

National Accessibility Evaluation Task Report

# **Task 5.1: TAP Review of Results and Methodology**

Prepared by the  
**Accessibility Observatory at the University of Minnesota**

February 10, 2017

# National Accessibility Evaluation Technical Advisory Panel Meeting

September 28, 2015

10:00-11:00 CST

## **Present:**

Farideh Amiri, Minnesota Department of Transportation  
Deanna Belden, Minnesota Department of Transportation  
Brian Gardner, Federal Highway Administration  
Michael Henry, Arkansas Department of Transportation  
Jessie Jones, Arkansas Department of Transportation  
Peggi Knight, Iowa Department of Transportation  
Lauren LeJeune, Florida Department of Transportation  
David Levinson, Accessibility Observatory, University of Minnesota  
Doug McLeod, Florida Department of Transportation  
Laurie McGinnis, Center for Transportation Studies, University of Minnesota  
Colleen O'Connor Toberman, Center for Transportation Studies, University of Minnesota  
Peter Ohlms, Virginia Department of Transportation  
Andrew Owen, Accessibility Observatory, University of Minnesota  
Virginia Porta, Arkansas Department of Transportation  
Rahul Srivastava, California Department of Transportation  
Brenda Thomas, Center for Transportation Studies, University of Minnesota  
Jean Wallace, Minnesota Department of Transportation  
David Wasserman, North Carolina Department of Transportation

## **Welcome from MnDOT**

Jean Wallace welcomed participants and thanked them for their commitment to the pooled fund project. She encouraged members to continue promoting this project to their colleagues.

## **Introductions**

Brenda Thomas, project manager, led introductions of the research team, TAP members, and Center for Transportation Studies staff.

## **Project Overview**

Andrew Owen shared an overview of the National Accessibility Evaluation. The project's goal is to produce datasets that measure job accessibility (at the Census-block level) by different modes of transportation within different time windows. Jobs will be categorized by industry and wage level.

Each pooled-fund member will receive datasets for their jurisdiction. This data will be shared in Shapefile and tabular formats; Owen encouraged members to contact him if they prefer a different

format. Members are welcome to share their datasets with other partners (counties, MPOs, etc.). The Accessibility Observatory can also host public access to all of the datasets if members would like this; this can be discussed later in the project.

The project will produce multiple publications; one will be a national-level report highlighting major metropolitan areas and job access by auto and transit within each. Each partner will also receive reports customized to the partner's jurisdiction, broken down by counties, metropolitan areas, or other zones as requested by partners.

Each year, members will meet to review the project's methodology and deliverables, as well as explore more opportunities (modes, communication tools, destination types, etc.). The project will expand in scope each year and continue to provide new and interesting information.

Owen provided an updated project timeline. Task Two, collecting input data, is complete. Task Three, calculating the accessibility datasets, is in progress. Owen plans to have Tasks Four and Five as complete as possible before the January TAP meeting, though they are officially due in February and March, respectively.

David Wasserman asked whether the speed data licensed from TomTom will be shared with partners; Owen replied that the licensing agreement only allows use of speed data for use of accessibility datasets but not other distribution.

Ohlms asked what timeframes will be measured and reported, for instance, over the course of the morning rush hour. Owen responded that they anticipate having several time periods/increments. Partners may be asked for their input about the most important priority timeframes to measure.

McLeod inquired whether metro-area datasets will be based on the state/MPO/Census boundaries or the FHWA smooth boundaries. DOTs are required to report based on FHWA boundaries. Owen responded that while they've used Census boundaries in the past, this is flexible. He will reach out to partners to ask what boundaries they need to use when he reaches this point in the project.

McLeod asked about including bicycle and pedestrian modes. Owen is currently studying these for the Minneapolis-St. Paul metropolitan area and is open to studying them for other areas as the project and datasets allow.

### **Future TAP Meetings**

Colleen O'Connor Toberman shared that the TAP will meet in person during the TRB Annual Meeting in January 2016. All TAP members participating on the call confirmed that they will be attending TRB. January 12 or 13 at 7:30 a.m. is being considered as a possibility, but O'Connor Toberman will poll members for their schedule preferences.

