TRANSPORT CHICAGO

FRIDAY, JUNE 12

2015

30TH

ANNUAL CONFERENCE

WELCOME TO TRANSPORT CHICAGO 2015

Transport Chicago is an annual conference that provides a forum for the exchange of knowledge in transportation research, policies, and practice. The conference, first held in 1986, explores a broad range of transportation modes and issues. This event regularly attracts over 200 academics and professionals from the Chicago region and beyond, offering an excellent opportunity for the transportation community to make connections and share experiences.

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2015 CONFERENCE STEERING COMMITTEE

Dear Transportation Colleagues,

Welcome to the 2015 Transport Chicago Conferece. In our 30th year, we continue to strive to provide conference attendees with a forum for the exchange of knowledge in transportation research, policy and practice. This year's program includes a broad range of topics spanning all modes of transportation.

We face many challengers today. We await a long term funding strategy as state and federal gas tax revenues struggle to adequately fund expansion and state of good repair of our nation's infrastructure, yet, the transportation industry has continued to evolve to adapt to these challenging conditions. Recent transportation innovations have focused on creative technologies to address changing demands in a fiscally constrained environment. The widespread availability of data has reshaped the industry, enabling planners and decision makers to develop the most efficient transportation system as possible.

Private companies like Bridj, Uber and RideScout have emerged in the last five years providing commuters with real-time travel options and helping to supplement and enhance transportation networks across the U.S.A. Drone and driverless vehicle technologies that once seemed like they were part of a science fiction novel, now promise to reshape the industry in the coming years. In the Chicago region, we have seen technological advances with the implementation of the Ventra® system, Transit Signal Priority, as well as the upcoming implementation of active traffic management on the Jane Addams Memorial Tollway. This year's conference aims to cover a number of these emerging technologies and to give attendees an opportunity to explore new advancements in our workshop sessions.

The Transport Chicago Steering Committee is pleased to welcome our two keynote speakers, Former U.S. Secretary of Transportation Mary Peters, and Former U.K. Minister for Transport, Steve Norris who offer a wealth of knowledge in the transportation industry from both the public and private sectors.

Please take the opportunity to network with fellow transportation professionals and enjoy today's conference. We would like to thank you for your support of our organization and we look forward to continue to provide a quality conference for the next thirty years.

Sincerely,

Charlotte O'Donnell
President | Transport Chicago 2015 Steering Committee

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PACE SUBURBAN BUS

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THE CONFERENCE SCHEDULE

AICP CM credits available for morning and afternoon keynote addresses. Up to 5 PDH credits are also available, see registration table for self-report certificate.

8:00-8:45AM	REGISTRATION AND BREAKFAST		
8:45-9:45AM	MORNING KEYNOTE ADDRESS **CM | 1** MARY PETERS *U.S. SECRETARY OF TRANSPORTATION (2006 – 2009)*		
10:00-11:00AM	SESSION ONE		
	SESSION A *Cardinal Room*	SESSION B *Room 302*	SESSION C *White Oak Room*
	DATA DELUGE Ventra Sales Channels A Tale of Two Cities: Planning Nonmotorized Data Collection Programs in Chicago, IL and Columbus, OH So You Want to Buy a Fire Hose...	**CRAZY FREIGHTS** Regional Food Logistics: A Stakeholder Process to inform Multi-system Redesign for Sustainability Changing Transportation Impacts of Waste Management in the Chicago Metropolitan Region A Truck Tour-Based Model of Urban Goods Distribution	**JUSTICE LEAGUE** Setting Policy and Precedence: CREATE in Motion Champaign-Urbana Health Impact Assessment Impacts on Traditional Resource Triage Rules on Rail Networks Following Severe Weather Disruptions on Socioeconomic Classes
11:15AM-12:15PM	SESSION TWO		
	SESSION A *Room 302*	SESSION B *White Oak Room*	WORKSHOPS *A - Cardinal Room B - Fort Dearborn Room*
	TRANSPORT DISRUPTED Mobility for Chicago Self-Driving Cars: Implications for Public Transportation Mobile Payments and Transportation, Providing Synergy in a Disconnected Environment	**PEOPLE, PARCELS AND PLANES - OH MY!** PPPs in Chicagoland: from Meters to Midway Revitalizing the Gary/Chicago International Airport Intermodal Freight Transportation in Chicago	**WORKSHOP A** How Does This Relate to That? Enter the Data Scientist **WORKSHOP B** The Power of Integrated Communications to Advance Transportation Initiatives

12:30-1:00PM	LUNCH SPONSOR RECOGNITION		
1:00-2:00PM	AFTERNOON KEYNOTE ADDRESS **CM | 1** STEVE NORRIS *U.K. MINISTER FOR TRANSPORT (1992-1997)*		
2:00-2:30PM	POSTER SESSION AND NETWORKING		
2:45-3:45PM	SESSION THREE		
	SESSION A *Cardinal Room*	SESSION B *Room 302*	WORKSHOPS *A - Fort Dearborn Room B - White Oak Room*
	BIG SHOULDERS, BIG PROJECTS Jane Addams Memorial Tollway (I-90) Rebuilding and Widening Project CDOT Loop Link	**MASTERS OF MOBILITY** Bi-Partisan Solutions for Growing Passenger Rail Confronting Equity in the Design of Bicycle Sharing Systems Could Tolls and User Fees be a More Equitable and Just Funding Mechanism?	**WORKSHOP A** Sustainable Community | Laying Strong Foundations Using Envision **WORKSHOP B** Transitmix: A Modern Sketching Tool for Planning Transit
3:45-4:00PM	RAFFLE		
4:00-5:00PM	WINE AND CHEESE RECEPTION		

OUR KEYNOTE SPEAKERS

MORNING
MARY E. PETERS

U.S. SECRETARY OF TRANSPORTATION (2006 – 2009)

MARY E. PETERS served as U.S. Secretary of Transportation from 2006 – 2009. She oversaw all U.S. aviation, surface and maritime policy and programs and negotiated transportation agreements with foreign governments. Ms. Peters was responsible for over 60,000 employees and a $70.3 billion annual budget.

Prior to serving as U.S. Secretary of Transportation, Ms. Peters was a Senior Vice President and National Director for Transportation Policy and Consulting for HDR, Inc., a major engineering company.

In 2001, Ms. Peters was appointed by President George W. Bush to serve as the Federal Highway Administrator for the U.S. Department of Transportation, a role she served in from 2001 – 2005. As Administrator she oversaw the federal-aid and federal lands highway programs, including the interstate highway system and the national highway system. Ms. Peters was responsible for over 3,000 employees and a $45 billion annual budget. During her tenure, Ms. Peters worked with the Administration and Congress to enact a multi-year surface transportation bill, SAFETEA-LU. She also spearheaded efforts to find new ways to invest in infrastructure and advocated the use of new technology to reduce construction time while saving taxpayer dollars and ensuring safer and stronger roads.

Among her awards, she was recognized as the Most Influential Person in Arizona Transportation by the Arizona Business Journal and as the 2004 National Woman of the Year Award from the Women's Transportation Seminar.

