

Toll Traffic and Revenue Projections Questioned

Analyst says Forecasting Consultants Need to Offer More Information about Long-term Impacts

Forecasting consultants need to “raise their game” when it comes to providing long-range toll road traffic and revenue projections. That’s the view of independent infrastructure investment analyst Robert Bain.

Bain, writing in this month’s Infrastructure Investor magazine, says traffic forecasting consultants often provide projections that are “arbitrary, inconsistent, frequently opaque and often without justification.” However, he notes in “A sting in the tail?” that these forecasts are “potentially important when it comes to asset valuation.”

Since establishing RBconsult in 2008, Bain says he has reviewed 74 comprehensive toll road traffic and revenue (T&R)

studies that have come from all of the major forecasting firms. In an effort to better understand the common industry practice of “dampening” longer-term

traffic forecasts, he chose to give reports from 30 of those consultants a closer look. The reports chosen were all published in

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Robert Bain, infrastructure and investment analyst, RBconsult, and Fellow, University of Leeds, England

Bigger is Definitely Better for Bike Share Programs

NACTO Finds Station Density is Key to Attracting Broad Demographic of Riders

Bike share programs are popping up all over the United States, but a new study finds that cities considering these programs need to be bold. The National Association of City Transportation Officials (NACTO) says cities should launch bike share programs that are “as big as possible” with densely-placed bike share stations to attract low-income riders.

A NACTO analysis has found that since 2010, bike share systems have been introduced in more than 30 U.S. cities and

bicyclists have taken more than 36 million bike share trips. However, low-income people have not been proportionally represented among U.S. bike share users. In order to attract those riders, NACTO says bike share programs need to pack more stations closer together and cover large, contiguous areas that include low-income neighborhoods, employment centers and other safe, welcoming places to ride.

After analyzing data from bike share

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A bikeshare station in Paris, France. (Photo: Courtesy of ITDP)

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International Cooperation Needed in Developing Driverless Cars

Switch to Autonomous Vehicles Raises Many Ethical, Privacy and Security Concerns

“Driverless cars are coming faster than we think.” That’s the conclusion of Karl-Josef Kuhn, Head of Reliable Automation and Control at Siemens Corporation, speaking at a panel discussion this month sponsored by the Brookings Institution and the U.S. State Department. Kuhn joined others from the worlds of business, research and education to discuss the topic, “Bringing driverless cars from research to international markets.”

All the panelists agree that the path to autonomous vehicles will require an unprecedented level of cooperation among developers and governments to guarantee that vehicles can safely operate and efficiently interface across state and international borders. Before drivers can completely turn their cars over to automation systems, many concerns still need to be addressed.

Kuhn says there are five key topics to consider. When it comes to safety and testing, developers and regulators need to determine when a system is safe enough, and the probability for failure must be addressed on an international level. Next, there is the issue of the man-machine interface and how quickly a driver can re-enter the loop when conditions mandate the driver take back control of a vehicle.

Decisions also need to be made in the areas of security and privacy and what happens if the environmental data needed to operate a vehicle becomes corrupted.



A Daimler Freightliner Inspiration vehicle. Two of these are being tested on roads in Nevada. (Image: Courtesy of Daimler)

Questions must be addressed about liability and how privacy can be guaranteed. In addition, the vast gulf in how nations regard data privacy issues will need to be closed.

Social and ethical issues come into play when developers must program the vehicles to choose between two bad outcomes, such as making a choice about who gets hit if an accident cannot be avoided. Different cultures around the world may view these ethical issues in varying ways.

Finally, Kuhn says the real path to autonomous vehicles is their ability to learn and adapt as situations change, but that raises the question of how a manufacturer could guarantee that a vehicle is still safe when it has changed since leaving the factory.

As these questions are being raised around the world, Jessica Altschul of Daimler North America Corporation surprised the Brookings moderator by announcing that Daimler already has an autonomous 18-wheeler on the road. She says two Freightliner Inspiration vehicles are being tested on roads in Nevada. These vehicles are required to have a “driver” in place, but Altschul says the role of driver is more that of a vehicle or logistics manager. While fully autonomous vehicles are still in the testing phase, Altschul notes that vehicles have already started down the path to automation with features such as adaptive cruise control, brake assist and parking assist. She envisions full automation arriving in 2025 to 2030.

Levi Tillemann of the New America Foundation, and the author of a book on electric cars entitled “The Great Race: The Global Quest for the Car of the Future,” says both policy and market mandates will be needed to get those driverless cars on the road. He cites the example of California using both market-based tools and mandates to jump-start the market for electric cars.

Sonya Smith of Howard University notes that one social driver to propel the advance of autonomous cars will be not only

their ability to reduce accidents and save lives but also their ability to aid those who cannot drive. For instance, driverless cars could be used by the handicapped, elderly or others unable to drive themselves to medical appointments, thus providing people with greater access to health care.

Panelists also discussed one potential economic downside of autonomous vehicles. They warned that in such industries as trucking, there will be shake-ups in employment as truckers are no longer necessary or must be re-trained to be logistics managers, rather than drivers. The taxi industry could also face major changes.

Ultimately, the panelists say all these issues must be weighed against the fact that thousands of people around the world die each year due to vehicle accidents. Autonomous vehicles hold the promise of making road travel much safer in the future.

For more information, visit: <http://www.brookings.edu/events/2015/05/08-driverless-cars-international-markets-wittes>.

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Calgary Testing Lane Reversal to Ease Rush Hour Commutes

Six-month Project will make One-Way Street Two-Way during Afternoon Rush

Calgary is embarking on a six-month pilot project to test whether reversing the direction of two lanes through downtown will help drivers get home more easily at the end of the day.

The change is taking place on 5th Avenue SW, where the two northernmost lanes of the five-lane, one-way roadway are being reversed between 7th Street and the west-end of downtown. The reversal is in effect weekdays, excluding statutory holidays, between 3:30 and 6:30 p.m..

The goal of the project is to help ease congestion in the westbound lanes of 4th and 6th Avenues by making use of underutilized 5th Avenue lanes. Fifth Avenue's eastbound lanes are designed to carry 2,500 vehicles per hour during the morning rush, but only about 500 vehicles per hour are using the one-way avenue during afternoon peak hours. By comparison, on an average afternoon, 3,500 vehicles per hour jam 4th and 6th Avenues.

By implementing the lane reversal, the city will increase outbound capacity by approximately 20 percent without the expense of building new roadways. Senior Leader Pat Grisak of the city's traffic engineering division estimates the lane reversal project could reduce traffic delays by about 15 percent.

The lane reversal starts and ends at signalized intersections. Entry to the system is via right turns from existing signalized intersections. Grisak says the reversed lanes end as one lane turning left at an existing signalized intersection and the other proceeding to a new signal to alternate right-of-way with an existing one-lane roadway.

All intersections along the lane reversal route are signalized, and Grisak says several turn arrows have been added to facilitate orderly traffic movement. Where turns are permitted from intersecting roadways and driveways along the route, signing has been incorporated to advise motorists on how to make these turns. Grisak notes that some turns have been restricted for safety and efficiency, and signing has been used to advise of the restrictions.

To help alert those on foot, Grisak says signing has been incorporated at the intersections along the route to advise pedestrians of the lane reversal. For the first few days of operation, police officers and city staff were assigned along the route to assist users as needed.

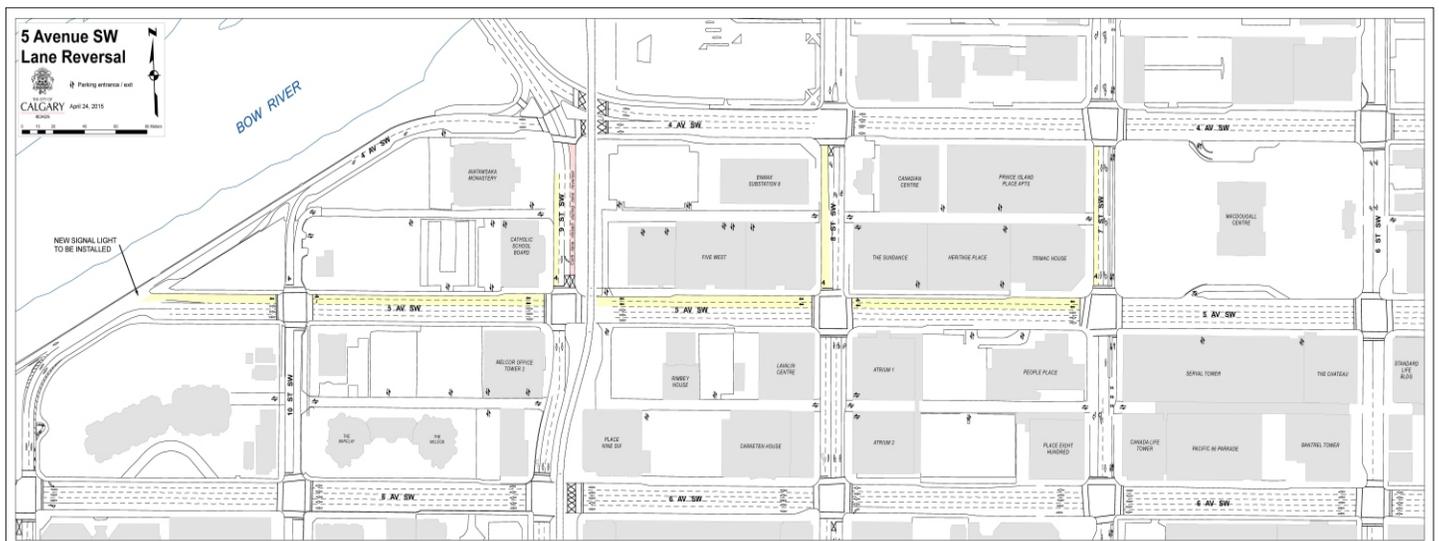
The cost of the pilot project is estimated at \$600,000 (Canadian) and includes new traffic signals, barricades and other control devices to operate the lane reversal. During

the test period, travel data will be collected. If the benefits and travel time savings are significant, the system may be modified or improved based on the results of the data collected. If this is made permanent, an automated signal system would replace the temporary signage setup

The lane reversal is being monitored by Traffic Management Centre staff via traffic cameras, and Grisak says staff can readily be dispatched to address any maintenance or operational issues. Starting at 3:00 p.m., parking will be restricted along the route, and Grisak says tow services are available if needed. Because the lane reversal is located in a high volume downtown area, travel speeds are not expected to be an issue.

Although there are several lane reversal systems in Calgary, Grisak notes that this is the first in the city where a one-way roadway has a lane reversal incorporated to make it a two-way roadway at certain times of day.

For a video and more information, visit: <http://www.calgary.ca/Transportation/Roads/Pages/Traffic/Traffic-management/Lane-reversals/Lane-reversal-5-Avenue.aspx?redirect=/5ave>.