### **Other Business**

Owen shared that he is also working on an FHWA project to study how accessibility metrics can be used as an evaluation within a planning context (for instance, comparing future development scenarios). He's seeking case studies for before/after analysis. Ideal studies would be significant build projects that are

currently in progress or recently completed. He would like to study a variety of projects (highways, transit, and land use/development). Owen asked partners to share projects in their state that might serve as good case studies. The project report will include not only the accessibility analysis, but also discussion of how much effort it took to incorporate the analysis. Owen will send out an e-mail inviting partners' suggestions for case studies.

Owen reported that data access presents a challenge to the Accessibility Observatory's work. He asked partners to encourage their local transit agencies to publish GTFS transit schedule datasets, which offers a universal format that can be easily incorporated into data analysis. Some states offer a one-stop repository for agencies to publish this data. The Accessibility Observatory also offers GTFS dataset creation for interested transit providers.

Owen also noted that the pedestrian data relies on OpenStreetMap, which is an open-source program. Sometimes this means that the data doesn't get updated immediately when projects are completed. He encouraged agencies to include OpenStreetMap updates in their project plans when crosswalks, sidewalks, etc. are changed during a project. Owen offered to discuss this further with partners who may have questions.

Virginia Porta asked about land-use data. Owen responded that this dataset is based on Census data calculated from tax information. This provides national coverage, consistent format, and Census-level data.

Jessie Jones inquired why the current studies are focused on metropolitan areas. Owen shared that while focusing on metropolitan areas brought greater attention to the early reports, the ongoing project can and will measure accessibility in all environments, including rural, suburban, and urban. A consistent methodology allows for useful comparisons between different areas. He noted that small transit operators, such as those in rural areas, are less likely to have digital schedules available, so including these providers is an ongoing challenge.

Rahul Srivastava also spoke up in support of evaluating rural accessibility. Owen noted that the datasets provided to partners will include every Census block in the partner's jurisdiction, which includes every block in each partner DOT's state. Srivastava added that California Senate is considering a bill, SB-743, that could provide case studies for Owen's FHWA project.

Thomas thanked members for their participation. A follow-up e-mail will include meeting minutes and a poll about TRB meeting schedule preferences.

# National Accessibility Evaluation Technical Advisory Panel Meeting

January 12, 2016

5:30-7:00 EST

## Present:

Farideh Amiri, Minnesota Department of Transportation  
Deanna Belden, Minnesota Department of Transportation  
Matt Haubrich, Iowa Department of Transportation  
Tim Henkel, Minnesota Department of Transportation  
Michael Henry, Arkansas State Highway and Transportation Department  
Jessie Jones, Arkansas State Highway and Transportation Department  
Doug McLeod, Florida Department of Transportation  
David Levinson, Accessibility Observatory, University of Minnesota  
Brendan Murphy, Accessibility Observatory, University of Minnesota  
Colleen O'Connor Toberman, Center for Transportation Studies, University of Minnesota  
Peter Ohlms, Virginia Department of Transportation  
Andrew Owen, Accessibility Observatory, University of Minnesota  
Virginia Porta, Arkansas State Highway and Transportation Department  
Chris Porter, Cambridge Systematics  
Toni Rice, Wisconsin Department of Transportation  
Brenda Thomas, Center for Transportation Studies, University of Minnesota  
Jean Wallace, Minnesota Department of Transportation  
David Wasserman, North Carolina Department of Transportation

## Welcome and Introductions

Jean Wallace welcomed the group; introductions followed.

## Project Update and Discussion

Andrew Owen shared an update about the project status. Task 2 (collecting input datasets) is complete. Calculating accessibility from those datasets (Task 3) is ongoing. Transit and pedestrian modes have been the most challenging to calculate.

Task 4 is also in progress; the reports are scheduled to be delivered to each member in February 2016. The TAP will then review the first report and methodology. Matt Haubrich asked whether the data could be provided in a way that can be integrated with partners' existing mapping tools. Owen plans to provide this in a future year of the project.

Jessie Jones asked how the metropolitan areas are defined; Owen responded that these are based on Census designations. Doug McLeod asked about whether the data could be zoned by MPO; Andrew will look into the feasibility of this.

Owen shared some sample maps that will be produced during the project. David Levinson asked how the maps will display highways; Brendan Murphy responded that the software can have some shortcomings in this area that will be corrected before reports are issued.

