Mid-Year Board Meeting Highlights

On Friday, February 7, 2003, the Executive Board and Committee Chairs, consisting of 21 people, convened in Sacramento, California for the Mid-Year Board Meeting hosted by President Julie Townsend.

The day before, a workshop was held to discuss methods for enhancing District 6 activities in student initiatives, young professional development and career guidance. The committee included several members of the executive board, plus our International Past President Jenny Grote, the current (Jennifer Rosales) and prior two (Charlie Ebeling and Rock Miller) Career Guidance Chairs, and Dr. Jodi Carson, Student and Faculty initiatives Chair. Dr. Carson presented the Student and Faculty Initiatives Committee (SFIC) Action Plan; as part of the plan, she presented a draft of “Student Chapter Best Practices,” a how-to manual for student chapters (the first of three similar manuals; the others will be for faculty advisors and professional liaisons). As part of the committee recommendation, our District 6 Web page will include a link for students looking for summer employment. There will also be an area where students can submit their questions to the faculty advisors. Additionally, it was decided to refine the career guidance chair roles to include young professional development.

The next day president Julia Townsend called the board meeting to order and welcomed board members, committee members and guests. After passage of the consent calendar and housekeeping items, Julie announced reappointment of

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President’s Message

Two new Student Chapters were approved at the District 6 Mid-Year Board Meeting. Congratulations to the University of California-Davis and the University of Arizona. Welcome to District 6! With these two new Student Chapters, District 6 contains 31 recognized Student Chapters.

The District continues to concentrate on student services. Two new student services will be incorporated into the District’s web site. The first service will be access for students to a “Cyber Faculty Advisor.” This service will enable students to get answers to their questions when their Student Chapter faculty advisor is unavailable. The second entails an internship and summer employment listing for students. A new page on the District 6 Web site will allow students to access a series of links directing them to summer jobs and internship opportunities. Companies looking to employ students are encouraged to submit links for these positions free of charge.

The Student Initiatives Committee continues to provide valuable insight for both students and faculty advisors. The committee plans to complete three “best practices” documents to provide guidance to Student Chapters, students, and faculty advisors. Currently in draft form, the first of the three focuses on Student Chapter activities and provides a compilation of ideas from previous winning Student Chapter reports. Once finalized, it will be

(Continued on page 7)
School Access and Circulation: A Changing World

by Paul F. Brown, P.E., and Kathryn J. Harris, P.E.

Introduction

Carter & Burgess was retained by four school districts to evaluate traffic circulation at elementary and middle schools. Based on these evaluations, a series of trends were observed. This paper assesses those trends and offers conclusions and updated data for future design and reconstruction. The resulting information is being documented for use by transportation professionals who perform school design and site layout.

The resounding theme from school districts where evaluations were performed is that the “status quo” is no longer acceptable. Parents, school staff, and district administrators were frustrated at the perceived problems with the transportation infrastructure at the facilities evaluated. Infrastructure limitations included inadequate parking, lack of pick-up and drop-off space, pedestrian mobility issues, and deficient school bus accommodations.

2000-2001 Studies

The studies, undertaken in two states, provide a wide range of settings, ranging from urban to suburban to rural. Due to this variety, the per-capita incomes of families in the school attendance areas varied significantly, representing a wide cross-section of trip-making characteristics and student busing scenarios.

Overall, twelve sites were evaluated for this paper. Two of the sites were middle school facilities (grades 6-9), one with an adjacent elementary school which was studied separately. Seven of the remaining sites were stand-alone elementary schools (grades K-6 or 1-6). One site consisted of an elementary school and a pre-school facility. Another site (Pine Lane) included a primary school (grades 1-3) and an intermediate school (grades 4-6), which together were taken to represent a large elementary school.

Studies were performed for three school districts in central Colorado:

- The Douglas County School District (DCSD) provides educational service for the entire county, which includes southern suburbs of the Denver metropolitan area and several smaller communities south of Denver.
- Adams County School District 14 (ACSD 14) serves students in western Adams County, which represents industrial and suburban areas of the northwestern Denver metropolitan area, including Commerce City.
- The Poudre School District (PSD) serves the educational needs of students in and around Fort Collins, Colorado. The schools provided reflect a wide cross-section of communities, ranging from urban and suburban portions of Fort Collins to rural agricultural areas well outside of the city.

Studies were also performed for the Helena School District #1 (HSD) in Helena, Montana. Similar to the Colorado schools, the educational opportunities provided reflect a wide cross-section of communities, ranging from urban and suburban portions of Helena to rural agricultural areas well outside of the city.

Although the sites could serve as the basis for individual case studies, the goal of this paper is compile and review trends in the data collected. Therefore, references to individual sites will be limited. Each site’s data is summarized in Table 1.

Background Data

To begin the research for these studies, several resources were reviewed with data summarized below. The authors recognize that many local jurisdictions and school districts have also assimilated data but it was not possible to review all these efforts during the development of this paper.

ITE Trip Generation Manuals

The Institute of Transportation Engineers (ITE) compiles trip generation and parking generation manuals for planning use. The Trip Generation Manual was reviewed to determine what data were available from ITE. Trip generation rates at elementary and middle schools (land uses 520 and 522, respectively) are as follows:

- Elementary schools—the number of studies ranged from 25 to 31. The average trip generation rate by employee (staff) was between 3.5 and 3.71 and the average trip generation rate by student was between 0.26 and 0.30.
- Middle schools—the number of studies ranged from 16 to 18. The average trip generation rate per student was between 0.29 and 0.45, and no employee (staff) rates were presented.

The ITE trip generation data samples were obtained between the mid-1970’s to the mid-1990’s. Only six of the studies referenced in the Trip Generation Manual were performed after 1990, and the most recent effort was in 1996, over five years ago. A review of the ITE Journal since the 1997 publication date of the Trip Generation Manual reflected only one article published within the last five years. That report (released in 2000) dealt with “consolidated schools,” often with service areas of hundreds of square miles and one-way trip times approaching 90 minutes. Therefore, the consolidated schools study was not considered representative of the typical ITE rates or of schools described as part of the Carter & Burgess studies.

One interesting study, published in 1996, evaluated school trip generation at several sites and compared it to those published in the 5th Edition of the Trip Generation Manual (1991). The results indicated that the ITE rates published in 1991 were up to 50% lower than the data collected in 1996; corroborating (at least at the high school level) the anecdotal evidence we received from school district staff.

One survey of traffic circulation and safety at school sites

ITE Committee TSC-4S-08 prepared an information report that summarized the state of practice of transportation engineers and planners in the mid-1990’s. This report assimilated the response from over 100 questionnaires to identify planning, design and operation actions at elementary and middle schools.
Parking Requirements
The ITE Parking Generation Manual1 did not provide data for elementary or middle school parking generation.

Many municipalities have prepared parking ordinances to ensure that sufficient parking is provided for proposed developments. However, not all of these ordinances codify information for schools, nor are they consistent between municipalities. School planners are left with varying parking lot sizing requirements (or without requirements or guidelines whatsoever).

Similarly, some school districts include parking requirements in their recommended practices for school development and site planning. However, these are often empirical and may represent a worst-case scenario (to ensure that parking shortages that occurred at one particular site “never happen again.”) Unfortunately, this represents poor policy, as the worst-case scenario may not be appropriate at all sites, leading to over-design.

At the sites evaluated for this study, both of these cases were encountered. Douglas County School District applies averages developed by Carter & Burgess several years ago. That report reflected an average of 80 spaces at elementary schools and 125 spaces at middle schools. Unfortunately, these data do not reflect varying student populations, differing occupancy rates, differing transit characteristics, and the wide cross-section of auto ownership within the county. Since they are averages, the implication is that a substantial number of sites will have parking demands above the average. One city municipal code within Adams County bases parking requirements on the square footage of the building, and assigns schools to a “general” parking category. In Fort Collins and Helena, no parking requirements were available, although historical rule-of-thumb guidelines were mentioned by school district staff.

Areas of Concern
The Carter & Burgess studies for these sites stemmed from issues in four general areas:

- Pedestrian–vehicle interface.
- Congestion.
- Pick-up and drop-off needs.
- Lack of parking.

Pedestrian—Vehicle Interface
Pedestrian activity at school sites is a key issue, particularly since many younger pedestrians are present. Children are more likely to play around parked cars and are more difficult for motorists to see since they are normally shorter than adults are.

Other considerations related to the pedestrian-vehicle interaction include:

- Auto congestion frequently blocks pedestrian crosswalks.
- Pick-up and drop-off area congestion often forces parents to perform these activities outside of designated areas, exposing students to added pedestrian risks.
- School staff cannot adequately manage pedestrian activity (using crossing guards or student monitoring) when it occurs over a wide area.

Congestion
Schools present unique trip generation characteristics. The peak-hour factor is frequently less than 0.7, resulting in short periods of very high demand on the transportation infrastructure. Staff arrivals and departures are often spread through the adjoining street peak hour, but may not occur within the school’s peak period. Student pick-up and drop-off periods are typically only fifteen minutes long, and the volumes normally exceed the staff trip generation by 2 to 3 times. Additionally, these peak periods (at all schools evaluated) occur over a nine-month period, as the schools do not operate during the summer period.

