



INSTITUTE OF TRANSPORTATION ENGINEERS

SOUTHERN CALIFORNIA SECTION

NEWSLETTER

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November 2018

President's Message

Josh McNeill, PE, TE



Dear ITE Southern California Members,

I would like to extend my gratitude to **Walter Okitsu** for his presentation, *Flashing Yellow Arrows and the "Virtual Yellow Trap"*. The flashing yellow arrow is supposed to provide all of the capacity advantages of a protective-permissive left turn operation without the "yellow trap". At the International ITE Meeting in August, Walter discovered that several agencies are reporting collisions related to a similar condition that for lack of a better term, he is calling the "virtual yellow trap". The presentation and the discussion that followed provided a great perspective on this problem and ways we can remedy it. If you think you have a better name for the problem or better yet, another fix, please share your thoughts on the ITE Traffic Engineering Council Forum <https://community.ite.org/home>.

Since his retirement, former International ITE President **Zaki Mustafa** has dedicated much of his time to his charity, "Jackets for the Homeless". Many ITE members have donated generously, and as a result helped keep people warm during tough times in the cold months. On November 10th we will be donating jackets to the Santa Ana Courtyard Shelter. The donations were made in the loving memory of **Robert W. Crommelin**. Unfortunately, I never had the pleasure to meet Robert, but I have heard a lot about his contributions to ITE. As such, I would like to use the rest of my message to pay tribute to him.



Robert practiced traffic engineering since joining ITE in January 1951. His employment included work with the California Division of Highways; the cities of Richmond, San Leandro and Hayward, CA; Wilbur Smith and Associates; and Robert Crommelin and Associates Inc. He was in the inaugural class of the Professional Traffic Operations Engineer™ (PTOE) certification program. Bob's professional contributions have had a positive impact on the safety and mobility of his home state of California, and he continued to serve his chosen profession after more than 62 years.

Bob was an active participant at the section, district and international levels of ITE. He served ITE in leadership roles as the chairman of the San Francisco Bay (1959) and Los Angeles (1969–70) Sections, President of the Western District (1975–1976), Founding Member of the Consultants Council, and Chairman of the Membership Committee. He was a Delegate to ITE's Constitutional Convention and Program Development Conference. In addition, Bob served on numerous ITE technical committees. His commitment to continuing professional development was evidenced in his consistent participation in technical sessions at ITE meetings and conferences.

Bob served his country during the Korean War and continued in the U.S. Army Reserve for a total of 30 years, retiring as a Colonel in 1980. Even in his military assignments, Bob was able to use his transportation knowledge and skills. Specifically, his last 11 years of service were spent as the Senior Mobilization Designee Officer whereas, should he have been deployed, he would have served as the liaison between the U.S. Department of Defense and the U.S. Department of Transportation. Bob was the recipient of the 2002 Western District Lifetime Achievement award and was the 2003 International Honorary Award Member. Always there when called upon, he also was a benefactor of the Student Fund.

Also, our next meeting is our Joint Meeting with Riverside-San Bernardino ITE (RSBITE) on **November 14th from 11:30am to 1:00pm at the Restaurant at Kellogg Ranch**. Rock Miller, PE, PTOE will be presenting on "Safety Liability and the MUTCD in a Changing World". I would like to thank our newsletter sponsors **CUBIC/Trafficware** and **Iteris**, and our November Meeting sponsors **CUBIC/Trafficware** and **Advantec**.

Upcoming ITE-SoCal Events

Joint Meeting with Riverside-San Bernardino ITE

Wednesday, November 14,
11:30 AM to 1:00 PM

The Restaurant at Kellogg Ranch
(Cal Poly Pomona)
EVENT SOLD OUT!

Joint ITE-SoCal/OCTEC/RSBITE Holiday Mixer

Wednesday, December 5,
4:30 PM to 8:30 PM
Knott's Berry Farm Hotel
(Buena Park)

https://2018_holiday_mixer.eventbrite.com

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Brief Look Ahead

Friday, March 29, 2019, **ASCE California Infrastructure Symposium and Awards Dinner** at San Diego Convention Center, www.caisregion9.org

Saturday, June 22 to Wednesday, June 26, 2019, **ITE Western District Annual Meeting** at Hyatt Regency in Monterey, www.westernite.org (Abstract Deadline: December 21, 2018) (see Ad)

Sunday, July 21 to Wednesday, July 24, 2019, **ITE International Annual Meeting and Exhibit** in Austin, Texas, www.ite.org (Abstract Deadline: Tuesday, November 27, 2018)

Election Results

SB 1 Survives! Prop 6 is Defeated!

Transportation California is pleased to announce that SB 1 has survived, and Prop 6 was defeated. The campaign was creative and ambitious, involving an extensive coalition of transportation advocates. Roger Dickinson is a Former Legislator and the Current Executive Director of Transportation California. On Halloween Night, his daughter dressed up as a witch with the tagline, "This witch hates Prop. 6!", as she handed out "No on 6" bumper stickers. Once Transportation California learned of the successful defeat of Prop. 6, Executive Director Dickinson issued the following statement on behalf of the organization:

"We are extremely gratified that California voters have rejected the attempt to reverse the critical investment of \$52 billion in the next 10 years in our transportation system approved by the Legislature and the Governor last year. This investment is already at work through 6500 projects protecting public safety, filling potholes, improving public transit, creating jobs, growing our economy, and cleaning our air."

"Transportation California has advocated for three decades on behalf of greater investment in our transportation system and improved mobility for people and goods in California." For more information on Transportation California, please visit www.transportationca.com.

