Homework and Study Guide

To effectively prepare for the May 2017 Transportation Commission meeting please review materials included and referenced within this study guide. These materials have been compiled to provide background and information to guide Transportation Commission discussion.

- Transportation Master Plan Update May 2009: Review Chapters 2 and 3
- Non-Motorized Transportation Plan Update 2013: Provided for your reference
- Sustainability Framework: Provided for your reference
- Climate Action Plan: Review Land Use and Access Element

We will discuss transportation planning at the May meeting at two levels:

1) An overview of the City of Ann Arbor 2009 Transportation Plan including implementation to date and an introductory discussion about the plan update
2) A continued review of other agencies with transportation plans that include Ann Arbor. We won't get into detail about the transportation planning efforts of various regional entities, however it may be helpful to review information and materials related to Ann Arbor and the surrounding area available on the following websites for additional background and context:
   - Michigan Department of Transportation (MDOT)
   - Southeast Michigan Council of Governments (SEMCOG)
   - Regional Transit Authority (RTA)
   - Washtenaw Area Transportation Study (WATS)
   - The Ride

Other Background reading and resources:

- Vision Zero webinar: http://www.pedbikeinfo.org/training/webinars_PBIC_LC_041817.cfm
- ITE Article- Building on Complete Streets Momentum From Studies to On-the-Ground Solutions (attached)
- ITE Article- Smart Cities and Communities (attached)
- ITE Article- Update From the ITE Committee on Transit adn Traffic Impact Studies (attached)
- Changing Climate through Healthy Community Design and Transportation

Building on Complete Streets Momentum
From Studies to On-the-Ground Solutions

By Carrie Nielson Modi and Ryan McClain, P.E.

Complete streets design has evolved rapidly in the last five years with resources and guidance testing the limits of engineering practice and pushing forward innovative solutions to serve all ages and abilities. Robust public engagement during the planning process generates a great amount of excitement and support around complete streets, but as the push to innovate increases, the stakes and expectations for improvements have become ever higher. Long periods of time can pass while project sponsors look for funding, construction documents are developed, and improvements constructed, which can kill the momentum and public excitement generated during the planning process. At the same time, projects all too often emerge from a core safety concern, and that concern continues while the project awaits implementation. To overcome this gap, many cities have looked to "quick build" projects to pilot innovative designs efficiently, using materials that can easily be modified and adapted.

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The term "quick build" project is synonymous with the term "interim design," as defined in the April 2015 *ITE Journal* article, "Engineering Interim Design and Tactical Urbanism: From Cost Effective, Quick Improvements to Powerful Public Outreach Tools." These projects use low-cost materials, typically paint- and plastic-based, which allow projects to be installed quickly and inexpensively from a construction standpoint. They may also include more sophisticated urban design materials, such as landscape planters and public art. Critically, these projects are typically much more cost-effective than traditional projects that rely on concrete and other hardscape materials and often require substantial roadway modifications to maintain storm water drainage. While quick build projects may last many years, iterative design is always in play and evaluation is key to demonstrate benefits and areas for improvements. Where projects do not meet their goals and expected outcomes, installations can be modified or, if needed, easily removed. The quick build approach also facilitates project phasing, extending improvements over longer distances or adding hardscape improvements as additional funding becomes available.

The common quick build process is described in the circle diagram in Figure 1. Iterative design and community outreach are the pillars of the process and should be constantly engaged. Evaluation, too, should be revisited each time changes are made to the corridor. For many communities, the process may start with a planning study (corridor study, neighborhood plan, or active transportation master plan) through which early ideas can be tested with tactical urbanism and pop-ups. To build off the momentum of those studies, quick build projects can be implemented with signing and striping soon thereafter to pilot ideas and/or provide-long-term solutions. Over time and/or as funding is available, amenities, hardscape, and/or other enhancements can be added to improve the design. With each iteration, evaluation is key to documenting process, demonstrate success and lessons learned, improve the design, and build trust with community stakeholders.

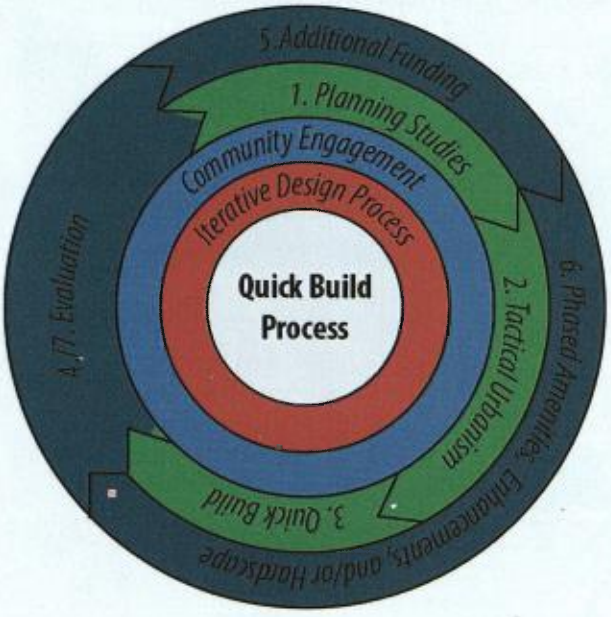

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Figure 1. Common Process for Quick Build Implementation