Lanes along 5th street, shown in yellow in the east-west direction are planned to be reversed. (Photo: Courtesy, City of Calgary)

App Helping Austin Motorists Navigate Around Road Construction

Metropia App Seeks to Ease Congestion and Offers Incentives to Users

Business and government have teamed up in Austin to help commuters grapple with traffic during a major highway construction project, but all drivers in the capital city can reap the benefits. Metropia and the Central Texas Regional Mobility Authority have launched a new mobile app to help alleviate congestion in a city that has the dubious honor of having the fourth worst traffic in the country.

Mia Zmud of Metropia Austin says there is no “singular solution” to tackle this congestion. The Metropia app is designed to provide a “holistic ecosystem” to help reduce the city’s congestion. With the app, businesses, local retailers, employees and drivers “can all work together with Metropia and with the Mobility Authority to start making these changes to free up the city.”

Mike Heiligenstein, executive director of the Mobility Authority, says the technology is part of a federally-funded pilot program that will help motorists navigate the MoPac Expressway when there are construction-related lane closures. How-

ever, he says the results of the Mobility Authority’s partnership with Metropia “will be a model for transportation entities across the country to follow.” The Mobility Authority is a Metropia supporting partner as part of the MoPac Improvement Project, which is currently constructing Express Lanes on MoPac Boulevard north of Lady Bird Lake.

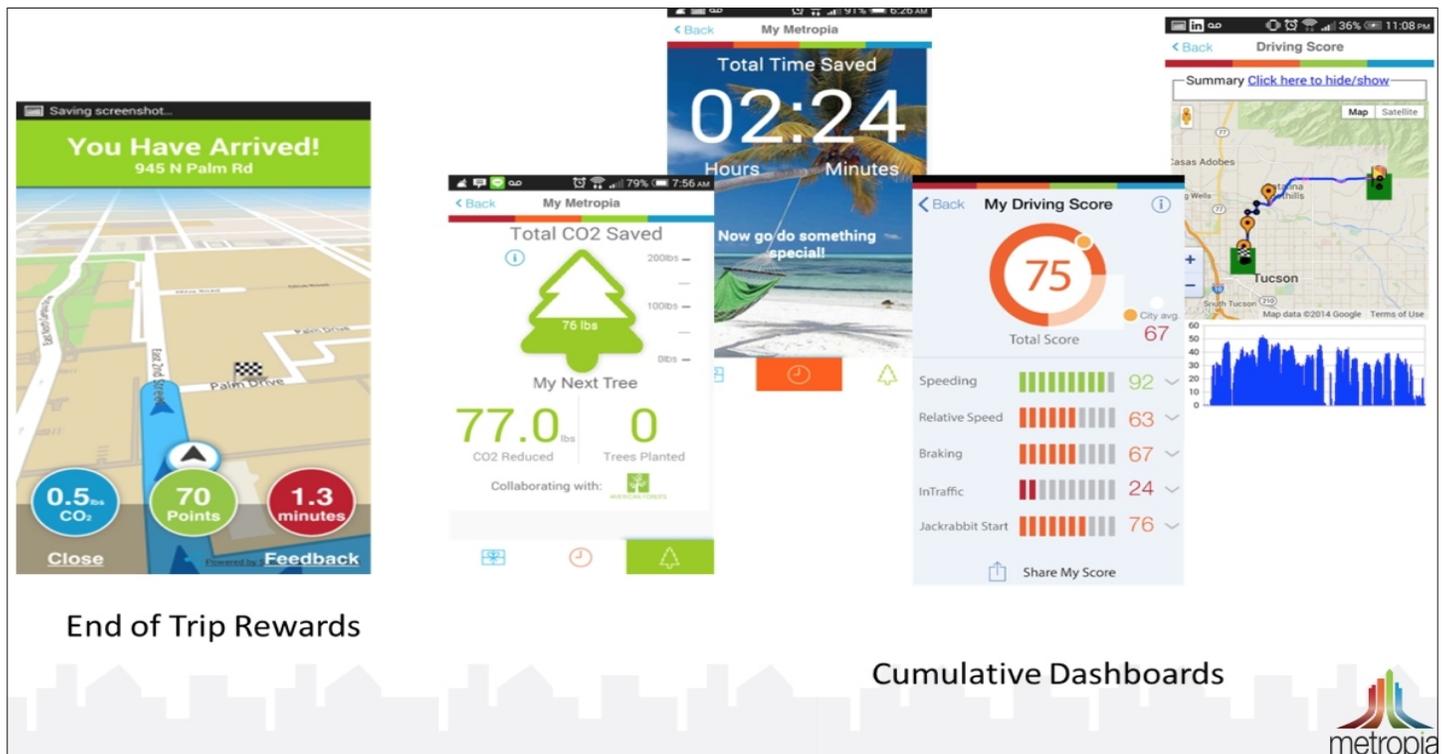
The app is designed to help drivers find their optimal commute in the city by guiding them to make use of existing roadway capacity and directing them away from more crowded roads and freeways. Since beta testing began in September 2014, more than 500 drivers have tried the app. Metropia says users who plan their commute more than an hour in advance can save travel time on 73 percent of their trips. Metropia says the cost of implementing its system depends on the scope of work and the integrated solutions being adopted by sponsoring partners. It expects the Austin project implementation expenditure to be \$1.7 million for a 14-month period. This does not include the developmental costs

associated with the Metropia product or the beta testing.

In Austin, Metropia has partnered with local businesses to encourage flex time for employees to help ease peak hour congestion on the roads, and Metropia helps employers track and measure how well employees are meeting flex schedule goals. In addition, Metropia is working with local retailers to provide incentives for app users to adjust their commute times or routes. Metropia drivers earn points when they take Metropia’s commuting suggestions. Points can be redeemed for gift cards, discounts, free downloads and donations at local retailers.

The program’s success will be monitored in many ways. Metropia says it has a detailed set of microscopic (individual/commuter level) and macroscopic metrics corresponding to each component of the Metropia Ecosystem. Examples include average travel time savings, average routing prediction accuracy, average CO2

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End of Trip Rewards

Cumulative Dashboards

End of trip rewards and cumulative dashboard of the Metropia App. (Photo: Courtesy of Metropia)

UK Testing Underground Delivery System to Ease Congestion and Pollution

Capsules Could Deliver Goods and Carry Away Waste

A new freight delivery system is being tested in the United Kingdom that could significantly reduce city traffic and greenhouse gas emissions. Instead of using traditional road-based delivery vehicles, Mole delivery uses a system of tunnels and freight capsules to move goods below ground.

The system, designed by UK online courier company ParcelHero, uses freight capsules that are powered by electricity-producing magnetic fields to propel the capsules along tracks. ParcelHero says the technology is similar to the maglev systems in use at some airports. The Mole system would use out of town consolidation centers to collect packages for underground transport into towns and cities.

ParcelHero founder Roger Sumner-Rivers says this is “more than a pipe dream.” A nine-month trial is now under way in Northampton to put these delivery tubes to the test.

Sumner-Rivers acknowledges that “the Mole system is ambitious and the initial infrastructure cost considerable.” However, he says that when weighed against the environmental costs of congestion, “underground pipes are an idea that was bound to surface.”

In addition to cutting highway traffic,

Sumner-Rivers says the Mole system could also help cut air pollution by limiting the number of car trips necessary for shopping and running errands. He explains that “a tube system would operate under our homes and roads moving freight to out of town hubs, slashing traffic in towns and reducing CO2 emissions.”

ParcelHero’s Mole Solutions, which is based in Cambridgeshire, received government funding to build the test track for its nine-month development project from the Department for the Environment, Farming and Rural Affairs. Roger Miles, head of Mole Solutions, says that not only could the capsules be used to transport goods to a delivery point, they could also be used to transport waste back to distribution points. He equates the idea to water pipes that carry clean water to homes and dirty water away.

The company says the project has “gained a lot of interest” from both private



*An underground freight delivery capsule.
(Photo: Courtesy of ParcelHero)*

business and government. It has received support from the government-funded Transport Systems Catapult, which also supports such transport innovations as the driverless car. ParcelHero also sees the underground track delivery as a competitor to the drone delivery system being pioneered by Amazon.

For more information, visit: https://www.p_Hlt418069897_Hlt418069898aBM_1_BM_2_rcelhero.com/news/tech/mole-delivery-packages-delivered-from-underground-2961 or contact info@parcelhero.com.

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savings, average fuel savings, number of employer and local retail partners, and user experience satisfaction. The metrics will be reported in the fall and again in early 2016.

The reduction delay will be measured by calculating the individual and regional travel time savings over total travel time. Metropia says reaching a minimum 10 percent level of reduction in traffic would positively affect travel time/level of service (LOS) for all automobile passenger vehicles, overall, along a single corridor.

Therefore, achieving this level of reduction will have a significant impact on all drivers, not just Metropia users.

The company says it does not have an expected participation rate. Instead, it tracks retention rates. During beta testing in Austin, Metropia says it achieved a 35 percent retention rate and is using that as a benchmark moving forward.

Metropia and the Mobility Authority are getting the word out about the app through an integrated marketing communications plan that includes traditional PR, social me-

dia, and user engagement activities. Those activities range from display tables at public events to in-app and e-mail messaging.

In addition to Austin, the Metropia app is live in Tucson, Arizona, and it is scheduled to launch this year in New York City and Los Angeles.

For more information, visit: <http://www.metropia.com/cities> or contact Katie King at katie@redfancommunications.com.

Ontario Approves New Light Rail Transit System Connecting Major Cities

LRT Expected to Ease Highway Congestion and Speed Commutes

Ontario has given the green-light to the Hurontario-Main Light Rail Transit (LRT) project — part of the largest infrastructure investment in Ontario’s history. The \$1.6 billion (Canadian) project will link two Toronto-area cities in an effort to battle congestion in the corridor.

Hurontario-Main is a public project led by Metrolinx. Plans call for the 23-kilometer LRT line between Mississauga and Brampton to have 26 stops, including three within downtown Mississauga and two in downtown Brampton. A Metrolinx spokesman says the line will provide a crucial link between many existing transit lines.

Mississauga Mayor Bonnie Crombie praises the LRT as “transformative” and says it will “move Mississauga forward, allowing us to grow our economy, create jobs, and develop in a way that will keep Mississauga competitive for generations to come.” Brampton Mayor Linda Jeffrey calls a strong transit network “the price of

admission for any world class successful city.”

The corridor between the two cities is already heavily traveled, and Metrolinx says that without an effective, higher-order public transit system, conditions “will only get worse as the population grows.” LRT vehicles offer the benefit of carrying more people than bus transit systems and carrying those passengers primarily in reserved transit lanes separate from regular traffic.

