



Westernite

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Director's Report

Richard T. Romer, PE, PTOE
District 6 International Director



The International Board of Direction (IBOD) met on August 2 and 3, 2002 at the Annual Meeting held in Philadelphia, Pennsylvania. In attendance, and in addition to all three International Directors, Patti Boekamp, Ray Davis and myself, were past District 6 International Director Tim Harpst, District 6 International Direct-Elect, Pat Noyes, and our esteemed leader, International President Jenny Grote. The International Board recognized the exemplary efforts of Tom Larwin, who is serving his last year as Coordinating Council Chairman. At the Annual Business Meeting Jack Freeman was elected President and Steve Hofener was elected as the new International Vice President.

ITE has experienced a net growth of about 2.7% in membership during these difficult times and is in good financial condition. In comparison with the general trend, ITE is doing very well. ITE has experienced a decrease in "ITE Journal" advertising, so remember to place your ads. Sales of the E-Learning Modules remain slower than anticipated.

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President's Message

Julie Townsend
District 6 President



As we approach the end of another year, it is often customary to reflect upon the successes of the prior year. In 2002, the District has been able to establish many new programs under the guidance of Past President Rory Grindley. Most of these new programs focused on the students. Student Programs will continue to be one of my focuses for the District in 2003.

Another one of my focuses this year will be the Vendors. The Vendor show is currently an integral part of our Annual Meetings and the District will be working to increase the interaction between the Vendors and the ITE delegates. I have recently set up an ADHOC committee, which will be headed by Carlos Ortiz, Past President of the Riverside/San Bernardino Section.

Based upon recommendation of the WesternITE Managing Editor selection committee, I have appointed John Kerenyi as the new Managing Editor for WesternITE. Congratulations, John! Special thanks to Matthew Ridgway for heading the selection committee and to Pat Noyes and Zaki Mustafa for all of their efforts in the selection process.

The District 6 Mid-Year Board meeting date has been set. It will be held on Friday February 7, 2003 in Sacramento, California. Everyone is invited to attend. Please contact me if you would like to attend the Mid-Year Board meeting for the specifics on the venue and time. Prior to the Mid-Year Board meeting, the District Board will be meeting with a few of the Committee Chairs for a half-day workshop. Any new programs that are developed as part of the workshop will be brought forth at the Mid-year Board meeting.

Have a safe and happy holiday season!

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International Director's Report (Continued from page 1)

On Learning Gateway modules are available in the following subject areas:

- Capacity Analysis: Signalized Intersections
- Safety Analysis: Signalized Intersections
- Transportation Planning: Site Impact Analysis
- Control Devices: Signal Needs Determination

Please support this very important program.

The ten most popular selling publications and CD's are:

1. Manual on Uniform Traffic Control Devices (Millennium Edition)
2. Traffic Control Devices Handbook
3. Trip Generation, 6th Edition and Handbook
4. A Policy on Geometric Design of Highways, AASHTO
5. Highway Capacity Manual, 2000
6. Alternative Treatments for At Grade Pedestrian Crossings
7. Traffic Engineering Handbook, 5th Edition
8. Transportation Planning Handbook, 2nd Edition
9. Digital Library, 2001
10. Traffic Calming: State of the Art

As of June 30, 2002 there are 1,905 Affiliated Public Agency members. There are a total of 16,657 members in ITE as of June 30, 2002 with the 4,354 members in District 6 comprising over 26% of total membership.

There are 806 certified Professional Traffic Operation Engineers (PTOE) as of September 4, 2002. The PTOE program is closer to its goal of being self-sustaining, so please renew your certification or schedule to take it at one of the following sites on October 26, 2002.

- Atlanta, GA
- Baton Rouge, LA
- Minneapolis, MN
- Rochester, NY
- White Plains, NY
- Salt Lake City, UT
- San Juan, PR
- St. Louis, MO
- Waltham, MA
- Regina, SK
- Toronto, ON

Remember you can establish your records using the Professional Competency Record Keeping System. Also, the exam can be taken in Washington, DC on January 11, 2003. Watch for offerings of PTOE Refresher Programs in your area.

A practice PTOE exam is available to assist in preparation for the PTOE exam on the ITE website at ite.org.

New public information videos, "It's Your Street – Making Traffic Improvements in Your Neighborhood" and "Red Light Green Light and Design Your Future Careers in Transportation," have been mailed out to the selected leadership and Student Chapters. You can order it at The ITE Bookstore.

ITE will be offering a new website service to Districts, Sections

and Chapters. This website addition will allow you to select a District, Section or Chapter, including Student Chapters, to find out information such as news and newsletters, calendar of events, websites, directories, membership services and governance documents to name a few. This is a very exciting tool that can be used to network more easily and find out about what other Districts, Sections, and Chapters are doing.

The International Board continued its support of Student Chapter activities by approving up to \$1,000 in travel expense reimbursement to assist the winning Student Chapter officer(s) and faculty advisor to attend the ITE Annual Meeting and Honorees Dinner. In addition, five complimentary tickets will be provided to the Honorees dinner for the winning Chapter representatives.

IBOD approved a \$5.00 increase in membership dues at all grades, but voted that all individual member council dues remain at \$20.00. Also, activities area budgeting will be used for the 2003 budget. This will provide the Board and membership through the budget and reporting process a better understanding of the projected and actual cost of staff resources being committed in support of each specific activity area. In addition, specific activity area budgeting would include the direct and indirect costs associated with that activity area.