Two case studies from cities in the San Francisco Bay Area in California, USA offer insights into how to build successfully on complete streets momentum, pivoting efficiently from plan to project using quick build designs. Both of these projects included pop-up tactical urbanism type community engagement events during the planning process as described in the April 2015 *ITE Journal* article and now have moved into the implementation phase.

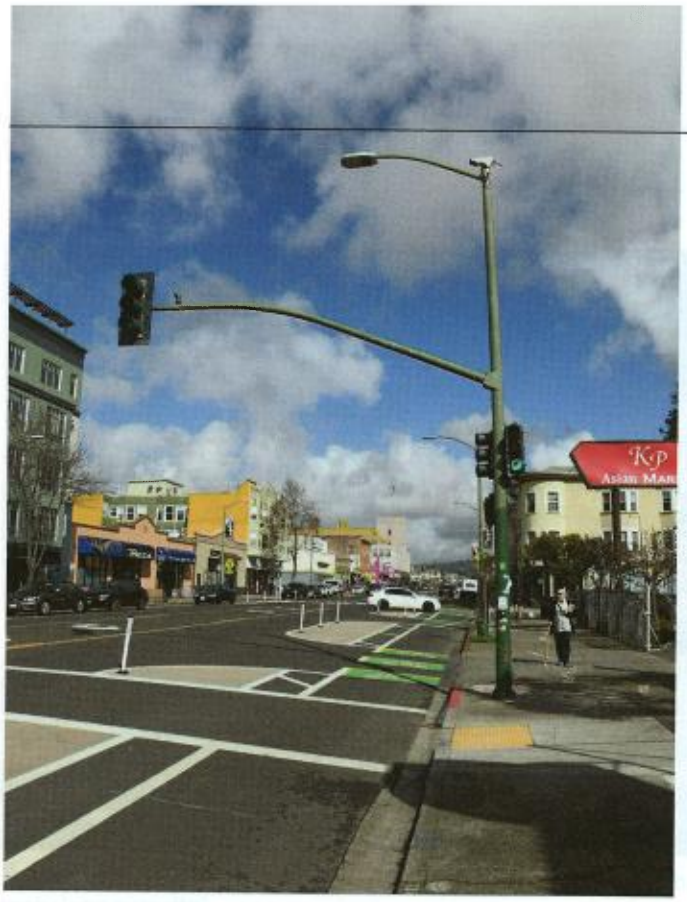
Telegraph Avenue, Oakland, CA, USA

Telegraph Avenue in Oakland, CA, USA is an important street for all travel modes and serves many neighborhoods between downtown Oakland and the city limit with Berkeley. In 2013, the city of Oakland initiated the Telegraph Avenue Complete Streets Plan to develop a preferred design for the corridor. The plan development included many community meetings, agency stakeholder input, and technical analysis to help weigh alternatives and trade-offs.

As the city adopted the plan, which featured Oakland's first cycle track and a major road diet, they took a two-prong approach to implementation: (1) play the short-game through internal city coordination to install an interim design project in the near-term using more readily available resources, and (2) play the long-game and secure grant-funding to extend the project and install more comprehensive streetscape improvements. With a planned roadway repaving project, the city saw an opportunity to implement the first phase of the project to make substantial immediate improvements for people who walk and bike, consistent with the Complete Streets Plan. The city completed ten blocks of paint-only improvements through the scheduled repaving program, reducing the number of vehicle lanes from five to three, installing a parking-separated bikeway, and striping new high-visibility crosswalks and painted islands.

After nine months, the city completed the "Telegraph Avenue Progress Report," which documented major safety and comfort gains, including a 40 percent decrease in collisions, reduction of vehicle speeds, increase in bicycle and pedestrian volumes, and improvements in perceived safety. The Progress Report allowed the City to not rely on the loudest stakeholder voices or anecdotal stories but to treat benefits and trade-offs objectively through quantifying performance metrics. The Progress Report was yet another venue for building momentum and community support for the interim design.