State Candidates

Office	Winner	%
Governor	Gavin Newsom	59%
Lieutenant Governor	Eleni Kounalakis	56%
Secretary of State	Alex Padilla	62%
Controller	Betty Yee	63%
Treasurer	Fiona Ma	61%
Attorney General	Xavier Becerra	61%
Insurance Commissioner	Ricardo Lara	51%
Superintendent of Public Instruction	Marshall Tuck	51%
	Republican	Democrat
		None

>50% is a Win. Insurance Commissioner and Superintendent of Public Instruction Races may be too close to call as above results are based on around 95% of the Precincts Reporting.

State Propositions

No	Title on Ballot	% Yes
1	"Authorizes Bonds to Fund Specified Housing Assistance Programs"	54%
2	"Authorizes Bonds to Fund Existing Housing Program for Individuals with Mental Illness"	61%
3	"Authorizes Bonds to Fund Projects for Water Supply and Quality, Watershed, Fish, Wildlife, Water Conveyance, and Groundwater Sustainability and Storage"	48%
4	"Authorizes Bonds Funding Construction at Hospitals providing Children's Health Care"	61%
5	"Changes Requirements for Certain Property Owners to Transfer their Property Tax Base to Replacement Property"	42%
6	"Eliminates Certain Road Repair and Transportation Funding; Requires Certain Fuel Taxes and Vehicle Fees be Approved by the Electorate"	45%
7	"Conforms California Daylight Savings Time to Federal Law; Allows Legislation to Change Daylight Savings Time Period"	60%
8	"Regulates Amounts Outpatient Kidney Dialysis Clinics Charge for Dialysis Treatment"	38%
10	"Expands Local Governments' Authority to Enact Rent Control on Residential Property"	38%
11	"Requires Private-Sector Emergency Ambulance Employees to Remain On-Call During Work Breaks; Eliminates Certain Employer Liability"	60%
12	"Establishes New Standards for Confinement of Specified Farm Animals; Bans Sale of Non-Complying Products"	61%
	PASS (>50%)	
	FAIL (<50%)	

Source: KCRA Channel 3 (Sacramento) <https://www.kcra.com/article/2018-full-california-midterm-election-results/24366539>

Accessed: November 7, 2018, 7:23 AM

Prop 10 was also a controversial issue, especially at Sacramento City Council Meetings that lasted over 5 hours with around 80 public comment participants total, relatively evenly represented on both sides of the issue. Until recently, Sacramento had the highest increase in rent in the nation due to the lack of new housing construction. Proponents said it will continue to escalate Sacramento's homeless population. Opponents said that the lack of new housing construction is the reason for the exorbitant rent increase, and a "Yes" vote will further escalate this trend by discouraging new residential development.

Scribe Report

Jonathan Delgado (Advantec)

The Joint October Luncheon Meeting with OCTEC for ITE Southern California 2018 was held on Thursday, October 25, 2018, at the Orange County Mining Company in Orange. The meeting had a presentation given by **Walter Okitsu**, Principal at KOA Corporation and one of the founders of the firm.



Walter Okitsu of KOA Corporation presents *Flashing Yellow Arrows and the Virtual Yellow Trap* (Photo Credit: Jonathan Delgado)

Before the main presentation began, a few announcements were made at the meeting. **Advantec Consulting Engineers** was the OCTEC Lunch Sponsor and **Leo Lee**, CEO and founder of the company, gave a quick presentation of the company and various projects that the firm has worked on. He highlighted that the company has more than 20 years of experience, that it was the first company in the Southern California region to do a traffic signal synchronization project, and that it just recently opened a new office in Palm Desert. Next, **Iteris** was the ITE Lunch Sponsor and **Alicia Yang** gave a quick presentation about the I-405 project taking place. She spoke about the iPeMS application on freeway detours and how it can be used to show closures on the I-405 during the project, as well as vehicle delay.

After both lunch sponsors gave their presentations, Walter Okitsu gave his presentation called *Flashing Yellow Arrows and the "Virtual Yellow Trap"*. He first went over the basics of how left turn lanes can be signalized, including protected left turns, permissive left turns, and protected-permissive left turns (PPLT). Motorists first receive a protected left arrow indication, and then after its disappearance, they can still turn left during a circular green indication pending gap

sufficiency in the opposing thru traffic stream. However, yellow traps occur when vehicles attempting a left turn see the yellow phase and think that the oncoming thru traffic will stop on a red, when in reality the opposing thru traffic could still have a solid green indication. This is where collisions can occur as the thru vehicle strikes the opposing left turning vehicle. Agencies often try to counter these collisions from occurring by making left turns protected or placing false calls on the side street. Instead, flashing yellow arrows can be used to guide these left turning vehicles by letting them know when they can safely make the desired left turn.

Mr. Okitsu stated that flashing yellow arrow signals, if interpreted correctly by the public, are a better solution for handling left turning traffic. Multiple Southern California cities have implemented flashing yellow arrow signal heads including Fullerton, Pasadena, Torrance, and Long Beach. Walter then spoke about "virtual yellow traps" whereby motorists could see a circular yellow on an adjacent signal head and associate it with the end of their own flashing yellow, thinking that it is safe for them to make a left turn on the yellow phase when the opposing through movement could still have a green phase. This can be countered by not installing so many mast arm heads for the through movement. Instead of having a separate signal head for each lane, one signal head could be installed in the middle of two lanes. Louvers, shields, and visors can also be installed on the through signal heads, so that vehicles making a left turn do not see the phases on these signal heads.