Metrolinx says each light rail vehicle will feature 56 seats, and opening day operations will likely include two vehicles coupled together. As ridership increases, additional vehicles can be added – up to three vehicles per trip. The maximum capacity of each vehicle is 251 passengers, and Metrolinx says the Hurontario-Main LRT will have the capacity to move “upwards of 600 passengers per three-vehicle trip.”

The system is being designed to support

a service level with five-minute frequencies during peak periods and up to 10-minute frequencies during off-peak periods. The annual ridership is projected to be 35 million by 2031.

Light rail vehicles can travel up to 80 km/hr, but Metrolinx says the actual speed will be determined by the spacing of the stops and the speed limits of surrounding traffic. It estimates the LRT trip will be approximately 20 minutes faster than the current transit trip.

Parking is not a component of the LRT system. However, Metrolinx notes that the service will have connections at existing GO Train and GO Bus services, as well as local bus terminals, where parking is already provided.

LRT stops will be fully accessible and will provide shelters, way-finding and passenger fare amenities. Vehicles will have multiple entrances and low floors to ensure fast and accessible boarding.

Metrolinx says the system will use the PRESTO proof-of-payment system, but fares have not yet been set. It expects that when fares are decided, they will be consistent with other fares charged on the Mississauga and Brampton transit systems.

Ontario’s Ministry of Transportation reports that last month, Ontario moved ahead with plans to unlock the value of certain public assets worth approximately \$4 billion (Canadian). The funds are being used for new transit, as well as other priority infrastructure projects, through the Moving Ontario Forward program.

For more information, visit: http://news.ontario.ca/mto/en/2015/04/ontario-moving-forward-with-hurontario-main-light-rail-transit-pro_Hlt419369968_Hlt419369969jBM_1_BM_2_ect.htm and www.metrolinx.com or contact AnneMarie.Aikins@metrolinx.com.



*A rendering of the Hurontario-Main Light Rail.
(Photo: Courtesy of Metrolinx)*

Product and Industry News

Researchers Preparing for Connected Vehicle Future in Many Ways; PSA and IBM Partnering to Take Connected Vehicles to Next Level; University of Texas Developing Autonomous Intersection for Connected Cars

Connected and autonomous vehicles are coming, and both businesses and educational institutions are working on ways to make the most of this new technology. One corporate partnership and one university research project offer a glimpse of what's to come.

PSA Peugeot Citroën and IBM recently announced that they've formed a partnership to help various industries within the Internet of Things economy to "analyze data to deliver new services from connected vehicles." Meantime, researchers at the University of Texas at Austin are working on an Autonomous Intersection Management (AIM) system that would take advan-

tage of connected vehicle technology to smooth traffic flow and reduce accidents.

Olivier Payraud, IBM's Industrial Sector Lead, says PSA and IBM have teamed up to more quickly deliver new Internet of Things services based on car data to a variety of industries to enhance the "mobility experiences" of drivers. Payraud says the companies want to take connected vehicles "to the next level," going beyond infotainment and mapping. They want to offer new services that could link to Internet shops and service and transportation grids or help to enable "responsible citizen behavior" in cities.

For example, Payraud says the new services "could help manage congestion, measure and influence pollution and noise, and develop inter-modality by using analytics from the cars and sensors from smart grids." Payraud says drivers want vehicles that can deliver the same capabilities and convenience as their other "smart" devices and see their cars as a "highly personalized extension of the daily and digitally connected lives."

According to Payraud, connected vehicles "are going to become the norm in the next few years." He cites an IBM study released earlier this year that predicts that by 2025, vehicles will be sophisticated enough to configure themselves to a driver and other occupants and will be able "to learn, heal, drive and socialize" with other vehicles and the surrounding environment.

PSA, which bills itself as the European leader with the largest number of connected cars on the road, says its partnership with IBM will benefit drivers by providing new information and improving their safety and comfort. PSA's Brigitte Courtehoux says the company will be "unleashing connected services to the masses, so consumers can experience a new level of comfort and convenience from their cars, while industries seize new opportunities to deliver personalized services."

When connected vehicles do become the norm, researchers at the University of Texas at Austin say that intersections de-

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Connected vehicle scenarios. (Image: Courtesy of IBM)

Product and Industry News (continued)

signed for human drivers will need a makeover to work with these more autonomous cars. The AIM system they're developing is being designed to work with both the autonomous vehicles of the future and the human-driven vehicles of today. Their programming is being tested through in-house simulations and road tests with their autonomous vehicle, which goes by the name of Marvin.

Lead researcher Peter Stone says all vehicles on the road don't need to be as sophisticated as Marvin for the AIM system to work. When connectivity is reduced, efficiency can be reduced, but Stone says "the system remains safe."

The AIM system works by relying on dedicated short-range communication to allow autonomous cars to communicate with a server at the intersection, called the intersection manager. Vehicles send signals to the server, essentially making a reservation to enter the intersection, and vehicle speeds can be adjusted accordingly. It's possible with this technology that all 12 potential movements through an intersection could occur at a point in time.

Stone says that by using more of the intersection at any time than traffic signals or stop signs allow, the AIM system has the potential to dramatically reduce congestion, and it can cut fuel usage by eliminating the need for as much deceleration and acceleration at intersections. A margin of error, based on factors such as slippery roads, accident slowdowns, road work or police activity, is a configurable parameter in AIM. Stone says the parameter can be adjusted based on the type of vehicle and/or road conditions.

The university's simulation code has been open-sourced so that others may join in the research. It's available on the project website.

For more information, contact: Jeannine Kilbride at IBM at jkilbri@us.ibm.com or visit <http://www.cs.utexas.edu/~aim/>.

LTA and Microsoft Extending DataMall Collaboration; Data Sharing Arrangement Allowing Third-Party Apps to Flourish in Singapore

The Land Transport Authority of Singapore (LTA) and Microsoft Singapore are extending their collaboration on a data sharing arrangement known as DataMall@MyTransport.sg. DataMall allows LTA to share its datasets with third parties for the development of transportation-related apps.

This extended partnership supports the Singapore Urban Transport Solution (STARS) initiative that is aimed at making Singapore a center for world-class urban transport solutions. It will allow DataMall to feature richer real-time datasets, including real-time bus arrival information and taxi availability data. By expanding the range and quality of data being made available, LTA and Microsoft hope to help public transit commuters, motorists and cyclists make more informed decisions about their daily commute.

LTA has been collaborating with Microsoft since 2011 to make its land transport datasets available to the public through the DataMall, which is hosted on Microsoft's enterprise-grade cloud platform Azure. Third party application developers can download the data to create, develop and test transport-related mobile apps.

Rosina Howe-Teo, LTA's Group Director for the Innovation and InfoComm Technology Group, says the experiment with "open innovation through data sharing" has led to the development of "very exciting third-party apps." She notes that "crowdsourcing for ideas, co-creating with third parties and collaborating with renowned research institutions" has made it possible for LTA to achieve more than could have been possible without such an arrangement.

Both static and real-time/dynamic data are made available through DataMall. The static data includes public transport information on bus routes and carpark locations, geospatial datasets available in the ESRI

Shape file format, and statistical reports available in PDF and XLS format, which are regularly updated. Real-time/dynamic datasets are updated live and served out via APIs, which are accessible with an Account Key issued to registered DataMall subscribers.

Microsoft says that to cater for variance in user load due to fluctuating motorist and commuter traffic during the day, Azure enables DataMall to be automatically scalable to "optimize timely and accurate dissemination of the land transport information to the public." DataMall will also allow other land transport-related datasets to be published for public use.

Since its inception in 2011, DataMall has averaged four million data downloads a month, with interest coming from business partners, research institutions and third-party developers. It has generated up to 10 million monthly hits from more than 40 transport-related mobile apps and services created with DataMall for iOS, Android and Windows phone and tablets.

Among its Top 10 Apps are: BusMesh@SG, which provides locals and tourists with bus route information and arrival times; Taxi-Taxi@SG, which helps people spot taxis; Carpark@SG, which advertises simple, no-fuss parking; and iTraffic@SG, which helps motorists avoid traffic jams and find the cost of parking.

Nobuhiro Ito, Microsoft's Director for Developer Experience & Evangelism in Singapore, says DataMall is "a great example of how city leaders can involve citizens and communities to co-develop and co-create innovative transport solutions by leveraging open data to benefit the community and general land transport users." He says advances in technology have now made it possible for "technopreneurs and the general public" to get involved in managing "people-centric urban mobility."

However, a disclaimer on the DataMall website does say that "LTA does not endorse or make any guarantees for the accuracy or reliability of the applications."

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Toll Road Traffic and Revenue Projections Questioned

the past five years and were broadly representative in terms of forecasting firms and host jurisdictions.

Within the sample, a formal traffic model typically was used to forecast the first 20 to 25 years, and the average forecast horizon was 45 years. Bain found that what consultants often refer to as the “post-modelled period” – the period after the formal model’s horizon – was actually longer at just under 30 years. In other words, in a typical T&R study, Bain says “the formal model is applied for less than half the total forecasting horizon.” That means that over half the cash flow-generating period in the assessments does not go through any detailed analysis. Instead, “some crude form of statistical extrapolation” is used.

In analyzing the reports, Bain found that six of the 30 forecasts had no form of dampening applied across horizons of 17 to 32 years. Nine used a progressively reducing, or step-down, growth rate. Seven used a constant or “tick over” growth rate – typically 1 percent or 0.5 percent per an-

num. Four reports talked about “extrapolation,” and the remaining four said nothing on the subject.

Bain says “inconsistency” was a key trait. Methods varied among different consultants and sometimes even within the same project. When progressively reducing growth rates were used, Bain found “the terminal value (growth rate at the end of the forecasting horizon) was typically set to 1 percent, 0.5 percent or the profile was sculpted mathematically to reach zero.”

In 14 of the 24 reports that talked about dampening, there was no explanation for why it was applied. They stated that “transition rates were assumed to moderate” or reported nothing at all. Six of the reports linked dampening to geometric constraints, applying it as the project’s capacity was reached. Bain found that “surprising” because in a number of cases, “the forecasted demand clearly approached the road’s physical capacity or – in some cases – exceeded it” Just one report linked the onset of dampening “to the unavailability of forecasts for the explanatory variables used in

the traffic growth rate.”

To Bain, these results raise the question of whether risk is being double-counted. He writes, “If traffic consultants are accommodating risk and uncertainty by moderating their traffic (and hence cash flow) projections and – later – asset valuation is accommodating risks and uncertainty (in part) through the specification and use of risk-adjusted discount rates, are we double-counting risk?”

Some seasoned industry participants polled by Bain felt that was not the case. They argued that growth dampening was generally associated with the physical constraints of a road network where further growth is inhibited as capacity is approached and levels of service drop. Because a market reaching saturation would not be expected to grow at the same rates as in the past, dampening was cited as a legitimate practice.