A discussion of ITE related Transportation Research Board (TRB) activities concluded that the first ITE Student Reception was a resounding success. At the next TRB meeting in January 2003, ITE will be considering both a continuation of the Student Reception and an ITE Open House on separate evenings. Funding to support student attendance at the Matson Award Luncheon will be sought.

ITE past President Stephen Gayle is heading the very important effort to review and update the Strategic Plan for ITE. On September 3, 2002 an e-mail was sent to District, Section and Chapter officers requesting review and comments on the following documents:

- The Vision and Mission Statement for ITE
- The Strategic Plan 2002
- Draft Goals and Objectives of the Strategic Plan
- ITE Strategic Plan Exercise
- The "BIG QUESTIONS" Homework for the Strategic Plan

The International Board of Direction is soliciting your Sections' or Chapters' input or feedback on the Strategic Plan. Please forward any comments to your District 6 International Directors by October 15, 2002. These will be compiled and forwarded to IBOD for its consideration in the adoption of a final Strategic Plan at its meeting on November 1st and 2nd.

The Philadelphia Annual Meeting was a great success. Future Annual Meetings and Technical Conferences are listed below. Please make plans to attend.

ANNUAL MEETING AND EXHIBIT

August 24-27, 2003	Seattle, Washington
August 1-4, 2004	Lake Buena Vista, Florida
August 7-10, 2005	Melbourne, Victoria, Australia
August 6-9, 2006	Milwaukee, Wisconsin
August 5-8, 2007	Pittsburgh, Pennsylvania
August 17-20, 2008	Anaheim, California

August 9-12, 2009 San Antonio, Texas
 August 8-11, 2010 Vancouver, British Columbia, Canada

TECHNICAL CONFERENCE AND EXHIBIT

March 23-26, 2003 Fort Lauderdale, Florida
 March 28-31, 2004 Irvine, California

With only one more IBOD meeting to go, I want to take this opportunity to thank Patti Boekamp, our District 6 Senior International Director for her seven years of service to the District 6 Board and her many more years of service at the Section level. Your District 6 International Directors, Patti Boekamp, Ray Davis and I would be happy to attend any Section or Chapter meetings to make presentations, install officers, and assist members. Just give us a call or an email.



Pedestrian Safety

Pedestrian Safety Initiatives in Salt Lake City — Effective, Inexpensive, and Popular

Timothy P. Harpst, P.E.
 Salt Lake City
 Transportation Director



Pedestrian safety is important to everyone. As such, safety initiatives are readily supported by the public and elected officials and need not be difficult or expensive to implement.

In mid-2000, Salt Lake City created a Pedestrian Safety Initiatives Committee (PSIC) to identify and implement pedestrian safety measures. The committee is comprised of city staff from the transportation, police, attorney, ADA, street maintenance and mayor's offices and meets every four to six weeks. Periodically, citizens and others interested in pedestrian safety participate in these meetings.

The committee uses a two-step approach in achieving its mission. First, the PSIC reviews available local statistical data, researches literature, and brainstorms ideas believed to improve pedestrian safety. Second, when an initiative is ready to be implemented, an "educate/implement/enforce" rollout method is employed. This typically involves a media release combined with a staged, on-street unveiling by the mayor with television and newsprint media coverage. This purposeful, flamboyant unveiling is highly effective in educating the public of the latest pedestrian safety initiative and provides a focused opportunity to remind them of

previous initiatives and the importance of pedestrian safety. The media event is usually scheduled to coincide with the finishing touches of installation to provide the media with unique photo opportunities. After implementation, city police publicly schedule targeted enforcement of the new initiative. This enforcement may involve warnings or citations. It includes enforcement of violations by drivers as well as by pedestrians to avoid any sense of favoritism.

Since July of 2000, the following initiatives have been implemented.

Pedestrian Signals Brochure

In response to a number of complaints from senior citizens about difficulty in crossing city streets, a brochure entitled *How Pedestrian Signals Work* was created by the city's Transportation Division and critiqued by the PSIC. Visits were made to every senior residential center in the city to distribute the brochure and explain how pedestrian signals work. It provided an opportunity to answer questions and identify locations where seniors had difficulty crossing streets. The brochure has been placed in all city libraries and in all bus route pamphlet stands. This has been a low-cost initiative consisting of staff time to write the pamphlet and present it at meetings plus periodic copying costs, some of which is done on the office copier.

Longer Traffic Signal WALK Phases

In August 2000, the PSIC convinced the metro area's Traffic Management Committee to modify its practice for timing WALK and DON'T WALK phases to allow additional WALK time at many of the area's traffic signals without adding time to signal cycles. Previously, many signals in the 13-city metro area used a five-second WALK phase, regardless of the total time available for the ped crossing, to encourage pedestrians to start walking at the beginning of the WALK phase. Now, metro-wide policy is to provide a minimum of 5 seconds WALK display, but continue showing the WALK symbol as long as the phase has available time before needing to start the DON'T WALK phase. Another low-cost initiative, existing staff made the programming changes.

Increased Fines

Also in August of 2000, fines were increased from \$34 to \$70 for driver violations against pedestrians in crosswalks. One mildly controversial change not recommended by the Transportation Division, but overridden by the PSIC, Mayor and City Council was a lowering of fines for jaywalking from \$70 to \$10. Police enforcement at crosswalks has generally yielded a 4:1 ratio of drivers violating pedestrian rights-of-way versus the opposite. This effort, which actually results in increased fine revenue, involved staff time and city council approval.

Orange Flag Crosswalks and "Adopt-A-Crosswalk"

Perhaps the most dramatic pedestrian safety initiative has been one of the most basic: the installation of orange flags at crosswalks. Admittedly a low-tech initiative, it is highly visible and one that has achieved significant, continuing media coverage and public comment.