Overall, the joint luncheon meeting with OCTEC was a huge success where members of both organizations were able to socialize with each other while enjoying the entertaining atmosphere of the Orange County Mining Company. The next meeting will be a joint meeting held with the Riverside-San Bernardino ITE Section at the Restaurant at Kellogg Ranch at Cal Poly Pomona on Wednesday, November 14, 2018. As of the date of this Newsletter, this meeting is sold out. Registration for the December Holiday Mixer is currently open.

A Final Push for No on 6

David M. Schwegel, PE (Precision Civil Engineering)

Editor's Note: While ITE SoCal has not adopted an official position on Proposition 6, this measure has been identified as one with a potentially significant impact on the profession with over 600 organizations adopting an "oppose" position. This article is being included as a courtesy to the ITE SoCal Membership to provide background information on this controversial measure.

On Tuesday, November 6, California voters overwhelming approved Proposition 6. Here is information on one of the Fix Our Roads Coalition's final

efforts to gather opposition for this measure. A more recent Rally took place on Tuesday, October 30 with Los Angeles Mayor Eric Garcetti and Move LA (www.moveLA.org) at the North Hollywood Metro Station. Move LA Executive Director even sent out a reminder email around noon on Election Day to let voters know that “there is still time to vote No on 6”.

On Monday, October 22, the Fix Our Roads Coalition held a Rally in Capitol Park in Sacramento as one of their final pushes for their ‘No on 6’ Campaign (<http://noprop6.com>). In April 2017, the Legislature passed, and Governor Jerry Brown signed into law, Senate Bill 1 (SB 1) – The Road Repair and Accountability Act of 2017. This bill raises the gas tax for the first time since 1994 to allocate \$54 billion for roadway repair and expansion projects along with commuter rail and mass transit projects. Around the same time as SB 1’s passage, anti-tax lobbyists started a signature gathering campaign to repeal SB 1. This campaign gathered enough signatures to qualify for the November Ballot as Proposition 6. The California Region of the American Society of Civil Engineers joined the Fix Our Roads Coalition to encourage a “No” vote on Proposition 6. ASCE released a Report Card for California’s Surface Transportation Infrastructure (www.infrastructurereportcard.org/california) on October 3, giving Bridges and Transit a ‘C-minus’ and Roads a ‘D’.



Fix Our Road Coalition Rally at Capitol Park in Sacramento (Photo Credit: David Schwegel)

Speaker highlights are as follows:

1. **Carolyn Coleman of the League of California Cities** pointed to the fire truck as a reminder that “every second counts” in life and death situations. Proposition 6 puts 6,500 transportation improvement projects at risk. Currently over 1,600 bridges and overpasses are either structurally deficient or functionally obsolete in a state that is
- notorious for earthquakes. Voters overwhelmingly passed Proposition 69 in June with 80 percent support to ensure that SB 1 funds are specifically used for transportation purposes.
2. **Doug Miller of the Association of the State Highway Patrolmen** noted that SB 1 means that we can finally invest in our infrastructure unless Proposition 6 takes us backwards. While 68 percent of roads statewide are in poor or mediocre condition, that percentage increases to 70 percent for the Sacramento Region where motorists waste 44 hours annually stuck in traffic.
3. **Matt Cate of the California State Association of Counties** emphasized how “Proposition 6 is the most dangerous and destructive measure that will be on the November Ballot” including a \$300 million improvement project on Interstate 5 through Downtown that will not happen. A disaster occurred recently on this stretch of roadway that is deemed among the most dangerous in the nation. Twenty-five cars hit an enormous pothole in the freeway due to crumbling caused by a lack of repairs. The freeway had to be closed for hours while tow trucks swarmed the scene to rescue disabled vehicles and stranded motorists. According to the National Highway Traffic Safety Administration (NHTSA), there were over 3,600 fatalities on California roadways in 2017. Proposition 6 would eliminate 1,571 roadway and driver safety projects.
4. **Kwame Agyare of ASCE** announced the Report Card grades while noting Proposition 6’s significant threat to “making roads, bridges, and transit systems safer and more efficient”. While poor roads cost the average California driver around \$739 annually, his own single pothole collision incident cost him around \$1,100.
5. **Paul Arai of Turlock Firefighters** underscored how “delayed response time makes all the difference in the world” while reinforcing Proposition 6’s threat to public safety. “It is not a matter of if, but when the next natural disaster will occur.”
6. **Mark Kyle of Operating Engineers Local Union No. 3** encouraged Kwame to send his repair bill to the Yes on 6 campaign while noting the numerous projects that will not happen in the Sacramento Region if Proposition 6 passes. These include 152 pothole filling/repaving projects, 30 traffic relief projects, 24 bridge safety projects, hundreds of road striping projects, several projects related to upgrading culverts along US 50, and a large signal synchronization project involving 71 signalized intersections. SB 1 generates \$183 billion in economic activity and creates 68,000 jobs in California over the next decade, but only if Proposition 6 is defeated.

A question came from the audience: "The TRIP Report Ranks Los Angeles 3rd, San Jose 2nd, and San Francisco 1st for Worst Roads in the Nation. Sacramento fares slightly better at 12th. Based on these findings, what is your message?"

The response: "No on 6".