However, Bain says “that’s not necessarily what traffic consultants are reporting.” In three of the case studies, “dampening was specifically associated with long-term risk and uncertainty.” In 14 of the 24 reports, there was no justification given for dampening. The findings indicate to Bain that a culture has developed that believes it is just “good practice” to be very cautious about longer-term growth.

Bain concludes his analysis by saying that forecasting consultants need to offer more information about traffic and revenue growth after the formally modeled period ends. He feels they should be required to explain both what they did, and why, and when they did it, and why. Bain also notes that it would be helpful if consultants would describe the revenue implications of making alternative – yet still plausible – assumptions about long-term traffic growth.

For more information, visit: <http://www.robain.com/> or <https://www.infrastructureinvestor.com/>.



The relatively new Express (HOT) Lanes in the center of I-495 in Northern Virginia with an exclusive grade-separated on- and off-ramp. (Photo: Courtesy of TransUrban)

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Bigger is Definitely Better for Bike Share Programs

programs across North America, NACTO found that ridership “increases exponentially the more stations there are in close proximity.” It noted that “bike share usage is predominantly driven by convenience” and one of the best ways to make bike sharing “a real transportation option for a wide demographic of users” is to put bike share stations uniformly close together over a large area.

While research has shown that transit users may be willing to walk a half-mile to reach commuter rail, bicyclists aren’t inclined to walk nearly that far. NACTO reports the distance someone is generally willing to walk to use a bike is closer to 1,000 feet – about five minutes of walking. That distance is consistent, regardless of the type of neighborhood. It says those cities that offer approximately 28 stations per square mile across a variety of neighborhood types see higher usage across all income brackets.

When designing a system, NACTO suggests that station size should be adjusted, rather than adjusting the spacing of stations, to meet specific neighborhood needs. It puts the ideal spacing at no more than 1,000 feet across the entire program area. NACTO points out that the bike share systems with the highest ridership, such as those in Paris, New York and Mexico City, have stations evenly spaced within easy walking distance of each other.

NACTO found in its study that in the U.S., low-income neighborhoods usually have among the lowest density of bike share stations. Some bike share systems have tried deeply discounting memberships to attract low-income residents, but the study indicates more emphasis needs to be placed on putting more stations within easy walking distance.

In a 2013 survey of those using Capital Bike Share in Washington, D.C., 90 percent of respondents cited the “ability to get around more easily or more quickly” as their primary reason for joining the program. A survey of New York Citi Bike users found that 59 percent cited “convenience, ready availability, flexibility in

travel, saves time” as the factors they most valued.

NACTO’s System Convenience analysis of station density found that most U.S. bike share systems are doing a good job of servicing city centers, but station density and ridership decreases further out from the core. New York’s Citi Bike was an exception. While the program doesn’t cover all of the Big Apple, the areas it does serve are evenly covered with stations.

In addition, NACTO reports that as bike share programs are launched and expanded, “protected bike lanes that take people where they want to go must be introduced as well.” These complementary protected bike lanes are cited as another key to increasing ridership.

For more information, visit: <http://nacto.org/2015/04/28/walkable-station-spacing-is-key-to-successful-equitable-bike-share/> or contact ted@nacto.org.



Bikeshare stations in Chicago (above) and San Francisco. (Photos: Courtesy of ITDP and the BAAQMD respectively)

Transportation Tort Liability: Case in Review

Oregon Court of Appeals Clarifies Issues of Statute of Limitations and Duties Required by City, County and State

A collision with an automobile in 2008 left a motorcycle driver severely injured; two years later he brought a personal injury action against the City of Depoe Bay, Lincoln County, and the State of Oregon, alleging that the governmental entities negligently designed and maintained both roadways and the intersection at which the collision occurred.

He alleged the State was negligent in permitting and maintaining an unreasonably dangerous intersection onto a state highway due to impaired sight distances and lack of adequate warning signs. He also alleged that the County and City permitted and maintained an intersection with impaired sight distances; failed to prohibit a left turn onto the highway at the subject intersection; permitted and installed diagonal parking on the highway that impaired the views at the intersection; and failed to post signs on both streets warning of the dangerous intersection.

The governmental entities sought summary judgment based on two arguments: first, that plaintiff's complaint should have been lodged within two years after the alleged injury; second, that they were immune from liability because their decisions regarding the design and construction of the intersection, parking, traffic controls, and signage, and failure to modify those features, were discretionary.

The trial court found that plaintiff's claims were barred under the statute of limitations and awarded the governmental entities summary judgment based on discretionary immunity. The driver appealed.

At appeal, the Court of Appeals reversed in part the lower court's ruling and remanded for further action the judgments with respect to the City and the State but affirmed its ruling that the County had discretionary immunity.

On the statute of limitations issue, the governmental entities contended that, on



*The corner of Highway 101 and Collins Street in Depoe Bay, Oregon
(Photo: Courtesy, Google, Inc.)*

the day of the accident, plaintiff was aware of the physical arrangement of the roads and of the circumstances of the accident itself. From this they inferred he should have been aware there was a substantial possibility that the harm to him was caused by their tortious conduct and that this conduct was discoverable, as a matter of law, at the time of the collision. From this they argue his complaint was untimely.

The Court noted that Oregon courts hold that mere knowledge that governmental conduct caused harm is insufficient to commence the period of limitations: a plaintiff must know, or reasonably should know, "the tortious nature" of governmental conduct, that is, that unreasonable actions or inactions of governmental entities is negligent or intentionally harmful.

In the current case, it found that the dangerousness of the road conditions was not obvious as a matter of law. The alleged vision obstruction caused by parked vehicles on the highway may or may not have been hazardous depending on a number of factors, including how permitted speeds

and turning movements from the crossroad onto the highway affected the obstruction. It also was not apparent which of the entities owned the roadways or whether the City, the County, or the State, or all three, were responsible for assessing or mitigating safety issues at the intersection.

It argued that a reasonable person normally presumes that governmental entities act reasonably and not negligently. It listed the issues plaintiff would have to have known at the time, including the substantial possibility that that vision obstruction may have been caused, or not remedied by, particular "tortious conduct" by the entities. It held that it was a matter for a jury to determine when a reasonable plaintiff would have discovered the relevant actions or inactions of the governmental entities to start the period of limitations and, therefore, that the court erred in granting the governmental defendants' motion for summary judgment against plaintiff.

On the issue of discretionary immunity,

Please turn to Page 12

Continued from Page 11

Transportation Tort Liability (continued)

the Court noted that each of the entities had to establish that a responsible official or agency made permissible discretionary decisions to not change the design and characteristics of the intersection, including parking on the highway, the content and placement of warning signs, and the control of traffic to and from the cross road.

It found that the summary judgment record did not support the State's assertion that improvements or changes to the intersection prior to the accident were considered in the State of Oregon Statewide Transportation Improvement Program (STIP), and the adoption of the STIP immunized it from liability for the alleged negligence.

It noted the evidence from an ODOT traffic engineer that the State used a Safety Priority Index System (SPIS) to prioritize transportation safety improvements in the STIP safety budget, specifically a list of the worst five percent SPIS-rated accident sites. At the time of the accident, the subject intersection was not in this worst list, nor was it considered to be a high accident site. Thus, the State had not considered or authorized improvements at the subject intersection in the STIP. The engineer noted that the City or the County could have applied for permission to improve the intersection with their own funds but neither had.

The Court noted that the SPIS was the only policy choice identified by the State as supporting immunity. However, it noted that the ODOT "Highway Safety Program Guide" listed a number of ways in which projects could qualify to be listed in the STIP and could be considered for funding through ODOT's "Quick Fix" program (because of their SPIS rating, or a positive benefit/cost ratio of 1.0, or because of a "risk narrative" regarding a site). Furthermore, ODOT could still undertake highway safety improvements on projects not listed in the STIP.

In the case at bar, the record did not show that highway modifications required at the subject intersection were considered and rejected in the STIP process or that other available processes were used to de-

cide to not make those changes. In addition, there was no evidence that the State deliberately chose not to implement traffic controls on the highway because of the adoption and implementation of the STIP and highway budget, or any other policy choice.

Therefore, the Court found that the record did not demonstrate whether the failure to improve the highway or change traffic controls were choices made by the State or whether those choices resulted from policy deliberations of the state, so as to qualify as choices immune from liability under Oregon law. From this the Court concluded that the State failed to demonstrate the existence of a discretionary immunity for negligent inactions.

The City had argued that its adoption of a transportation system plan (TSP) and a refinement plan for the downtown area were policy choices that immunized its alleged inactions from liability and that it had no duty to effect any change since it did not own or control either street.

The Court noted that in 2001 the City had adopted the 2000-01 City of Depoe Bay TSP. It found that while the plan recognized the existence of a hazardous intersection and proposed measures to mitigate that hazard, it did not determine when redevelopment of the intersection would occur or the City's role in financing or constructing that improvement, or direct any City action or inaction in those regards. Further, the City had not presented evidence that it took actions to avoid or delay the improvement project as part of implementing the TSP.

Therefore, the Court found that the adoption of the TSP by itself did not immunize the City's failure to take action to initiate or construct improvements or changes to the streets. Similarly, it found that immunity did not attach because of other City actions that assessed the need to improve the intersection or identified the necessary changes, as these actions had not determined whether or when the city should take steps to mitigate the intersection hazard.

On the question of the City's lack of liability because it was not the owner or responsible road authority for either road, the

Court noted that other courts had found that a city's responsibility to make streets travel safe depended on factors beyond ownership of the street itself. Given the City's actions in the TSP in planning and coordinating needed improvements to the streets, it ruled it could not say as a matter of law that the City had no responsibility for the safe conditions of the streets or that a lack of ownership of the streets did not, as a matter of fact, preclude the city from affecting their maintenance or improvement. Thus, the trial court had erred in granting summary judgment in favor of the city.

The County, on the other hand, had proved that there were no material issues of fact on the existence of a discretionary immunity from liability for its alleged negligent inactions and that it was entitled to judgment as a matter of law.

It documented the choices made by its public works director who, under his delegated authority to establish program priorities and resource allocation, had authorized a safety audit of all county roads in 2006. The auditor, the assistant public works director, evaluated road safety characteristics such as signage, pavement markings, pavement edge drop-offs, unexpected sharp curves, limited sight distance, and general road conditions that might affect control of a vehicle. The purpose of the audit was to advise of areas of concern to be addressed within the limited County road budget, and it was used internally by the public works office to prioritize projects.

Thus, the Court found that the responsible County decision maker, through the safety audit, made discretionary choices about the priority of transportation improvements of the types at issue (road improvements, signage, other traffic controls) and that policy was implemented by a person with authority to do so (the public works director) through an annual allocation of road construction and maintenance funds. These facts satisfied the tests for a discretionary immunity, and therefore, the lower court did not err in granting summary judgment in favor of the county.