AFTERNOON
STEVE NORRIS

U.K. Minister for Transport (1992-1997)

STEVE NORRIS was educated at Liverpool Institute and at Oxford University where he took an Honours degree in Jurisprudence. He served for fourteen years as a UK Member of Parliament in the governments of Margaret Thatcher and John Major. He was Parliamentary Private Secretary in the Department of Environment, then the Department of Trade and Industry and finally the Home Office before being appointed Minister for Transport in 1992 a post which he held until he announced his retirement from parliament in 1997. As minister he was responsible for the Jubilee Line Extension and was the principal advocate of Crossrail, the new metro line spanning London and due to open in 2018. He was twice his party's candidate for Mayor of London. He is a former member of the board of Transport for London, a Fellow of the Chartered Institute of Highways and Transportation, a Companion of the Institution of Civil Engineers and an Honorary Fellow of the Association for Project Management.

He has been at the front line of UK transport policy for more than twenty years latterly as a Commissioner at the Independent Transport Commission. He was a member of the Treasury Growth Task Force for HS2, the planned high speed line connecting London to the north. He sits on the Board of Directors of Cubic Corporation.

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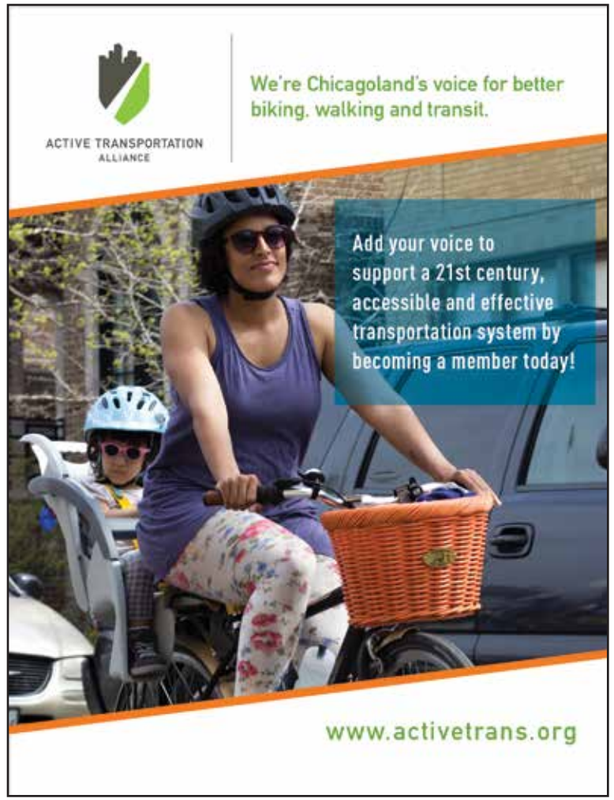

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DATA DELUGE

10:00AM SESSION A / CARDINAL ROOM
MODERATOR: ADRIANA HEMZACEK

QUITE OFTEN, THE JUMP TO NEWER TECHNOLOGIES AND THE LARGE AMOUNTS OF DATA THAT THEY CAN PROVIDE IS REFERRED TO AS "GOING FROM A DRIPPING FAUCET TO A GUSHING FIRE HOSE" OF DATA. IN THIS PRESENTATION, HEAR EXAMPLES OF HOW THE INCREASED INFORMATION OBTAINED THROUGH DATA COLLECTION CAN BE TURNED INTO SEAMLESS AND READER-FRIENDLY OUTPUT.

Ventra Sales Channels

Michael Loeffler
Cubic Transportation Systems

Ventra, the account-based automated fare collection system for the Chicago Transit Authority and Pace Suburban Bus, launched in August 2013 . It offers 10 channels through which transit patrons can purchase and load value and pass products to their Ventra accounts. Some of these sales channels were not previously available in the legacy system, a few of which offer convenience and automation that the casual observer might assume would be popular even though their share of sales is lower than expected.

What drives patron behavior? Why is it that certain patrons choose sales channels that are manual when more automated options exist? One must certainly consider the many factors that influence behavior: economic, geographic, age, familiarity and access to technology, and reluctance to stray from longstanding habits.

A thorough analysis of Ventra sales activity sheds light on these behaviors. Low-value purchases with cash as the prevalent payment method at ticket vending machines and retail locations account for 60 percent of monthly Ventra sales. Empirical evidence suggests that economics and a reluctance to stray from longstanding habits are the predominant factors that influence these behaviors.

Cities have no shortages of unbanked residents and it is this very population that is likely to make low-value transit fare purchases with cash. Two solutions come to mind to help this group get the most out of their financial resources: the use of general purpose reloadable accounts to better manage their finances; and tax-free transit benefit programs.

Education remains the pervasive challenge.

A Tale of Two Cities: Planning Nonmotorized Data Collection Programs in Chicago, IL and Columbus, OH

Kristen Maddox
Alta Planning + Design
Eric Hanss, CDOT, Co-presenter

A dearth of comprehensive, comparable, and statistically valid bicycling and walking data hampers cities' transportation planning initiatives nationwide. Through the "Mayors' Challenge for Safer People, Safer Streets," the United States Department of Transportation (USDOT) is engaging communities to gather and track biking and walking data. Communities that collect biking and walking data are able to measure activity levels and bicyclist and pedestrian exposure to traffic crashes. These data points allow planners and officials to make strategic planning decisions. They can quantify the benefit of walking and biking infrastructure in terms of tangible numbers and results.

The City of Chicago and the City of Columbus understand the value of non-motorized traffic data collection within their agencies, as evidenced by recent and ongoing ped/bike counting efforts. A comparison of the two cities' approaches to non-motorized traffic monitoring reveals the hidden nuances of accurately counting people biking and walking. The two cities' programs differ in terms of purpose, approach, timeline for implementation, and future plans. Nonetheless, the comparison describes two approaches to using non-motorized transportation data as an impetus for improved safety and network development. Such changes have the potential to positively impact a city's entire transportation network.

One-time counting projects are transitioning into well-researched, routine programs. As the data revolution continues to shape our cities, the presenters are at the forefront of investigating the hidden patterns behind everyday behavior.

So You Want to Buy a Fire Hose....

James Garner
Pace Suburban Bus

Quite often, the jump to newer technologies and the large amounts of data that they can provide is referred to as "going from a dripping faucet to a gushing fire hose" of data. In this presentation, Pace would like to give examples of how it dealt with just such a process, in going from a legacy card-based fare system to a state-of-the-art Account-based Open Standards Fare System (VENTRA).

The impacts have been far reaching, from re-evaluating business rules and core practices, to integrating data sources/data outputs to help break down traditional silos, to changing processes and skill sets to best utilize the enormous increase in data available for planning and customer service, and all points in between.