Due to the short duration of the pick-up and drop-off peaks, many municipalities are unwilling to undertake roadway improvements solely for the benefit of the school. Therefore, school districts are often burdened with one of two choices:

- Accommodating queues and congestion on-site to meet municipal requirements
- Performing on-street improvements that have low returns on the investment and may increase speeds near the school outside of the school peaks

Quantifying the needs for improvements and the related return on investment is largely based on the trip generation associated with the site.

Pick-up and Drop-off Needs
Providing for pick-up and drop-off areas sufficient to accommodate demand was a recurring problem at the sites studied. Many older school campuses do not accommodate the vehicle demand currently observed during student departure/arrival periods. School staffs have reported anecdotal increases in pick-up and drop-off volumes over the past five years at almost every site studied.

Lack of Parking
As detailed above, the parking requirements vary between the school sites studied based upon local requirements (when available), school criteria, or lack of guidance. No national data for elementary or middle

Table 1: School Characteristics

<table>
<thead>
<tr>
<th>School</th>
<th>School District</th>
<th>Number of Staff</th>
<th>Number of Students</th>
<th>Characteristics of Enrollment Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanville PS</td>
<td>ACSD 14</td>
<td>10</td>
<td>100</td>
<td>Urban</td>
</tr>
<tr>
<td>Cresthill MS</td>
<td>DCSD</td>
<td>103</td>
<td>1130</td>
<td>Suburban</td>
</tr>
<tr>
<td>Webber JHS</td>
<td>PSD</td>
<td>74</td>
<td>840</td>
<td>Suburban</td>
</tr>
<tr>
<td>Central ES</td>
<td>ACSD 14</td>
<td>63</td>
<td>471</td>
<td>Urban</td>
</tr>
<tr>
<td>Bennett ES</td>
<td>PSD</td>
<td>42</td>
<td>445</td>
<td>Urban</td>
</tr>
<tr>
<td>Johnson ES</td>
<td>PSD</td>
<td>45</td>
<td>524</td>
<td>Suburban</td>
</tr>
<tr>
<td>Timnath ES</td>
<td>PSD</td>
<td>42</td>
<td>549</td>
<td>Rural Town</td>
</tr>
<tr>
<td>Shepardson ES</td>
<td>PSD</td>
<td>46</td>
<td>497</td>
<td>Suburban</td>
</tr>
<tr>
<td>Olander ES</td>
<td>PSD</td>
<td>42</td>
<td>543</td>
<td>Suburban</td>
</tr>
<tr>
<td>Northeast ES</td>
<td>DCSD</td>
<td>52</td>
<td>543</td>
<td>Suburban</td>
</tr>
<tr>
<td>Pine Lane ES</td>
<td>DCSD</td>
<td>126</td>
<td>1298</td>
<td>Suburban</td>
</tr>
<tr>
<td>Iron Horse ES</td>
<td>DCSD</td>
<td>75</td>
<td>556</td>
<td>Suburban</td>
</tr>
<tr>
<td>Four Georgians ES</td>
<td>HSD</td>
<td>50</td>
<td>490</td>
<td>Urban</td>
</tr>
<tr>
<td>Jim Darcy ES</td>
<td>HSD</td>
<td>30</td>
<td>288</td>
<td>Rural</td>
</tr>
</tbody>
</table>


Anne Hansen Receives University of Utah Merit of Honor Award
Ethelyn Anne Hansen, former ITE District 6 President and ITE International Board member, was one of seven University of Utah alumni to be recognized with a Merit of Honor award for 2003. She will be presented with her award on March 26, 2003, in Salt Lake City.
Table 2: Driveway Volumes
(Vehicles during Peak Hour)

<table>
<thead>
<tr>
<th>School</th>
<th>In</th>
<th>Out</th>
<th>Sum</th>
<th>In</th>
<th>Out</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanville PS</td>
<td>28</td>
<td>23</td>
<td>51</td>
<td>26</td>
<td>32</td>
<td>58</td>
</tr>
<tr>
<td>Cresthill MS</td>
<td>190</td>
<td>174</td>
<td>364</td>
<td>110</td>
<td>146</td>
<td>256</td>
</tr>
<tr>
<td>Webber JHS</td>
<td>257</td>
<td>120</td>
<td>377</td>
<td>83</td>
<td>109</td>
<td>192</td>
</tr>
<tr>
<td>Central ES</td>
<td>144</td>
<td>128</td>
<td>272</td>
<td>101</td>
<td>82</td>
<td>183</td>
</tr>
<tr>
<td>Bennett ES</td>
<td>137</td>
<td>119</td>
<td>256</td>
<td>99</td>
<td>115</td>
<td>214</td>
</tr>
<tr>
<td>Johnson ES</td>
<td>149</td>
<td>106</td>
<td>255</td>
<td>72</td>
<td>109</td>
<td>166</td>
</tr>
<tr>
<td>Timnath ES*</td>
<td>114</td>
<td>108</td>
<td>222</td>
<td>56</td>
<td>109</td>
<td>165</td>
</tr>
<tr>
<td>Shepardson ES*</td>
<td>120</td>
<td>69</td>
<td>189</td>
<td>69</td>
<td>87</td>
<td>156</td>
</tr>
<tr>
<td>Olander ES</td>
<td>135</td>
<td>108</td>
<td>243</td>
<td>57</td>
<td>87</td>
<td>144</td>
</tr>
<tr>
<td>Northeast ES</td>
<td>115</td>
<td>102</td>
<td>217</td>
<td>98</td>
<td>115</td>
<td>213</td>
</tr>
<tr>
<td>Pine Lane ES*</td>
<td>222</td>
<td>137</td>
<td>359</td>
<td>84</td>
<td>169</td>
<td>253</td>
</tr>
<tr>
<td>Iron Horse ES</td>
<td>189</td>
<td>160</td>
<td>349</td>
<td>96</td>
<td>105</td>
<td>201</td>
</tr>
<tr>
<td>Four Georgians ES**</td>
<td>205</td>
<td>159</td>
<td>364</td>
<td>84</td>
<td>169</td>
<td>253</td>
</tr>
<tr>
<td>Jim Darcy ES**</td>
<td>157</td>
<td>141</td>
<td>298</td>
<td>80</td>
<td>73</td>
<td>153</td>
</tr>
</tbody>
</table>

Table 3: Observed Peak-Hour
Trip Generation (vehicles)

<table>
<thead>
<tr>
<th>School</th>
<th>By Student</th>
<th>By Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>PM</td>
</tr>
<tr>
<td>Sanville PS</td>
<td>0.51</td>
<td>0.58</td>
</tr>
<tr>
<td>Cresthill MS</td>
<td>0.32</td>
<td>0.23</td>
</tr>
<tr>
<td>Webber JHS</td>
<td>0.45</td>
<td>0.23</td>
</tr>
<tr>
<td>Central ES</td>
<td>0.58</td>
<td>0.39</td>
</tr>
<tr>
<td>Bennett ES</td>
<td>0.58</td>
<td>0.48</td>
</tr>
<tr>
<td>Johnson ES</td>
<td>0.49</td>
<td>0.32</td>
</tr>
<tr>
<td>Timnath ES</td>
<td>0.40</td>
<td>0.30</td>
</tr>
<tr>
<td>Shepardson ES</td>
<td>0.38</td>
<td>0.31</td>
</tr>
<tr>
<td>Olander ES</td>
<td>0.45</td>
<td>0.27</td>
</tr>
<tr>
<td>Northeast ES</td>
<td>0.40</td>
<td>0.39</td>
</tr>
<tr>
<td>Pine Lane ES</td>
<td>0.28</td>
<td>0.19</td>
</tr>
<tr>
<td>Iron Horse ES</td>
<td>0.63</td>
<td>0.36</td>
</tr>
<tr>
<td>Four Georgians ES</td>
<td>0.74</td>
<td>0.44</td>
</tr>
<tr>
<td>Jim Darcy ES</td>
<td>1.03</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Table 4: Trip Generation Rates by School Type
(vehicles per student)

<table>
<thead>
<tr>
<th>School Type</th>
<th>AM Average Rate</th>
<th>Range of Rates</th>
<th>Standard Deviation</th>
<th>PM Average Rate</th>
<th>Range of Rates</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool</td>
<td>0.51</td>
<td>--</td>
<td>--</td>
<td>0.58</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>ES</td>
<td>0.54</td>
<td>0.28-1.03</td>
<td>0.20</td>
<td>0.36</td>
<td>0.19-0.53</td>
<td>0.09</td>
</tr>
<tr>
<td>MS/JHS</td>
<td>0.59</td>
<td>0.32-0.45</td>
<td>--</td>
<td>0.23</td>
<td>0.23-0.23</td>
<td>--</td>
</tr>
</tbody>
</table>

Table 5: Trip Generation Rates by School Type
(vehicles per staff)

<table>
<thead>
<tr>
<th>School Type</th>
<th>AM Average Rate</th>
<th>Range of Rates</th>
<th>Standard Deviation</th>
<th>PM Average Rate</th>
<th>Range of Rates</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool</td>
<td>5.10</td>
<td>--</td>
<td>--</td>
<td>5.80</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>ES</td>
<td>5.47</td>
<td>2.85-9.93</td>
<td>1.81</td>
<td>3.70</td>
<td>2.01-5.10</td>
<td>0.92</td>
</tr>
<tr>
<td>MS/JHS</td>
<td>4.31</td>
<td>3.53-5.09</td>
<td>--</td>
<td>2.54</td>
<td>2.49-2.59</td>
<td>--</td>
</tr>
</tbody>
</table>

Abbreviations Used in this Article

| PS | Pre-school       |
| MS | Middle school    |
| ES | Elementary school|
| JHS| Junior high school|

School parking demand were found. The data available for high school data appears to be limited and dated. Some sites were observed to use surplus parking areas for pick-up areas. When congestion in the pick-up area occurs, the parking areas may indeed become loading areas.