This Month's Survey Results (Survey 1)

Mesoscopic Transportation Analysis

Earlier this month, *The Urban Transportation Monitor* sent survey questionnaires to transportation planners and traffic engineers to obtain information and opinions on Mesoscopic Transportation Analysis. Surveys were sent to 600 transportation professionals in the U.S. Altogether 21 replies were received for a response rate of 3.5%. The results of the survey are published here.

When applied correctly, what do you consider to be the main advantages of mesoscopic level of transportation analysis when compared with macroscopic and microscopic analysis?

It provides a better estimate of travel demand in sub-regional areas.

Better than macroscopic analysis since you have shorter time period resolutions and can more precisely measure congestion queuing and duration.

Mesoscopic analysis takes delays due to controlled intersections and network characteristics into account more accurately.

Ability to test regional policies without needing full simulation.

Compared with microscopic analysis, the ability to properly reflect possibilities for multiple paths. Compared with macroscopic analysis, the ability to produce accurate travel times and to consider the effect of bottlenecks and queuing on capacity.

The ability to identify critical locations and detailed transportation improvements without the intense calibration effort involved with micro-simulation.

Greater detail than traditional studies without the cost of simulations. Plus, traditional studies give you a nice view of the forest, while simulations let you study the trees. Mesoscopic allows you to see both the forest and the trees.

Ability to process large networks without detailed information when compared to micro-simulation. More robust results when compared to macroscopic analysis.

There is no specific main advantage as every analysis situation requires its own appropriate level of analysis. It also depends on how you define mesoscopic analysis, as macro, micro and meso are relative terms.

It allows decision makers to compare changes in transportation or land use at a project-specific level. Macroscopic analysis can mask real differences between alternatives while microscopic analysis provides too much detail and can require too much work to get "right."

You can get a better general understanding of traffic operations/conditions in a critical corridor without the more time demanding micro-simulation. It can be used to develop more precise travel time/impedance skims for traffic assignment for a travel demand model (for example dynamic traffic assignment).

A better high level picture of delay and bottlenecks than Macroscopic analysis, without going to the high level of time and cost that microscopic analysis requires.

Advantages over macroscopic models include better operational analysis while still maintaining path choice and congestion effects.

Advantages over microscopic models include fewer data requirements and ease of data transfer with macroscopic models.

Allows level of service and travel times to be analyzed.

Mesoscopic modeling provides a balance between the spatial and temporal coverage of Macroscopic modeling and some of the traffic operations details of Microscopic modeling. The lack of true capacity constraints and intersection details in a macro-model limit its applicability to smaller study areas and more nuanced traffic operations proposals. However, use of seed demand tables from the macro-model can be critical to a dynamic model. A meso-subarea of a regional macroscopic model allows use of seed trip tables, ODME at the meso-level, evaluation of routing (DUE, DTA), and, if needed, micro-analysis within the meso-network (e.g., Aimsun's Hybrid system). Also, a well-calibrated meso-network can be used as a foundation for a group of micro-models within the same area, as need arises.

It may not have the accuracy and the desired variability as modeled in the microscopic analysis but should have better computational efficiency.

There is a good balance of detail provided and effort required to obtain a useful analysis result.

It should better account for overall traffic performance rather than the worst-case scenario.

Mesoscopic Transportation Analysis (continued)

Please describe typical situations where a mesoscopic level of analysis should be applied

- For example, an improvement of a multiple highway interchange, linking arterial access to the central business district (CBD). a multi-modal facility on a beltway, with transit access/egress to a string of lesser CBDs, (pop. <200,000) over a line of 25 miles.
- System management applications.
- Time of day based measures such as congestion pricing.
- Highway alternatives analysis, construction diversion analysis.
- We are using a mesoscopic analysis to evaluate a large scale ITS freeway deployment.
- Analysis in CBDs.
- Medium length corridor analysis.
- Also can be useful when studying a large area. The usual data resulting from the traditional methods are not detailed enough to provide/support a proper (or any) solution.
- Any analysis dealing with urban roadway networks (as opposed to freeway or interstate roadway networks).
- Traffic impact studies.
- Congested corridor analysis where queues are critical but without complicated traffic signal operations.
- Dynamic traffic assignments for travel demand models.
- To better determine problem locations.
- Major road closures/detours.
- Sub-area studies.
- Corridor studies.
- A complete streets analysis.
- Sub-regional study areas.
- When looking at proposals that can affect localized routing, such as due to changes in traffic operations schemes and capacity on one or more roadways.
- If the study region has a macroscopic model available, it can be leveraged for seed demand tables and basic network details to start the mesoscopic model. If a dynamic micro- model will be needed, the mesoscopic model can be used to supply study area demands (following ODME) and initial paths to the micro- model.
- More detailed assessment of travel speeds, flow characteristics, VMT and VHT at a sub-regional level can be performed at the mesoscopic level.
- Transportation impact site studies and signal timing optimization.
- Saturated traffic conditions when macroscopic modals simply fail.

Which of the following do you consider to be essential capabilities of transportation analysis software in order to be used for mesoscopic analysis

Potential capabilities of transportation analysis software in order to be used for mesoscopic analysis	Percentage of respondents who indicated the potential capability is essential
Highway Capacity Manual (HCM) level of intersection analysis	59%
Accurate intersection queue length calculations	71%
Intersection through-lane spillback analysis	76%
Exclusive turn-lane spillback analysis	59%
Feedback of calculated intersection delay to minimum time path calculations to determine the impact of intersection spot improvements on vehicle paths and therefore on peak hour volumes	71%
Graphics providing intersection data including volumes, delay and LOS by intersection movement	47%
Graphics providing intersection queue lengths by movement	35%
The ability to calibrate the mesoscopic transportation model (existing conditions) to observed intersection conditions (volumes, delays)	94%

Additional essential capabilities of transportation analysis software to be used for mesoscopic analysis provided by respondents

- Ability to handle short resolution time periods.
- Ability to handle regional demands
- If freeways are looked at, speed, flow and density
- Integration of trip tables between macroscopic and microscopic levels.
- Sharing of network details (signal timings, geometries, etc.) with micro- models.
- Ability to assess paths based on DUE and DTA methods.

Mesoscopic Transportation Analysis (continued)

Respondents' comments on software for mesoscopic analysis

The limits of VISUM are adequate enough for multi-modal traffic scenarios, without having to include macroscale detail beyond the effective range of the proposed project. The mesoscale application will allow the consideration of local aspects that may be excluded in the macroscale application.

AIMSUN DYNUS-T has the ability to handle regional travel demand and calibrate to local conditions.

DYNASMART-P can address complex and dynamic transportation operations and planning issues. DYNASMART-P overcomes the limitations of traditional static assignment and simulation models by using advanced traffic modeling techniques to capture the dynamics of congestion formation and dissipation associated with timevarying demands and network conditions.

DYNAMEQ designed specifically for mesoscopic analysis. DYNAMEQ provides traffic simulation and dynamic traffic assignment (DTA) procedure that makes it the ideal choice for a range of model applications and evaluations including congestion relief strategies, corridor and lane management, construction mitigation, transit design, traffic impact studies, emissions modelling, event planning and much more.

CUBE Avenue is a dynamic traffic assignment extension for CUBE Voyager. It models traffic at greater levels of detail than macroscopic models, like Cube Voyager's Highway program, and at lesser levels of detail than microscopic models, like CUBE Dynasim.

VISUM macro/meso can function with VISSIM's microsimulator.

AIMSUN provides a uniform platform for macro/meso/micro simulation within one network. It provides extensive tools to integrate data and results between the three levels.

TRANSMODELER is applicable to a wide array of traffic planning and modeling tasks.

What do you believe is the appropriate zone size for reliable mesoscopic analysis?

Many respondents indicated that zone size is dependent on the project

The following answers were provided:

A quarter mile

A city block (250 feet by 250 feet)

0.2 mile.

Further comments:

More critical than zone size is the placement of zone centroid connectors. Inappropriate placement of centroid connectors can result in inaccurate paths through the network and turns at nearby intersections.

In general, within the core of the study area, mesoscopic zones should be at the census tract or block group level, typically requiring disaggregation of macroscopic model transportation analysis zones.

Which of the following roads should be included in the network associated with a mesoscopic analysis?

Road types that might be included in the network associated with a mesoscopic analysis	Percentage of respondents who indicated the road type should be included
Freeways	82%
Major arterial	94%
Minor arterial	88%
Collectors	76%
Local roads	59%
Driveways	24%

Additional comments about roads that should be included in the network associated with a mesoscopic analysis

There are occasions when a segment of freeway(s) may be included, typically when including an interchange or high volume access/egress with arterial(s).

Include any road that leads into a signal or stop controlled intersection.

I tend to think of mesoscopic as "at the intersection level", which each of these roads could include (even freeways at the interchanges).

Within the core/primary study area, locals should be included. Since a mesoscopic network can be large, that level of detail may not be required in the secondary study area, provided that routing accuracy is not affected.

This Week's Survey Results (Survey 2)

Useful Apps for Transportation Professionals

Earlier this month, *The Urban Transportation Monitor* compiled useful apps from previous surveys and from recent information obtained. The apps are considered useful for transportation professionals depending on their area of work. The results are shown in the table below.

NAME OF APP	DEVELOPER of APP	MAIN FUNCTIONS, TRANSPORTATION APPLICATIONS	COST	NUMBER OF USERS	WEBSITE
Traffic Queue	Stepan Zubachyk	This App is designed for determination of the maximum length of queued vehicles on an isolated intersection. For the App development there have been used simulation methods, which are the combination of analytical calculation and experiment, and herewith it allows to adequately reproduce a real process at a signal controlled intersection. The main component of this process is the arrival of vehicles to the intersection, namely the time intervals between cars that are described in the App by probability laws of distribution.	\$0.99	N/A	Website not available. Email: chikabuz@gmail.com
FAZWEAVE FAZRAMP FAZBASIC FAZEF FAZBICYCLE FAZPEDESTRIAN FAZMULTILANE FAZTWOLANE FAZINTERCHANGE	Joseph Fazio	FAZWEAVE - freeway weaving segment operation analysis and design FAZRAMP - freeway merge and diverge segment analysis and design FAZBASIC - basic freeway segment operations and design FAZEF - tool to determine design superelevation rate and design coefficient of side friction FAZBICYCLE - bicycle operations tool for off-street, signalized intersection, two-lane highway, multilane highway, urban street segment, and urban street facilities FAZPEDESTRIAN - pedestrian operations tool for off-street, signalized intersection, urban street segment facilities FAZMULTILANE - multilane highway operation analysis and design tool FAZTWOLANE - two-lane highway operation analysis and design tool FAZINTERCHANGE - tool to determine minimum freeway interchange spacing and speed-change lane lengths	Apps range from about \$40 to \$650 per year. Apps are free for professors and their students on a course basis.	N/A	http://www.fazioeware.com/
Waze Waze Social GPS, Maps & Traffic	Ehud Shabtai and Amir Shinar	After typing in their destination address, users just drive with the app open on their phone to passively contribute traffic and other road data, but they can also take a more active role by sharing road reports on accidents, police traps, or any other hazards along the way, helping to give other users in the area a 'heads-up' about what's to com. In addition to the local communities of drivers using the app, Waze is also home to an active community of online map editors who ensure that the data in their areas is as up-to-date as possible. Waze has an extremely complex system of weighted algorithms which places greater trust in those users who have driven the most and made hundreds, thousands and even millions of edits, ranking their report higher.	Free	More than 50 million worldwide. Available in more than 30 languages and more than 200 countries on iOS and Android	https://www.waze.com/