In this presentation Pace would like to look towards new uses for this data and at how this data can be used to better understand our customers and the service we provide. For example,

- Drastic increase in granularity, but also complexity.
- Much more data available to explore customer riding habits, with unlinked and linked trip info,
- How do we communicate this volume of data to planners and decision-makers clearly?
- Smashing the Silos:
  - -How can I combine detailed boarding information with APC samples to better evaluate frequency and equipment needs.
  - -"Crossing the streams," what happens when you have revenue and ridership deeply linked. These are often two separate but parallel considerations.
  - -Combining this data traditionally "siloed," data, such as schedule adherence information, to develop truly customer-facing KPIs.

CRAZY FREIGHTS

10:00AM SESSION B / ROOM 302
MODERATOR: ELAINE MCKENZIE

WHERE DOES YOUR FOOD COME FROM? WHERE DOES YOUR GARBAGE GO? HOW DO THESE DAILY NECESSITIES - AND MORE - NAVIGATE THE COMPLEX LANDSCAPE OF CHICAGO? CRAZY FREIGHTS WILL SHOWCASE RESEARCH ON URBAN SUPPLY CHAINS, A VITAL ELEMENT THAT MAKES MODERN CIVILIZATION POSSIBLE.

Regional Food Logistics: A Stakeholder Process to Inform Multi-ystem Redesign for Sustainability

Michelle Miller
UW-Center for Integrated Agricultural Systems

Until recently, local and regional food system development efforts have emphasized small scale direct marketing activities, while food freight transportation policy and planning have primarily focused on distribution infrastructure for large-scale commodity products. As the demand for local food continues to increase, innovative and scale-appropriate infrastructure and expertise are needed to respond to the market pull. The key question among the stakeholders continues to be: “How can we better move sustainable food products to meet regional market demand?” This paper highlights the process of collaboration between USDA’s Agricultural Marketing Service (AMS) and the University of Wisconsin-Madison Center for Integrated Agricultural Systems (CIAS) to focus on transportation and distribution issues in order to facilitate effective growth in local and regional food systems. The process brought representatives of regional food supply chains together to discuss their experiences and compare notes. More than one hundred participants heard farmer/shippers, distributors, and wholesale buyers discuss innovations and challenges to moving local food in the Upper Midwest. Researchers, Extension educators, planners and NGOs listened and summarized some of the conversations around communicating value, logistical challenges, and creating more sustainable food supply chains. The process catalyzed a series of discussions and actions within the region. Business networking emerged as a central function of the meeting, resulting in the development of new supply chains. Another result is a project to investigate strategies that may optimize food freight operations into the Chicago mega-region. To read the published report, please see: http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5108089

Changing Transportation Impacts of Waste Management in the Chicago Metropolitan Region

Martin Brown
The Delta Institute

The closure of four landfills in Cook County between 2003 and 2008 has increased Illinois waste exports to Indiana by over 300%[1] resulting in greater impact of increased transportation through greater vehicle miles travel, increased CO2 emissions from the combustion of diesel fuel and increased traffic congestion.

Delta Institute modeled the waste management (WM) practices for 20 municipalities across the Chicago Metropolitan Region utilizing the Municipal Solid Waste Decision Support Tool to compare the economic and environmental costs in the year 2040[2] under three distinct WM scenarios, ranging from the status quo to 60% waste diversion

• Currently, transportation represents 7% of the cost of waste management’s six principle stages; collection, separation, treatment, transfer, disposal and remanufacturing. As fuel prices increase we predict transportation could increase to as much as 14% of total WM costs.

• Transportation of waste represents 16% of the CO2E emitted through the WM process.
To reduce these impacts, our findings show that increased waste diversion, through compost and recycling, can significantly reduce GHG emissions associated with WM. These findings are timely for municipal and regional leaders determining infrastructure investment levels and procuring waste serves. This is an important consideration because waste collection comprises 7-12% of a municipal budget.

(1) IDEM. 2008. Solid Waste Facilities 2008 Annual Report. Indiana Department of Environmental Management. (2)The year 2040 was selected to align with the Chicago Metropolitan Agency for Planning’s GOTO 2040 regional, long-term comprehensive plan

A Truck Tour-Based Model of Urban Goods Distribution

Monique Stinson
RS&H, Inc.

While freight trucks generate only three percent (on average) of urban vehicle-miles traveled Source: Accounting for Commercial Vehicles in Urban Transportation Models: Final Report. Prepared for Federal Highway Administration by Cambridge Systematics, Inc. with Arun Chatterjee, Ph.D. and Harry Cohen, Ph.D. March 2004., their impacts on congestion, pavement, and emissions are disproportionately high. Using methods that accurately capture truck travel is therefore important to achieve many regional goals. To accomplish this, an innovative truck touring model was developed for District Seven of the Florida Department of Transportation. Like the Chicago area, the Tampa, Florida metropolitan region plays a prominent role in goods distribution due to its proximity to consumer markets, rail terminals, water ports, and warehousing and distribution facilities. The model focuses on urban freight distribution and includes some longer-distance operations.

The modeling framework includes a truck tour generation module, an ordered-response number of stops model, and a model of stop locations. Agent-based methods are used to enhance the ability of the model to estimate the impacts of tolls, land use and other factors on truck travel.

The model includes both economically-oriented business information as well as logistics-oriented trip and tour information. The inclusion of both perspectives enriches the model by providing a more complete context for goods distribution.

JUSTICE LEAGUE

10:00AM SESSION C / WHITE OAK ROOM
MODERATOR: MARISSA DOLIN

TRANSPORTATION PROJECTS EXECUTED TO BENEFIT THE GREATER GOOD OF A CITY OR REGION OFTEN CAN HAVE UNINTENDED ENVIRONMENTAL, HEALTH AND SOCIAL JUSTICE EFFECTS. THIS SESSION EXAMINES HOW MAJOR RAIL, DISASTER RECOVERY AND REGIONAL PLANNING PROJECTS TAKE INTO ACCOUNT AND PLAN TO ACCOMMODATE THE SURROUNDING POPULATION.

Setting Policy and Precedence: CREATE in Motion

Emily Kushto
Illinois Department of Transportation
Adin McCann, HNTB, Co-presenter

The Chicago Region Environmental and Transportation Efficiency (CREATE) program is a nationally-prominent rail infrastructure program, managed by the unique partnership of U.S. DOT, State of Illinois, City of Chicago, Metra, Amtrak, AAR and six of the nation's Class I freight railroads. The CREATE 75th Street Corridor Improvement Project (CIP) recently received a NEPA EIS Record of Decision. As a result of 75th Street CIP and other projects within the program, CREATE has set a national policy example with regard to mitigation under the environmental justice Executive Order (EO) 12898.

In this presentation, the presenters examine the development of the CREATE environmental justice policy. They describe the impetus for creating the policy, namely noise impacts on low-income and minority populations. The presenters also discuss the extensive coordination among Federal and State agencies, public and private CREATE partners and other stakeholders, all of which led to the specific guidance contained in the CREATE Program's environmental justice policy.