The Progress Report and community feedback on the project led to iterative design improvements. Because the project only used thermoplastic and paint, illegal parking was an issue in painted median islands and curb extensions in blocks with high parking demand, which negatively impacted the pedestrian and bicycle



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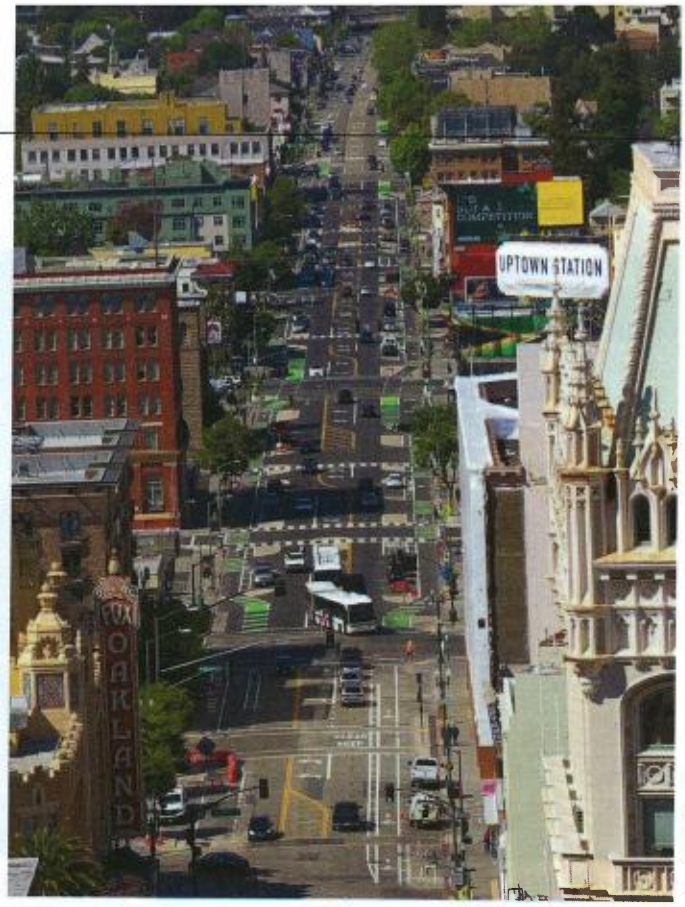
Telegraph Avenue's painted islands were an interim design project as part of the project's short-game plan.



BIKE EAST BAY

Telegraph Avenue's protected bikeway included a long-game plan to build more permanent installations.

project benefits. In other blocks, parking utilization was low, which led to the separated bikeway not always being protected from traffic. In early 2017, the city installed flex-hit posts in the painted islands to make the design self-enforcing against illegal parking and to provide consistent and constant vertical separation for the bicycle lane. Flex-hit posts were not included in the buffer space because of maintenance concerns (street sweepers too wide to fit between the curb and buffer). However, the city has been working on a solution to allow flex-hit posts and further reduce illegal parking within the bikeway.

As the interim design was installed and operating, the city made major strides on the long-game with key grant funding awards. The city prepared multiple successful grant applications in a highly-competitive funding landscape, securing California Department of Transportation (Caltrans) Active Transportation Program (ATP) and Caltrans Highway Safety Improvement Program (HSIP) grants to double the extents of the project and install bus stop, signal, and hardscape improvements. The ATP grant recognized the robust community process and support for the improvements, while the HSIP grant relied on the technical safety analysis included in the Complete Streets Plan.

For the final design, instead of a "Cadillac" complete streets project that would be excessively costly with all curb and concrete work and necessitate shorter project extents, the city's design uses continues the use of lower-cost materials (e.g. paint, thermoplastic, flex posts) to provide long distances of improvements (e.g. middle portions of each block) and adds hardscape (e.g. concrete curb and sidewalk) where it matters most. The hardscape improvements are particularly important at intersections, where auto intrusion may be high. The hardscape will focus on bus boarding islands for pedestrian accessibility and separated bikeway protection at the beginning of the block, as well as raised median islands and curb extensions at uncontrolled crosswalks.

With the Progress Report, continued iterative design, and community feedback, the city can confidently move forward with long-term comprehensive streetscape improvements. The improvements will be designed and installed over the course of the next few years.

Yellow Brick Road, Richmond, CA, USA

During the preparation of the city of Richmond's Pedestrian Plan, students in the Iron Triangle neighborhood of the city collaborated with the project team to envision a "Yellow Brick Road"—a network of fun, beautiful, safe, secure, and inviting streets so that kids and families can comfortably get to and from home, school, parks, and transit. In a neighborhood that had long been marked by violence and disinvestment, this would be a transformational project to improve quality of life in the community. In 2013, the city secured a Caltrans Community-Based Transportation Planning Grant to prepare a detailed plan for the Yellow Brick Road with a grassroots community process to build on the momentum of the students' ideas from the Pedestrian Plan. The grant funded two non-profits, the Local Government Commission and Pogo Park, to steward the project forward to design development.

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The quick build traffic circle includes a centerpiece totem pole as a gateway to the Pogo Park area in Richmond, CA, USA.