Trip Generation

Trip generation calculations, outlined below, were performed using methodologies outlined in ITE’s Trip Generation Manual*.

Traffic Counts

Traffic counts were conducted as part of the evaluations at each of the school sites. The counts were generally collected in 15-minute intervals for a two-hour period around the school start and end times. At some sites, data were collected for shorter periods, and footnotes outline these differences where needed. The counts were typically performed at each site access and at nearby intersections.

The counts were summarized at each driveway intersection during the peak hour of generator. The peak hour of generator was selected based on the hour in which the total site volume (entry and exit) was highest for the AM period and the PM period respectively. A few sites included on-street pick-up and drop-off areas that were not counted. Again, these limitations are included in footnotes where applicable. The resulting entry and exit data are shown in Table 2.

Peak hour factors were calculated at several sites, and ranged between 0.40 and 0.70. However, these data were not consistent enough to be presented formally.

Trip Generation Calculations

The traffic data have been separated into three facility types for this report; preschool, elementary school, and middle or junior high school. The small number of sample sites for the preschool and middle schools limits data determination, and only the data collected is provided below.

Based on the traffic counts shown in Table 2, trip generation rates were computed at each school and results are presented in Table 3. Trip Generation rates for two independent variables are summarized by facility type, in Tables 4 and 5. Directional splits (entry/exit) was highest for the AM period and the PM period respectively. A few sites included on-street pick-up and drop-off areas that were not counted. Again, these limitations are included in footnotes where applicable. The resulting entry and exit data are shown in Table 2.

The values in Table 7 are similar for preschools and elementary schools, and reflect an overall split of 55% in/45% out in the AM and 45% in/55% out in the PM. The middle school data show a slightly more marked inbound AM/outbound PM pattern, with 60% in/40% out in the AM and 45% in/55% out in the PM. Please note the small sample size for the middle school split.

Based on the tabular data, data plots and fitted curves were prepared for elementary schools as shown in Figures 1 through 4. The small sample size for preschools and middle schools precluded this effort at those facility types.
Conclusions

Limited data are available regarding trip generation and parking generation at school sites. Trip generation and parking generation data need to continue to be updated to reflect current trends at schools.

The correlation coefficients calculated based on the study data were below those considered acceptable in the Trip Generation Manual. This is generally due to the limited data collection efforts performed for these studies. Since the majority of the studies consisted of one day’s worth of counts, it was not possible to develop average trip generation data for each site. Coordination was performed with each school to ensure that counts were obtained on ‘normal’ school days (in other words, the normal student/staff population was on site). However, daily fluctuations do occur and are not accounted for in the data collected for this study.

Table 6: Observed Directional Splits

<table>
<thead>
<tr>
<th>School</th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td>Sanville PS</td>
<td>54.9%</td>
<td>45.1%</td>
</tr>
<tr>
<td>Cresthill MS</td>
<td>52.2%</td>
<td>47.8%</td>
</tr>
<tr>
<td>webber JHS</td>
<td>68.2%</td>
<td>31.8%</td>
</tr>
<tr>
<td>Central ES</td>
<td>52.9%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Bennett ES</td>
<td>53.5%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Johnson ES</td>
<td>58.4%</td>
<td>41.6%</td>
</tr>
<tr>
<td>Timnath ES</td>
<td>51.4%</td>
<td>48.6%</td>
</tr>
<tr>
<td>Shepardson ES</td>
<td>63.5%</td>
<td>36.5%</td>
</tr>
<tr>
<td>Olander ES</td>
<td>55.6%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Northeast ES</td>
<td>53.0%</td>
<td>47.0%</td>
</tr>
<tr>
<td>Pine Lane ES</td>
<td>61.8%</td>
<td>38.2%</td>
</tr>
<tr>
<td>Iron Horse ES</td>
<td>54.2%</td>
<td>45.8%</td>
</tr>
<tr>
<td>Four Georgians ES</td>
<td>56.3%</td>
<td>43.7%</td>
</tr>
<tr>
<td>Jim Darcy ES</td>
<td>52.7%</td>
<td>47.3%</td>
</tr>
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</table>

Table 7: Directional Splits by Facility Type

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td>Preschool</td>
<td>54.9%</td>
<td>44.1%</td>
</tr>
<tr>
<td>ES</td>
<td>55.8%</td>
<td>44.2%</td>
</tr>
<tr>
<td>MS/JHS</td>
<td>60.2%</td>
<td>39.8%</td>
</tr>
</tbody>
</table>

Figures:

Figure 1: Elementary School Trip Generation—AM (as a Function of Students)

$y = 51.185 \ln(x) - 46.028$

$R^2 = 0.0889$

Figure 2: Elementary School Trip Generation—PM (as a Function of Students)

$y = 60.717 \ln(x) - 192.89$

$R^2 = 0.3849$

Figure 3: Elementary School Trip Generation—AM (as a Function of Staff)

$y = 84.125 \ln(x) - 57.076$

$R^2 = 0.2786$

Figure 4: Elementary School Trip Generation—PM (as a Function of Staff)

$y = 66.572 \ln(x) - 74.898$

$R^2 = 0.5366$
Comparisons were made between the ITE data and the data collected in this study. Generally, the ITE trip generation rates were significantly below the rates presented at the sites studied. Potential differences include the relative age of the datasets (the ITE data are typically older than this study’s data), surrounding land use characteristics (no schools in urbanized areas were included in this study), and differing ranges in independent variables. It should be noted that the 1996 high school study also found higher trip generation rates than those in the ITE Trip Generation Manual.

Although not presented in this document, parking generation rates were also evaluated. The rates ranged from 0.08 to 0.12 spaces per student and from 0.86 to 1.33 spaces per employee (staff). These rates are based on limited data for sites where parking constraints have been anecdotally described. Since the ITE Parking Generation Manual does not present school data, no comparisons could be drawn. Further research in this area would be helpful for use in updating the Parking Generation Manual.

Our changing world is requiring changing design at schools. Engineers, planners and schools need to work together to meet these changing needs. Data presented in this report compiles recent observations surrounding elementary schools and reflects trip generation rates higher than those documented in the ITE Trip Generation Manual.

Notes:
6. op. cit., Trip Generation Manual, Volume 3 of 3

Mid-year Board Meeting Highlights

(Continued from page 1)

Weston Pringle as District Administrator, Dave Butzier as Membership Chair, Steve Sasaki as Vice-Membership Chair, Ken Ackeret as Technical Chair, Walt Stringer as Legislative Chair, John Keneny as WesternITE Managing Editor, Peter Koonce as Technical Editor and Craig Grandstrom as Student Chapter Newsletter Editor.

Past President Rory Grindley reported that the International Nomination Committee has selected Steve Hoefer as the sole candidate for International President. The two candidates for International Vice President are our District 6 Past President and former International Director Tim Harpust, and Don Henderson (from ITE District 7). Rory then presented, and the board accepted, the following slate of candidates for the 2003 District 6 elections:

- President: Randy McCourt
- Vice President: Zaki Mustafa
- Secretary-Treasurer: Kenneth Ackeret, Dave Butzier
- International Director: Rock Miller, Dalene Whitlock

In accordance with Section 5.2 of the Bylaws of District 6, additional nominations may be made by petition, signed by not less than five members. Each petition shall be accompanied by the written consent of the nominee to run for the office for which he or she is nominated, and must be received by the Secretary-Treasurer no later than 60 days prior to the election. No member may be a candidate for more than one office.

Jenny Grote, International Past President, thanked Ray Davis and Rich Romer for their hard work and dedication to ITE as International Directors. Jenny took a recent survey of the student chapters and found that a publication for a how-to document for the student chapter is needed, and complemented Dr. Jodi Carson and SFIC for compiling “Student Chapter Best Practices.”

Randy McCourt, Vice President, presented the FY 2001/2002 budget analysis noting that District 6 finished the year in the black (+$4,000) and that the WesternITE newsletter now generates as much income as it costs to publish. Randy thanked and recognized John Pascal for overhauling our Web site along with the help of Carl Springer, Chris Monsere, and the Web site committee and encouraged everyone to visit the new web site at www.westernite.org. Zaki Mustafa, Secretary-Treasurer, reported that the current fiscal year was on budget so far and that the District is financially in a strong position. He noted that he is sending checks this year to qualifying Student Chapter Faculty Advisors for $150 to offset dues as part of the approved student initiatives.