The result of these encompassing efforts, led by FHWA and IDOT's Division of Public and Intermodal Transportation, is a precedent-setting framework for analyzing the potential impacts of the CREATE Program rail projects. In this presentation, the presenters identify the steps to evaluate an appropriate range of mitigation and enhancement measures with merit under EO 12898 and FHWA Order 6640.23A. The presenters also describe the lessons learned and the dialogue necessary to receive broad support from the CREATE partners and other stakeholders for both the needed rail improvements and the additional mitigation and enhancement measures.

Champaign-Urbana Health Impact Assessment

Prateek Mittal
Champaign County Regional Planning Commission

While public health has always been a part of planning narratives, in recent years there has been an emerging trend to formalize public health considerations in planning processes. Champaign Urbana Urbanized Area Transportation Study (CUUATS), the regional planning agency of Champaign-Urbana area, partnered with local health jurisdictions to conduct a Health Impact Assessment (HIA) and to integrate community health considerations into urban planning processes and policies. The proposed HIA was conducted as part of the recently approved Long Range Transportation Plan called Sustainable Choices 2040. The primary objective of this assessment was to analyze and predict public health impact of transportation and land-use policies. The assessment methodology was designed to establish a causal and quantitative relationship between the built environment and the local obesity rate. A wide spectrum of built-environment variables were considered for this assessment which were grouped into four categories: land-use, transportation infrastructure, accessibility, and safety. A broad array of socioeconomic variables was also considered to control for other determinants of health. The analysis revealed a significant correlation between the built-environment and obesity. The HIA revealed that the obesity rate is lower in neighborhoods that have higher population density, more diverse land-use mix, better street network connectivity, better transit connectivity, higher accessibility to employments and services, and a lower crime rate. Moreover, the predicted correlations were corroborated through a comprehensive literature review. The final product of the analysis was the health index based on the quantitative regression model. The proposed health index can be used to compare the relationships between the built environment and population health in different neighborhoods.

Impacts of Traditional Resource Triage Rules on Rail Networks Following Severe Weather Disruptions on Socioeconomic Classes

Raymond Chan
Transportation Center, Northwestern University
Lama Bou Mjahed, Co-presenter

Severe weather disruptions are a large part of transportation management. Asset managers attempt to mitigate the impacts of severe weather. Occasionally, severe weather damages infrastructure, disrupting transportation services. During larger disruptive events, asset managers may not have sufficient resources to repair system elements in parallel. In these situations, the limited resources used in repair must be triaged. One common method of triage in rail systems is to use a 'maximum ridership affected' ruleset. This allocates resources to damaged assets based on ridership. For example, pump trains were allocated to higher ridership, flooded tunnels in New York City Subway following Superstorm Sandy.

We hypothesize that ridership as a proxy for increasing societal benefit through asset repair may lead to situations where higher income populations receive a disproportionate amount of aid. High ridership rail links correlate with higher income populations, which tend to have the ability to telecommute compared to lower income populations.

We tested this theory on the Washington Metro Rail network using origin destination data and American Community Survey data. We found that the ordinal ranking of assets by ridership vary by income quartiles. Furthermore, some of the lowest utilized rail sections correlate with populations with incomes in the lowest quartile. Therefore, using an ordinal ranking alone can lead to situations where recovery assets are not distributed evenly across income classes.

This work demonstrates that current methods of triage following disruptions can cause an inequitable distribution of aid. More work should be applied in disaster recovery to analyses these effects.

TRANSPORT DISRUPTED

11:15AM SESSION A / ROOM 302
MODERATOR: STEVE GRANSON

NEW AND EXCITING TECHNOLOGY IS IMPACTING EVERY ASPECT OF OUR DAILY LIVES AND TRANSPORTATION IS NO EXCEPTION. THIS SESSION WILL HIGHLIGHT HOW INNOVATIVE TECHNOLOGY IS INFLUENCING OUR TRAVEL OPTIONS AND DECISION-MAKING.

Mobility for Chicago

Joseph Kopser
Ride Scout

For the last sixty years, transportation in the U.S. has meant car ownership. There are more cars than drivers in this country, and reliance on this single mode of transportation has permeated every facet of life. Cities and transportation agencies have invested billions of dollars into public transit to help reduce dependence on cars and address the associated environmental problems. Despite these efforts, public transportation is underutilized with a high degree of excess capacity. Part of the reason more riders do not use public transit, and turn to driving is because people feel they have to drive to have reliable transportation to and from where they are going.

The rapid cultural evolution and shift from owning to sharing, mainly fueled by social media platforms and mobile applications, is making sharing "cool" again. The "new" sharing economy isn't new at all though. Demand for excess capacity has always been here, and market makers to match the demand with the capacity have always been here as well. What's new is the technology that allows us to make these markets. Mobile devices allow us to connect around a city, and data about these markets allow us to be predictive about where that capacity should exist.

As painful as it is for people who are trying to move about a city when transportation infrastructure is employed inefficiently, it is even more intimidating for municipalities who are charged with the responsibility to fix this ecosystem.

Self-Driving Cars: Implications for Public Transportation

Chris Kopp
HNTB

"Will the Google Car Replace My Bus?"

Autonomous vehicles are on the way. Limited self-driving features are already available on some new cars. Testing of automobiles and trucks that can operate in freeway or urban environments without human intervention is taking place around the world. Google, Uber, and others are preparing services that will make use of vehicles that can operate without anyone on board.

This technology promises to disrupt many industries, particularly those that rely on human labor for vehicle operations. Transit is no exception. Disruption may already be present in the form of opponents of transit projects using the prospect of driverless vehicles as a reason not to invest. How should transit planners respond to critics today and prepare for the future?

This presentation will review the current status of autonomous vehicle development, review the stages through which vehicles are gaining self-driving capability, discuss the current outlook for implementation timeframes, and describe some of the implications on safety, roadway operations, automobile ownership, and land use. Through a series of several typical travel markets in Chicago, including within downtown, city neighborhood to Loop, city neighborhood to suburban workplace, and suburb to suburb, the likely effects of increasingly capable autonomous vehicles on transit travel demand, transit operating strategies, and transit investment needs will be explored.

Mobile Payments and Transportation, Providing Synergy in a Disconnected Environment

Bob Youakim
Go Passport

We will discuss how mobile technology and payments have helped agencies increase revenue, simplify the process for users, and make strategic decisions to their operations. Using ParkChicago as an example, we will provide insight into how mobile payments can create a more agile and well tailored solution, and how you can leverage mobile payments to solve similar issues facing your agencies.

As the rise of smartphones usage continues, cloud based software has become integral to solving problems and streamlining processes in all industries. Parking and transportation, traditionally hardware and capital intensive, can now adopt/deploy mobile solutions that are not only more cost effective but also provide a seamless user experience with detailed reporting. Enter mobile payments. Using mobile payments leverages the hardware customers already own and helps to complement existing infrastructure, bringing it into the modern era. Mobile technology allows agencies to aggregate data they otherwise could not gather on other cash based users. This data allows the operator to make better decisions about the future of operations and provide a service, which more readily addresses the needs of users. Leveraging mobile payments in your operations opens the door to a much more robust set of data for analytics and decision making, while also simplifying the experience for riders and parkers.