After the Plan was adopted, Pogo Park and the city immediately looked for opportunities to fund both near-term and long-term improvements. Two potential funding opportunities were identified: (1) the Caltrans Active Transportation Program (ATP) for long-term improvements and (2) the National Football League (NFL) Super Bowl Legacy Grant associated with the San Francisco Bay Area's hosting Super Bowl 50. The city successfully earned funding from both sources for the project.

The NFL grant provided enough money to fund intersection improvements at the highest priority intersection in front of the Elm Playlot, a community hub that provides free meals to students in the summer, after school programming for children, and a safe place for families to exercise and play. The community observed excessive speeds and reckless driving behavior at this location, so a traffic circle and curb extensions were designed and installed using interim materials. Reusable rubber curb bolted to the existing asphalt roadway formed the islands with the idea that the curb could be reused in another location once long-term improvements are implemented. To provide for all pedestrians of all abilities, new ADA-compliant curb ramps were also installed. These elements did require modifications to the existing curb and were thus one of the costlier elements. In addition to the geometric changes, the intersection improvements created an opportunity for Pogo Park and the community to create the more artful vision for the Yellow Brick Road. They installed a community-carved Totem Pole at the center of the traffic circle, which creates an important gateway to the Park area and demonstrates investment and care in the area. They used Astroturf to provide color and texture to the curb extensions, making the traffic circle feel more like a distinct place.

The challenge of this particular phased approach is that it was one intersection improvement in the course of a mile-long bicycle boulevard with many more speed-controlling traffic calming elements proposed. As a result, the community expressed concern when speeds did not immediately decrease and driver behavior did not improve as much as expected. Given the use of temporary materials (e.g. flexible rubber curbing), iterative design refined the installation. The city worked with the neighborhood to adjust the curb extension dimensions to further control entry and exit speeds at the traffic circle, which addressed the community's concerns about speeding through the intersection. As time progressed and with practice, local residents learned the appropriate speed to drive through the traffic circle. With slow speeds, drivers yielded to pedestrians routinely.

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Ribbon cutting ceremony in Richmond, CA, USA.

Going forward, the city is now beginning design of the first phase of permanent improvements funded through the ATP grant, which will hardscape the refined design of the traffic circle, fully build out the bicycle boulevard and corridor traffic calming improvements, and close sidewalk gaps and bicycle lane gaps. The City is also seeking funding for the second phase of the Yellow Brick Road improvements to continue to build on the momentum of the implemented and grant-funded projects.

Conclusion

As these case studies show, "quick build" projects can be an effective tool to efficiently implement improvements and maintain momentum generated during the planning process. Maintaining the momentum of the preceding community planning process is critical to pivot from plan to project, and especially important when the timeline for full implementation of the project may be years out due to funding constraints. This process also provides evaluation opportunities before more permanent features are on the ground leading to more successful complete streets projects in the long-term. **itej**

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Ryan McClain, P.E. *is a senior associate in Fehr & Peers' Walnut Creek office and a registered civil engineer and traffic engineer in California. Ryan has extensive experience in transportation design and multimodal analysis, working on numerous complex corridors with multiple stakeholders. He brings to the complete streets field both a technical understanding of civil engineering and a deep understanding of modal interactions. His work has led to several tactical urbanism projects, intersection and roadway safety projects, and multimodal conceptual design, analysis, and alternatives evaluation. Ryan is a member of ITE.*

Smart Cities and Communities

By Egan Smith, P.E., PTOE, PTP

The United States' transportation system is facing a period of revolutionary changes. The U.S. Department of Transportation (USDOT) is investing in the advancement and widespread deployment of innovative and life-saving technologies. This effort is part of USDOT's larger initiative to improve the future of transportation by moving toward a more intelligent and connected system.

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In 2014, USDOT released the *ITS Strategic Plan 2015–2019*, which outlines the direction and goals of USDOT's Intelligent Transportation Systems (ITS) Program and provides a framework around which ITS research, development, and adoption activities are conducted. The plan put forward a vision: "Transform the Way Society Moves."

As our environments become more connected, ITS will play an ever-more important and central role in our cities, towns, suburbs, and rural communities, between regions and across borders. The transportation system as a whole can best serve vital needs when it is using technology to its fullest potential and enabling transportation system managers to effectively "connect the dots" of information from various factors that affect transportation operations (e.g., weather, congestion, accidents, and unanticipated emergencies).

To accelerate the deployment of ITS, USDOT has awarded funding to the New York City Department of Transportation (NYCDOT); Tampa Hillsborough Expressway Authority (THEA); and Wyoming/ICF to pilot next-generation connected vehicle technology. The locations were selected in a competitive process to go beyond traditional vehicle technologies to help drivers better use the roadways to get to work and appointments, relieve the stress caused by bottlenecks, and communicate with pedestrians on cell phones of approaching vehicles. These three CV Pilot sites have developed comprehensive deployment plans and are now going through a design-build-test phase before running an operational environment. All information from these projects is publically available and used in various training and outreach activities.