Observations and interviews of pedestrians at the initial six
(Continued on page 4)



PICTURE OF ORANGE FLAG CROSSWALK

crosswalks revealed 11% of the pedestrians used the flags while many non-users felt they looked silly carrying the flags. Many drivers and pedestrians believe there is benefit, however, simply from drivers seeing the orange flags in their holders on the sides of the street reminding them of the presence of the crosswalk. Usage has since increased to 14% and requests for flagged crosswalks continue. The success of this program has led to installations at 26 downtown crosswalks, 25 school crosswalks and 51 neighborhood crosswalks.

Due to the logistical difficulty in maintaining outlying flag crossings, an "Adopt-A-Crosswalk" program was created in January 2001. Under the program, individuals living or having businesses within a block of a marked crosswalk may "adopt" the crosswalk by agreeing to monitor the flag containers to insure flags are available at both ends of the crosswalk as well as purchase replacement flags as needed. In return, the City installs the flag holders, usage signs and an initial supply of flags. The "Adopt-A-Crosswalk" program has also been expanded to elementary schools where school personnel agree to monitor and maintain the flags at school crosswalks in return for free flags.

The cost to install two flag holders, each with an instruction sign and six flags is less than \$100. The annual cost to the City for replacement flags is currently less than \$12,000 citywide.

Pedestrian Signal Countdown Timers

In the fall of 2000, a test pedestrian countdown timer was unveiled by the mayor at one of the busiest mid-block signalized crosswalks in the central business district. User surveys, showing a very high level of support for this device, led to Salt Lake City initially installing 270 countdown timers in the downtown area. Their public acceptance and the upcoming Winter Olympics prompted the Utah Department of

Transportation decision to install 300 countdown timers at their downtown intersections. Since the Olympics, the City has installed more than 300 additional countdown timers and requires installation of these devices at all new or upgraded traffic signals. Today there are 878 countdown timers in Salt Lake City and 64 more are in the process of being installed. It is intended to work toward total conversion of all pedestrian signals within the city.

The average purchase price for these timers has been \$328 each. The great majority of installations are simple drop-in replacements.



Pedestrian Ordinance Update

Following an exhaustive review of all city ordinances pertaining to pedestrian safety and research into those used by other cities and states, several changes and additions were made including updates in definitions and descriptions to conform to the 2000 MUTCD.

Fines for violations were further restructured. Driver violations against disabled pedestrians or those carrying orange flags require an appearance before the city's Justice Court judge. The fine schedule ranges between \$0 and \$1,850 with a recommended fine of \$425. Repeat driver violations against any pedestrian in a crosswalk within a year of a previous offense trigger the same court appearance requirement and fine schedule.

Two ordinance changes have resulted in treatments believed unique in the industry. The first involves allowing pedestrians to initiate a crossing during a DON'T WALK phase, but only at crosswalks equipped with pedestrian countdown timers. The logic for this change is that at these locations pedestrians are provided sufficient information to make a judgment as to their ability to walk across the street safely as opposed to requiring every pedestrian to wait once there is insufficient time for the slowest pedestrian to cross. The second unique ordinance involves defining a "moving auto-free area," one travel lane wide in front of and behind a pedestrian walking across a street in a crosswalk. Many of the streets in Salt Lake City are multi-lane roadways. It is deemed impractical to require a driver to not cross a crosswalk if a pedestrian is anywhere within the same half roadway width as the driver's direction of travel which is a fairly common requirement in other cities and states. In reality, most drivers do not presently and will not typically yield more than a travel lane separation between their vehicle and a pedestrian. This moving, auto-free zone approach works well in every situation regardless of the number of travel lanes on the street, the direction of travel or presence of turn lanes. It reduces delay to drivers while

providing a safe separation between vehicles and pedestrians, particularly for pedestrians walking away from turning vehicles.

Pedestrian-Actuated Overhead Flashing Lights

In March 2001, Salt Lake City's first pedestrian-actuated, overhead flashing lights were installed over a busy 4-lane street at a high-pedestrian volume intersection crosswalk. This device consists of one light over each travel lane on the approach to the crossing and two pedestrian crosswalk signs mounted back-to-back hung overhead. The lights flash in an alternating pattern, once a pedestrian pushes the activation button, for a period equivalent to the ped walking time plus 10 seconds. This warning device has been well received by the public, and motorists tend to pay more attention when the lights are flashing, realizing a pedestrian must be present to activate it.

Since last year, a second ped-activated overhead flashing light crosswalk has been installed and one existing, constant-flashing light crossing was converted to pedestrian-actuated. A fourth system is currently under construction. These devices are relatively inexpensive to install compared to in-pavement lighting systems, approximately \$9,000 compared to \$20,000, particularly if existing utility poles can be used and overhead power is nearby.

A further enhancement of this system is the addition of a crosswalk illumination system activated by the pedestrian pushbutton. During hours of darkness, a streetlight attached to the crosswalk mast arm and specifically configured to illuminate the rectangular crosswalk area is lit at 30% capacity. When a pedestrian activates the pushbutton, the light illuminates at full capacity during the time the flashing lights are activated. This illumination element provides another visual cue to drivers of the presence of pedestrians, but is only recommended for locations with high pedestrian usage during evening hours.

Pedestrian-Actuated In-Pavement Crosswalk Lighting System

A solar-powered, ped-actuated, in-pavement lighting system was installed last fall. One light canister was damaged during snowplowing. The system was upgraded this summer to approximately triple the light output for better daytime visibility and to lower the canister profile. A second installation is being contemplated pending performance testing this winter. The cost of this system was \$20,000.