PEOPLE, PARCELS AND PLANES – OH MY!

11:15AM SESSION B / WHITE OAK ROOM
MODERATOR: MARY ANN KAUFMAN

THIS SESSION DISCUSSES THE HIGH POINTS IN CURRENT AND DEVELOPING TECHNOLOGY AND THE REALITIES AND MYTHS OF PRIVATE-PUBLIC PARTNERSHIPS THAT ARE BEHIND MOVING PEOPLE AND PACKAGES ON TRUCKS, RAILS AND PLANES IN THE CHICAGO REGION.

PPPs in Chicagoland: From Meters to Midway

Peter Skosey
Metropolitan Planning Council

The Chicago region's infrastructure woes are well documented and understood. Public Private Partnerships have often been touted as a solution to chronic underfunding, but are they really the panacea that some proclaim or are they fraught with challenges? Peter Skosey will draw upon his extensive experience while at the Metropolitan Planning Council with PPPs to explore this question and more. He will begin with the legislative process that lead to the passage of Illinois first law to enable PPPs for IDOT and the Tollway he will provide insight into the balance between public interest and private sector needs. Next, his experience chairing the Midway Advisory Panel was a unique opportunity for a third party to receive unprecedented access to a negotiation process in order to uphold the Mayor's "Passenger Bill of Rights," which protected taxpayers and future users of the airport. Peter will also discuss MPC's recent analysis of the 2013 renegotiation of the Chicago parking meter lease which reveals that no PPP is black and white but has shades of grey. MPC's opposition to the Illiana Tollway exposes the myth that PPPs are "free money." And, finally, MPC's latest efforts to develop an infrastructure intermediary for municipal projects in the region to facilitate communications and investments between local government and private sources. These experiences give Peter a unique perspective on the role of Public Private Partnerships in the region.

Revitalizing the Gary/Chicago International Airport

Emily Tapia-Lopez
Resolute Consulting

A city once bustling with manufacturing, a vibrant downtown, and a robust housing market was severely affected with the shuttering of its steel mills leading to economic decline for Gary, Indiana. As Gary emerges from one of the worst recessions in history, it is working on an ambitious plan to revitalize the City's airport and position it as an active economic driver.

The Gary/Chicago International Airport is one of Gary's most important assets. Known as the region's third airport – along with O'Hare and Midway – it has struggled to gain momentum. Located less than 25-miles from Chicago's Loop, the Airport can generate viable economic growth to Gary.

The Airport recently engaged in a public-private partnership in an effort to stimulate growth in Gary. This proposal will examine the transaction at the airport to manage operations and develop surrounding land. In addition, the presentation will provide insight on the decade-old runway expansion project and the role of the public-private partnership in the project. The runway is scheduled to open in June 2015.

Intermodal Freight Transportation in Chicago

Tom Murtha
Chicago Metropolitan Agency for Planning

Chicago has been a freight hub since early in its history. Much of the early development of Chicago's freight system was related to the railroad industry. However, during the 20th century, the rail industry underwent a gradual retrenchment, while the trucking industry grew and, in time, dominated freight activities. Intermodal freight transportation, offering both low-cost line-haul rail service with door-to-door pickup and delivery by truck.

This presentation will review the status of intermodal freight transportation in metropolitan Chicago. Using national and local datasets, the presentation will review the location, volumes, and markets for intermodal transportation. Relationships between the intermodal rail terminals and the adjacent highway system will be reviewed using maps of the rail and highway systems.

We will see that the Chicago region dominates the market for inland intermodal services. Advantages accruing to the Chicago region from this dominance will be discussed, as well as the traffic- and congestion-related challenges presented by being a hub for such transportation services. We will see that there are economic advantages to being a hub, but there are also public policy issues that need to be addressed.

BIG SHOULDERS, BIG PROJECTS

2:45PM SESSION A / CARDINAL ROOM
MODERATOR: JORDAN SNOW

DEMAND FOR EFFICIENT TRANSPORTATION FACILITIES ACROSS ALL MODES IN THE CHICAGO REGION IS HIGH FOR RESIDENT COMMUTERS AND TOURISTS ALIKE. THIS SESSION WILL EXPLORE THREE IMPRESSIVE PROJECTS THAT AIM TO MAKE LIFE A LITTLE EASIER FOR THOSE IN THE REGION.

Jane Addams Memorial Tollway (I-90) Rebuilding and Widening Project

Rocco Zucchero
Illinois Tollway

The Illinois Tollway is rebuilding and widening the Jane Addams Memorial Tollway (I-90) as a 21st century, state-of-the-art corridor linking Rockford to O'Hare International Airport. The Jane Addams Memorial Tollway is part of Interstate 90 (I-90), the longest interstate in the United States, and covers 77 miles extending from near the Wisconsin border to the Kennedy Expressway.

In 2011, the Illinois Tollway Board of Directors approved the 15-year, $12 billion capital program, Move Illinois: The Illinois Tollway Driving the Future. Move Illinois commits $2.5 billion to deliver a dramatic facelift to I-90 by rebuilding and widening 62 miles between Rockford and O'Hare with eight lanes from the Tri-State Tollway (I-294) to Randall Road and six lanes from Randall Road to I-39. The corridor will feature interchange improvements at Illinois Route 47, Elmhurst Road, Meacham Road, Roselle Road, Barrington Road, Illinois Route 25, Genoa Road and Irene Road.

The key features that will drive the corridor into the 21st century are the expansion of transit options with the inclusion of the bus-on-shoulder partnership with Pace; the installation of flexible infrastructure to enable the use of "smart" features that will help make the roadway safer and more efficient; and the Tollway's goal of making the Move Illinois program the cleanest and the greenest in the history of the agency by implementing many features and green infrastructure initiatives that focus on the triple bottom line approach to sustainability.

CDOT Loop Link

Dr. Soliman Khudeira, PE, SE
Chicago Department of Transportation

Construction on CDOT's Loop Link will begin in March, ultimately providing a modern transportation upgrade to Washington, Madison, Clinton and Canal Streets in the downtown Loop that will move more people faster and with better reliability, improving the connection between neighborhoods across the city to jobs and attractions downtown.

CTA Buses currently carry nearly half of all travelers in vehicles on Washington and Madison, yet travel as slow as 3 mph during rush hour. The Loop Link will help these buses stay on schedule with a dedicated travel lane and early green lights at intersections, speeding up commutes for approximately 30,000 riders in the corridor on six CTA routes serving neighborhoods across the city.

Commuters will be protected from the elements while waiting for their bus to arrive at eight attractive new Loop Link stations on Washington and Madison. Stations will accommodate more people, have Bus Tracker displays and be level with the bus floor so that everyone can get on and off quickly and easily, including seniors and people using wheelchairs.

People riding their bikes or a Divvy bike will be able to travel through the Loop and to the West Loop transit centers in protected bike lanes, making the ride more comfortable and accommodating people of all ages and abilities.