The Smart City Challenge

To further the goal of developing a connected society, USDOT launched the Smart City Challenge in December 2015. As part of this effort, USDOT encouraged cities to put forward their best and most creative ideas for innovatively addressing the challenges they are facing. USDOT intended for the challenge to address how emerging transportation and other data, technologies, applications, and clean energy solutions can be integrated in a city to address transportation challenges cities are facing.

The Smart City Challenge called for more than merely introducing new transportation technologies. It required bold new solutions that would change the face of transportation by closing the gap between rich and poor; capturing the needs of both young and old; and bridging the digital divide through smart design so that the future of transportation meets the needs of all. USDOT identified twelve vision elements that comprise a Smart City with successful proposals aligning to some or all of the USDOT's vision elements and fostering integration between the elements. Through alignment with these vision elements, the Smart City Challenge is expected to improve safety, enhance mobility, enhance ladders of opportunity, accelerate the transition to clean transportation, and address climate change.

Figure 1. Twelve vision elements that comprise a Smart City, as ide... by USDOT.

DOT's 12 Priority of Vision Elements	
Vision Element	**Priority**
Technology Elements	
Vision Element #1: Urban Automation	Highest Priority
Vision Element #2: Connected Vehicles	Highest Priority
Vision Element #3: Intelligent, Sensor-Based Infrastructure	Highest Priority
Innovative Approaches to Urban Transportation Elements	
Vision Element #4: Urban Analytics	High Priority
Vision Element #5: User-Focused Mobility Services and Choices	High Priority
Vision Element #6: Urban Delivery and Logistics	High Priority
Vision Element #7: Strategic Business Models and Partnering Opportunities	High Priority
Vision Element #8: Smart Grid, Roadway Electrification, and Electric Vehicles	High Priority
Vision Element #9: Connected, Involved Citizens	High Priority
Underlying Smart City Elements	
Vision Element #10: Architecture and Standards	Priority
Vision Element #11: Low-Cost, Efficient, Secure, and Resilient Information and Communications Technology	Priority
Vision Element #12: Smart Land Use	Priority

USDOT sought bold and innovative ideas for proposed demonstrations to effectively test, evaluate, and demonstrate the significant benefits of smart city concepts. Seventy-eight cities submitted entries to the competition, and in March 2016, seven finalists were selected. These finalists were Austin, TX; Columbus, OH; Denver, CO; Kansas City, MO; Pittsburgh, PA; Portland, OR; and San Francisco, CA. Finalists were awarded $100,000 to develop detailed applications on their proposed plans to conduct a federally funded Smart City Demonstration in their jurisdiction.

Smart Columbus

In June 2016, Columbus was selected as the winner of the Smart City Challenge and will receive $40 million from USDOT and $10 million from Paul G. Allen's Vulcan, Inc. to supplement the $90 million that the city raised from other private partners to carry out its plan for a smart city demonstration. Using these resources, Columbus will work to reshape its transportation system to become part of a fully-integrated city that harnesses the power and potential of data, technology, and creativity to reimagine how people and goods move throughout their city.

Columbus' smart city demonstration will occur over a 4-year period and will pilot projects in four distinct types of districts (residential, commercial, downtown, and logistics). To tackle the challenges each community faces, the Smart Columbus Program included smart solutions built on four core-enabling technologies:

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Columbus, OH, USA, winner of the Smart City Challenge.

- The **Connected Columbus Transportation Network** will include traffic signals equipped with traffic detection and sensors, dedicated short-range communications (DSRC), and pedestrian detection; truck loading zones with machine vision detection of zone availability; multifunction kiosks with transit service information, first/last mile and bikesharing and carsharing information, parking availability, and Wi-Fi hot spots.
- The **Integrated Data Exchange** open data environment will contain data from many different sources; generate performance metrics for program monitoring and evaluation; transparently serve the needs of public agencies, researchers, and entrepreneurs; provide practical guidance and lessons learned to other potential deployment sites; and assist health and human service organizations.
- A suite of applications and processes will deliver **Enhanced Human Services** to residents and visitors. These applications include a multimodal trip planning application, a common payment system for all transportation modes, a smartphone application for assistance to persons with disabilities, and integration of travel options at key locations for visitors.
- Smart Columbus will expand the Smart Grid program and increase **Electric Vehicle (EV) Infrastructure**. The city will install vehicle-to-grid capability for charging stations to manage grid resources, provide assistance and analysis to fleet operators to encourage EV adoption, increase investment in EV charging, create customer education programs, and create an EV cooperative buying program.