A Local Opportunity to Speak to the High-Speed Rail Authority Board
David M. Schwegel, PE (Precision Civil Engineering)

On Thursday, November 15, the High-Speed Rail Authority holds a Public Board of Directors Meeting at the Holiday Inn Burbank-Media Center Grand Ballroom starting at 10:00 AM. This meeting includes an opportunity for the public to comment. For background information on the project including Construction Reports, Small Business Newsletters, and the 2018 Business Plan, go to www.hsr.ca.gov. The Business Plan includes information on project costs, completion schedules, and service frequencies. The Authority's website also includes handouts and videos of prior board meetings under "Board Meeting Information".



HSR along Mission Bay, I-5, and an Arterial in San Diego (Photo Credit: California High-Speed Rail Authority)

Here are ten hot topics that may be of interest to ITE SoCal Members:

1. While the Olympics come to Los Angeles in 2028 – breaking a 26-year losing streak for our nation hosting such an event – the latest Business Plan does not show High-Speed Rail arriving in the Los Angeles Basin until 2033. Is there any way that stakeholders nationwide can come together behind this effort, and expedite completion in time for the Olympics?
2. The Palmdale to Burbank Section is shaping up to be the "Engineering and Public Relations Challenge of the Century" with significant tunneling beneath the San Gabriel Mountains and the drawing of 142 public comments at the June 2015 Board Meeting in Los Angeles, primarily representing this Section.
3. To what extent can ridership revenue on proposed connecting rail services such as Altamont Corridor Express (ACE) to Sacramento, upgraded Metrolink service to the Inland Empire, and upgraded Amtrak service to San Diego, be leveraged to fast track construction of High-Speed Rail into the Los Angeles Basin?
4. How do concepts such as Integrated Ticketing and Timed Transfers with commuter and regional rail and busses, as proposed in the California State Rail Plan www.californiastaterailplan.com, fit into the High-Speed Rail Authority's Business Plan?
5. What are some promotional strategies for the proposed International Tunneling Symposium in the Bay Area during the first quarter of 2019 to attract High-Speed Rail Tunneling experts worldwide, given the skepticism of some high-level elected officials on major tunneling endeavors after the Boston Big Dig and Seattle's Alaska Way Viaduct?
6. How frequently would the 450-passenger train sets be run, and how would it impact mode splits along parallel freeway corridors such as State Route 14 and Interstate 5?
7. With John F Kennedy (JFK) and LaGuardia (LGA) airports in New York planning one-seat ride train services to Manhattan, what are some options for 110 mph train service between Downtown Los Angeles and the Los Angeles International Airport (LAX)?
8. With the Burbank (BUR) Station expected to serve both airline and rail passengers, what are some design considerations for integration, and how would they compare with the existing station at Pudong International Airport in Shanghai and the proposed station at San Francisco International Airport (SFO) in terms of design and operations?
9. With HSR expected to be either at-grade or elevated through the industrial communities of Pacoima and San Fernando, what are some opportunities for uniting these cities versus dividing them?
10. What are some opportunities for expanding Los Angeles Union Station to accommodate High-Speed Rail and create robust Station Area Development www.tod.org with numerous traveler amenities within walking distance of the Station?

The Authority's Finance and Audit Committee meets prior to the Board Meeting. This meeting starts at 8:30 AM in the Executive Conference Room of the Holiday Inn Burbank-Media Center. While this meeting does not provide an opportunity for public comment, it does offer valuable information on the financial considerations behind the nation's largest public works project while providing fascinating financial reports including one

listing the numerous consultants who are contracting with the Authority.

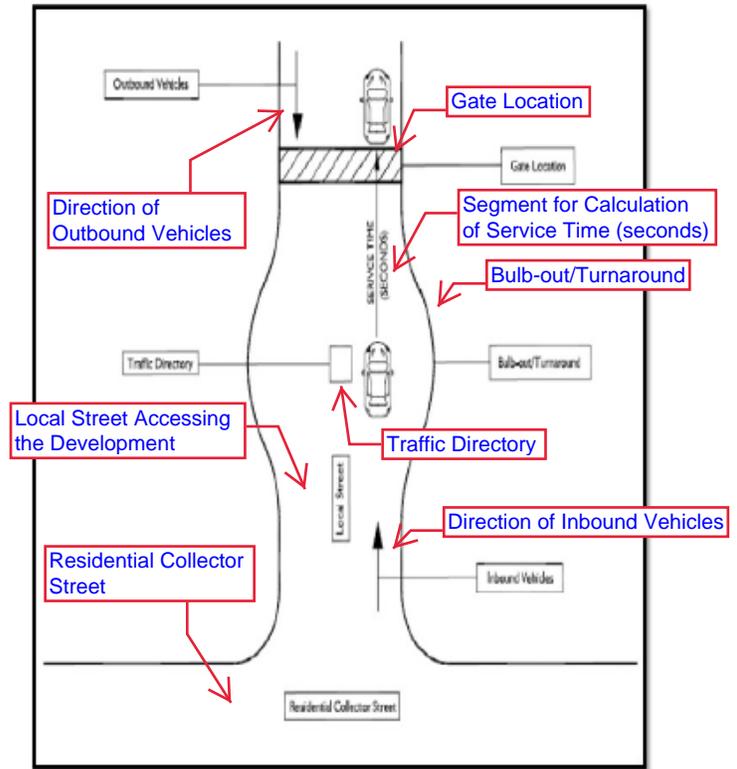
Residential Electronic Gate Service Rate Study
 Robert Kahn, PE (RK Engineering Group)

Introduction

Many private residential communities in Southern California have utilized electronic or manned (guard) gates to control access to their communities. Typically, these residential communities have private streets and have limited access through one or more gate controls. The vast majority of communities with gates use electronic gates for controlling access into their community. Manned gates typically occur in very high-end residential communities and were not studied in this analysis.