International Directors Rich Romer, Ray Davis, and Pat Noyes reported on the current activities of the International Board and offered their services to the local sections and student chapters. Please contact these officers if you would like them to visit your section.

Wes Pringle, District Administrator, presented a report on his current activities. Key reports were made by the following Chairs:

- John Keneny, WesternITE managing editor, noted that the newsletter circulation has jumped from 3800 to 4300, and plans to allow for credit card charging for advertising services on the web.
- Jon Pascal, Web Manager, reported the Web site received 1,500 visitors last month after its overhaul.
- Ken Ackeret, Technical Committee Chair, reported a plan to offer student advertising services on the web.

Discuss this article at www.westernite.org

Visit the new District 6 Web site’s Tech Board to comment on, or otherwise discuss this article. See Page 9 for more details.

The 2002-2003 District 6 Board. From left to right: Rich Romer, Pat Noyes, Ray Davis, Julia Townsend, Randy McCourt, Zaki Mustafa, and Rory Grindley.
President’s Message

(Continued from page 1)

forwarded to the Student Chapters. The second will be geared toward faculty advisors and will outline the benefits of being an ITE Student Chapter faculty advisor as well as the duties and requirements. The third document will be geared toward increasing student and member participation in ITE-related activities.

Attention Students!

Request for Proposals

District 6 will pay your student chapter to add material to our Web site!

The District 6 Board at its mid-year meeting authorized release of a Request for Proposals to select a Student Chapter within District 6 to pursue a technical project with our District 6 Technical Chair, Ken Ackeret, to scan and preserve past issues of WesternITE.

This project will preserve and protect the history of District 6 by making the information contained in the past 40 years of newsletters once again available to our membership.

It will also provide a fund raising opportunity to one of our District 6 Student Chapters. The selected student chapter will receive $1,000 to prepare a CD-ROM of past WesternITE newsletters, to be paid as $500 in cash upon the completion of 50% of the project, and $500 in travel credits to attend District 6 annual meetings to sell the completed CD. All proceeds from the sale of the CD will go directly to the Student Chapter conducting the project.

All responses to this RFP by interested student chapters must be received by April 25, 2003.

Please make sure your local student chapter is aware of this RFP and its fundraising opportunities. If you have any questions, please contact either your Career Guidance Committee Chair, Jennifer Rosales at rosales@pbworld.com, or Ken Ackeret at ken.ackeret@kimley-horn.com for more information.

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President, reported that the Coordinating

in ITE-related activities.

The District 6 Board at its mid-year meet-

ing will be geared toward faculty advi-

sors and will outline the benefits of being

an ITE Student Chapter faculty advisor as

well as the duties and requirements. The

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The ITE District 6 Annual Meeting Chairs

presented reports on prior meeting and

future meetings to 2007. Dee Ubbayakar,

2002 Annual Meeting General Chair, pro-

vided highlights of our 2002 annual meet-

ing noting that the meeting was a major

success, breaking even financially.

Jeffrey Webber, Seattle 2003 Local Ar-

rangements Committee Chair, reported

current planning efforts in hosting a joint

meeting with ITE International this August

in Seattle. Jeff encouraged all ITE mem-

bers to attend the Seattle meeting August

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New Chair for ITE’s LED Specification Committee

Nathaniel Behura, of Transportation &

Energy Solutions in California, has been

selected to chair ITE’s Light-Emitting Diode Specification Committee. Con-

gratulations to this District 6 member for

assuming this high-profile role!

24 through 27 this summer, and high-

lighted the planned activities, which in-

clude a tour/cruise to Alaska.

Bob Grandy (Sacramento, 2004), Dr. Jodi

Carson (Montana, 2005) and Jennifer

Rosalés (Portland, 2007) all reported on the lead planning activities of their local ar-

rangements committees.

President Julie Townsend adjourned the

meeting at 3:30 p.m. The next District 6

Board of Directors meeting will be held on


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Chapters $1000 to convert all historic

WesternITE newsletters to a CD.

• Jennifer Rosales, Career Guidance Chair, reported that two new student

chapters joined ITE District 6: the Uni-

versity of Arizona, and the University of California Davis; and that she appointed

Craig Grandstrom as the ITE District 6 Career Guidance Newsletter Editor.

• Dave Butzier, Membership Chairman, reported that the District 6 membership

grew last year by 361 voting members

(3% growth).

• Walter Okitsu, California Traffic Engi-

neering Registration Committee Chair, reported that progress is being made to

keep and strengthen the Traffic Engineer-

ing Registration in California (as reported

in last month’s WesternITE) and that California may adopt the PTOE exam.

• Dr. Jodi Carson, Student and Faculty

initiatives Chair, reported on the work-

shop activities noted earlier in this report.

Wayne Tanda, ITE Coordinating Council

Chair, reported that the Coordinating Council’s objectives are to identify needs

and issues facing the ITE membership and transportation profession, focus resources
to deliver high quality timely programs and products to meet those needs, and provide
opportunities and encouragement for the ITE volunteer to make contributions to the
profession through the ITE councils. He also reported that three are 4,500 ITE
members that belong to Councils and of the 32 leadership positions, nine of the
members are from District 6.

The ITE District 6 Annual Meeting Chairs

presented reports on prior meeting and

future meetings to 2007. Dee Ubbayakar,

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current planning efforts in hosting a joint

meeting with ITE International this August

in Seattle. Jeff encouraged all ITE mem-

bers to attend the Seattle meeting August

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The Career Guidance Committee will ex-

pand its focus to incorporate workforce
development. This committee will work on

ways to implement mentoring programs, encourage ITE involvement, and addi-
tional avenues to provide training for

young professionals to aid in continued
growth and professional development.

Plans are currently underway to provide a

training track as part of the technical pro-

gram for the 2004 District 6 Annual Meet-

ing.

I want to thank all of the Board members,

Committee Chairs, LAC Chairs, Council Chairs, International Officers, Section Offi-
cers, and special guests who attended the ½
day workshop and the Mid-Year Board

meeting. Despite an overly long agenda,

this group stayed focused, provided great
concise reports, worked through all of the

items that needed attention, and even fin-

ished at 3:30 p.m.! Many thanks to all that

attended and participated at the meeting. It

was especially great to see so many Section

Officers and special guests taking an active

role in the District!
Mr. Dayton said. "He truly cared for people." He was 55.

He was found at his desk in the Public Works building on Garden Street, where he worked as the city's transportation and parking manager. He was taken to St. Francis Medical Center and was pronounced dead at 2:50 p.m.

Rob Dayton, the city's supervising transportation planner, worked with Mr. Gerth on various transportation projects for the last 11 years.

"He kept Santa Barbara safe on the road," Mr. Dayton said. "He was truly concerned about people's safety and made sure the system was running well and safe for the public."

The news shook up City Hall on Tuesday. About 3:30 p.m., when the City Council was about to take its usual break, City Administrator Jim Armstrong canceled the rest of the weekly meetings, telling the public that there had been "a death in the city family."

Mr. Gerth made frequent visits to public meetings speaking on behalf of various transportation and circulation projects.

He is credited for synchronizing traffic signals in Santa Barbara, allowing them to change according to the traffic flow instead of as individually timed signals.

It was his idea, Mr. Dayton said, to speed up mid-block pedestrian crossings on State Street, so that when pedestrians pushed the button, the light would change in about three seconds.

He also helped bring the Milpas roundabout to Santa Barbara. And this year the city is scheduled to start construction on the $17 million Granada Garage, behind the Granada Theater and across from the county Administration Building.

He also helped place speed cushions to slow traffic on Ontare Road, and then agreed to remove them after residents on nearby streets complained.

"He was an excellent human being," Mr. Dayton said. "He truly cared for people."

Away from City Hall, Mr. Gerth's wife, Kim Gerth, said he had one true passion.

"He loved to fish," she said.

He used to take his boat out to Anacapa Island and fish, she said.

When he wasn't fishing, he enjoyed his other hobbies, including appreciating classic British cars, she said. He loved to travel and he hoped to retire in Canada, she said.

Colleagues remembered him as a manager who said what was on his mind.

"He was never afraid to tell you his professional opinion, even if he knew you disagreed with it," said Councilman Gregg Hart. "That's pretty rare."

He described him as a pioneer and innovator when it comes to traffic flow and circulation.

Don Olson, special projects manager and a veteran city employee who knew Mr. Gerth well, said he had a sharp mind.

"He stuck to his guns and his opinions even if he was at odds with the more politically correct," Mr. Olson said.

Mr. Gerth was born in Astoria, N.Y. and worked as traffic engineer for the city of Columbia (ICBC). And he hoped to retire in Canada, she said. He loved to travel to British cars, she said. He was taken to St. Francis Medical Center and was pronounced dead at 2:50 p.m.

Rob Dayton, the city's supervising transportation planner, worked with Mr. Gerth on various transportation projects for the last 11 years.

