighborhood traffic management, traffic safety, signing and striping, traffic signals, plans review, or development coordination. Apply traffic engineering principles in the design and planning of new developments such as subdivisions and commercial facilities. Review plans and studies, attend meetings with developers, and prepare written reports of traffic requirements. Exercise considerable skill and judgment in communicating traffic engineering issues and solutions to the development community, City departments and public agencies, and the citizens of Phoenix. Supervises engineering staff. Currently there are two vacancies.

ALSO REQUIRED: Must be registered as a Professional Engineer in the State of Arizona by the end of the 12-month probationary period.

APPLY: Apply on-line at <http://www.phoenix.gov/jobs/> or submit your resume, cover letter, and data collection form to the City of Phoenix Application Office at 135 N. 2nd Ave., Phoenix, AZ 85003.

TRAFFIC ENGINEER II

RECRUITMENT DATES:
November 13, 2006 – Open on a continuous basis.

SALARY: \$50,918 - \$76,045 annualized.

EXPERIENCE: Requires one year of experience in traffic engineering plus a bachelor's degree in engineering, including courses in traffic and/or transportation engineering. Other combinations of experience and education that meet the minimum qualifications may be substituted.

DUTIES: Performs work involving the application of traffic engineering knowledge and skills in the planning, design and construction of transportation projects. Duties include staff support for advanced transportation planning activities, traffic operations that include neighborhood traffic management, and research of safety-related data. Duties also include site plan review of right-of-way, and transportation-related reviews of master plan documents and traffic studies. Currently there is one vacancy in the Street Transportation Department. Vacancies are anticipated over the life of this eligible-to-hire list.

EVALUATION: Based on resume and cover letter. In your cover letter or resume, please describe your experience with traffic operations, traffic calming, public speaking, and written correspondence.

APPLY: Apply on-line at <http://www.phoenix.gov/jobs/> or submit your resume, cover letter, and data collection form to the City of Phoenix Application Office at 135 N. 2nd Ave., Phoenix, AZ 85003.

POSITIONS AVAILABLE ADS:

To place your ad, e-mail your ad to douglas_smith@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.

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CIVIL ENGINEERS

Willdan, a civil engineering and planning firm serving public agencies in CA, AZ, and NV, has openings for engineers in our San Diego office, which provides transportation (traffic), roadway, water, wastewater and drainage design and plan checking services in San Diego and Imperial counties.

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Design, construction, operation & maintenance of traffic control devices, municipal transportation; requires BA civil engineering & P.E. State of WA; open until filled; application info avail @ www.cityofpuyallup.org, or 253-841-5596. EOE

TRAFFIC INVESTIGATIONS COORDINATOR

This position in the Oregon Dept of Transportation in Salem provides direction and overall monitoring of the ODOT Speed Zone Program. Position reviews investigations and makes recommendations, develops and presents training, and provides technical support. Salary \$3734-\$5601/month + excellent benefits. For more details and application, visit www.odotjobs.com or call (866) ODOT-JOBS (TTY 986-3854 for the hearing impaired). Refer to announcement #OCDDT6489. ODOT is an AA/EEO Employer.



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We are currently seeking **Sr. Project Managers, Project Managers and Engineers** to join our Transportation/Public Works Team in several of our California offices.

Project Managers will direct project teams in the design of highway and drainage plans for various city, county and state facilities, write proposals and technical specifications, develop budgets and schedules, and interface with clients. The positions require a Bachelor's degree in Civil Engineering, professional registration and a minimum of 8-15 years of progressively responsible experience in the design and management of transportation/public works projects.

Project Engineers will lead design and CADD production staff in the development and successful delivery of all technical work products, design highway and drainage plans, and assist with specifications and estimates for city, county and state facilities. The positions require a Bachelor's degree in Civil Engineering, professional registration, and 4+ years of transportation engineering experience. Proficient skills in AutoCAD/Softdesk and/or Microstation/InRoads are preferred.

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Email: hrmail@rbf.com
EOE M/F/D/V

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TRAFFIC ENGINEER AND DEPARTMENT MANAGER

Kirkham Michael has an outstanding career opportunity for a Civil Engineer to lead and manager our traffic engineering team in our Phoenix, Arizona office. We are seeking a civil engineer with 8+ years of progressive experience to include traffic impact analysis, signal design, roadway capacity and corridor analysis. The ideal candidate must possess a bachelor's degree and PE registration. Please visit our web site at www.kirkham.com. EOE/AA Employer. To apply, e-mail your resume to dmohney@kirkham.com, fax to: 602-944-6592, or send to: Debbie Mohney; KIRKHAM MICHAEL; 9201 N. 25th Ave., Suite 150; Phoenix, AZ 85021-2722.

ROADWAY DESIGN PROJECT MANAGER

Kirkham Michael is currently searching for a Project Manager in our Roadway design team in our Phoenix, Arizona office. We want an energetic leader to help secure, manage and produce roadway design projects. The ideal candidate will have a Bachelor's degree in civil engineering and be a licensed professional engineer with 10 or more years of experience in a variety of roadway design projects and with MicroStation and Geopak design software. EOE/AA. Send resume to: dmohney@kirkham.com or Fax: 602-997-5980, or mail:

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POSITIONS AVAILABLE

ENGINEER III TRAFFIC ANALYSIS AND DESIGN King County Department of Transportation 2006 Hourly Rates: \$31.15 - 39.48

This Traffic Analysis and Design Engineer leads a group of engineers who provide traffic analysis and design functions to Traffic and Road Engineering design staff. These positions perform traffic modeling, level of service analyses, and design support for the Capital Improvement Program. This position helps implement King County's Intelligent Transportation Systems (ITS) projects and manages the Signal Optimization Program. This position oversees operations of the Traffic Control Center (TCC) and provides lead responsibility over subordinate staff including professional engineers and technicians. This position performs professional engineering work applying both engineering and supervisory principles and practices to the Traffic Engineering discipline areas. This position will perform highly skilled and specialized professional traffic engineering studies and analysis, including traffic condition studies and analysis. Please visit http://www.metrokc.gov/jobs/Environ_Engineer.htm for complete job description and application instructions.