The Loop Link will reduce congestion, move people through downtown efficiently and improve the quality of life for all Chicagoans, whether they work in the Loop, go to school there, live there or enjoy the recreational opportunities.

MASTERS OF MOBILITY

2:45PM SESSION B / ROOM 302
MODERATOR: STEVE BROWN

EXPANDING MOBILITY OPTIONS HAS BECOME ONE OF THE DEFINING URBAN TRANSPORTATION TOPICS OF THE 21ST CENTURY. IN A TIME OF EVER-TIGHTENING BUDGETS AND INNOVATIVE FINANCING METHODS, IT BECOMES EVER MORE IMPORTANT TO FIND SOLUTIONS THAT HELP US TO GROW TRANSPORTATION OPTIONS IN AN EQUITABLE AND POLITICALLY VIABLE FASHION.

Bi-Partisan Solutions For Growing Passenger Rail

Charlie Monte Verde
Amtrak

Passenger rail has received unprecedented public funding in the past five years. This is partially driven by unprecedented (in the publicly-funded era) growth in passenger rail ridership, a mode shift driven by high fuel prices and a younger demographic seeking alternatives to automobile transportation.

In states and regions all across the country, Amtrak has worked with state and local community leaders and stakeholders to grow short distance passenger rail corridors. This is the fastest growing business line for Amtrak, and the one with the most potential growth for the future.

While passenger rail and expansion thereof should not be a political issue, it often is. The recent expansion of passenger rail in states like Virginia, North Carolina, Michigan and Washington has been driven by bi-partisan support for passenger rail projects as a viable transportation option and an engine of economic development.

Confronting Equity in the Design of Bicycle Sharing Systems

C. Scott Smith, PhD, AICP
Western Michigan University TRCLC

Research over the past several decades has made it increasingly clear that livable communities are inextricably linked to the provision of active (i.e., non-motorized) transportation infrastructure. Indeed, communities where bicycle and pedestrian travel options are plentiful tend to experience positive environmental, economic and social outcomes including improved public health, reductions in harmful emissions and enhanced mobility and accessibility. In recent years, municipalities have viewed the adoption of "fourth-generation" or IT-based bicycle sharing systems (BSS) as a desirable strategy to advance active transportation and its associated benefits within their communities. Indeed, since 2010, over 70 municipalities in the US have implemented such systems. However, the locational distributions of recent public bike share installations have been criticized for largely benefiting middle- and upper-class neighborhoods while excluding lower-income, Latino and African American communities. This research presents results from a nationwide study of 46 bicycle sharing systems paying special attention to their distributional characteristics and related accessibility across different demographic groups. This research is funded by Western Michigan University's Transportation Research Center for Livable Communities (TRCLC).

Taxes and Tolls: Equity in Transportation Funding

Jonathon Hart, AICP
CDM Smith

Tax-supported routes make up the overwhelming majority of lane miles in the US. While tolled routes represent a fraction of our national network—approximately eight percent of total interstate and other freeway and expressway mileage—funding shortfalls and the need to manage demand has resulted in a dramatic increase in the number of new tolled facilities over the last three decades. As tolling options become increasingly important funding alternative, it is important to take stock of how this trend meshes with our policy goals and values as a nation.

Existing and proposed toll roads, bridges, tunnels, and managed lanes are seen by some stakeholders as inherently inequitable and frequently opposed on these grounds. As planners, engineers, and policy makers we must inform ourselves and be prepared to address these concerns. This presentation will make the case that tolling, if implemented properly, is an important funding option that may often present a more equitable solution than traditional tax-supported funding mechanisms. Having a better understanding how tolling solutions can enhance equity and fairness in funding infrastructure can help us maximize these benefits while avoiding the pitfalls that may make such projects burdensome.

WORKSHOPS

MORNING

11:15AM WORSHOP A
CARDINAL ROOM
MODERATOR: LISA BAHR

How Does This Relate to That? Enter the Data Scientist.

Wade Rosado
Urban Insights Associates, Inc.

During this workshop participants will learn about various topics in data science and leading edge data management practices, in a format allowing for attendee participation through guided exercises. Deriving the benefits on having access to quality data is dependent on comprehending what data is telling us, and ensuring our understanding of the context in which the data was generated. The workshop will explore these topics in public transportation focusing on how we evolve transit networks in alignment with urban development strategies and traveler preferences.

11:15AM WORSHOP B
FORT DEARBORN ROOM
MODERATOR: ED BURY

The Power of Integrated Communications to Advance Transportation Initiatives

Carolyn Grisko
Grisko LLC

Transportation departments and agencies face big challenges in changing the daily commuting routine of Chicagoans. Participants in this workshop will learn how integrated communications can connect with the City's diverse audiences and facilitate that change.

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Transportation leaders face big challenges in advancing transformative infrastructure projects and changing the daily commuting routine of Chicagoans.
Grisko LLC, an integrated communications and public affairs firm that specializes in transportation, will give an inside look behind the public outreach and strategic communications driving some of Chicago's most significant transportation initiatives of late, including:

- Ventra: the citywide transition of millions of public transit riders to the nation's largest open fare payment system.
- Loop Link: the advancement of Chicago's ambitious downtown bus rapid transit project through the planning, design and construction stages, and the preparation for the upcoming public launch.
- Pedestrian Safety: the campaign launch to improve pedestrian safety in Chicago that had the city buzzing.
- This presentation will use these three examples to examine communications challenges unique to Chicago; strategic approaches to overcome them; and how transportation leaders may want to target their outreach and education strategies to meet the needs of all Chicagoans at a time when digital platforms are constantly changing the way people communicate.

Participants will have the opportunity to ask questions throughout the presentation.

AFTERNOON

2:45PM WORSHOP A
FORT DEARBORN ROOM
MODERATOR: CRAIG JAKOBSEN

Sustainable Community | Laying Strong Foundations Using Envision

John Lazzara, P.E., ENV SP
HDR

Sustainable communities are essential to the future of the region. Join the discussion to identify ways to measure and drive sustainability for infrastructure using the Envision™ third-party rating system. Attendees will leave the workshop empowered with an understanding of the benefits of developing projects that embrace opportunities such as renewable energy options, increased green space, improved waste management, improved quality of life and more resilient, long-lasting infrastructure.

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While there is great interest in developing sustainable infrastructure across all transportation market sectors, a lack of agreement on how to measure sustainability is an issue. Worldwide there are some 900 rating systems from which to choose, creating a great deal of uncertainty. Consequently, APWA, ASCE, and ACEC created the Institute of Sustainable Infrastructure (ISI), in Partnership with the Zofnass Program for Sustainable Infrastructure at Harvard University, to develop an industry-wide third-party rating system for all infrastructure types. Based on that charge, ISI developed the Envision rating tool. The tool has five categories – Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk – with a total of 60 credits available to determine a sustainable rating.

The rating system helps conduct a thorough review of current sustainability efforts. Agencies can use Envision™ to drive sustainability into projects that embrace opportunities such as renewable energy options, increased green space, improved waste management, improved quality of life, and more resilient, long-lasting infrastructure. By employing Envision, transportation agencies will be able to develop projects that are well-conceived, have a long-term view, are community-based, address long-term climate issues, and minimize environmental impacts.