"He kept Santa Barbara safe on the road," Mr. Dayton said. "He was truly concerned about people's safety and made sure the system was running well and safe for the public."

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Mr. Gerth made frequent visits to public meetings speaking on behalf of various transportation and circulation projects.
Support Tim Harpst,
Candidate for International Vice President

Tim Harpst, with the City of Salt Lake City, and former District 6 President and International Director, needs your support for his campaign to be elected International Vice President of ITE. Our district greatly benefits from having international leadership intimately aware of our issues, so when

your ballot arrives, please don’t set it aside. Immediately fill it out and return it so your vote can be counted!

Remember, Tim can’t win unless he gets your votes!

District 6 Membership Important

By Dave Butzier, Membership Chairman

It’s that time of year to start thinking about renewing your ITE membership. Not only should you renew your own membership, but you should also think about recruiting your friends and colleagues that would benefit from membership. As a member of the Institute of Transportation Engineers, you will enjoy a wide range of valuable benefits including the ITE Journal, WesternITE, significant member discounts on meeting registrations and technical publications, unrestricted access to ITE’s powerful web site, as well as networking opportunities within your Chapter, your Section, District 6, or at the International level.

A few of the opportunities you should take advantage of in the upcoming year are:

- **Membership in Area-of-Practice Councils**—There are now eleven Councils staying on the cutting-edge of issues of immediate relevance to many of our every day professional lives. Pick one and try it out, if you haven’t already. The two newest ones are the Pedestrian and Bicycle Council and the Parking Council.

- **The ITE Journal**—To keep you abreast of what is happening in transportation around the world with authoritative technical articles on issues of vital importance to all of us.

- **The WesternITE Newsletter**—This award-winning newsletter published semimonthly by District 6, keeps you up to date on what is happening in the Western part of the US, as well as keeping us in touch with the Institute and our officers.

- **ITE’s Web site, www.ite.org**—Allows you access to a wealth of information, technical resources and great networking opportunities with colleagues in transportation from all over the world.

- **Annual Meetings**—The joint District 6-International Annual Meeting in Seattle, August 24-27, 2003. This meeting will have dynamic technical papers, technical tours, and professional development seminars available. It will also provide great opportunities to network with colleagues and friends in your field.

- **Publications and Technical Reports**—Be among the first to receive word of new publications and reports, as they are added to the more than 550 publications distributed by the ITE Book Store. Members also benefit from substantial discounts on the publication purchases.

These are just a few of the services and benefits available to you as a member of ITE. But we need your help to keep ITE growing. First, by renewing your own membership and commitment to ITE. Second, by sharing with your friends and colleagues who are not members yet, the many benefits and services of ITE. They are much more likely to join an organization such as ITE if a friend or colleague invites them to a Chapter or Section meeting at the local level, so they can start to see the opportunities that ITE provides.

For our friends that work in the public sector around the country, ITE also offers a special program called Agency Membership, which provides discounts to members of agencies with as few as five joining ITE. It provides discounts on the membership dues themselves, as well as script to assist with purchase of ITE publications for those agencies. This is a great way to encourage participation by all sectors of the transportation community, and makes ITE a stronger organization.

See the New Website Today!

The new District 6 Web site is up and running! In addition to the completely redesigned, attractive artwork, the site features an improved structure and navigation aids to make it easy to find what you need. It also has new interactive features, such as the Technical Board, where you can post questions, provide input to discussions, participate in polls (currently “In 10 years, where do you think our primary transportation funding will come from?”), and interact with authors of articles and District 6 compendium papers. You can also see who else is online with you, and communicate with them directly via a messaging program. The “Tech Board” will inform you via email if discussion is added regarding a topic of interest to you. The site also shows usage statistics, such as the number of visitors and postings.

Westernite.org will also be integrated with a credit card processing system to allow online registration for the District 6 Annual Meeting.

The new Web site will be a continually updated resource for our members. Please visit soon, bookmark it, and make it a habit to regularly check what’s new!
Section and Chapter Activities

San Francisco Bay Area

January meeting
The January meeting was held at the Silver Dragon Restaurant in Oakland, California, on the 16th. Life membership status was bestowed on Mark Rand, ITE member since 1967, formerly with the City and County of San Francisco, and on Bill Van Gelder, ITE member since 1958, formerly with the Yale Bureau of Highway and Traffic and the City of Pleasanton.

The President reported that other Bay Area Section activities include work on a comprehensive guidebook of innovative engineering techniques for the School Safety Technical Committee, and planning for a half-day facilitative workshop concerning enforcement guidelines for the Traffic Circles Signs Committee.

Malcolm Quint, the Manager of the South Bay Planning Division for BART, presented “Planning for the Future at BART.” Work began on the BART system in 1970. Thirty-three years later, BART is an essential element in the Bay Area’s transportation system. Furthest out on the planning horizon are such projects as an aerial gondola connecting the island of Alameda to the existing West Oakland BART station, adding a new stop at Jack London Square in Oakland, and adding a new underground stop at 30th Street in between two existing stops within San Francisco. Projects in the mid-range planning horizon include extending BART north from Richmond along the I-80 corridor to Hercules, east along the I-580 corridor to Almont, east along I-680, and east along State Route 4 to downtown Pittsburg. Other possible improvements in the mid-range planning stages are a connection to the Trans-Bay Terminal in downtown San Francisco and a South Bay crossing. BART extensions nearest on the planning horizon include a southward extension from Fremont to Warm Springs, a connection from Warm Springs to the San Jose Caltrain terminal with many intermodal opportunities, and a people mover to serve as an

Oakland Airport connector. The San Francisco airport extension, including extension of BART south to Milbrae, will soon begin the testing phase and is scheduled for opening within the next few months. A lively question-and-answer session followed the presentation.

Respectfully submitted,
Rachel Donovan, Scribe

Washington State

November Meeting
The 54 members and guests who attended the November 12 meeting at the Best Western Bellevue Inn enjoyed a social hour before being treated to good food. As the meal concluded, Section President Mark Madden opened the business discussion with a welcome and update of upcoming activities.

Mark introduced Gary Costa, Section’s Vice President / Treasurer, and thanked him for his excellent effort in completing and distributing the 2003 Washington Section directory. The directory has been greatly enhanced over previous editions in quality and in information. Gary thanked the many consulting firms who made the enhancements possible with their purchase of advertising space within the directory.

Thanks and appreciation were also offered to each of the many individual members who are serving in various capacities helping the section’s many business, educational, and social activities.

The Section’s Secretary, Torsten Lineau, noted that abstracts were still being accepted for presentations at the February, 2003, ITE Quad-Section meeting in Victoria, B.C. and urged Washington State members to participate at the meeting with attendance and presentations. The group was also given a reminder and an update to the preparations for the ITE 2003 Annual Meeting and Exhibit / District 6 Annual Meeting to be hosted by the Washington State Section August 24-27 2003 in the “Emerald City.”

Gary Costa introduced the technical presentation, on GPS’ potential for congestion pricing. Seattle’s Metropolitan Planning Organization, the Puget Sound Regional Council (PSRC), has recently been granted $1.9 Million in TEA-21 funds for this major analysis. The effort will be a first in many aspects. Because GPS is a new technology being applied to a new theater (automobiles) for an extremely sensitive subject (congestion pricing), the analysis primarily developed behavioral data to use in future efforts which may actually implement a congestion pricing scheme. This effort will utilize volunteers and simulated payment penalties to develop behavioral feedback. The work will also be beneficial in exploring the technical reliability of the GPS tracking and monitoring systems.

King Cushman and Matt Kitchen of the PSRC detailed the project to the ITE group in great detail and fielded a multitude of questions. They provided a history of the congestion pricing concept in Washington and noted the extreme popular sensitivity of the theory. In spite of strong grass-root resistance to congestion pricing in Washington, the concept has survived and is specifically adopted into the new “Destination 2030” regional transportation plan. Mr. Cushman noted, optimistically, that the recent election defeat of the State’s transportation Referendum-51 presented a great opportunity to advance congestion pricing as an alternative to constructing additional network capacity. The State was now forced to further explore alternatives such as congestion pricing not just as a traffic system management tool, but potentially as an alternative method of revenue generation for system construction.

The potential benefits of the effort are to reveal strategies allowing for better facility management, find ways to integrate technologies as transportation management tools, discover successful marketing strategies, and develop the data sufficient to be an analytical benefit for future implementation efforts. It was pointed out that the study was just beginning and would not be collecting behavioral data for another year. The formative stage of the project made it very difficult to satisfy the many questions put to Mr. Cushman and Mr. Kitchen. They provided as much discussion of the issues as possible and then referred the desire for additional information to the PSRC web site.
December meeting
The December breakfast meeting and training session was held on the 10th at the Bellevue West Coast Hotel. Sixty members were in attendance. Forty-seven stayed for the remainder of the morning to participate in traffic signal operations training.

Section President Mark Madden (KDD & Associates) reviewed the arrangements and program for the upcoming ITE Quad Section Conference to be held in Victoria, B.C., in February. The Section’s Vice President/Treasurer Gary Costa (City of Issaquah) then introduced the technical presentation and speakers.