David Wasserman asked about what kinds of maps will be included in the February report. Owen plans to share a set of prototype maps with members; they will provide feedback about which maps should be included in the reports. Members encouraged him to include maps showing the effect of peak-hour congestion on job accessibility. Owen noted that members will each receive their own dataset to analyze should they wish to produce additional custom maps.

Haubrich asked whether accessibility will be able to incorporate metropolitan areas that cross state lines. MPOs would want the data from both sides of the state line. Owen will look into this; he needs to confirm that this is within the bounds of TomTom's licensing agreement.

Jones inquired about being able to compare the data quality compared to other sources. Owen responded that direct side-by-side comparisons violate the project's contract with TomTom. Levinson noted that some other researchers have done this work and might be a helpful resource for interested DOTs.

## **Future Plans**

Owen shared that the 2015 datasets provided to members will also include block-level data about bicycle and pedestrian access to jobs, which wasn't originally promised. He is excited to provide this additional data.

In the future, Owen hopes to create a web portal for exploring and analyzing data (in addition to the Shape and tabular data formats that will be provided each year). Several members agreed that a REST endpoint would be helpful. Owen asked whether this portal should be public-facing; members agreed that it would be a desirable feature.

Another future direction could include examining the variability/reliability of accessibility over time. This would require some new data from TomTom, so the research team has to look into the feasibility and cost of this data before moving forward.

Owen is also considering reporting on the equity of accessibility for various demographic groups. This would require input from members to identify which demographic groups should be examined; another option would be to assist members in performing their own analysis with their datasets. Jones agreed that this would be useful information. Owen suggested that he could produce some sample reports for which to collect member feedback.

An additional data refinement could be to include transit capacity data, since in reality there isn't always room on every bus or train for all riders. The dataset for this measure has not yet been identified. Peter Ohlms noted that this would be a relevant measure in northern Virginia. McLeod noted that capacity is also a challenge in Miami and Tampa but is not a critically important issue for this study.

Andrew and Tim Henkel will be discussing the National Accessibility Evaluation at the 2016 AASHTO Washington Briefing next month; the agenda for this event will be shared when available.

## **New Opportunities**

Outreach to potential pooled-fund member states and MPOs is ongoing. A cost structure for MPOs within member states has been developed in acknowledgement that the MPO's dataset is already available through its state's membership. Owen is happy to speak with anyone who would like to discuss joining the pooled fund. He encouraged fund members to discuss the fund with their MPOs and neighboring states. There is a one-page program overview for potential TAP members; this will be e-mailed with the meeting notes.

### **Florida DOT Evaluation of Accessibility Performance Measures**

McLeod shared that the Florida DOT has been developing and reporting on several performance measures (quality, quantity, accessibility, and utilization) for all modes. Accessibility (including to jobs and airports) has been a focus, but acquiring data has been more challenging than for other measures. Cambridge Systematics has helped develop some auto accessibility data while Florida waits for its first Accessibility Observatory reports.

Owen noted that the TAP provides a great opportunity to share about uses and deployment of accessibility data. Chris Porter and Owen noted the difficulty of defining what summary metrics are chosen and communicated. These will continue to evolve throughout the project.

### **Other Business**

Brenda Thomas shared that the TAP will meet next around March; a scheduling poll will be sent out shortly. Thomas invited members to visit the research team should they be traveling to the Minneapolis-St. Paul area.

McLeod shared that he and Jones are members of TRB committee AHB40, Highway Capacity and Quality of Service. Their upcoming highway capacity manual will include a mention of accessibility measures, which underscores that accessibility is of increasing importance in performance measurement.

Wallace thanked members for their participation.

# National Accessibility Evaluation Technical Advisory Panel Meeting

April 12, 2016  
Minutes

## Present:

Deb Fick, Minnesota Department of Transportation  
Brian Gardner, Federal Highway Administration  
Michael Henry, Arkansas State Highway and Transportation Department  
Peggi Knight, Iowa Department of Transportation  
David Levinson, Accessibility Observatory, University of Minnesota  
Subrat Mahapatra, Maryland Department of Transportation  
Laurie McGinnis, Accessibility Observatory, University of Minnesota  
Doug McLeod, Florida Department of Transportation  
Brendan Murphy, Accessibility Observatory, University of Minnesota  
Colleen O'Connor Toberman, Accessibility Observatory, University of Minnesota  
Peter Ohlms, Virginia Department of Transportation  
Andrew Owen, Accessibility Observatory, University of Minnesota  
Toni Rice, Wisconsin Department of Transportation  
Rahul Srivastava, California Department of Transportation  
Brenda Thomas, Accessibility Observatory, University of Minnesota  
Jean Wallace, Minnesota Department of Transportation

## Welcome

Jean Wallace welcomed attendees. Maryland has recently joined the pooled fund, bringing the total participation to nine states plus the FHWA.