Conclusion

Through a cooperative agreement, the ITS Joint Program Office (JPO) and our modal partners at USDOT will work with Columbus to implement its Smart Columbus program. USDOT will provide technical assistance to support planning, design, implementation, evaluation, and outreach. The challenge has garnered global interest catapulting the United States and USDOT into a leadership position in the Internet of Things/Smart Communities emerging technology field. An independent evaluation will be conducted to monitor the impact of the demonstration on mobility, safety, ladders of opportunity, efficiency, clean energy, sustainability, and climate change. This effort will produce a playbook to inspire other cities to advance smart city strategies throughout the United States and globally.

As new ITS technologies and systems evolve into market-ready products, USDOT is addressing questions associated with adoption and deployment. The goal is to speed up the transformation of ITS research and prototypes into market-ready technologies that are commercially viable and adopted by the transportation community. USDOT provides communication and education support to facilitate awareness, understanding, acceptance, adoption, and deployment of ITS technologies across stakeholder groups and ensures effective partnerships are fostered and developed at various levels—executive, program, and project. USDOT seeks to advance ITS work from research, to initial adoption, and subsequently on to wider-scale deployment in coordination with other stakeholders at the federal, state, regional, and local levels. **itej**

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UPDATE FROM THE ITE COMMITTEE ON TRANSIT AND TRAFFIC IMPACT STUDIES

By John S. Kulpa, Ph.D., Brian Welch, and Michelle DeRobertis

The ITE Transit and Traffic Impact Studies Committee has been at work since April 2014 to identify the current approach to transit analysis within transportation impact studies (TIS) and to recommend best practices going forward. The committee was established to review the state of the practice of traffic impact studies on the assessment of transit service and for the evaluation of traffic impacts on transit operations. This also included identifying whether and how transit quality of service is addressed, whether and how traffic impacts on transit service are addressed, and documentation of the methodologies and metrics used to assess these issues. Committee members came from various agency and private sector organizations and from diverse areas of the United States.

Study Framework

During the course of the study effort a framework for the analysis was developed that included an Introduction; Literature Review; Survey Execution and Findings; Current and Emerging Issues; Best Practices; Gaps in Practice; and Conclusions, Recommendations, and Next Steps.

The survey findings were particularly interesting in that they highlighted the general lack of attention being paid to transit as a component of the impact review process (with notable exceptions) and the overall emphasis being placed in the TIS process on traffic Level of Service and mitigation of traffic impacts through vehicular capacity improvements. Initial survey responses were received from more than 30 U.S. states, four provinces in Canada, and from eight other countries. Of the nearly 250 initial responses to the survey, 78 said they did not have or didn't know if they had TIS guidelines, over 90 surveys were incomplete or were duplicates of another response, and 69 said they have adopted TIS guidelines and completed the rest of the survey.

Of the completed surveys, five of the 69 were from outside the United States and Canada. The survey analysis focuses on the 64 responses received from within North America: 58 from the United States and six from Canada. The final dataset included responses from jurisdictions in 29 states in the United States, as well as six Canadian agencies. Responses were received from various types of agencies, mainly local agencies, but also state, county, and other regional agencies.

Tasks Completed by the Committee

The committee worked from April 2014 through the summer of 2016 on the following key tasks:

- A literature review was completed to identify current methodologies to analyze transit service. In addition, academic and professional papers on the topic were reviewed. Existing transit system data collection practices were also summarized.
- A survey was conducted regarding the state of the practice on how TISs consider the impact of land development projects on transit.
- Issues with current practices were illustrated by three examples: 1) California Senate Bill 743, 2) infill development, and 3) transit impact of regional traffic generators.
- Case studies were presented to illustrate best practices, which were identified from the survey results or from the review of TIS guidelines known to contain helpful consideration for transit.
- The Committee identified guidance and information that would be needed to help practitioners but are currently unavailable. This should be helpful in developing ITE's recommended practice for how to consider transit in TIS.

Key Findings and Gaps in Practice

Major gaps in the practice of considering transit in TIS were found in the following areas: 1) transit quality of service, 2) involving the transit operator in the TIS, 3) identifying impacts on transit, 4) identifying mitigation measures for transit, and 5) funding and other institutional arrangements.