"LOOK" Crosswalk Pavement Markings

The test application of "LOOK" pavement markings at six crosswalks in 2001 received such strong public acceptance that they were installed at all downtown crosswalks prior to the Winter Olympics to assist visitors from countries that drive on the opposite side of the street from the United States.

They are installed just beyond the rain gutter at the beginning of each crosswalk. The final design resulted from a collaborative effort using examples used in other countries and evaluation by the PSIC. The word "LOOK" in twelve-inch letters with left and right pointing arrows is dye-cut into solid black and solid white pavement marking material. The two letter "O"s are cut with small eyeballs on the inside of the letters to help advertise the intended meaning of the message. The letters and arrows are interchanged with the background

material to provide black-on-white and white-on-black messages, resulting in no wasted material. This has kept the cost down to \$24 per message.

This year, "LOOK" messages have been added to most elementary school crosswalks citywide.

PICTURE OF "LOOK" PAVEMENT MESSAGE



"5

"BAR TRIANGLE" Advance Crosswalk Pavement Markings

The City Transportation Division staff designed and the PSIC critiqued a "5 BAR TRIANGLE" advance crosswalk pavement marking pattern for use at midblock crosswalks on higher speed collectors and arterials. It consists of five rectangular, white pavement markings, sized and placed to form a triangle on travel lanes in advance of midblock crossings. The purpose of the markings is to help alert drivers to difficult to see non-signalized crosswalks on these busier streets. Two styles were tested at multi-lane arterial crosswalks. One of the patterns has since been adopted and is currently used at four crosswalks. A citywide evaluation of candidate locations is underway. Approximately 25 locations are expected to receive this treatment which costs approximately \$75 per travel lane.



PICTURE OF "5 BAR TRIANGLE" PAVEMENT MESSAGE

Effective, Inexpensive and Popular

Prior to the start of the program in July 2000, our city experienced an average of six pedestrian fatalities annually

over a three-year period. In the more than two years since beginning these initiatives there have been two pedestrian fatalities, neither of which was in the central business district or at locations where the above-described pedestrian safety initiatives have been employed. Our citizens and elected officials are very pleased with this highly visible, ongoing program. The community-wide increase in pedestrian safety awareness and anecdotal evidence of fewer near-miss incidents are as important as they are incalculable. The Pedestrian Safety Initiatives Committee has been a good forum to create and evaluate safety initiatives.

We have found the majority of these initiatives to be inexpensive to implement and maintain. All of the initiatives described in this article have been installed for approximately \$400,000. The purpose and success of the program helps "sell" funding requests. The Salt Lake City Redevelopment Agency and the Utah Department of Transportation each provided \$100,000 for pedestrian countdown timers. The Mayor and City Council approved \$150,000 in implementation funds and an additional \$85,000 in regularly budgeted staff time and materials have been spent. A request for a second stipend of \$150,000 to fund future initiatives has recently been submitted for next fiscal year's budget.

The Salt Lake City Transportation Division intends to continue working with the Pedestrian Safety Initiatives Committee to develop and implement new initiatives. Special recognition is given to Dan Bergenthal, Transportation Engineer IV with the Salt Lake City Transportation Division, for his dedicated work in this program. We welcome collaboration with other communities to identify even more pedestrian safety initiatives. Please feel free to contact us to share your ideas. (801) 535-6630 (W) (801) 535-6019 (F) tim.harpst@ci.sl.c.ut.us



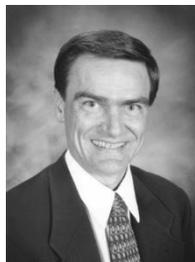
Mysteries of the PHF

Clarifying Simple Mysteries of the PHF

Author: Ransford S. McCourt, PE, PTOE
Contributing Author: Dennis Strong, PE, PTOE

The 2000 Highway Capacity Manual (2000 HCM) substantially advanced the state of capacity analysis for transportation engineers and planners with added of capacity issues.

Because of the



comprehensive nature of the document, some of the most fundamental aspects of capacity analysis for intersections are not discussed in practical application terms for day to day engineers and planners. This article outlines some basic "how to's" associated with applying peak hour factors for signalized and unsignalized intersection capacity analysis.

Some of the mystery of understanding peak hour factor (PHF) comes from the Highway Capacity Manual. In the 1994 and 2000 versions of the HCM the definition of PHF was stated as the hourly volume during the maximum volume hour of the day divided by the peak 15-minute flow rate within the hour

This can be misinterpreted. In other text, the 2000 HCM and 1985 HCM properly define PHF as "the ratio of total hourly volume to **four** times the highest 15-minute volume within the peak hour" (note that both the 15-minute and hour periods must be contiguous time periods):

$$PHF = V_{HR} / (V_{15} * 4)$$

Peak Hour Factor

The 2000 HCM includes significantly more discussion about the application of peak hour factors than prior versions. Vehicle delay and level of service are based upon peak 15-minute vehicle flow data. Since the early days of the Highway Capacity Manual when data collection techniques were limited and analysts were lucky to have peak hour volumes, the PHF provided a nexus to 15-minute volumes when no better data existed. Today, many analysts have a wealth of traffic information available to them with five-minute traffic volumes for turn movements over a peak two-hour period. However, many analysts continue to utilize the methodology developed many years ago of applying peak hour factors even though they have peak 15-minute data readily available. In those cases where peak 15-minute data is available, those turn volumes should be utilized for the HCM analysis of signalization intersection capacity. This can be done by taking the peak 15-minute volume and multiplying each turn movement by four. In this case the PHF should equal 1.0.