Useful Apps for Transportation Professionals (continued)

NAME OF APP	DEVELOPER OF APP	MAIN FUNCTIONS, TRANSPORTATION APPLICATIONS	COST	NUMBER OF USERS	WEBSITE
MUTCD	Trafdata	The MUTCD app is a mobile friendly version of the 2012 Federal Manual on Uniform Traffic Control Devices.	\$5	2,000	www.trafdata.com
TurnCount	Trafdata	The TurnCount and TurnCount Lite apps are manual intersection movement counting apps. They were designed to replace the manual counting board used by traffic engineers and planners at intersections.	\$39.99	1,000	www.trafdata.com
TurnCount Lite	Trafdata	The TurnCount and TurnCount Lite apps are manual intersection movement counting apps. They were designed to replace the manual counting board used by traffic engineers and planners at intersections.	\$19.99	500	www.trafdata.com
Traffic Signal Pro	Reedwick, LLC	Traffic Signal Pro is the first App of its kind. It offers a systematic approach to traffic signal troubleshooting that will improve safety and the efficiency of traffic, all while reducing cost. Traffic Signal Pro App is designed to simplify the process of troubleshooting a malfunctioning traffic signal. The App has an added benefit of being an educational training tool that familiarizes the user with the components and functions in a 332 cabinet. The goal at Traffic Signal Pro is to provide an easy and accessible way to effectively and efficiently troubleshoot a malfunctioning traffic signal.	\$199.99	N/A	http://trafficsignalpro.com/wp_build/
Evernote	Evernote	Mobile briefcase of information such as project specific specifications, plans, details, proposals. Evernote syncs between devices. Facilitates working anywhere and staying productive: write notes, checklists, and do research.	\$4.99 and higher	N/A	https://evernote.com/
LogMeIn	LogMeIn	Enable a secure connection to a person's desktop or laptop from any computer or from their iPad/iPhone. Access applications and files.	\$99 per year	N/A	www.logmein.com
PDF Expert	Readdle	Enables on screen writing and typing over PDF documents and then email them back. Excellent for reviewing plans remotely and sending back to designers in the office. Allows mark up of PDF documents with highlights and handwriting, insert text, sign and merge PDFs from iPhone	\$9.99	N/A	https://readdle.com/pdfexpert5
Calcbot	Tapbots LLC	Engineering unit conversions	\$1.99	N/A	https://tapbots.com
Trails GPS Tracker	AllTrails, Inc.	Useful in collecting data for a floating car arterial delay studies.	\$14.99	N/A	http://alltrails.com/

REQUESTS FOR PROPOSALS

1. Methods and Tools for Transportation Resilience Planning

Agency:

VTrans, State of Vermont

Deadline:

June 24, 2015

Contact:

Molly Perrigo, Alternative Contracting Specialist, e-mail: molly.perrigo@State.vt.us

Website:

<http://vtranscontracts.vermont.gov/personal-services/current-rfps>

Description:

The State of Vermont, acting through the Agency of Transportation (VTrans), is requesting proposals for a consultant to develop and apply new methods that integrate river corridor planning with transportation planning and decision making in order to assess and mitigate risks from flooding on the transportation system. The methods, tools, processes and recommendations developed will be documented and training will be included for the Vermont Agency of Transportation (VTrans), the Vermont Agency of Natural Resources (ANR), municipalities and the regional planning commissions (RPCs) so that the new methods can be incorporated in future efforts to develop watershed based transportation flood resilience plans for the state's entire transportation system and to enhance local and regional hazard mitigation plans.

2. General Traffic Engineering Services

Agency:

City of West Covina, CA

Deadline:

June 18, 2015 at 4:59 p.m.

Contact:

Delfino "Chino" Consunji, Public Works Director/City Engineer

Website:

<http://www.westcovina.org/Home/Component s/RFP/RFP/48/701>

Description:

The City of West Covina is requesting proposals from qualified consultants to assist the City of West Covina with general traffic engineering services. The services shall include planning, organizing, supervising and performing a variety of field and office professional traffic and transportation engineering work; planning, designing and reviewing development and capital improvement projects; performing technical studies; serving as project engineer for major traffic and transportation improvement projects; coordinating traffic signal timing and maintenance with Public Works staff; overseeing operations of the City's Traffic Management Center; and performing related duties as required.

The selected consultant shall serve as the City Traffic Engineer. City Traffic Engineer shall be a registered traffic engineer in the State of California and shall be available twelve (12) hours or more per week at City Hall. The consultant will work directly under the Public Works Director/City Engineer.

3. Ben Wilson Street Corridor Study

Agency:

Victoria MPO, Victoria, TX

Deadline:

July 1, 2015, at 5 p.m.

Contact:

Any questions concerning the proposal can be directed to Mary Craighead at tel. (361) 485-3360 or e-mail: mrcraighead@victoriatx.org.

Website:

<http://www.victoriatx.org/home/showdocument?id=6371>

Description:

The Victoria Metropolitan Planning Organization (MPO) is requesting competitive proposals from qualified consultants to complete a corridor study along Ben Wilson Street between Business US 59 and Sam Houston Drive. This corridor is currently five lanes, including a continuous left turn lane and serves the University of Houston-Victoria, Victoria College, and provides access to Citizens Medical Center. The University of Houston-Victoria is scheduled to begin an expansion project on the east side of Ben Wilson Street in the next year. This expansion will include a student center, student housing, and parking, and is anticipated to significantly increase the amount of pedestrian traffic crossing this corridor. The purpose of this study is to provide design alternatives to address both the safety of pedestrians, bicyclists, and other alternative transportation modes, and the flow of traffic along Ben Wilson Street.

4. Minutes Matter: A Guide to Bus Transit Service Reliability

Agency:

Transportation Research Board

Deadline:

June 25, 2015

Contact:

Stephan A. Parker; tel. (202) 334-2554; email: saparker@nas.edu

Website:

<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3929>

Description:

TCRP A-42 [RFP]

Funds: \$250,000

Research is needed to develop guidance on measuring and valuing (a) reliability from the passenger, operator, and agency points of view; (b) the effects of potential operational, technological, and physical measures to improve reliability in particular situations; and (c) the potential benefits and costs of those actions. Accurately estimating the benefits of reliability-improvement measures is necessary for transit agencies, both to gain the acceptance of roadway-owning agencies to implement certain treatments (e.g., bus stop relocation or removal, traffic signal priority, queue jumps, street maintenance) and to compete for scarce transportation funds to implement improvements on a large scale (e.g., along an entire route or throughout a city). A guide on

improving bus transit reliability would identify cost-effective techniques for improving bus reliability, thereby helping to improve ridership and provide more cost-efficient bus service.

The objective of this research is to develop a guide to bus transit service reliability.

The guide will include a toolbox of resources that may be used to diagnose and manage bus transit service reliability and will describe benefits, costs, and outcomes of potential policies, strategies, and actions.

5. Tools for a Sustainable Transit Agency

Agency:

Transportation Research Board

Deadline:

July 14, 2015

Contact:

Dianne S. Schwager, tel. (202) 334-2969, e-mail: dschwager@nas.edu

Website:

<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3933>

Description:

TCRP H-53 [RFP]

Research is needed to provide transit agencies with valuable sustainability principles and tools that they can adapt to their particular situations (e.g., depending on agency size, level of experience with sustainability, analytical capabilities, and existing organizational structure, etc.). Although the research would not take the place of detailed studies tailored to an individual transit agency, it would provide a more advanced starting point for all transit agencies. The results of such research would therefore provide opportunities for transit agencies to optimize staff time and money, while enhancing their ability to improve environmental, economic, and social sustainability.

The objective of this research is to develop tools to address how environmental, economic, and social sustainability objectives can be established and implemented by transit agencies. The tools should help transit agencies formulate, plan, finance, and integrate agency-specific sustainability strategies that improve transit performance and the livability and vitality of their communities. The research should provide transit agencies with information and ready-access to methods, tools, and examples of best practices to fully develop and implement a sustainability program

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CONFERENCES

DATES	CONFERENCE AND SPONSOR	CITY	VENUE	MAIN TOPICS	WEBSITE /CONTACT INFO
2015					
May 31-June 2	2015 TRB's 5th International Conference on Transportation Systems Performance Measurement and Data	Denver, CO	Grand Hyatt Denver	The conference will examine the state of the practice and will identify priorities for future research in transportation systems performance measurement and the data resources supporting them. It will be a forum for U.S. and international experts from government, industry, and academia to exchange and collaborate on performance measurement information. A pre-conference workshop will take place on May 31.	http://www.cvent.com/events/5th-international-transportation-systems-performance-measurement-and-data-for-decisions-and-performa/event-summary-b7e4eb5a3a3b4deba863f0ea917af5c7.aspx
May 31-June 3	Intelligent Transportation Society of America (ITS America) Annual Meeting & Exposition	Pittsburgh, PA	David L. Lawrence Convention Center	This event is expected to draw more than 2,000 of the nation's top transportation and technology policymakers, innovators and engineers, investors, researchers and business leaders to address the critical role of technology in the nation's and region's transportation future. Co-hosted with ITS Pennsylvania, the 2015 Annual Meeting will feature keynote speeches and panel discussions with the intelligent transportation industry's premier thought leaders and rising stars, and provide attendees the opportunity to experience the latest transportation innovations through interactive technology demonstrations, a bustling exhibit hall, technical tours, and networking events.	http://itsannualmeeting.org/
June 1-3	APTA Rail Conference	Salt Lake City, UT	The Grand America Hotel	Workshops and technical sessions will cover timely issues of widespread interest in operations, technology, safety, security, planning, finance, capital projects, and the technical aspects of providing all modes of rail service: urban, commuter, high-speed, and intercity. This conference features the industry's premier products and services showcase to learn more about advances in railroad and rail transit markets. It's designed for rail agency mid-level and top management, board members and policymakers, government agency staff, suppliers, consultants, and contractors.	http://www.apta.com/mc/rail/Pages/default.aspx
June 2-4	21st International Conference on Urban Transport and the Environment	Valencia, Spain	TRYP Valencia Oceanic Hotel	This conference typically attracts a wide international spread of delegates, and the variety of topics covered by the conference reflects the complex interaction of the urban transport systems with their environment and the need to establish integrated strategies. The aim is to arrive at optimal socio-economic solutions while reducing the negative environmental impacts of current transportation systems. The continuing requirement for better urban transport systems and the need for a healthier environment has added to the increasing success of this annual meeting.	http://www.wessex.ac.uk/15-conferences/urban-transport-2015.html
June 5-10	APTA North Carolina Transportation Association Conference and Roadeo	Concord, NC	Embassy Suites	Details not yet available.	http://www.nctransit.org/
June 7-9	2015 Northeast Association of State Transportation Officials (NASTO) Annual Meeting	Wilmington, DE	Chase Center & Westin	Each year, NASTO brings together representatives from the state transportation departments of the Northeastern United States and the Canadian provinces of Ontario and Quebec. This annual event continues to draw over 200 participants, including NASTO members. This year's event will include business meetings, addresses, exhibits and plenary sessions on a variety of leadership issues.	http://nasto.org/2015-nasto-conference/
June 8-10	2015 UITP World Congress & Exhibition	Milan, Italy	MiCo - Milano Congressi	Politicians, transport CEOs and urban visionaries from around the world will convene to discuss the challenges facing public transport: dealing with growing urbanization; liberating cities from congestion; offering better quality services; finding alternative funding, reacting to changing customer needs and more. The Exhibition will present and demonstrate the very latest innovative products and solutions from the world's leading manufacturers and the emerging trends set to shape the future of urban mobility in the years to come.	http://www.uitpmilan2015.org/