## Project Update and Discussion

Andrew Owen provided an update on the project status. The research team is finalizing Task 3, the calculation of the accessibility datasets. They are also working on Task 4, which is development of the state accessibility reports.

Owen shared a prototype report for member feedback. Member reports should be complete by mid-May. The report will include job accessibility by transit and auto throughout the state, along with detailed data for each MPO within the state. If these MPOs cross state lines, the entire MPO is included, not just the portion within the member state's boundaries. Doug McLeod agreed that MPO boundaries are a useful definition. He encouraged the research team to use boundaries that align with MAP-21 requirements, perhaps in future years.

Subrat Mahapatra inquired whether reports could include data for the entire MPO as well as just the MPO area within the member state, as that would be helpful for state planners who want to know the

conditions within their boundaries. Brian Gardner noted that MPO boundaries change over time, so county-level reports could be one way to meet this objective. Owen said that he will provide MPO-level maps and summaries, along with more detailed tables for each county.

Rahul Srivastava suggested that the first report be considered a pilot report, with flexibility to change for future years. Owen agreed that having flexibility in reports and communication products is important as new users and applications are discovered. Consistency in the data itself, however, is a high priority to allow year-over-year comparisons.

Owen inquired whether graphs are helpful products along with maps and tables. Members expressed support for this. Owen invited member feedback about graph design and labels. McLeod suggested using rounded numbers and standard (rather than metric) units. David Levinson noted that precise numbers are important for comparison. The research team will look into how to best share this information.

Mahapatra asked about how LEHD data is used. Owen responded that they are using the LEHD data without modification, as nationwide consistency is important. While integrating states' adjusted LEHD data is not feasible at this point for the first year's reports (as this data is integrated early in the calculation process), this could be considered as an improvement for future years.

Owen showed some demonstration maps. McLeod expressed support for the maps as a useful visualization tool. He inquired whether workers' average actual commute time could be included. This could be as simple as showing the average commute time on the graphics. Owen added this to the list of potential improvements for future reports.

Srivastava inquired about producing maps for other travel time thresholds, such as ten minutes. These low travel time thresholds might not be useful statewide but could be useful at an MPO level. Owen will consider adding this information to the reports. Maps for these different thresholds might overwhelm the casual user, but tables would be easier to include.

Members suggested consistent labeling about time thresholds between the transit and auto maps to emphasize consistency. "Morning peak" or "around 8 a.m." could be appropriate map titles.

Owen said that the report will include brief discussion about methodologies, with a reference to a separate document for readers interested in more detailed information.

Owen displayed a map showing the impacts of traffic congestion on job accessibility by auto. Members shared support for including these maps and associated charts (at an MPO level) in the state reports. This would be hard to replicate via transit, particularly because it is difficult to parse out changes in travel speed versus route frequency. Owen will consider whether it's possible to do some kind of transit accessibility change analysis in the future.

Owen briefly discussed potential project enhancements for Year 2. Members will be surveyed to help determine what their highest priorities are. The research team is also evaluating the cost of each enhancement to understand which and how many enhancements are feasible in Year 2.

## **Year 2 Funding and Contract**

Members should receive their Year 1 reports and datasets in mid-May. The workplan for Year 2 will also be developed over the next month or two. She thanked those that have already committed to Year 2 funding and offered support to any states that may need additional information prior to committing to Year 2. She also encouraged members to let other prospective partners know that this is an ideal time to join the project.

McLeod inquired whether pedestrian and bike accessibility data will be made available. Brendan Murphy shared that calculations for these modes are largely complete for the 50 largest metropolitan areas in the country, but reporting was postponed as delivering members' reports is the top priority. Pedestrian and bike reports will be shared with members when available.