Both the City of Seattle and the City of Bellevue have been in the process of installing a new and upgraded central traffic signal operational system in the past few years. The presentation consisted of a review of these two efforts. The first presentation reviewed Seattle’s nearly completed central signal system (CSS) upgrade and relocation. Brian Kemper, the City of Seattle’s Manager of Signal Operations and Maintenance, told the ITE group that it has been a busy year in the City’s Department of Transportation. The effort was a design/build undertaking, building a new Traffic Management Center in a new building, bringing in cameras, and a new generation of traffic signal equipment. The new system replaces the older NEMA, twisted pair, 1,200 baud UTCS (Urban Traffic Control System) with a new PC based, 16 phase, NEMA, 19,200 baud system. The new system utilizes the same communication media to communicate to the 400 (of 1,000) Seattle traffic signals now part of the central system, all of which are in the CBD.

Mr. Kemper noted that the benefits of their CSS included the increased baud rate allowing real-time status and quicker up/downloading, the ability to utilize the full capabilities of the controllers and detection, easy monitoring of timing changes, integration with Synchro models, and the city’s considerably enhanced and Windows-based TMC. The system is capable of supporting future CCTV, VMS, and adaptive traffic control software. The City will install its large wall displays next month, as construction and relocation are nearing completion. It was noted that SDOT purchased the new system because the existing UTCS was not communicating reliably, and that it was becoming difficult to replace components or to expand the system for many reasons, including parts availability. Other considerations included that the old controllers were becoming unstable, and that the existing TMC equipment was probably not stable enough to be relocated to the City’s new home in the Kay Tower Building.

Details were provided to the audience regarding the TMC and communications system relocation project. Careful sequencing of the rerouting, cabling, construction of duplicate systems, relocation, and switching has been necessary to keep the vital coordination routines functioning during the project. Seattle’s great need for signal management to assist with peak demands, downtown special events, the ferryboat system, the Seattle Center, and incidents could not be interrupted without causing a significant negative impact on CBD transportation.

Dirk Mitchell, Traffic Engineering Manager at the City of Bellevue, presented a review of that city’s newly upgraded traffic signal central system. Dirk pointed to the contributions of both Fred Liang and Mike Whitaker in making Bellevue’s system extremely successful. The system uses 16 CCTV in the city’s highest volume areas. It is a traffic responsive system integrated closely with police and camera observations for manual over-ride and plan alterations, currently polling 140 of the City’s 165 traffic signals once per second; and uses one system detector in each section for feedback, allowing those sections to add/drop intersections and even manipulate temporary split changes if needed. Staff has developed a city-wide Synchro model and applies it in conjunction with SimTraffic to anticipate difficulties and prepare system timing schemes. Bellevue’s success can be attributable to both great system design and to the strong support and management provided by the professional staff.

The majority of the attendees stayed to participate in a forum on traffic signal design and timing practices. A half-day technical training session is a tradition of the December ITE meeting. The training was facilitated by Mr. Stanley M.O.T. Ching, P.E. The forum produced a lively professional exchange on several traffic signal operational issues, including PPLT, left-turn yellow trap, dilemma zone, flashing operation, detector placements, and more. There were several lively discussions on design options and practices, resulting in a very successful educational session.

January Meeting
The West Coast Bellevue Hotel hosted the Washington State ITE Section’s breakfast meeting on Tuesday January 15th. In keeping with tradition for the first meeting of the year, a half-day training session was also offered as a supplement to the business meeting. The combination of breakfast, business, technical presentation, training, and good company drew seventy transportation professionals to Bellevue for the early morning meeting.

Section Vice-President Mark Madden introduced Mr. Victor Salemann of Earth Tech to give an overview of the meeting’s technical presentation. Earth Tech’s Victoria, BC office has been the primary consultant on the Insurance Corporation of British Columbia’s (ICBC) innovative “Safety City Project.” Mr. Salemann presented the ICBC’s Mr. Kelvin Roberts, program manager for the Safety Conscious Planning Initiative and the Safer Cities pilot project deployed in and around the City of Kamloops, British Columbia.

The ICBC is the public auto insurer of the Province and has been provided with the legal authority to integrate its efforts into the management and funding of accident reduction measures. The ICBC therefore has a direct vested interest in developing and implementing such measures. Under Canadian law and the ability to fund 50% of road safety improvement costs, the agency has both the authority and leverage to manage long-term and comprehensive endeavors. The Safety City Project (SCP) is an excellent example of success utilizing the comprehensive ICBC project management model.

The Safer Cities Initiative seeks to apply safety conscious planning to establish inherently safe road networks; or at least, networks which operate more safely than they would have without the application of safety considerations early in the planning and design stages. The ICBC, like most agencies, operates programs targeting improvements at high accident locations. The SCP goes beyond the primary “black spots” in the system and targets a secondary and more subtle tier of accident contributors, factors often embedded in the inter-relationships of network, land use, access control, and roadside feature designs.

**Attention Scribes:**
Publication Deadline

The deadline for submitting Scribe reports is the 25th of the odd-numbered month prior to the date of the issue. For example, Scribe reports are due by March 25th for publication in the May-June issue.
A key in the SCP is the power and persuasiveness provided to the ICBC by the large database of accident patterns. The agency has also developed their own very sophisticated GIS-based analysis tools which, along with many other aspects, quantify the crash reduction potential of alternative land use and highway designs. With this data, safety considerations can be evaluated in the pre-design stage of land use development proposals. The SCP has already demonstrated that planning level contributions do in fact influence the final road safety environment. Planning decisions directly influence volume distribution, trip distance, mode split, traffic mix, and the design and shape of the network itself.

The agency plays a central role in coordinating a comprehensive effort involving not just the 3E factors (education, engineering, and enforcement), but also involves the communities (schools, neighborhood groups), land use planners, developers, utilities and transit. The SCP is a holistic approach that successfully orchestrates a wide array of stakeholder organizations. It has created an effective safety process emphasizing contributions in the planning stage to influence operational safety of the road system. Although the experiment is still evolving, it has already demonstrated something very different, an integrated process building sustainable crash reduction measures as a new part of a comprehensive effort to improve highway safety. The audience was most appreciative of Mr. Roberts’ impressive presentation.

The Section’s annual January technical training session followed the conclusion of the regular meeting. The session, “Traffic Signal Training,” was led by Stan Ching (Parsons Brinckerhoff) and attended by a capacity group of forty. The session reviewed a wide variety of signal design and construction issues. It concluded with a very informative interactive session featuring comparisons between agency signal design standards and the logic behind local design and signal construction procedures.

Respectfully submitted,
Dave Alm, Scribe

December Meeting

A luncheon was held on December 6, 2002 in Denver, Colorado at the Westin Tabor Center Hotel. Section President, Alex Arinello, presided over the meeting that was attended by over 65 members and guests. Alex thanked everyone for coming to the meeting. After committee reports, Gene Wilson, retired Transportation Engineering Professor from the University of Wyoming was introduced to discuss the status of the relatively new Professional Traffic Operations Engineer (PTOE) registration program.

Gene informed those in attendance that a pre-test and the test for PTOE is now available on-line. Response has been good around the country and he is encouraging eligible people to take advantage of the program.

A major announcement was that Bob Kochevar was selected as the recipient of the Colorado-Wyoming Section’s Lifetime Achievement Award. Several attendees of the luncheon, including the main speaker, Gene Wilson, were past recipients of this award. A full description of Bob’s award follows this summary.

The Colorado/Wyoming Section contact is Alex Arinello at LSC Transportation Consultants, Inc., 303-333-1105; aja@lscden.com. Also, please visit our section’s website at www.cowyite.org.

Bob Kochevar Receives the 2002 Lifetime Achievement Award

Robert A. Kochevar was selected as the 2002 recipient of the Colorado-Wyoming Section’s Lifetime Achievement Award. The award was presented at the December 6th section meeting, Nazir Lalani, a past president of the Colorado/Wyoming Section and past International President, flew in from California and helped make the presentation. Bob is currently the Director of Transportation Engineering and Operations for the City and County of Denver where he been instrumental in developing numerous traffic engineering and safety improvement projects. Bob has been very active at all levels of ITE and received the District 6 Individual Achievement Award in 2001.

Congratulations, Bob!

Colorado/Wyoming Section

January meeting

A luncheon meeting for the members and guests of the Colorado/Wyoming Section of ITE was held on January 24, 2003 in Arvada, Colorado at the Arvada Center. Section President, Alex Arinello, presided over the meeting that was attended by nearly 100 members and guests. Alex thanked everyone for attending the meeting. Committee reports included Nate Larson’s report on a Spring Symposium to be held jointly with WTS and our Section on April 4th. Members are also planning a ski trip to Winter Park on the Ski Train from Union Station in Denver on March 1st.

Chris Fashing, Scholarship Committee Chair, announced the four recipients of scholarships for 2003 as follows:

- Darren Bartels (University of Colorado – Denver) $250
- Jamie Wagoner (Colorado School of Mines) $500
- Shadi Hakimi (University of Colorado – Denver) $500
- Rich Fulmer (University of Colorado – Denver) $1,000

Congratulations to all deserving recipients of these scholarships from Colorado/Wyoming ITE.