Several capacity analysis software programs provide data input fields for peak hour factors by turn movement, leading analysts to believe they should apply PHF for each movement separately. It was not the intent of the signalized intersection capacity analysis outlined in HCM 2000 to utilize individual peak hour factors by movement. It was intended that analysts utilize the actual peak 15-minute flows – for the overall intersection peak 15 minute period (not different periods for different movements, knowing that individual movements peak at different times). It also was not intended to utilize aggregate PHF for an intersection when peak 15-minute flows were available. The aggregate PHF was to be utilized, where there was a lack of available data, as a means to estimate 15-minute flows. This is typically not the case in many of the capacity analysis situations undertaken by traffic engineers and planners today who generally have a wealth of traffic data available.

Impact Analysis

This approach to PHF is readily implementable for existing conditions; however, it becomes more complicated when analysts are studying future conditions. There are several situations that arise, two of which are commonly encountered: 1) short term impact analysis; and 2) long range (20-year) forecasts. In these cases, it is not common to have future forecasts available in peak 15-minute increments that match the street peak 15-minute period.

For short term analysis, a practical approach would be to take the existing traffic counts and add ITE Trip Generation Informational Report, or take other travel forecasts that provide future hourly data to create the short term hourly flow rate. Given the variability in day to day traffic volumes, this provides adequate information for the assessment of impacts. To address the issue of peak 15-minute flow rates, applying a PHF to an existing plus future project(s) traffic scenario is a reasonable approach. This is similar to the original condition under which the PHF was developed, where detailed information of future volumes are not available. Trying to estimate future peak 15-minute volumes has many issues of accuracy that are not supported with data and research at this time. These include:

- Lack of 15-minute vehicle trip generation profile data in ITE's Trip Generation. It currently provides only hourly data. (This is an area for future research.)
- Alignment of 15-minute periods between base street traffic volumes and proposed project land uses.
- Analytical assessment of trip assignment in the peak 15-minute period.

In cases where existing and future capacity conditions are being compared there could be infrequent situations where with small increases in traffic that the future scenario computed using PHF could result in level of service or demand-to-capacity ratio that are not consistent with (that is, they do not increase above) existing conditions computed using 15-minute volumes. If this condition exists, it is important to recognize the different assumptions being used for each condition and consider using similar methodologies for the existing and future scenarios.

For long range planning analysis (20-year), PHF should be utilized. As noted above, this is the situation that PHF's were developed to address—where precise knowledge of traffic

flows is not on hand—but the best available data are available.

The PHF should be applied to the analysis for the entire intersection (aggregate) or by approach, but not as individual movement PHF's. The PHF should be computed from the 15-minute period within the peak hour with the highest total entering vehicle volume. For short term analysis, use of an existing PHF is appropriate. For longer term future scenarios a PHF above existing may be considered based upon judgment about the future operation. The HCM notes that for urban conditions a PHF of 0.92 can be utilized if no other data exists. In many areas, PHF of 0.95 to 0.99 are common in congested environments and/or where transportation demand management programs (TDM) are effectively implemented (spreading out peak traffic). Utilizing a PHF = 1.0 in future 20-year analysis is not unreasonable if assumptions are stated (such as the anticipation of TDM measures).

Comparison of Results

For comparison, ten intersections in the Portland-Vancouver region with varying characteristics were evaluated for existing conditions utilizing the HCM methodology of 15-minute volumes times four and applying an aggregate PHF. Conditions ranged from freeway off-ramps, congested environments, low volume conditions, near shopping centers and near schools – providing a variety of peak/surge conditions. Table 1 summarizes the level of service, average delay and volume-to-capacity ratio results of these two approaches. There are differences in the results between the two methods. That is why using the HCM described methodology (15-minute volumes times four) should be followed. Typically the differences are not enough to affect level of service results unless the situation is on the border between level of service ratings or there are significant surges in traffic that affect critical movements.

Summary

Analysts should utilize the peak 15-minute methodology for computing level of service as outlined in the HCM for existing conditions. For analysis of future conditions, peak hour factor methodology can be utilized where detailed information about traffic volume is not available for 15-minute periods.



Intersection	PHF Method		15-Minutes Times Four Method			
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
(Situation)						
Wilsonville Rd/Kinsman Rd (Low Volume – PHF=0.91)	C	21	0.69	C	21	0.71
Wilsonville Rd/Boones Ferry Rd (High Volume – PHF=0.93)	D	39	0.70	D	38	0.71
State Street/A Avenue (High Volume – PHF=0.98)	C	24	0.89	C	22	0.88
Wilsonville Rd/I-5 North Ramp (Interchange – PHF=0.93)	D	48	0.94	D	54	0.99
Vaughn Street/23 rd Avenue (Congested – PHF=0.93)	E	59	1.0	E	59	0.99
Hall Boulevard/Oleson Road (Near Shopping Center – PHF=0.93)	D	50	0.92	D	50	0.92
Cornell Road/Trail Street (Near School – PHF=0.92)	C	23	0.68	C	32	0.77
Everett St/22 nd Avenue (Unsignalized 2-way – PHF=0.95)	C	17	-	C	20	-