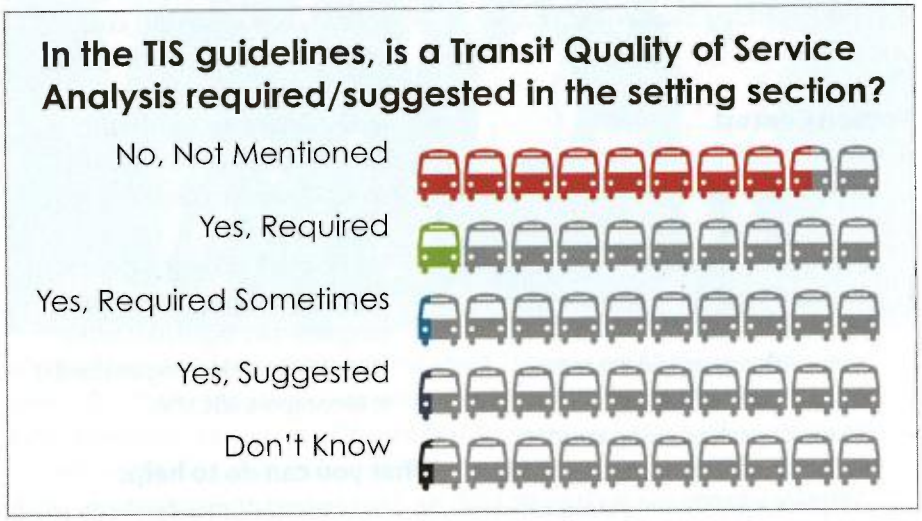

Figure 1. Responses to ITE Committee on Transit and Traffic Impact Studies (TIS) survey question 10.

- Quality of transit service is inconsistently addressed across the country. There is a general lack of understanding as to what it really means. Very few agencies truly address the quality of transit service serving a site (see Figure 1), although this is primarily due to lack of guidance for the transportation professional who is conducting the TIS (despite the existence of a transit quality of service manual since 1999, updated in 2004 and 2014).[1]
- There is inconsistent practice as to whether the pedestrian conditions to access the transit site are assessed. The first and last mile considerations are very important in determining the adequacy of access to transit.
- Very few agencies involve transit operators in any phase of the traffic impact study, from the development of the scope to the development of the mitigation plan. See Figure 2.
- Almost all TIS focus on the impact of development on the general traffic network; suggestions for increased transit service quality or capacity are very rare as recommended mitigation to ameliorate traffic congestion. The impact of a development's vehicular traffic on transit is only obliquely addressed if at all (see Figure 3).
- Mitigation to improve transit service is the exception not the rule. Impacts of new transit riders on transit operations generally are not considered in TIS, except for very large developments (such as stadia and entertainment venues, see Figure 4) and often not even then.[2]
- The vast majority of the revenue generated by transportation impact fees is spent on roadway projects. The underlying studies on which these fees are based rarely address the potential for better transit to reduce demand for

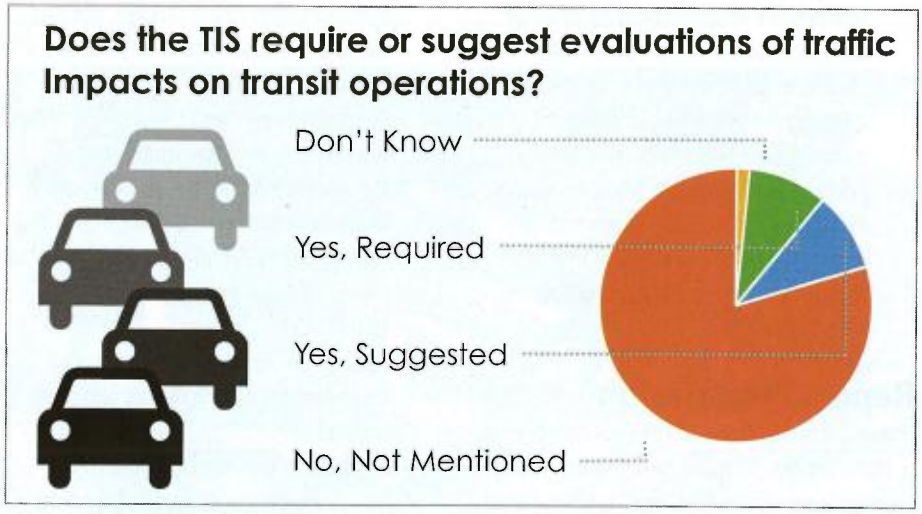

Figure 2. Responses to survey question 12.

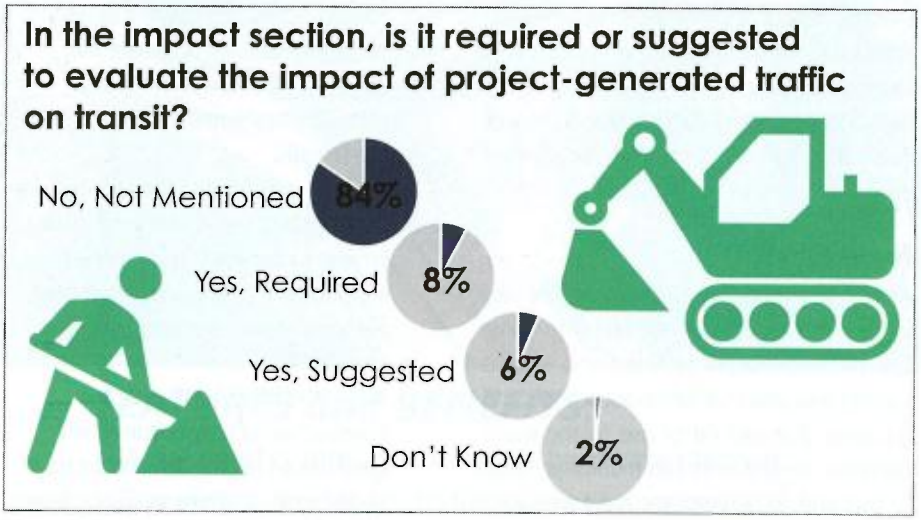

Figure 3. Responses to survey question 14.