Jay Heffelfinger, IMSA representative, announced the upcoming IMSA Training/Certifications Tests to be held on February 14th. Signs and Markings and Work Zone Traffic Control were among the items to be offered. A national IMSA meeting will be held in Denver at the Marriott–Tech Center, July 16-23, 2004.

Alex announced the program, which is known as the annual "Vendor Show" for the Colorado/Wyoming Section. Vendor organizations were self-introduced and each gave a short presentation about their company’s products and services. Many of the guests included factory representatives who were available for questions during the meeting. Vendors at the show included

Rose Lee Cunningham

Rose Lee Cunningham, with JTB Supply, recently passed away due to cancer. For those of you who knew her, she was an active member of ITE and enthusiastically supported the organization. She will greatly be missed.

Robert Kochevar receives his section’s Lifetime Achievement Award from Nazir Lalani.
the following:
- Skyline Products
- AM Signal
- MH Lighting
- Ameron Poles
- Signal Controls
- Omgor-Smith
- Intuicom
- Gades Sales
- Tabormatics
- WL Contractors
- All Traffic Data
- Econolite
- Baxall USA
- Viking
- Advanced Traffic Products
- 3M
- Western Belle
- Integrated Electric

February Meeting
A luncheon was held on February 28, 2003 in Loveland, Colorado at the Sylvan Dale Guest Ranch. A tour of the City of Loveland Traffic Division was attended by over 45 Colorado/Wyoming ITE Section members and guests prior to the luncheon. Three members of the Student Chapter from the University of Wyoming were present with their leader Lacey Cokeman. The Student Section has 20 active members at this time.

Section President, Alex Arinello, presided over the meeting that was attended by 82 members and guests. Alex thanked everyone for attending the meeting. Committee reports included Nate Larson’s report on the Spring Symposium to be held jointly with WTS on April 4th at the Raddison Denver–South Hotel in the Denver Tech Center. Members are also planning a ski trip to Winter Park on the Ski Train from Union Station in Denver on March 1st.

Candidates for ITE International Vice President were introduced by Alex and given time for campaign speeches. Mark Shaffer spoke for Don Henderson, who was unable to attend. He highlighted Don’s messages including the need to get more than 30% of the 16,000 members of ITE to vote in ITE elections.

Tim Harpst, the other candidate for International Vice President, was present and spoke regarding his campaign platform. If elected, he would work for Membership Services, Workforce Development, Mentoring Programs, and Public Relations.

Chris Fashing, section member from FHU Engineering in Denver; and Rick Gabel, Region IV North Program Engineer for the Colorado Department of Transportation (CDOT) in Greeley; were the guest speakers. They presented an excellent program that highlighted work they had completed on the US 34 Corridor from I-25 in Loveland to Kersey, which is east of Greeley.

Two plans were completed back to back and are efforts to respond to the tremendous amount of pressure being placed on the corridor by development and growth in area travel. The first is a new US 34 Corridor Access Control Plan. The other is a Corridor Optimization Plan for US 34, it is the first one ever produced in Colorado at the request of CDOT’s Highway Commissioners.

Technical and policy committees from local jurisdictions were included in the process for many meetings over the last 2 years. The results of the US 34 Access Control Plan will be intergovernmental agreements with local agencies and CDOT that will set access points including 10 future grade-separated interchanges along the corridor. The Corridor Optimization Plan lays the groundwork for improvements in the corridor and adjacent roadways affecting US 34. It included widening US 34 to 6 lanes and called for major arterial improvements to parallel roadways.

The Colorado/Wyoming Section contact is Alex Arinello at LSC Transportation Consultants, Inc., 303-333-1105; aja@lscden.com. Also, please visit our section’s website at www.cowyite.org.

Respectfully submitted,
William A. Hange, Jr, PE
Scribe

www.westernite.org
Last Month’s Winner

Congratulations to Bijan Vaziri, City Traffic Engineer for Beverly Hills, California, who was the first person to email the correct answer to last month’s contest. Alex correctly spotted me, the new managing editor, three times in the September-October 2002 issue’s collage.

Correction

The January-February issue incorrectly identified Dr. Jodi Carson as being affiliated with the University of Montana, instead of Montana State University.

Access Design and Management Course
Offered by the U.C. Berkeley Institute of Transportation Studies (Course TE-11, 1.6 CEU)

Traffic congestion and safety on local streets and highways can be worsened or improved by how vehicles “access”—enter, leave, or cross—the travel lanes from a specific site. How traffic circulates on-site (e.g., in the parking lot) also has an important relationship to the efficient design and management of street and highway access. This course provides a sound technical basis for engineers and planners who work with traffic access and circulation associated with various types of developments in their communities. The course emphasizes good practices in California and elsewhere, as well as addressing issues relevant for office, commercial, and residential developments. The course also provides hands-on training in how to develop/use traffic impact studies for new development.

Topics include:
- Effective driveway and intersection design
- Drop-off/pick-up areas
- Safe design of conflict points and areas
- Drive-thru facilities
- Queuing area and parking lot design
- Truck and transit access design
- Internal street configurations and controls
- Enhanced pedestrian and bicycle mobility and safety
- Emergency access
- Traffic mitigation fee programs and agreements
- Traffic thresholds and problem mitigation strategies
- Site plan and traffic impact studies for new developments

What Students Will Learn:
Students will learn how to design/manage safe, efficient means to move traffic on, off, and around various types of business, commercial, and residential developments. Students will also learn how to prepare and use traffic impact studies for new developments.

Who Should Attend:
This course is designed for city/county engineers and planners who are involved in some aspects of local access design/management, including the design and review of traffic circulation plans and traffic impact studies, and/or local reviews of development projects. Practitioners will also benefit from the focus on good practice tools and techniques.

Instructors:
Nazir Lalani P.E., Principal Engineer, Traffic and Transportation Division of Transportation Department, Ventura County Public Works - Mr. Lalani has won many awards in traffic engineering and held positions in cities and counties for over 20 years. He is very active in ITE, and was past International President of ITE.

Philip Demosthenes, Access Program Administrator, Safety & Traffic Engineering Branch, Colorado Department of Highways – Mr. Demosthenes is a leading national authority on access management, with extensive experience in providing access management training to practitioners in various states. He is member of the TRB Committee on Access Management, and past Chair of the National Conferences on Access Management.

EDP: 485128

Date and Location:

Fees:
$200 for employees of CA public agencies; and $380 for all others.

To Register:
For on-line registration or registration form, go to www.its.berkeley.edu/techtransfer
To register using credit card: phone (510)642-4111, fax (510) 642-0374. To register using letter of authorization or purchase order: fax (510)642-3910, mailing address: Dept B, UC Berkeley Extension, 1995 University Ave., #7020, Berkeley, CA 94720-7020.

Sign of the Times

“Well, it finally happened!”
Submitted by Wulf Grote, Phoenix, AZ

Correction

The January-February issue incorrectly identified Dr. Jodi Carson as being affiliated with the University of Montana, instead of Montana State University.
**Positions Available**

**TKJM**

TKJM Transportation Consultants is seeking a full-time assistant transportation engineer for our Pleasanton, CA office. Requirements include: B.S. in Civil or Traffic Engineering (M.S. preferred or 2 years of experience), P.E. or EIT registration preferred, excellent communication skills, computer skills, traffic analysis software experience and field and operations experience with signals desirable. We offer competitive salary, health and 401(k) benefits. Please e-mail resume to rparshe@tkjm.com. TKJM is an Equal Opportunity Employer.

**KATZ, OKITSU & ASSOCIATES**

Katz, Okitsu & Associates is a specialized traffic and transportation engineering firm with offices throughout Southern California. We offer excellent salaries, competitive benefits, and a challenging and professional work environment. Currently we are accepting applications to fill openings for senior and associate traffic engineers, civil engineers and transportation planners in our Los Angeles, Tustin, San Bernardino, and San Diego offices. We have immediate openings for an Associate Engineer or Planner in our San Diego office, and for a Senior Engineer in our Los Angeles (Monterey Park) office.

**Senior Engineer:** The position requires a B.S. in Civil Engineering; P.E. or T.E., plus 10 years experience in traffic or transportation project management and knowledge of principles and standards for design of traffic facilities. Good oral and written presentation skills are necessary. The applicant should also demonstrate familiarity with design analysis and project management administrative software tools.

**Senior Transportation Planner:** Position requires a person with strong leadership skills to help develop and supervise a staff of professionals who prepare transportation studies for public & private projects. A B.S. or Master’s degree in city or regional planning, civil engineering, urban geography or related field plus advanced training in the transportation planning or traffic impact assessment. The applicant should have at least 10 yrs of experience in technical analysis, project management and supervision, plus good oral and written presentation skills. Certification from AICP is desirable.