Section Reports

Bay Area

"Transportation Planning in the Bay Area for the 2012 Summer Olympics" was the topic of our



first meeting of the season, held at the Silver Dragon Restaurant in downtown Oakland on 19 September 2002, with 65 people in attendance. Two guest speakers, Trent Lethco of the Metropolitan Transportation Commission (MTC), and Albert Yee of the California Department of Transportation (Caltrans) presented the Bay Area's working plan for handling transportation during the 2012 event. The opening ceremonies would be held at Stanford in Palo Alto, while the Olympic Village would be located at Moffett Field in Mountain View. Ninety-two percent of planned venues are within 32 miles of the proposed Olympic Village. Interestingly, no major capital projects are being proposed to enhance the Bay Area's transportation system specifically for the Olympics. This is because, with the completion of currently programmed projects (e.g., BART extension from Fremont to San Jose and HOV lane additions), the planned capacity of the Bay Area's transportation system, when enhanced by implementation of focused Travel Demand Management (TDM) strategies, is expected to be sufficient to handle demand during the Olympics. The transportation plan is based on a "double ring of gold," with the inner ring being the continuous rail system (BART and Caltrain) that will encircle the lower San Francisco Bay by 2012 and the outer ring being the system of continuous HOV or "Olympic Way" lanes to surround the area. To complete the outer ring, mixed-flow lanes on some segments of Highways 101 and 280 will temporarily operate as "Olympic Way" lanes during the Games. The San Francisco Bay Area is currently competing with New York City to represent the United States, and the final decision is expected in November 2002. The selected city will then compete internationally for the 2012 Summer Olympics against Toronto, London, Paris, Istanbul, Rio De Janiero, Capetown, and Madrid, with the final decision expected in 2005.



Rachel Donovan

HAWAII SECTION

The August luncheon meeting was held on August 1, 2002 at the office of Wilson Okamoto & Associates, Inc. in Honolulu. The featured speaker was Dan Davidson who is the Executive Director of the Land Use Research Foundation of Hawaii (LURF) and also serves as the



Coordinator for the Ewa Highways Master Plan Group (EHMPG). Mr. Davidson explained that the EHMPG is comprised of representatives from major Hawaii landowners and developers, as well as the State of Hawaii Housing and Community Development Corporation of Hawaii (HCDC). EHMPG partnered with the State Department of Transportation to commission the Ewa Highway Master Plan (EHMP). The master plan addresses the current and future transportation needs for the region based upon a 2010 horizon year rather than full build-out. There are six major highway projects identified in the plan that are needed to accommodate the projected growth in the area resulting from private development. Utilizing cost estimates for these six major highway projects (approximately \$194 million), a "fair share" plan was developed for the region based upon both technical and policy considerations. The "fair share" for private developers was determined to be approximately 20% of the total cost of the six major projects (approximately \$39 million). This cost was then translated into fee assessments for new development dependent on the land use. For example, a developer constructing a new single-family home would be assessed a fee of \$1,836. The plan was then introduced into legislation as Bill 52 and is scheduled for adoption this year. The Annual luncheon meeting was held on August 29, 2002 at the Willows Restaurant in Honolulu. Secretary Cathy Leong announced the winner of the ITE Hawaii Chapter logo contest. The winning logo was submitted by Cheryl Yoshida from Wilson Okamoto & Associates, Inc. The new logo will be posted on the ITE Hawaii Chapter website and be printed in the Wiliki and Westernite publications. Finally, The results of the 2002 ITE Hawaii Chapter elections were announced. They results were as follows:

Richelle Suzuki, President
Cathy Leong, Vice President
Susan Uejo, Secretary
Fred Smoot, Treasurer

The featured speaker, Richard Romer, ITE International Director, assisted with the induction of the newly elected Hawaii Chapter officers. Following the induction ceremony, Mr. Romer presented the District 6 Fur-Lined Pot Award to Cathy Leong. This perpetual award is traditionally given to the most prolific writer in District 6 and is held for a year before being passed on to the next winner. Mr. Romer then proceeded with his presentation about ITE. He discussed the current status of ITE's membership, services, and opportunities, as well as shared photos of the past and present ITE staff.



Cathy Leong

New Mexico Section

The September meeting of the New Mexico Section of ITE was held at Weck's Restaurant in Albuquerque. President Karen announced the new officers for ITE from the recent election Dr. Brogan provided a brief summary of the events that took place at the District 6 Annual Conference that was held in Palm Springs, California on July ,



2002. The New Mexico Section was awarded a check for \$300.00 for finishing 2nd in the Traffic Bowl Competition. The prize money awarded the New Mexico Team was donated to the Student Chapter at the University of New Mexico. Team members for the Traffic Bowl were:

Jim Barerra, P.E./PTOE – URS Corporation
 Nevin Harwick, P.E./PTOE – Tanscore ITS, Inc.
 Dan Soriano, P.E. – City of Las Cruces
 Steve Eagan, P.E. – New Mexico State Highway and
 Transportation Department
 Jim Brogan, P.E./Ph.D – University of New Mexico

Afshin Jian stated that the new Section Directories were completed and available for distribution after the meeting concluded. The associated costs to print the directory were \$553.59, and the Section collected approximately \$1,200.00. All proceeds from the Directory will be donated to the Student Chapter at the University of New Mexico.

Dr. Hall thanked the Section for the donations to the Student Chapter and said that they truly appreciate the Sections' generosity in their donations for the purchase of software, textbooks, etc.

Patty Boekamp, ITE District 6 International Director, was present to swear in the new officers for the New Mexico Section for 2002 – 2003. Newly appointed officers are:

Jim Heimman, P.E./PTOE – President
 Kurt Thorson, P.E. – Vice President
 Eric Hawton, P.E. – Secretary/Treasurer

Patty Boekamp, District 6 International Director, started off by giving some insight as to the changes and the new focus at the District 6 and International offices:

Dues are going up at the International level - \$5.00/ category.