2:45PM WORSHOP B
WHITE OAK ROOM
MODERATOR: RACHAEL MINCHELLA

Transitmix: A Modern Sketching Tool for Planning Transit

Tiffany Chu
Transitmix

Planning great transit requires great tools, but agencies and planners today often rely on paper, spreadsheets, and outdated mapping software. We believe there's opportunity for a new generation of tools that:

- Are built on open data
- Encourage exploration
- Use data to drive decisions
- Enable collaboration
- Are simple, beautiful, and easy to use

Transitmix provides a much more agile way to design new routes, estimate costs, pass federal regulations like Title VI, evaluate impact, and share with the public.

In many places across the country, bus lines have not changed for decades, because of the effort involved. We want to help cities and agencies of all sizes move faster and iterate more quickly, so that transit can continuously stay up to speed and accurately reflect the rapidly evolving nature of our communities.

POSTER SESSIONS

2:00PM POSTER SESSIONS & NETWORKING

Does "Green" Performance Affect Market Share in the Automotive Industry? An Empirical Study

Kejia Hu
Northwestern University

Our goal is to understand how "Green" performance affects market share for auto manufacturers. We quantify "Green" performance by emissions of hydro carbons, carbon monoxide, NOx and particulate matter. For our study, we use data collected from 2000 to 2013 by remote sensors installed along a European inter-country highway. Altogether we have 250 thousand records covering 140 different carmakers.

Our analysis shows the relationship between "Green" performance and market share to be concave. This finding is consistent with the notion that customers value both power and "Green" for a car. As a result, both too much and too little "Green" hurt market share.
Our analysis also shows that the dispersion of "Green" performance across automakers shrinks over time as standards get tighter.

This observation raises the question of the extent to which "Green" performance can be used by automakers to influence market share. Our analysis indicates that the tightness of standards as well as the anticipated change in standards affects the extent to which automakers can use their "Green" performance to influence market share.
We find that "Green" is more significant in affecting market share when standards are loose. As standards tighten, "Green" performance has a less significant impact on market share. We also find that when the upcoming changes in standards are large, "Green" becomes more significant in determining "Market Share," especially as the change in standards gets closer. In this setting, being an early mover on emissions can help a firm increase market share.

The "L" in Land Values: Rapid Transit Noise and Vibrations and Their Impacts on Chicago Land Value

Sidney Kenyon
University of Illinois at Chicago

The body of knowledge surrounding the impact of transit infrastructure on the quality of life of nearby residents is well-established--particularly in regards to major airports and freight railroads. Excessive noise pollution generated by transit infrastructure is widely known as a threat to auditory health and general well-being. However, research shows that noise and vibrations from above ground rapid transit infrastructure can be as invasive as the presence of an airport or nearby freight railway.

This project seeks to quantify those noise pollution impacts by evaluating their effects on individuals' residential preferences. By employing hedonic regression analyses, real-time noise measurements, and real estate market information, this project demonstrates real estate market responses to rapid transit noise pollution in four Chicagoland neighborhoods.

Fatal Weather-Related General Aviation Accidents in the United States: 1982-2013

Andrew Fultz
Northern Illinois University

General, or private and non-commercial, aviation accidents produce more fatalities than any other aviation category within the United States. Despite advances in technology since the early 1900s, weather consistently causes great concern for general aviation safety. This study provides a comprehensive spatiotemporal analysis of fatal weather-related general aviation accidents occurring in the United States from 1982 through 2013 using the National Transportation Safety Board's aviation accident database. Results reveal that 58,687 general aviation accidents occurred during this time period, of which 25 percent recorded at least one weather condition as a cause or contributing factor. Weather-related general aviation accidents were associated with 8,049 fatalities, yielding an average of 251 fatalities per year. Fatal weather-related accidents peak during the cool-season months, and restricted visibility represented the most hazardous flying conditions over the 32-year study. States experiencing the greatest number of weather-related fatalities include California, Texas, Colorado, Florida, and Alaska.

A Network Analysis of Food Flows within the United States

Megan Konar
University of Illinois at Urbana-Champaign

The world food system is globalized and inter-connected, in which trade plays an increasingly important role in facilitating food availability. In this paper, we present a novel application of network analysis to domestic food flows within the USA, a country with global importance as a major agricultural producer and trade power. The USA food flow network moved more than 400 million tons of food in 2007. Of that total, more than 70 million tons moved through Illinois, highlighting its critical food transportation infrastructure, including railway, the Mississippi River and the Great Lakes. Statistical properties indicates that the network is social, relatively equitable, and well-mixed. However, a power law relationship between node centrality and degree indicates potential network vulnerability to the disturbance of key nodes. Network properties provide evidence that can guide strategic investments in infrastructure.

POSTER SESSIONS

2:00PM POSTER SESSIONS & NETWORKING

Public Perception of Safety on Queens Boulevard in New York City

Melissa Alke
Hunter College of the City University of New York

With the nickname "Boulevard of Death", Queens Boulevard in New York City is well known as a site of numerous fatalities and injuries. As graduate students, we engaged the public about their perceptions of safety on Queens Boulevard. We created a survey to document the public's perception of safety in the Forest Hills section of Queens and compared it to documented data about pedestrian-vehicle collisions. The overarching goal of the survey was to raise awareness about safety concerns, both among the public surveyed and planners considering interventions in the area. In-person paper surveys, conducted along Queens Boulevard, allowed participants to identify safe/unsafe locations, and provide a brief explanation. Online participants utilized the Wikimapping platform that allowed participants to place points within the designated area on a Google base map. 56 participants contributed 268 unique points indicating safe/unsafe locations that were mapped and analyzed. The resulting visualizations demonstrate a strong correlation between the intensity of unsafe perceptions and crash data. The public is correct to be wary about safety in many locations because they are the locations of recorded crashes. Locations perceived to be safe are areas where the city has implemented safety design interventions. The analysis of perceptual data also identified new locations perceived as unsafe by the public where there is no official data about crashes to draw meaningful conclusions. The perceptual mapping project suggests a need for further analysis of the safety considerations of Queens Boulevard to reduce injuries and fatalities.

Network disruption analysis: Consideration of multiple partially blocked links

Ramin Shabanpour Anbarani
University of Illinois at Chicago

Network disruption analysis is a methodological approach that has been applied to transportation maintenance and planning problems to assess the robustness of a network and identify its most critical links. Disruption models, which focus on transportation network, must consider not only the physical effect of a disruption on the capacity of the network, but also the ensuing effect on travel behavior of network users.

In this paper, we extend application of a well-known index in network performance modelling. The Network Robustness Index (NRI) is a measure defined specifically for each road in the network and indicates how significant the role of the link is in network performance. It takes into account the spatial relationships associated with the network topology, the origin-destination demand matrix, and the capacity of individual highway segments. This study tries to bring the issue of links partial blockage into this index and figure out what if some links blocked partially for maintenance and rehabilitation (M&R) actions at the same time rather than their fully blockage one at the time for maintenance routine. The other objective of this study is to consider the concept of project prioritization to make decision on which group of links and to what extent gets partially blocked for M&R routines. A hypothetical small-sized network demonstrates the applicability of this method.