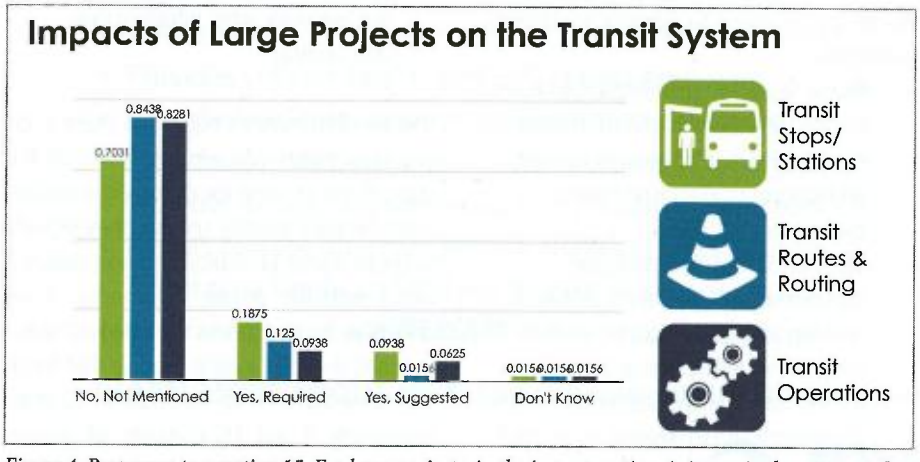

Figure 4. Responses to question 15: For large projects, in the impact section, is it required or suggested to evaluate the impact of the project's site location, proposed road modifications, or other area-wide non-traffic impacts on Transit Operations, Transit Routes and Routing, and Transit Stops and/or Stations.

automobile use by making transit more competitive let alone how to provide better transit service for those who choose to take transit. The survey found a limited number of examples where traffic impact fees are used to fund non-roadway projects. Another option for funding transit improvements would be the use of a Transit Impact Fee, yet there is very little in practice in terms of implementing such fee.

Report Preparation

In August of 2016 the committee completed a draft report, "Transit and Traffic Impact Studies State of the Practice – Informational Report." It has undergone the ITE peer review process; responses have been positive and productive with suggested enhancements and clarifications to improve the presentation and readability of the report. Formal publication of the report is anticipated during the summer of 2017.

Next Steps

As with any academic undertaking, the real value of this effort lies in the ability to translate the information gathered and lessons learned into practical information, tools and guidance that can be of use to the transportation engineering community at large. To that end, the Committee is working with ITE to develop a series of guidance documents and revisions to existing documents as follows:

- Revise "Transportation Impact Analyses for Site Development: An ITE Recommended Practice" to provide needed professional guidance on how to consider transit in TIS.
- Work with the American Public Transportation Association (APTA) to develop a tiered approach to considering transit in TIS, so that a minimum level of transit analysis is conducted for all projects; and to develop suggested thresholds for when to conduct increasingly more detailed transit impact analysis.
- Provide similar guidance for all transportation needs studies, not just the specific case of land development Traffic Impact Studies.
- Prepare/Revise the ITE fact sheet: "What is a traffic study?" to include transit.
- Partner with APTA, the Association of Environmental Professionals (AEP), and the American Planning Association (APA) to create awareness to address transit in TIS.
- Provide an ITE webinar to educate ITE members on the need to address transit in TIS.
- Support further research into developing the concept of transit funding similar to the way school districts are funded. School impacts are based on project size, not on where the project is located within the city, and not whether there is capacity in the schools.
- Support research into the approach to development fees that is used in Italy, where, if a project fits within the current land use zoning, a development fee is paid and there is no project-specific TIS.
- Help cities to recognize that the construction of new buildings will generate additional demand for travel by all modes and fees should be levied to serve travel in the same way fees are levied for other infrastructure and services.

It is the Committee's hope that these tools and documents will serve to advance the state of the practice for preparing Transportation Impact studies so that they equally evaluate transit (and bicycling and walking) along with the private automobile. If we only plan for and assess the needs of automobiles, then the logical result is that funds are funneled only to automobile facilities. Conversely, if our TIS consider all modes, including what their potential would be if they had the same level of service, (for lack of a better term), then not only would it be equitable for existing users regardless of what mode of transportation they choose, but we would find that this affects their choices as well, i.e. that the demand for these other modes would increase.[3] **itej**

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