For the most part, electronic gates are either swinging gates or rolling gates. While the operations of these two types of electronic gates are somewhat different, functionally they are similar. However, access times do vary somewhat between the two types of gates. An electronic gate is accompanied by a traffic directory for visitors to activate the gates, and a bypass control system activated by a resident's garage door remote controller. Typically, there is very little delay with the resident activation in comparison to the time required for visitors to request to open the gate through the traffic directory.



The gate capacity or service rate (vehicles per hour) of the gates is used to determine the potential queuing which would occur at either the traffic directory or the gate. Typically, residents will queue near the gate, whereas visitors will queue at the traffic directory. The peak inbound demand is distributed between the visitors and residents entering the community. This is approximately 20% visitors versus 80% residents within residential communities.

Once the peak entering demand for visitors/residents and service rate of the gate are determined, the traffic utilization factor (the ratio of the demand to the service rate) can be determined and used to calculate the potential queuing. If there is sufficient entering width for two lanes, queuing for both visitors and residents can be determined separately.

At the present time, there are two methodologies available to determine gate queuing, *Transportation and Land Development* prepared by the Institute of Transportation Engineers (1988), and *Entrance/Exit Design and Control for Major Parking Facilities* prepared by Robert W. Crommelin, P.E. (October 1972). Both of these documents provide methodologies for calculating the potential queuing depending on the peak demand rate and average service rate.

Purpose and Objectives

The purpose of this study is to determine the hourly service rate capacity (vehicles per hour) of electronic gates containing single family detached homes. This study is based on field observations conducted at a total of thirteen (13) existing gated residential communities in Orange County, California in the Cities of Newport Beach and Aliso Viejo. A total of fourteen (14) electronic gate operations were observed in this study.

The study focused on the PM peak hour (4-6 pm) which has been determined to be the peak entering time for most residential communities. For both types of gates, "sneakers" can follow residents or visitors that activate the gate which actually increases the gate capacity. Furthermore, as part of this study, the number of vehicles entering and exiting the observed properties during the PM peak hour were counted.

Findings

The following findings are obtained from this study:

1. Observed **Average Gate Service Rate** per User Type:
 - Resident = 320.7 vehicles per hour (Range = 191.5 to 437.8 vehicles per hour)
 - Visitor = 150.6 vehicles per hour (Range = 111.7 to 184.4 vehicles per hour)
2. Observed **95th Percentile Gate Service Rate** per User Type:
 - Resident = 209.6 vehicles per hour
 - Visitor = 117.5 vehicles per hour
3. Observed **Average Percent Split** of Total Entering PM Peak Hour Traffic by User Type:
 - Resident = 79.52%
 - Visitor = 20.48%
4. **Recommended Percent Split** of Total Entering PM Peak Hour Traffic by User Type:
 - Resident = 80.00%
 - Visitor = 20.00%
5. **Recommended Gate Service Rate** per User Type:
 - Resident = 210 vehicles per hour
 - Visitor = 115 vehicles per hour
 - Combined = 190 vehicles per hour
6. Comparison of Observed Swinging Gate versus Rolling Gate Service Rates:
 - Swinging gates and rolling gates have similar service rates for visitors.
 - Swinging gates have more capacity than rolling gates for residents.
7. Observed Average PM Peak Hour Trip Generation Rate:
 - a. Inbound = 0.42 vehicles/hour/dwelling unit

- b. Outbound = 0.34 vehicles/hour/dwelling unit
- c. Total (Inbound & Outbound) = 0.76 vehicles/hour/dwelling unit

The Study Results (Service Rate Statistical Analysis) are as follows:

	Visitor Time (sec)	Visitor Rate (vph)	Resident Time (sec)	Resident Rate (vph)
Average	24.4	150.6	11.9	320.7
80% Average		120.4		256.6
Weighted Average	23.5	153.4	11.5	313.5
80% Weighted Average		122.7		250.8
Standard Deviation	3.8	22.5	3.2	78.3
Coefficient of Variation	15.4	15.0	26.6	24.4
95 th Percentile	30.6	117.5	17.2	209.6
90 th Percentile	29.1	123.5	15.9	225.8
85 th Percentile	27.7	129.9	15.2	237.5

Gate Type is Both for all Cases

Data Collection

Service rate times were calculated at each location by measuring the time from when the vehicle entered the traffic directory to when it passed through the gate. These times were converted to a service rate by the following formula:

$$\text{Service Rate (veh./hr.)} = \frac{3,600 \text{ (sec./hr.)}}{\text{Service Time (sec./vehicle)}}$$

Data Analysis

1. Percent Split of Visitors versus Residents

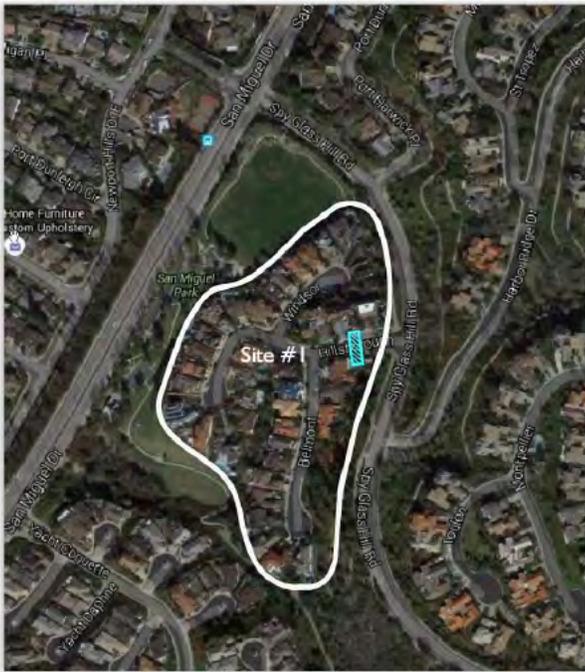
The percentage of entering visitors versus residents for each site was calculated by dividing the total number of visitors or residents that entered between 4:00 PM and 6:00 PM by the total number of inbound vehicles during that time period. Then, the overall average was determined by averaging the entering visitor and resident percentages for each site. Based upon this study, approximately 80% of peak inbound traffic were residents and 20% were visitors.