DATES	CONFERENCE AND SPONSOR	CITY	VENUE	MAIN TOPICS	WEBSITE /CONTACT INFO
June 9-11	APTA Ohio Public Transit Conference & Trade Show	Columbus, OH	Doubletree Hilton	This year's conference theme is "Rolling Forward." It will feature innovative, cutting-edge ideas, case studies and best practices to motivate participants beyond the conference to maintain the safe and efficient movement of people in the State of Ohio.	http://www.ohiopublictransit.org/
June 10-12	APTA Iowa Public Transit Association Annual Meeting and Roadeo	Des Moines, IA	Embassy Suites	Details not yet available.	http://www.iapublictransit.com/events/ipta-annual-meeting
June 10-12	Advanced Traffic Simulation , hosted by University of Cyprus	Nicosia, Cyprus	University of Cyprus	This intensive three-day school, the 4 th in the MULTITUDE series, will provide attendants with training on advanced traffic simulation methods and models, their systematic calibration and validation, the reliability of predictions made by traffic simulation models, and tools and frameworks for the management of uncertainty. The school is targeted at graduate and PhD students, engineers, researchers, consultants and government employees who wish to improve their understanding and skills in the application of traffic simulation to real world scenarios.	http://multitude-project.eu/
June 21-24	APTA Rail Conference	Salt Lake City, UT	Grand America Hotel	Workshops and technical sessions will cover timely issues of widespread interest in operations, technology, safety, security, planning, finance, capital projects, and the technical aspects of providing all modes of rail service: urban, commuter, high-speed, and intercity. This conference features the industry's premier products and services showcase to learn more about advances in railroad and rail transit markets. It is designed for rail agency mid-level and top management, board members and policymakers, government agency staff, suppliers, consultants, and contractors.	http://www.apta.com/mc/rail/Pages/default.aspx
June 22-24	5th International Symposium on Highway Geometric Design	Vancouver, Canada	Fairmont Waterfront hotel	Held every five years, the aim of the Symposium is to encourage the continuous improvement of highway geometric design. The theme of this conference, which is being organized by the Transportation Research Board, Transoft Solutions and the University of British Columbia, is "Safe and Efficient Design for the 21 st Century." It will include presentations and workshops on urban and rural roadway geometric design research and practice.	http://www.ishqd2015.net/
June 25-28	3rd International Conference on Transportation Information and Safety (ICTIS 2015) , sponsored by the China Communications and Transportation Association, the American Society of Civil Engineers and the Canadian Society of Civil Engineering	Wuhan, China	Wuhan University of Technology	The theme of ICTIS 2015 is "Transportation Information and Safety in the Age of Big Data". Experts, scholars and practicing engineers of transportation systems are invited to the conference to discuss a broad range of topics related to the theories, technologies and applications of transportation information and safety technology. The conference will showcase international experiences in the research of multimodal transportation (including road, railway, navigation, and aviation) and development, and provide a platform for both domestic and overseas scholars and practicing engineers to exchange successful stories and share lessons learned in research and practice.	http://ictis.whut.edu.cn/ictis/
June 29	International Workshop on Emerging Technologies for High-fidelity Land Use Transport Interaction Modeling , sponsored by the Transportation Research Board and Chinese research organizations and universities	Wuhan, China	Wuhan University of Technology	This workshop is dedicated to discussions of "Opportunities, Challenges and Initiatives" in using emerging technologies, such as GIS and GPS for a "high-fidelity" integrated modeling process. Topics will include such issues as opportunities for enhancing the fidelity of individual modules, challenges of using a particular emerging technology in integrated land use transport modeling, initiatives of using emerging technologies for an improved spatial modeling process and initiatives of using emerging technologies for an improved temporal modeling process.	Organizing committee members: Dr. Ming Zhong at mzhong@whut.edu.cn , Dr. John Douglas Hunt at jdhunt@ucalgary.ca and/or Dr. John Abraham at jea@hbspecto.com
June 29-July 2	International Parking Institute (IPI) Conference and Expo	Las Vegas, NV	Mandalay Bay Resort & Convention Center	The IPI Conference and Expo is the largest educational and networking event for parking and transportation professionals in the world. Traditionally, more than 2,800 attendees gather for the four days for meetings, keynotes, leadership discussions, networking awards, special events, tours of parking facilities and an exhibit hall with more than 235 exhibitors.	http://www.parking.org/meetings--events/ipi-conference--expo.aspx

N/A = Not Available; m = member; nm = non-member. To list your transportation conferences here FREE send all information as above to: The UTM Conference Dept., P.O. Box 12300, Burke, VA 22009-2300, or call (703) 764-0512, or fax (703) 764-0516, or email: editors@lawleypublications.com.

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July 6-10	AASHTO Conference on 21st Century Mobility for Freight and Passenger Transportation	Salt Lake City, UT	Salt Lake Marriott Downtown at City Creek	This year's event will include committee meetings and invitation-only workshops on topics such as EcoLogical, Economic Analysis Tools and PlanWorks. Topics for breakout sessions include Issues in State Long Range Planning, Leveraging Emerging Technology, Opportunity Cost of Not Investing in Transportation Infrastructure, Expediting Project Delivery, Cross-modal Research, Extreme Weather Resiliency and Asset Management, and Public-Private Partnerships.	http://www.cvent.com/events/aashto-s-conference-on-21st-century-mobility-for-freight-and-passenger-transportation/event-summary-d34e1adcb65d4cefa561eb4c63abd290.aspx
July 7-10	UIC 9th World Congress on High Speed Rail	Tokyo, Japan	Tokyo International Forum	The Congress is being coordinated by East Japan Railway Company in collaboration with all parties involved in high speed rail in Japan, and more generally with all UIC member railways. It is expected to attract more than 1,000 attendees from across the globe to exchange views on the development and achievements of high-speed rail worldwide. The World Congress will feature international rail experts on transportation policy and technology. It will bring the public and private sectors together to provide insight and identify best practices for implementing high-speed rail projects at every stage - from planning, financing, and construction, to operations and management. Also, the Congress will feature an exhibit showcasing high-speed rail products and services.	http://www.uic-highspeed2015.com/
July 10-15	14th World Conference on Transport Research , hosted by Tongji University	Shanghai, China	Tongji University Main Campus	The World Conference on Transport Research has been held every three years since 1977. The 14th World Conference is aimed at offering a unique opportunity to bring together experts in all aspects of transport research, from all parts of the world and to stimulate the exchange of ideas in the broad field of transport research. Topics to be discussed may include: Transport Modes – General, Freight Transport and Logistics, Traffic Management, Operations and Control, Activity and Transport Demand, Transport Economics and Finance, Transport, Land-use and Sustainability, Transport Planning and Policy, and Transport in Developing and Emerging Countries.	http://wctrs-conference.com/
July 13-16	60th Annual AASHTO National Transportation Management Conference	Madison, WI	Madison Concourse Hotel and Governor's Club	The AASHTO National Transportation Management Conferences provide mid-level managers in departments of transportation the skills they need to make the transition from technical to management responsibilities. In a four-day series of workshops, participants are introduced to the tools, techniques and best practices needed for effectively managing people and projects. For more experienced managers, the workshops update and refine existing skills, challenge current thinking, introduce new concepts, and explore changing employee and customer relationships. The conferences emphasize: recognizing the manager's multiple jobs, creating a nationwide network for mid-level transportation managers, leading change, team building, managing people in today's world, improving communication skills, learning to detect and mitigate risks in managing projects, professional ethics and evolving transportation policy.	http://www.cvent.com/events/2015-aashto-ntmc/event-summary-8fe65161dfbc43f2bb3b0607c7dcd06c.aspx
July 16-17	Intelligent Transportation Society of Virginia Annual Conference & Exposition	Richmond, VA	Omni Richmond	Details not yet available.	https://www.itsva.org/conferences/
July 19-22	2015 Western Association of State Highway and Transportation Officials (WASHTO) Annual Meeting	Boise, ID	The Grove Hotel	The theme of this year's annual meeting is "Transportation Solutions: Moving at the speed of business." Discussions will focus on how the rapidly changing transportation industry must remain at the forefront of change, instead of just keeping pace with it. WASHTO 2015 will feature a broad range of general and breakout sessions and include more technical tracks, sessions on operations, design and planning, the environment, administration and executive management.	http://www.washto2015.com/
July 19-22	ITE Western District 2015 Annual Meeting	Las Vegas, NV	Planet Hollywood Resort	The annual meeting is set to welcome transportation professionals from across the western United States. Attendees will gain full access to a diverse technical program, interactive vendor exhibits, and numerous networking opportunities.	http://www.lvite2015.com/