Wallace thanked members for their participation and adjourned the meeting.

# National Accessibility Evaluation Technical Advisory Panel Meeting

September 7, 2016  
Minutes

## **Present:**

Deanna Belden, Minnesota Department of Transportation  
Lois Bush, Florida Department of Transportation  
Stephanie Dock, District Department of Transportation  
Brian Gardner, Federal Highway Administration  
Jessie Jones, Arkansas Department of Transportation  
Tori Kanzler, California Department of Transportation  
Steven LaBedz, Iowa Department of Transportation  
Subrat Mahapatra, Maryland Department of Transportation  
Laurie McGinnis, Accessibility Observatory, University of Minnesota  
Brendan Murphy, Accessibility Observatory, University of Minnesota  
Colleen O'Connor Toberman, Accessibility Observatory, University of Minnesota  
Peter Ohlms, Virginia Department of Transportation  
Andrew Owen, Accessibility Observatory, University of Minnesota  
Virginia Porta, Arkansas Department of Transportation  
Brenda Thomas, Accessibility Observatory, University of Minnesota  
Jean Wallace, Minnesota Department of Transportation  
David Wasserman, North Carolina Department of Transportation

## **Welcome**

Jean Wallace welcomed attendees and introductions followed. New fund members Washington State and the District of Columbia were welcomed.

## **Project Update and Discussion**

### *Accessibility Observatory organizational update*

Andrew Owen shared that David Levinson, Accessibility Observatory managing director, will be departing for the University of Sydney this fall. The Accessibility Observatory will move from its current home (Department of Civil, Environmental, and Geo-Engineering) to operate within the University of Minnesota's Center for Transportation Studies. This offers an exciting opportunity to bring more connections to other researchers and resources at the university as well as streamline the program's administrative efforts. Owen expressed his gratitude for Levinson's guidance in launching this program.

Laurie McGinnis shared that the research team will continue to work from their current office in the Civil Engineering building for the time being but hope to eventually move into offices at the university's Humphrey School of Public Affairs.

### *Current project status*

Owen thanked members for their patience and continued feedback during the first year of the project. The project team has refined its data calculations and reports this year and is nearly ready to mark all Year 1 project deliverables as complete. Owen briefly shared maps from the national transit and auto accessibility dataset calculations. Members will receive their area's datasets via e-mail this week; members will also be able to access the datasets for all other pooled-fund members. This will serve as the completion of Task 3.

Members received draft reports for Task 4 earlier this summer; member feedback is being incorporated into the final reports. Final reports will be sent to members within the next two weeks. The Auto national report will be published next week and the Transit national report will be published in November. CTS will be providing publicity efforts to bring national attention to this research. Owen provided brief highlights from the national reports, including cities' accessibility rankings. He noted that many large cities rank highly for job access by both transit and auto; given that these metrics are raw counts of job numbers, large cities naturally have the most jobs.

Owen shared that "congestion impact" is defined as how much congestion reduces job accessibility. This is determined by calculating the difference in jobs reachable by car within 30 minutes at 8:00 am versus 4:00 am. Stephanie Dock asked how the congestion rankings are determined and why D.C. isn't high on the congestion impact list as often is on other reports. Owen noted that D.C.'s jobs are dispersed across the region, meaning that while individual travelers might be experiencing congestion in their commute, they are likely driving past many closer jobs on their way to the job of their choice.

### *Year 2 timeline*

Owen shared that the Year 2 workplan has been finalized and it is undergoing contracting with MnDOT. The Year 2 timeline is similar to the original Year 1 timeline; Owen feels confident that this schedule can be achieved given how many challenges in calculating the datasets were resolved in Year 1. Tasks 2.2 (collect data) and 3.2 (calculate datasets) are underway. Datasets will be distributed to members in December 2016 and reports in February 2017. Members will review these deliverables from January-March 2017 to allow reporting and wrap-up before the project year ends in June.

### *Future plans*

Owen and Brendan Murphy are continuing to plan Year 2 enhancements based on member feedback. They are planning to offer a web access for datasets; they are currently evaluating hosting options' services, setup and maintenance effort, and cost to ensure that the service can be maintained throughout the life of the project. A public-facing portal, offering easier analysis of the data, is also tentatively planned for Year 2. This portal could be used for policymakers, citizens, and others who want to use this information but don't have the expertise to understand the more complex data. The research team hopes to identify a host option that can support both of these forms of web access to the data, both for members and the public.