**Associate Engineers/Associate Transportation Planners:** Positions requires a bachelor’s degree in Civil Engineering, Urban Planning or a related field, and five years of professional engineering or planning experience. Typical experience would include: project management, traffic analysis (including simulations), traffic design (including traffic signal, signing and striping, and street lighting design) and report preparation. Writing skills are a must. Position requires: B.S. Civil Engineer; P.E. or T.E., 10 years experience, preferably in traffic signal timing analysis. Please visit our website at www.katzokitsu.com for more information about the company and the positions. E-mail salary history with your resume and cover letter and address it to:Susan Grabiec at sgrabiec@katzokitsu.com with “Employment” in the subject line.

**CITY OF RIVERSIDE, CA**

**SENIOR TRAFFIC ENGINEER**—The City of Riverside seeks a Senior Traffic Engineer to work in the Traffic Engineering Division of the Public Works Dept. The Sr. Engineer will supervise a staff of technical and non-technical professionals in performing a variety of duties. These duties shall generally include supervising the administration of traffic signal design and construction, neighborhood traffic management issues, and traffic signal system coordination plans. This position involves advanced professional engineering and supervisory work and requires the exercise of independent judgment and initiative in scheduling and assigning work to other personnel. Any combination of experience and education equivalent to the following is qualifying. A BS Degree in civil or electrical engineering from an accredited college or university and 4 years of experience in professional traffic engineering work comparable to that of an Assistant/Associate Engineer in the City of Riverside, or a BS degree from an accredited college or university in a closely related area and 5 years of experience performing traffic engineering work. An MS degree in a field related to traffic engineering is highly desirable. Registration in California as a Professional Engineer is required for this position. Additional qualifying Professional Traffic Engineering experience may substitute for the required education on a year for year basis.

Salary: $5829 - 7089 per month plus excellent benefits. This position is open until filled.

APPLY TO: City of Riverside, Human Resources Dept., 3780 Market Street, Riverside, CA 92501. APPLY ONLINE AT www.ci.riverside.ca.us. For more info see our website or call 909-826-5808/909-826-2515 TDD.

**KING COUNTY, WA**

Install, maintain & operate traffic signal systems; conduct field observations, and implement timing plans for King County Dept. of Transportation, Traffic Section. For complete job announcement and application go to: http://www.metrokc.gov/ohrm/jobs/assets/2-10-03/02MD2771.pdf Closes 5/2/03.

**OREGON DOT**

Transportation Engineer 3 (Sign Engineer)—Professional Engineers possessing a comprehensive knowledge of traffic engineering and sign design principles are encouraged to consider this excellent opportunity in Salem. This position will plan and direct the most complex and intricate signing operational and design features on the state highway system including those of major facilities. You will serve as the staff advisor and expert witness on complex sign operation issues, policies, standards, regulations and statutes. Requires registration as a Professional Engineer (PE). See announcement for specific minimum qualifications and details. Negotiable annual salary up to $72,840 + excellent benefits. Call (503) 986-4030 (TTY 986-3854 for the hearing impaired) or visit:

www.westernite.org
TRAFFICWARE

Traffic Engineer Software Support—Trafficware is looking for a Traffic Engineer to assist with software testing and documentation, user technical support and training. Trafficware is the leading developer of traffic analysis and simulation software. This is a unique opportunity to work closely with the development of Synchro and SimTraffic, the most used tools for signal timing and simulation. The position gives an opportunity to work with traffic engineers all over the US.

The positions responsibilities include software testing, software documentation, and technical support through e-mail and telephone. The candidate will also be conducting training classes.

The ideal candidate has:

- Experience with Synchro, SimTraffic, CORSIM, HCS, and HCM.
- Experience working on traffic engineering projects including signal timing and simulation.
- Excellent written and verbal communication skills.
- Experience providing training.
- Ability to create professional reports and presentations.

Please e-mail resume to resumes@trafficware.com. Information about Trafficware is available at www.trafficware.com. This is a permanent, full-time position at our office in Albany CA (near Berkeley). Salary depends on experience, plus profit sharing.

RBF CONSULTING

RBF Consulting, a civil engineering and planning firm, has a current staff of over 650 professionals and is located in offices throughout California, Arizona and Nevada. Founded in 1944, RBF is a leader in the field of Transportation Engineering and Planning with a reputation founded upon a commitment to quality, professionalism, and continuing innovation.

Opportunities for Transportation/Traffic Project Engineers are available in our Irvine and Ontario, California offices. The position requires a BSCE, professional registration, and a minimum of 4 years of transportation engineering experience. Strong skills utilizing AutoCAD/Softdesk and/or Microstation/InRoads is preferred. Responsible for leading design and CADD production staff in the development and successful delivery of all technical work products, and designing highway and drainage plans, specifications, and estimates for city, county and state facilities.

RBF also has an opportunity for a Transportation Engineer/Planner in our Carlsbad, California office. The position requires a Bachelor’s degree in Planning or Civil Engineering, and 2-5 years of experience in the preparation of traffic impact and parking studies. Responsibilities include coordinating and analyzing peak hour turning counts, analyzing alternative land use scenarios and associated traffic impacts, conducting field reviews, and preparing documentation of existing conditions.

RBF offers an excellent compensation and benefits package including 401(k), profit sharing and bonus plans. Visit our website at www.rbf.com and send your resume to:

RBF Consulting
14725 Alton Parkway
Irvine, CA 92618
Fax: 949-472-8373
Email: hrmail@rbf.com

Transportation/PW Project Manager, Phoenix, Arizona—RBF also has an opportunity for a Transportation Project Manager to join our team. Position requires a minimum of 10 years of local Arizona transportation experience with ADOT, County, and City projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business. Responsibilities include the development and communication of projects, and the ability to develop new business.

March-April, 2003
Editor’s Corner

This issue of WesternITE features a carefully selected new typeface designed to maximize legibility and improve the attractiveness of the newsletter. I hope you will enjoy reading it. Also, I hope all our members will visit the new District 6 Web site at www.westernite.org. The Webmaster, Jon Pascal, has produced a site that not only is visually engaging, but also provides many new features. Westernite.org is now a true resource for the membership.

Legislative Update

by Walt Stringer, ITE District 6 Legislative Council Chair

As this column is prepared in late January, the California legislature is wrangling with a major budget issue that has halted project allocations statewide, and many other western state legislatures are in their brief annual sessions. By the time you read this many of the states in District 6 will have concluded their annual session, and we encourage Section Legislative Chairs, especially those outside California, to send a summary of transportation-related business and budgeting to me at 760-967-0941 or wstringer@nctd.org for inclusion in future issues of WesternITE. California transportation interests were, to put it mildly, shocked when the California Transportation Commission (in December) announced a blanket suspension of all project allocations due to a state budget deficit estimated at anywhere from $20 to $35 billion. Even though some state transportation funds are protected, or come from bond revenue earmarked for specific projects and counties, the State said that no allocations would occur until February, which caused the decision date to slip until the April 2 CTC meeting in Redding. In the interim a workshop was held in Sacramento on January 17, and CTC staff has been actively gathering short-term cash-flow information from project sponsors, in an effort to set priorities for the resumption of allocations. In the meantime, official estimates of the state deficit have begun to vary publicly, which further complicates the 'equation' for further decision-making. Many agencies with highway, transit, and other multimodal projects are now examining how long they can expend monies before the April meeting, which will be pivotal due to the duration of the suspension. Other affected statewide interests include education, prisons, various state departments, and a host of general-fund recipients large and small. Some budget reduction proposals have already been proposed by the Governor, including combining the California High-Speed Rail Authority into Caltrans to save administrative cost. We’ll continue the story next column, and many District 6 California agencies will no doubt be in attendance April 2, assuming the CTC is prepared to move forward then.

TRB Urban Street Symposium in Anaheim

The TRB 2nd Urban Street Symposium, co-sponsored by ITE, will be held in Anaheim, California on July 28-30, 2003. The symposium is intended to provide a forum for comparison and debate of alternative suburban/urban street design practices, document better suburban/urban street design practices, and transfer urban street research findings to state agencies and to local governments.

Technical tours:
- Redevelopment, roundabouts, and traffic management issues in Anaheim.
- Concurrent HOV lane operations and integration of LRT into arterial traffic control in Long Beach.
- ADA Accessibility and Roundabouts
- Context Sensitive Design (CSD)

The symposium will conclude with a Smart Growth debate between field experts Mr. Todd Litman and Mr. Wendell Cox.

Topics include:
- Urban street design
- Access management
- Learning from projects
- Context-sensitive design
- Transit/multimodal facilities

Workshops:
- Smart growth
- Ada accessibility and roundabouts
- Context sensitive design
- Urban street design practices
- Access management
- Learning from projects
- Context-sensitive design
- Transit/multimodal facilities

Registration information and the preliminary agenda are posted on the TRB website at: http://gulliver.trb.org/conferences/USS2. Advanced registration on a first-come-first-served basis is required for the tours and workshops, as space is limited.

John Kerenyi, Managing Editor

www.westernite.org
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Positions Available Ads:

To place your ad, e-mail your ad to pkoonce@kittelson.com. The deadline is the 28th of the previous odd-numbered month. The cost is $6.00 per line, 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.