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July 28-31	TRANSED 2015: 14th International Conference on Mobility and Transport for Elderly and Disabled People , co-sponsored by TRB	Lisbon, Portugal	Calouste Gulbenkian Foundation	The conference is designed to review advances in research, profile international breakthroughs, and explore perspectives for technological innovations to enhance the mobility of an aging population and persons with disabilities. The conference will also examine ways to address challenges associated with improving mobility and transportation for the elderly and disabled.	http://traned2015.com/
July 29-30	EV Roadmap Conference , founded by Portland General Electric and Portland State University, and now produced by Drive Oregon	Portland, OR	World Trade Center	The EV Roadmap conference offers a "graduate course" in electric vehicle deployment. It is founded on the belief that widespread electric vehicle adoption requires a supportive "ecosystem" of stakeholders, from utilities and local governments to vehicle OEMs, charging providers, interest groups, and drivers. The conference brings all of these stakeholders together in a highly interactive format to explore emerging trends, share best practices, and map the road ahead.	http://evroadmapconference.com/
Aug. 1-4	2015 Southeastern Association of State Highway and Transportation Officials (SASHTO) Annual Meeting	Nashville, TN	The Music City Center	The 2015 annual meeting will allow attendees to discover successful strategies used by other transportation departments in the southeastern region and discuss the latest transportation trends that affect their organization and areas of responsibility. The event provides an opportunity to exchange ideas, insights and practical strategies with colleagues from other transportation departments, identify the major skills and competencies most critical for success as a transportation leader and learn the latest funding initiatives.	http://www.sashto.org/annual-meetings.html
Aug. 2-4	APTA Sustainability & Public Transportation Workshop	Portland, OR	The Nines Portland	The workshop will feature cutting-edge speakers and breakout groups presenting environmental/energy efficient, economically sound, and socially responsible developments and practices to advance public transportation's role in sustainability. It's designed for general managers and senior staff likely to implement sustainability in transit agencies, suppliers, consultants, and others supportive of public transportation's role in sustainability	http://www.apta.com/mc/sustainability/Pages/default.aspx
Aug. 3-5	APTA Kansas Public Transit Association Annual Meeting	Manhattan, KS	Four Points by Sheraton	The annual meeting will provide an educational program, as well as the opportunity to network with industry professionals and exchange ideas and information.	http://kstransit.org/
Aug. 10-12	APTA Multimodal Operations Planning Workshop	Houston, TX	JW Marriott Downtown	This workshop is APTA's meeting dedicated to promoting and advancing the work of America's professional public transportation planners and schedulers. Sessions will provide planners and schedulers with the latest in scheduling, facilities planning, technological advances, designing routes, and bus rapid transit. It is an information sharing opportunity for both established professionals and individuals who are new to the field.	http://www.apta.com/mc/multimodal/Pages/default.aspx
Aug. 10-13	2015 Mid-America Association of State Transportation Officials (MAASTO) Annual Meeting	Overland Park, MO	Overland Park Convention Center	Details not yet available.	http://www.ksdot.org/MAASTO/maasto.aspx
Aug. 11-13	APTA Indiana Transportation Association 81st Annual Meeting	South Bend, IN	Century Center	The annual meeting will feature updates on transportation-related developments in Washington, as well as in the state General Assembly. The event will also include an indoor bus exhibition.	http://www.indianatransportationassociation.com/index.html
Aug. 18-20	APTA Michigan Public Transit Statewide Annual Meeting	Grand Rapids, MI	Amway Grand	Details not yet available.	http://www.mptaonline.org/

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Aug. 24-27	60th Annual AASHTO National Transportation Management Conference	Spokane, WA	The Davenport Hotel	The AASHTO National Transportation Management Conferences provide mid-level managers in departments of transportation the skills they need to make the transition from technical to management responsibilities. In a four-day series of workshops, participants are introduced to the tools, techniques and best practices needed for effectively managing people and projects. For more experienced managers, the workshops update and refine existing skills, challenge current thinking, introduce new concepts, and explore changing employee and customer relationships. The conferences emphasize: recognizing the manager's multiple jobs, creating a nationwide network for mid-level transportation managers, leading change, team building, managing people in today's world, improving communication skills, learning to detect and mitigate risks in managing projects, professional ethics and evolving transportation policy	http://www.cvent.com/events/2015-aashto-ntmc/event-summary-8fe65161dfbc43f2bb3b0607c7dcd06c.asp x
Aug. 30-Sept. 3	14th International Conference on Competition and Ownership in Land Passenger Transport (Thredbo 14) , hosted by the Institute of Transport and Logistics Studies (ITLS) at the University of Sydney	Santiago, Chile	Ritz-Carlton Hotel	The Thredbo Series serves as a forum for the international community, integrating a mix of executives from public agencies, and operating and consulting companies with researchers and academics in a unique and lively discussion. Thredbo 14 will include academic developments, case studies, and benchmark experiences, with participants from every continent. Thredbo is structured around workshops with delegates choosing a workshop which they stay with for the duration. In each workshop, there is a deep discussion around a relevant question that later forms the basis of a report which is shared in a plenary presentation and then published in a special journal edition	http://www.thredbo-conference-series.org/
Sept. 14-17	60th Annual AASHTO National Transportation Management Conferences	Albuquerque, AZ	Hotel Albuquerque at Old Town	The AASHTO National Transportation Management Conferences, now in their 60th year, provide mid-level managers in departments of transportation the skills they need to make the transition from technical to management responsibilities. In a four-day series of workshops, participants are introduced to the tools, techniques and best practices needed for effectively managing people and projects. For more experienced managers, the workshops update and refine existing skills, challenge current thinking, introduce new concepts, and explore changing employee and customer relationships.	http://www.cvent.com/events/2015-aashto-ntmc/event-summary-8fe65161dfbc43f2bb3b0607c7dcd06c.asp x
Sept. 15-18	2015 IEEE 18th International Conference on Intelligent Transportation Systems – (ITSC 2015)	Canary Islands, Spain	Palacio de Congresos de Canarias	The IEEE Intelligent Transportation Systems Conference is the annual flagship conference of the IEEE Intelligent Transportation Systems Society. IEEE ITSC 2015 will address such issues as new developments in theory, analytical and numerical simulation and modeling, experimentation, demonstration, advanced deployment and case studies, and results of laboratory or field operational tests -- all under the general theme of Smart Transportation for Safety and Sustainability.	www.itsc2015.org
Sept. 28-30	European Transport Conference 2015 , sponsored by the Association for European Transport	Frankfurt, Germany	Campus Westend, Goethe University	The conference connects the worlds of research, consultancy, policy and practice. The headline topics at the 2015 conference will be: Urban Mobility; the promotion and integration of non-motorized modes; social equity in transport; resilience to the effects of changes in the climate; assessment of techniques for the appraisal of major projects; models to support transport planning and policy; investment in transport infrastructure; and automated driving and smart mobility	http://aetransport.org/page/open/title/European%20Transport%20Conference/
Oct. 4-7	APTA Annual Meeting	San Francisco, CA	Hilton San Francisco Union Square	APTA's Annual Meeting is the flagship event for public transportation professionals to engage in educational sessions, workshops, tours, and network with colleagues. Keynote speakers discuss strategy and leadership. Educational sessions explore creating transit oriented communities, investing in infrastructure, asset management, innovating funding and financing, managing emerging technologies, safety, workforce issues, and big transportation projects worldwide. With the 25th Anniversary of the Americans with Disabilities Act in 2015, we'll celebrate the accomplishments and project forward for the next 25 years.	http://www.apta.com/mc/annual/Pages/default.aspx

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Oct. 4-8	ITS World Congress 2015	Bordeaux, France	N/A	Twenty one years after its creation and its first edition in Paris, the ITS World Congress returns to France and in the prestigious city of Bordeaux. Since its creation, the ITS Congress has grown phenomenally expects more than 3,500 Congress delegates, 300 exhibitors and 10,000 visitors coming from more than 100 countries, to gather and exchange, debate, build networks of partnerships during the Congress, to attend demonstrations and to participate in the technical visits. This year's theme is: 'TOWARDS INTELLIGENT MOBILITY. More than 200 sessions are planned.	http://itsa.org/events/icalrepeat_detail/2015/10/05/586/-/its-world-congress-2015-bordeaux-france-
Oct. 5-8	60th Annual AASHTO National Transportation Management Conferences	Columbia, SC	Columbia Marriott	<p>The AASHTO National Transportation Management Conferences, now in their 60th year, provide mid-level managers in departments of transportation the skills they need to make the transition from technical to management responsibilities.</p> <p>In a four-day series of workshops, participants are introduced to the tools, techniques and best practices needed for effectively managing people and projects. For more experienced managers, the workshops update and refine existing skills, challenge current thinking, introduce new concepts, and explore changing employee and customer relationships.</p>	http://www.cvent.com/events/2015-aashto-ntmc/event-summary-8fe65161dfbc43f2bb3b0607c7dcd06c.aspx
Oct. 6-8	TRB 5th International Road Safety and Simulation Conference	Orlando, FL	Orlando Airport Marriott	The University of Central Florida (UCF) and the University of Tennessee, Knoxville (UTK) will co-host this conference that showcases advancements in traffic simulation and driving simulator technologies, introducing new initiatives and concepts that have emerged since the first RSS conference in Rome, Italy in 2007. Under the auspices of the Southeastern Transportation Center, three world-class research centers will support the conference: Center for Advanced Transportation Systems Simulation, and the Institute for Simulation and Training at UCF; and UTK's Center for Transportation Research. These centers conduct sponsored research in driving simulators, traffic simulation, traffic safety, commercial vehicle operations, Intelligent Transportation Systems deployment, and congestion pricing; human factors; and comprehensive transportation safety, including surface modes, rail, and bicycle and pedestrian issues.	http://stc.utk.edu/STCEvents/rss2015/
Oct. 26-29	60th Annual AASHTO National Transportation Management Conferences	Annapolis, MD	DoubleTree by Hilton Annapolis	<p>The AASHTO National Transportation Management Conferences, now in their 60th year, provide mid-level managers in departments of transportation the skills they need to make the transition from technical to management responsibilities.</p> <p>In a four-day series of workshops, participants are introduced to the tools, techniques and best practices needed for effectively managing people and projects. For more experienced managers, the workshops update and refine existing skills, challenge current thinking, introduce new concepts, and explore changing employee and customer relationships.</p>	http://www.cvent.com/events/2015-aashto-ntmc/event-summary-8fe65161dfbc43f2bb3b0607c7dcd06c.aspx
Oct. 27-29	New York Public Transit Association Annual Conference and Expo	Rochester, NY	Rochester Riverside Convention Center and Rochester Hyatt	As ridership increases throughout the state, the industry is evolving to meet the transit needs of communities and provide safe, reliable and consistent service to its riders. This conference will give attendees a chance to share and learn about new initiatives, programs and best practices regarding public transit in New York.	http://www.nytransit.org/index.php/events/2014-ny-public-transit-industry-solutions-fall-conference-call-for-presentations
Oct. 28-30	2015 National Walking Summit , sponsored by a variety of health and alternative transportation organizations	Washington, DC	Hyatt Regency	This year's theme is "Walking is Going Places." The summit provides an opportunity for national organizations, companies, agencies, and local partners to convene to share best practices and stories, increase awareness about the advantages of walking, build support among federal agencies, and create momentum for the work ahead.	http://www.walkingsummit.org/