Integration of GIS and Historical Data to Predict Future Transit Routes

Eliza Stanford
Illinois Institute of Technology

Through the use of demographics covering a 30-year period, from 1984 to 2014, and the development of transit routes during this time frame, geographic information system overlay techniques were employed to predict future areas where transit routes may be required in Chicago, Illinois. While decades ago the population as well as the jobs, in the city of Chicago was much higher than current levels, with the passage of time and urban decentralization, the origins (homes) and destinations (jobs) started to become scattered over the larger north-east Illinois region. This also presented a problem to the way public transportation was being served in this region. The hub and spoke system that has for long been the basis for commuters to get to downtown needs to be supplemented by other transit routes and stops that will facilitate the growing trend of suburb-to-suburb trips. This paper will take a look at the socio-demographic trends for this region (using the decennial census data) to identify possible alignments and locations for transit and discuss the policy implications of the findings.

Flexible Transit for Low-Density Areas

Charlotte Frei
Northwestern University

Demand for transport in low-density areas can be highly variable over time, and quality (or absence) of transit service may reinforce existing mode choices among travelers. Transit services that can flex with demand have been explored to address this variation. This poster describes a method to identify bus stop locations for a flexible service with characteristics of both fixed-route and demand-responsive transit. Once stops are identified, vehicle tours using actual origin-destination demand are constructed to evaluate relative operational efficiency. Simulations for a case study areas in metropolitan Denver, Colorado and Joliet, Illinois are presented. The methodology is appropriate to determine checkpoint locations and evaluate fleet allocation to structure flexible service. The method can be extended to evaluate design of flexible transit in other low-density areas; such future extensions are discussed, particularly in the context of evolving vehicle technology.

POSTER SESSIONS

2:00PM POSTER SESSIONS & NETWORKING

The Expected Impacts of Driverless Vehicle Operations on Roadway Infrastructure

Tariq Usman Saeed
Purdue University

At the current time, there is tremendous interest in driverless vehicles, and such interest is exemplified in prototype developments by vehicle manufacturers, demonstration and other initiatives by technology companies, and policy support and testing approvals by governments. A key question that needs to be addressed is the impact of driverless vehicle operations on transportation administration and management functions, including travel demand, capacity expansion needs, project evaluation, safety, mobility, and physical assets. This paper discusses the impacts that driverless vehicle operations are expected to have on the physical roadway infrastructure. The discussion addresses three broad categories of these impacts, namely, introduction of new infrastructure, removal of some existing infrastructure, and change in the dimensions of some existing infrastructure. Also, some of these categories can each be classified in terms of the direction of impact (adverse or beneficial) or whether the impact is intended or unintended but consequential. Thus, the paper discusses narrowing of lanes, technology-equipped intersections, and increased number of pick up/drop off zones. In general, the practice of highway asset management is expected to experience significant evolution with the advent and proliferation of driverless vehicles.

Transportation YOU 2014-2015 Projects

WTS, IDOT and CPS partnered for 2014-2015 to offer a series of programs introducing young women to career opportunities in transportation. Students were recruited from CPS's Career and Technology Education programs, including Business & Finance, Construction & Architecture, Manufacturing & Pre-engineering, and Transportation. The objective of this pilot program was to introduce young women to careers in transportation planning, engineering and finance. Students and mentors worked together over the past academic year on three project teams: Build a Better Bus Stop, Active Transportation and Traffic Engineering, and Bridge Design. Each team will have a poster describing their project, along with an overview of the yearlong program.


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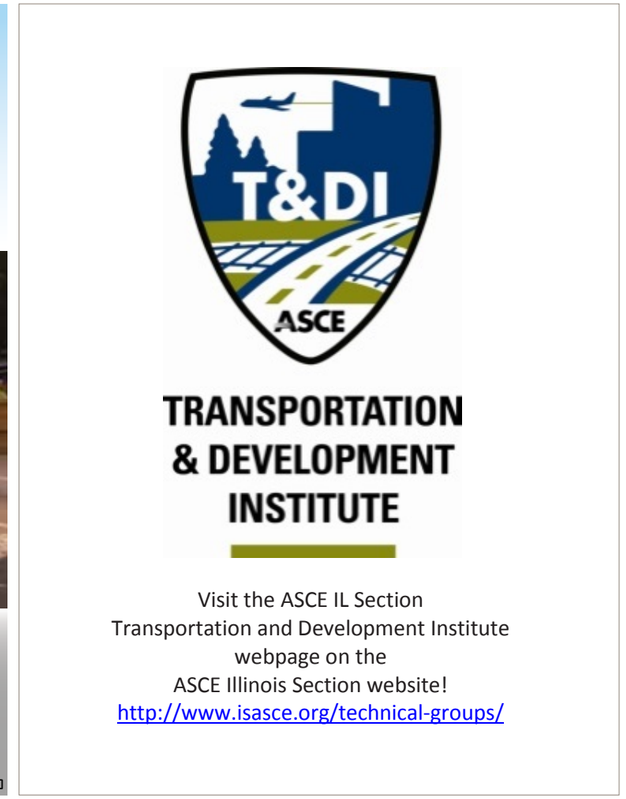
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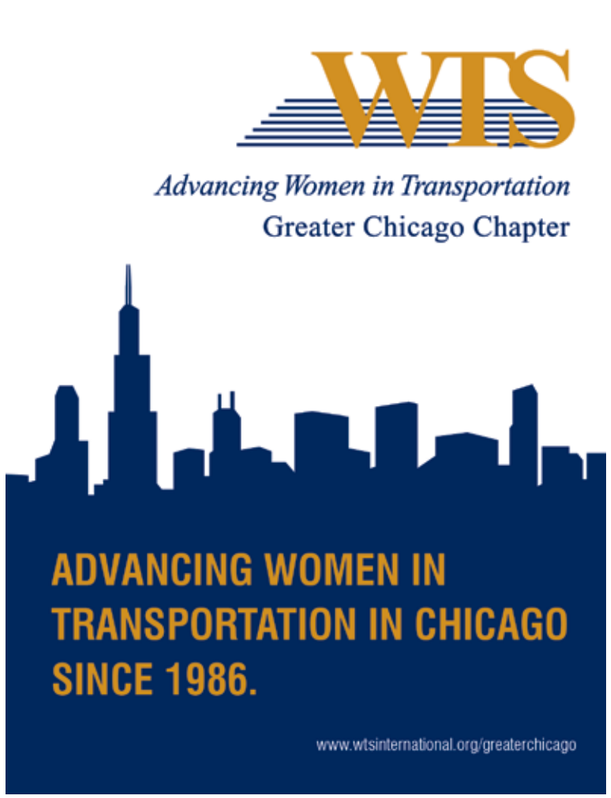
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