Members also discussed studying the reliability of accessibility. This is not currently planned for Year 2; members have mentioned that this would be interesting research but use cases don't yet exist. This would also require additional data that the Accessibility Observatory doesn't currently have access to. This could be a potential enhancement for future years if the data sources are found to be available and within the program's budget.

Owen will continue to share updates about these enhancements and invite member feedback when needed. Brian Gardner asked whether Year 2 will involve a further examination and refinement of how measures are calculated. Owen responded that he hopes to discuss this with members at the next TAP meeting in January; that discussion will inform the Year 2 reports and Year 3 dataset calculations and reports.

## **Member Updates**

Jessie Jones asked other members how they use these reports for long-range planning and performance management. Owen responded that the year-over-year findings that will come from continuous annual reports will yield useful information for members. He invited members to share about their accessibility initiatives.

Lois Bush shared that Florida is examining how Complete Streets and mobility performance measures can best be used to inform their planning, with accessibility having a significant role. Florida DOT has partnered with Brower County and its MPO to pilot use of accessibility metrics and plan to continue coordinating with other entities in the state. Bush mentioned that “data commons” in Florida offer opportunities to share accessibility data with non-traditional partners. Owen asked members to keep him informed about members’ use and sharing of data in these forums and offered support to help with the datasets and questions that may arise about their use in these settings.

Deanna Belden mentioned that “observed” data could provide helpful information—for instance, are people really walking in areas ranked as highly walkable? Are D.C. residents experiencing high congestion because they’re traveling far across the metro area to jobs of their choice?

Peter Ohlms shared that Virginia’s Smart Scale prioritization process for project funding uses accessibility metrics (access to jobs, access to multimodal choices, and access to jobs for disadvantaged populations).

Owen shared that he was scheduled to participate in a Caltrans workshop but was prevented by Delta Airlines’ technical problems.

Dock shared that District DOT is building a web tool to better understand and communicate congestion measures. It looks at congestion in terms of reliability, number of vehicles on the road, and access to jobs and destinations by various modes. They plan to integrate this project’s data into future years. The project’s website and first report will be completed this fall; Owen offered to distribute these with TAP members when complete.

Belden shared that MnDOT will report accessibility metrics at the 30-minute time threshold for both auto and transit in its upcoming reports

Owen confirmed that he’ll be responding to members’ feedback and questions on the draft reports. Datasets will be available for member download this week; Owen will e-mail access links and a documentation file to members. Members are welcome to share the data locally through their own portals and programs; Owen is happy to help if members have questions about this.

Wallace asked whether bike and pedestrian accessibility data will be included. Owen responded that he does consider this part of the project, despite it being delayed due to refining the auto and transit data. Pedestrian data is currently better-developed than bike data; Andrew hopes to have more information to share at the next TAP meeting.

Members asked about freight accessibility and how that could fit into this project. Owen responded that he isn't sure what metrics would be the most helpful when calculating freight accessibility and how to specify and acquire origin/destination data. He hopes to explore this in the future but isn't ready to do so as part of this project at this time. He suggested that interested members could form a subgroup that would meet to discuss metrics and early steps towards calculating meaningful freight accessibility information.

### **Other Business**

Colleen O'Connor Toberman shared that the TAP's next meeting will take place during the TRB Annual Meeting on Tuesday, January 10 from 5:30-7 pm EST. Members attending TRB will meet in-person at or near the conference facility; a call-in option will be provided as well.

Thomas reviewed the next steps and upcoming products that will be coming out over the coming months. Owen and Wallace thanked members for their active participation and adjourned the meeting.