Student chapters will be given help to get to the annual meetings to give them more exposure to the "real world," allowing them to create contacts in the profession and build the profession at the college level.

Patty gave two presentations to the Section. The first one was on a Traffic Calming Video developed for the City of Phoenix by the Public Information Committee. It is believed that these types of videos are great tools to be used during public meetings, council sessions, or studio panel discussions to help the public understand what "Traffic Engineers" do in their profession. The second presentation Patty spoke about was on Career Development.



Eric J. Hawton

San Bernardino Riverside

The Riverside-San Bernardino Section monthly meeting was held on Thursday, October 10, 2002 at the Shandin Hills Golf Club in San Bernardino. The meeting was attended by 39 members and non-members. The Section President, Jim Harris, cordially welcomed everyone in attendance and summarized September's dinner meeting where



the new Riverside-San Bernardino officers for the 2002-2003 year were introduced and the yearly section schedule was discussed.

After member and guest introductions, Jim Harris, introduced Mark Greenwood, Engineering Manager for the City of Palm Desert, who presented on the technical topic "What the CTDC, NCUTCD and California's adoption of the MUTCD mean to you." Mark's involvement with the California's Traffic Control Committee and the National Committee for Uniform Traffic Control Devices, as well as being a member of the Signal Technical Committee, enabled the attendees, through his presentation, to gain valuable knowledge on how the CTDC, NCUTCD and MUTCD affect the various cities, traffic and transportation agencies.

Mark's presentation included the following key headings:

- Who has Authority to Establish Traffic Control Devices
- What is the National Committee on Uniform Traffic Control Devices (NCUTCD)
- NCUTCD Technical Committees
- Federal Traffic Control Device Experimentation Process
- Federal Rulemaking
- What is the California Traffic Control Devices Committee (CTCDC)
- Pertinent California Vehicle Code (CVC) Sections
- Who has the Authority to Establish Traffic Control Devices
- Rumford vs. City of Berkeley
- Adoption of Manual on Uniform Traffic Control Devices (MUTCD) in California

Mark elaborated on how various local, state and federal guidelines affect traffic control. Also, he discussed the process in which new traffic control devices get tested and adopted in the state and federal levels, illustrating that many of the traffic control devices we see out in communities are still in the testing phase (such as the new countdown pedestrian signal heads). The presentation also offered websites and other resources for members to subscribe in order to be informed of any proposed and final legislation implemented at the federal level.

Mark also discussed that Caltrans' goal is to concurrently adopt the MUTCD and California Supplement by January 2003. This topic triggered questions of how the sign codes and specialty signs would be affected by this new change. Caltrans would need to complete developing the California Supplement before adopting MUTCD. The California Supplement will clarify specific policies, practices or standards unique to California. It will also augment the federal standards by providing additional details and enhancements. The MUTCD once adopted would replace the standard traffic control devices currently in the Traffic Manual. Bottom line, Caltrans expects no changes in policies by the implementation of the California Supplement and adoption of the MUTCD.



Gilbert Hernandez

(Continued on page 10)

Washington Section

Most of the discussion in the social hour preceding the October 8 meeting of the Washington Section of ITE revolved around the upcoming public vote on transportation Referendum 51.

The 74 ITE members and guests in attendance at the West Coast Bellevue Hotel noted that the "Yes on R-51" media campaign had recently started in earnest. Many members have been personally and financially active in seeking passage of the critical \$7.7 billion funding package.

Section President Mark Madden (KDD Associates) opened the business meeting with an announcement that abstracts for the April Quad-Section meeting in Victoria, B.C., were due in November. Seyed Safavian (City of Bothell) had an exciting announcement that he was leading an effort to reorganize a Traffic Engineering Council for the Puget Sound area. The meeting of peers would share information, ideas, and work for the resolution of common issues. Seyed solicited those who would be interested in serving with the group to contact him.

Section Secretary Torsten Lienau announced that he was now accepting reservations for the upcoming year's newsletter featuring article sponsors. Those desiring to contribute a feature article in the Section's monthly newsletter should contact Torsten and reserve their place.

Mr. Jeff Webber of the Transpo Group, Chair of the Local Arrangements Committee for the upcoming 2003 ITE Annual Meeting and Exhibit / ITE District 6 Annual Meeting, reviewed the activities of the LAC. The Washington State Section will host this major combined professional gathering next August 24-27 in Seattle. LAC member Les Jacobsen reviewed several technical tours under consideration and discussed upcoming meetings with ITE international officers to review abstracts and other business issues.

The Section's Vice-President, Gary Costa (City of Issaquah), had the pleasure of introducing the meeting's keynote speaker, Les Rubstello of the Washington State Department of Transportation. Les has led the project team for the ambitious effort to improve traffic flow along the State Route 520 freeway corridor. The project, christened *Translake*,



proposes to improve mobility throughout the entire length of this critical east / west freeway, from I-5 in Seattle to its terminus at SR-202 in Redmond. The project looks to replace many existing facilities, including a \$1 billion replacement of the 40-year old Evergreen Point floating bridge spanning Lake Washington. The project has accomplished considerable progress in alternative analysis and outreach. To date, \$15 million has been invested in developing such EIS issues over the past two years. Les stated that the EIS effort was approximately half done at this point.