HDR, Inc. Traffic Engineer Bellevue, WA 98015

HDR is an architectural, engineering, planning and consulting firm that excels at complex projects and solving challenges for clients. More than 5,000 employee-owners, including architects, engineers, consultants, scientists, planners and construction managers, in over 125 locations worldwide, pool their strengths to provide solutions beyond the scope of traditional A/E/C firms.

Position Description:

The primary duties of this position include working, as a team member, under the direction of the project engineer/manager on a variety of traffic analysis and design needs for the 520 Bridge improvement project. More specifically, this person will be involved with design and design oversight for all aspects of traffic and Intelligent Traffic Systems (ITS) with regards to: signing, striping, traffic signals, lighting, CCTV, VMS and capacity analysis. The projects will have clear, specified objectives and limited variables.

This position is located in our Seattle, Washington office.

Experience Required: BS in Civil Engineering, EIT, 5+ years experience with traffic analysis and transportation planning, and computer skills: Synchro/Sim Traffic, HCS.

Apply Online:
<http://www.gojobs.com/seeker/aoframeset.asp?JobNum=559533&JBID=1454>
Employer JobCode: 060614

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HDR is an architectural, engineering, planning and consulting firm that excels at complex projects and solving challenges for clients.

The primary duty of the Traffic Design Engineer will be to provide designer services for all traffic issues for the expansion of the I-405 corridor, a 33-mile interstate highway, which is a major transportation artery servicing the greater Seattle/Bellevue metro area. More specific duties include serving in a technical role with regards to all aspects of traffic and mobility planning to include; channelization planning, illumination design, maintenance of traffic, traffic control plans, signing, signal design, pedestrian design issues, and general traffic analysis. Will also be involved with project management and managing project staff. May be involved with ITS alternative analysis to include signing, striping, traffic signals, lighting, CCTV, VMS and capacity analysis.

Required: BSCE, PE, 5+ years, traffic analysis and planning experience.
Computer skills needed: MS Office, Visim, Corsim and Syncro.
Apply Online: <http://www.gojobs.com/seeker/aoframeset.asp?JobNum=816598&JBID=1454>
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Katz, Okitsu & Associates' (KOA) San Diego office is seeking a Senior Transportation Engineer/Planner to manage, prepare and participate in current transportation study projects and help develop new business. Position requires strong leadership skills to help develop and supervise professionals preparing transportation studies for public/private industries. Understanding of principals, theory and practice of transportation planning is essential.

Responsibilities include knowledge of traffic engineering and corridor studies, impact assessment and travel demand analysis. Knowledge of traffic capacity software, traffic analytical tools, traffic signals, travel demand modeling, GIS and traffic micro-simulation models is also important.

Requirements: Master's in Urban Planning, Civil Engineering, Urban Geography or related field or Bachelor's with advanced training in the field; 10 years experience in technical analysis, project management and supervision, excellent writing and oral presentation skills and strong customer service orientation. PE or AICP is desirable.

Submit cover letter, résumé and salary history to employment@katzokitsu.com with "Senior Trans. Eng/Planner-SD" in subject line. KOA is an equal opportunity employer.

PARKING MANAGER City of Pasadena, CA Salary: \$91,505-\$114,382/year

For a complete application packet, Supplemental Application and job flyer or to apply electronically, visit: http://www.cityofpasadena.net/humanresources/Job_listing/ParkingManager.asp. Seeking a dynamic individual to manage a comprehensive off-street and on-street parking program along with other related programs. Requires a Bachelor's degree in Public and/or Business Administration or a related field and two years of professional experience managing a comprehensive public parking or related program or two years of substantial experience in contract administration. APPLY BY: FEBRUARY 1, 2007.

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POSITIONS AVAILABLE

TRAFFIC ENGINEER #06-107 City of Vancouver, WA Salary: \$4,639-\$5,939/month

Initial screening on Monday, January 22, 2007. For a complete application packet, Supplemental Application and job flyer or to apply electronically, visit: www.vanhr.org Equivalent to a Bachelor's Degree from an accredited college or university with major course work in civil or traffic engineering or a related field. Four years of increasing responsible professional traffic or civil engineering experience including two years of lead supervisory or project management responsibility. Possession of a Certificate of Registration as a professional engineer in the State of Washington.

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A challenging and key position with the Oregon Department of Transportation in Portland, OR responsible for traffic engineering analysis of complex transportation issues. A Fundamentals of Engineering (FE) certificate is required. Salary \$3287-\$44932/month + excellent benefits. For more info & application, visit www.odotjobs.com or call (866) ODOT-JOBS. Refer to OCDD6691 (TTY 986-3854 for the hearing impaired). Application deadline is 5:00 pm 01/23/07. ODOT is an AA/EEO Employer.

TRANSPORTATION ENGINEER City of Redmond, WA Salary: \$4,514-\$6,203/mo.

Excellent career opportunity with a progressive, secure, eastside municipality. Strong analysis & modeling skills preferred. For application information access www.redmond.gov or call 425-556-2121. Preference to applications received by 5:00 p.m. on 12/15/06. EOE.



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Project Engineers will lead design and CADD production staff in the development and successful delivery of all technical work products, design highway and drainage plans, and assist with specifications and estimates for city, county and state facilities. The positions require 4+ years of transportation engineering experience, and proficient skills in AutoCAD/Softdesk and/or Microstation/InRoads.



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