2. Hourly Gate Service Rate Capacity

For each study site, the observed duration of time in seconds that each resident/visitor took to get from the directory through the gate was averaged to determine the average service time for residents at that specific

site. The hourly service rate for residents at each site was then determined by dividing the number of seconds in a single hour (3,600 sec./hour) by the average service time for the residents/visitor.

By reviewing both methodologies with the data collected at the fourteen (14) electronic gates, recommended gate service rates have been determined by user type for the following location along Spy Glass Hill Road. In the case where there are sufficient entering widths to accommodate both a visitor and resident lane, it is recommended that the resident service rate be approximately 210 vehicles per hour and the visitor service rate is recommended to be approximately 115 vehicles per hour. When there is insufficient width available for both residents and visitors, the combined rate of 190 vehicles per hour would appear to be appropriate.



3. Peak Hour and Trip Generation

The PM peak hour trip generation ranges from 0.57 to 0.98 vehicles per hour per dwelling unit. The overall average trip generation rate was then determined by averaging the peak hour data results of the thirteen (13) study sites. The average inbound rate was 0.42 vehicles per dwelling unit, the average outbound rate was 0.34 vehicles per dwelling unit and the total trip generation rate was 0.76 vehicles per dwelling unit.

Recommendations & Conclusions

Combining the two methods for determining the hourly gate service rate design capacity yields a rate of 115 vehicles per hour for visitors and 210 vehicles per hour for residents. The recommended service rates provide for sufficient variation in actual individual site conditions when there is enough room to accommodate both a visitor lane and resident lane. The entering width will typically allow for an entering resident to bypass the visitor at the gate directory and queue directly at the gate. Therefore, gate queuing for residents should be measured from the gate itself, whereas gate queuing for visitors would be measured from the traffic directory.

To obtain a recommended design capacity for residential gates when there is not sufficient width for two entering lanes, the design capacities for visitors and residents should be based upon a weighted average rate, calculated using the average percentage of residents versus visitors and the recommended design rate for residents and visitors. Based upon this study, it would be 190 vehicles per hour for a single-entry lane.

The **Recommended Service Rates** from this study are as follows:

Gate Condition	Service Rate for Visitors	Service Rate for Residents	Service Rate for Residents and Visitors
Two Entry Lanes	115	220	-
Single Entry Lane	-	-	190

Reported Service Rates are Vehicles Per Hour.

RK Engineering Group hopes that this report will be useful to other transportation engineers and planners for the analysis of queuing requirements for residential electronic gate projects. The full report can be found on the 2017 ITE Western District Meet list of papers.

Resources

- (1) Stover, Vergil G. and Koepke, Frank J., Transportation and Land Development, Institute of Transportation Engineers, 1988.
- (2) Crommelin, Robert W., Entrance/Exit Design and Control for Major Parking Facilities, October 1972.

Call for Technical Articles

If you are interested in preparing a technical article for inclusion in an upcoming newsletter, then please send it to Co-Newsletter Editors Bryan Elenes (belenes@advantec-usa.com) and David Schwegel (davidmschwegel1@gmail.com) by the end of the

month preceding the next month's newsletter. For the January 2018 Newsletter, the deadline is **11:59 PM on December 30th**. Typically, 300 words and one photo fit into one column of our monthly newsletter.

Update from ITE Headquarters

Marianne Saglam (ITE Communications and Media Senior Director)



In Case you Missed it in the October Newsletter

ITE Talks Transportation Podcast Series is also available online at <https://www.pathlms.com/ite/>.

- Robert Wunderlich, Director of the Center for Transportation Safety at the Texas A&M Transportation Institute, discusses his perspectives on pedestrian safety strategies, speed management, and proven safety countermeasures as the transportation industry seeks to achieve Vision Zero. <https://www.spreaker.com/user/ite-talks-transportation/august-18-2>
- Equity 101 with Veronica O. Davis - This new podcast episode captures highlights from the well-attended Equity 101 technical session at the Joint ITE International and Midwestern/Great Lakes Districts Annual Meeting and Exhibit. Veronica O. Davis, a speaker during the session, provides an overview and insight into equity and transportation. <https://www.spreaker.com/user/ite-talks-transportation/september-18>

New website – It was a long time coming--ITE now has a new responsive website <https://www.ite.org/>. Some new features of the site:

- Modern look with updated images
- Responsive site design that formats to computers, tablets, and phones
- Reorganized content that is easier to find
- Featured items that highlight what the organization is currently focused on
- Updated meeting/event calendar

STEM Outreach Competition:

Section and Chapter STEM Outreach Competition – **Entries are due by December 3**. A variety of activity templates have been developed by the STEM Sub-Committee and can be found in the link below. You are not required to use one of these to qualify for the competition. <https://www.ite.org/technical-resources/councils/transportation-education-council/science-technology-engineering-and-math-stem-resources/>