Les provided an extremely interesting synopsis of the project's most critical components. Beyond the proposed new floating bridge, major project aspects would reconfigure the interchange at I-5 (\$1billion), remove and replace of the interchange with I-405, and a reconfigure the Montlake interchange serving the University of Washington. For flexibility at this early state of project development, *Translake* has developed both a 6 and 8 GP lane (plus HOV and a Class 1 bikeway) alternative for the EIS. Regardless of the eventual alternative chosen, most existing interchanges would see some reconstruction. Les also reviewed the considerable 2030 travel forecast work developed with the assistance of the Puget Sound Regional Council.

In spite of all of the great work accomplished to date, funding to continue developing the *Translake* environmental document and preliminary design is contingent upon the passage of the Referendum-51 funding package next month. With passage of R-51 the project team would realize a dedicated \$100 million. The funds would be used to retain a project management firm to lead a five-year effort to complete the EIS, design the new bridge, and acquire necessary rights of way. A source for construction funds for *Translake* improvements has so far not been identified.

Les fielded several difficult questions with a skill and grace developed while managing this difficult project through a myriad of locally-sensitive groups. He commented at the conclusion of his excellent presentation that the ITE group was likely the most receptive gathering he had addressed to date, and closed with a reminder to the group to vote Yes on R-51 early and often.



Dave Alm

Happy Holidays and Happy New Year

Chance to Win 2 Free Tickets to the Movies!

Just be the first one to email me with the right answer to the following questions!

Ok, now pull out our last issue of the Westernite— from the round file that is. (I just want to see if you all are paying attention to the newsletter.) Look at the District 6 Annual Meeting photo collage from our last issue of *Westernite*. How many times can you find the "Outstanding Educator of the Year" on that page? Who is the "Outstanding Educator of the Year?" *District and International Board members and their immediate family members are disqualified from participation in this contest.*

Again, I would like to thank all of you for your support with our newsletter. I wish you all happy holidays and a joyous new year.

Zaki

Sign of the Times



New pavement messages for roundabout
Bill Baranowski



"Right Lane Closed Ahead" Why not— when the whole road is closed?
ANY SIGN WILL WORK!

ITE 2003 Annual Meeting and Exhibit
in conjunction with the ITE District 6 Annual Meeting
 August 24-27, 2003
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 Seattle, Washington, USA

Photo courtesy of Seattle-Vegas County Convention and Visitors Bureau.



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City of Berkeley \$45,060 - \$49,404*+ City paid retirement plans and additional exc.bfts. * plus 6% Cost of Living Adjustment (cola) expected. To perform technical traffic engineering support work in the field and office, perform a variety of technical and inspection duties related to the City's Traffic Engineering program and is responsible for specialized traffic engineering technical duties and other related work as assigned. Requires high school education or equivalent supplemented by drafting experience or coursework AND two (2) years of experience providing technical support to an engineering function, preferably a municipal setting. For a required city application and supplemental questionnaire, apply at City of Berkeley Human Resources Department, 2180 Milvia St. Berkeley, Ca., or call (510) 981-6888 or visit our website at www.ci.berkeley.ca.us/hr Deadline Monday, Nov. 25, 02. EOE/AA

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Transportation Planner/Engineer

CHS Consulting Group, a fast-growing transportation planning and engineering firm in SF and Oakland CA, has immediate openings for one mid-level transportation planner and one mid-level traffic engineer positions. The ideal candidate should be a self-starter who enjoys challenging and fast-paced environment. Candidates should have at least 5 years experience with strong analytical, computer, written, and communication skills, and an understanding of both traffic and transit planning. Candidates with experience in HCS, TRANSYT-7F, SYNCHRO, CORSIM, and VISSIM computer software are preferred. The ideal candidate for the traffic engineer's position should be a licensed traffic engineer or civil engineer in the State of California or is capable of obtaining the license in the near future.

We have a number of exciting projects currently underway, including areawide planning studies, traffic analysis, signal design projects, traffic engineering studies, and EIRs.

Send resume and cover letter to CHS Consulting Group, 500 Sutter Street, Suite 216, San Francisco, CA 94102 or email to or fax to 415-392-9788. Any question regarding this offer, please call Mr. Shao at 415-392-9688. EOE

Linscott, Law & Greenspan, Engineers

Engineering CAD Drafter - The Pasadena office of LLG Engineers, has an immediate opening for an engineering CAD Drafter. Responsibilities include:

preparation of traffic engineering design plans, including signing and striping, traffic signal and street lighting plans, preparation of plan details and schedules, electronic file management, field work and agency as-built plan research. Three to five years experience in traffic/civil infrastructure construction plan preparation using AutoCAD software is preferred (Microstation skills desirable).

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Program Manager Construction - Regional Express

The Construction Program Manager is responsible for managing the construction phase of the Regional Express Capital Projects program, including management of project managers and the work of consultants, WSDOT and contractors. This position works directly with agencies involved in Regional Express projects including WSDOT, local agencies and other transit agencies to manage or perform constructability reviews, construction contracts, and inspections.

Program Manager Pre-Construction - Regional Express

The Pre-Construction Program Manager is responsible for managing and directing the planning, project development, and design phases of the Regional Express Capital Projects program. This position works directly with agencies involved in Regional Express projects including WSDOT, local agencies and other transit agencies to define projects, complete environmental reviews, prepare final construction plans, and advertise projects for con-

struction bids.

To receive full job description and employment application send an e-mail request to mcleods@soundtransit.org. Expressions of interest should include an *application form, resume, and a cover letter to:

The Central Puget Sound Regional Transit Authority - Sound Transit
ATTN: Human Resources Division
401 S. Jackson St. Seattle, WA 98104

Traffic Engineering Supervisor, City of Phoenix

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(EMME/2) and statistical (SPSS, Systat). Or, any commensurate education and experience.

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