California Transportation Foundation - Scholarship

In Case you Missed it in the October Newsletter

The California Transportation Foundation (CTF) has awarded \$1.1 million in scholarships since its founding in 1988. CTF invites students to apply to one or more of the 35+ scholarship opportunities, some of which have specific deadlines and application windows. Please check the website below for deadlines. In order to qualify for these CTF scholarship opportunities, applicants must be intent on a career in transportation, and attend a school in California. They also must either be: (a) U.S. citizens, (b) permanent residents, or (c) documented international students. Please **Visit www.transportationfoundation.org/scholarships to download CTF scholarship applications, obtain instructions, and gather additional information.**

CTF scholarships are awarded competitively and are available to students at all levels, including high school, undergraduate, and graduate students. Several scholarships target specific populations of importance to donors. These requirements often relate to specific Caltrans Districts, functional areas, school districts, or other concerns.

Please see the info-graphic on the next page.



Call for Newsletter and Meeting Sponsors

To maintain ITE SoCal as a strong and vibrant organization and to give companies the opportunity to showcase their latest services and products, both meeting and newsletter sponsorship opportunities are available.

Meeting sponsorship provides an opportunity to make a brief PowerPoint presentation on your company at monthly meetings that typically attract over 100 attendees. Many of the meetings are held jointly with other ITE sections and transportation organizations, thereby reinforcing the strong publicity opportunity.

Newsletter sponsorship provides an opportunity to include a half or full-page ad in the monthly newsletter that gets published nine times annually and distributed to over 700 transportation professionals throughout Los Angeles and Orange Counties, also reinforcing the strong publicity in this publication that gets circulated far and wide within the expansive transportation industry throughout Southern California.

For more information, please contact Sponsorship Coordinators Emilio Murga (emilio@albertgrover.com) and Meghavardhan Govindu (mgovindu@gundacorp.com).

Finally, the Sponsorship Committee would like to thank this month’s Newsletter and Meeting Sponsors:

Newsletter Sponsors
<i>CUBIC/Trafficware*</i>
<i>Iteris</i>

Meeting Sponsors
<i>CUBIC/Trafficware*</i>
<i>Advantec</i>

* Please note that CUBIC has acquired Trafficware and has updated their logo accordingly. Here is their new logo:



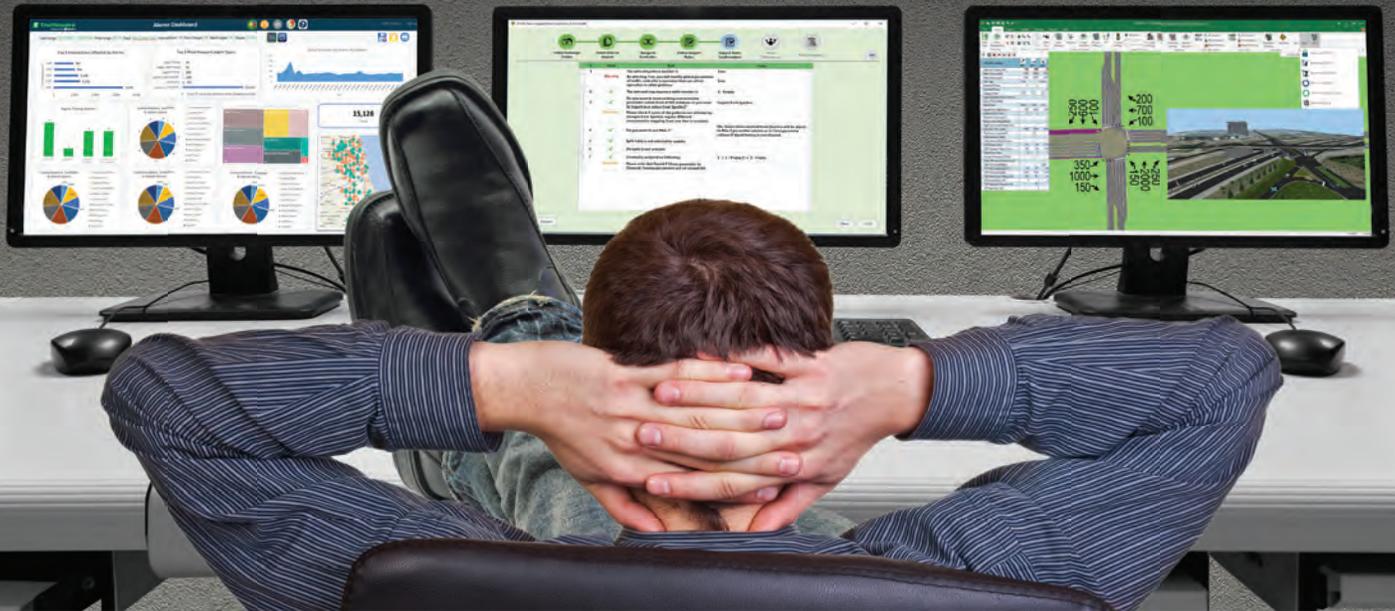
New ITE Publications

- Trip Generation, 10th Edition
- Traffic Engineering Handbook, 7th Edition
- Transportation Planning Handbook, 4th Edition

The 5th Edition of Parking Generation is currently under development.



Life just got easier!



Quickly Leverage the Integration of Synchro® and ATMS Systems

One of the most expensive and time consuming tasks of developing and updating signal timing plans, just got easier. With enhanced two-way integration between Synchro Signal Timing and Analysis Software and ATMS Central Management System, Traffic Engineers can exchange and modify traffic patterns, ring sequences, alternate tables, overlaps, split tables and other parameters, dramatically improving convenience working between platforms. Visit www.Trafficware.com or call 281-269-6512.

ATMS

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Two-way integration between ATMS and Synchro enables users to directly exchange signal timing data

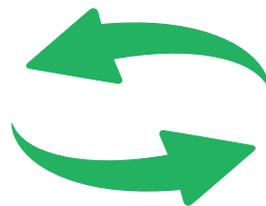
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Extracting actionable intelligence from transportation data for safer and more efficient mobility.

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Harbouring the Future of Transportation

**JOIN US AT THE HYATT REGENCY MONTEREY
JUNE 22ND-26TH, 2019**

[CALL FOR ABSTRACTS!](#)

ABSTRACTS ARE DUE DECEMBER 21, 2018

2018-2019 CALENDAR

INSTITUTE OF TRANSPORTATION ENGINEERS
SOUTHERN CALIFORNIA SECTION



<p>AUGUST 2018</p> <p>ITE Annual Summer Mixer Wed. Aug 22, 2018 Dinner – 5:30 PM</p> <p>Police Academy Rock Garden, Los Angeles</p>	<p>SEPTEMBER 2018</p> <p>Regular ITE Meeting Wed. Sept 19, 2018 Lunch – 11:30 AM</p> <p>Monterey Hill Restaurant, Monterey Park</p>	<p>OCTOBER 2018</p> <p>Joint Meeting with OCTEC Thurs. Oct 25, 2018 Lunch – 11:30 AM</p> <p>Orange County Mining Company, Orange</p>
<p>NOVEMBER 2018</p> <p>Joint Meeting with Riverside- San Bernardino Section Wed. Nov 14, 2018 Lunch – 11:30 AM</p> <p>The Restaurant at Kellogg Ranch, Cal Poly Pomona</p> <p>SOLD OUT</p>	<p>DECEMBER 2018</p> <p>Holiday Mixer with RSBITE & OCTEC Wed. Dec 5, 2018 Appetizers – 4:30 PM</p> <p>Knott's Berry Farm Resort, Buena Park</p> <p>REGISTRATION OPEN</p>	
<p>JANUARY 2019</p> <p>Joint Meeting with City Traffic Engineers Wed. Jan 16, 2019 Lunch – 11:30 AM</p> <p>Monterey Hill Restaurant, Monterey Park</p>	<p>FEBRUARY 2019</p> <p>Joint Meeting with Central Coast Section Tues. Feb 13, 2019 Lunch – 11:30 AM</p> <p>To Be Determined</p>	<p>MARCH 2019</p> <p>Joint Meeting with San Diego Section Fri. March 8, 2019 Workshop – 9:00 AM – 1:00 PM Lunch – 12:00 PM</p> <p>Plaza de Magdalena San Juan Capistrano</p>
<p>APRIL 2019</p> <p>Regular ITE Meeting Wed. April 17, 2019 Lunch – 11:30 AM</p> <p>To Be Determined</p>	<p>MAY 2019</p> <p>Student Chapter Night Co-sponsored by OCTEC Wed. May 15, 2019 5:30 PM Student Job Fair, 6:30 PM Dinner</p> <p>Knott's Berry Farm Resort Hotel, Buena Park</p>	<p>JUNE 2019</p> <p>Mini-Workshop/Annual Business & Joint Meeting with ITS SoCal Wed. June 12, 2019 8:30 AM – 12:00 PM Workshop, 12:00 PM Lunch, 1:00 PM Business</p> <p>Monterey Hill Restaurant, Monterey Park</p>

NOTE: Locations and information is subject to change. Last Updated – July 23, 2018



**This
Event
is Sold
Out.**



November Joint Meeting

**November 14, 2018
11:30AM to 1:00PM**

The Restaurant at Kellogg Ranch
3801 W Temple Ave #79
Pomona, CA 91768

Presenter:

Rock Miller, P.E., PTOE

“Safety Liability and the MUTCD in a Changing World”

**GENERAL REGISTRATION ENDS ON 11/7 at 5:00pm
Seating is LIMITED!**

Registration through Eventbrite:

https://2018_itesocal_rsbite_meeting.eventbrite.com

General Registration \$30 | Late Registration \$35 | Students \$15

For Questions, please contact:

Ed Alegre, PTP

Secretary

ITE SoCal Section

AlegreE@metro.net

Lunch is Sponsored By:



ITE SOCAL | OCTEC | RSBITE

HOLIDAY MIXER

December 5, 2018
4:30 p.m. to 8:30 p.m.

Knott's Berry Farm Hotel
7675 Crescent Ave
Buena Park, CA 90620

All members and their guests are welcome!

**** Casino Games ****

Raffle Prizes

Tray Passed Hors d'Oeuvres

Cash Bar

Photo Booth

1 Free Drink Ticket

Register Here:

https://2018_holiday_mixer.eventbrite.com

Platinum sponsor



Gold sponsors



Silver Sponsors



Giveaways/Other Contributions

*Albert Grover & Associates, Kittelson & Associates,
and NexTech Systems*

*Sponsorship opportunities are still available! Contact:
Meghavardhan Govindu (mgovindu@gundacorp.com) – ITE SoCal
Olga Polunin (opolunin@aimtd.com) – OCTEC
Carla Dietrich (CDietrich@mbakerintl.com) – RSBITE*