**Meeting slides are available at <http://bit.ly/2d50Z1K>.**

# National Accessibility Evaluation Technical Advisory Panel Meeting

January 10, 2017  
Minutes

## **Present:**

Deanna Belden, Minnesota Department of Transportation  
Katie Benoir, California Department of Transportation  
Kristin Carlson, University of Minnesota  
Stephanie Dock, District Department of Transportation  
Marsha Fiol, Virginia Department of Transportation  
Brian Gardner, Federal Highway Administration  
Michael Henry, Arkansas State Highway and Transportation Department  
Jessie Jones, Arkansas State Highway and Transportation Department  
Subrat Mahapatra, Maryland Department of Transportation  
Laurie McGinnis, University of Minnesota  
Doug McLeod, Florida Department of Transportation  
Stephen Miller, Maryland Department of Transportation  
Brendan Murphy, University of Minnesota  
Colleen O'Connor Toberman, University of Minnesota  
Peter Ohlms, Virginia Department of Transportation  
Andrew Owen, University of Minnesota  
Virginia Porta, Arkansas State Highway and Transportation Department  
Chris Porter, Cambridge Systematics  
Toni Rice, Wisconsin Department of Transportation  
Rahul Srivastava, California Department of Transportation  
Jean Wallace, Minnesota Department of Transportation

## **Welcome and Introductions**

Jean Wallace welcomed attendees; introductions followed.

## **Project Update and Discussion**

Andrew Owen shared that the Accessibility Observatory program is completing its transition to be housed within the Center for Transportation Studies at the University of Minnesota. The Observatory was formerly housed within the university's Department of Civil, Environmental, and Geo-Engineering.

Owen shared an update on each task. Tasks 1.2, 1.3, and 1.4 are complete. The Transit 2015 report was published just this week and has already received some press coverage, including by the Washington Post. A summary report, including links to all task deliverables, will be sent out soon. The Transit 2015 report will also be sent out.

Task 1.5 involves the TAP review of the deliverables and methodology, will be complete after this TAP meeting.

Year 2 (2016 data) is underway. Task 2.2 is complete. Task 2.3 is underway and datasets should be available to members in February. Task 2.4 draft reports are underway, but changes suggested in Year 1 are still being incorporated. The publication schedule for Year 2 national reports will be discussed at the spring 2017 TAP meeting.

Jessie Jones asked about the ability of members to develop templates and dashboards to use with their datasets. Owen responded that this is underway for Year 2. He is identifying hosting options for the data. His next step will be to assemble a working group of TAP members interested in deeper discussion about the desired functionality of this interface (Jessie Jones, Stephanie Dock, and Stephen Miller volunteered for this group). An e-mail invitation will be sent out so that TAP members or their interested colleagues may join. Stephanie Dock asked about the ability to incorporate visualization into this new tool; Owen responded that the opportunities and limits of this will be explored and may be enhanced over time.

### **Review of Year 1 Deliverables and Methodology**

Owen plans to contact members next week to get further feedback on Year 1 deliverables and methodologies. He is open to any feedback but will also provide some targeted questions for members to respond to. Owen invited members to discuss this over the phone if that is preferred.

Jones shared that since accessibility reports are new for her agency, the first-year report served as a baseline and she may not have more detailed comments this early in the project. Jones asked for future meetings to include discussion about how members are manipulating and analyzing their data. Dock noted that trends over time will be helpful to discuss as future years' data becomes available. Owen invited member feedback about how reports can best show and discuss these changes.

Dock asked to be informed about future press releases in advance so that member DOTs can reinforce those stories with the media and share context, nuance, and stories. The research team will do this starting with the reports coming out in the spring of 2017; release dates will also be discussed with the TAP when they are set. Members requested 2-3 weeks' notice of future press releases. Chris Porter suggested having future press releases include some comparison and discussion of large year-over-year changes. Jones noted that a data interface would enhance agencies' ability to be actively involved with public and media discussion.

### **Future Plans**

Owen shared a draft TAP member website that will contain meeting materials, datasets and reports, member contact information, and contract details. The site will be live shortly.

Dock asked whether methodology information will be available on the website; Owen responded that it will. Rahul Srivastava asked about how non-member agencies (such as MPOs) could access this information. Owen stated that datasets produced from the project become the property of the member

agencies; members are free to share their datasets as they wish. Should all members agree to make their datasets a public resource, the University could host these sets in one centralized location. Srivastava spoke in favor of public access.

Jones asked whether this would allow other agencies to access the data without funding the project themselves. Owen responded that the transit accessibility datasets are compiled from publicly-available information. The auto accessibility datasets are based on proprietary information that the project purchases on behalf of members, with a separate fee for each jurisdiction. Laurie McGinnis noted that open, free access to state-level data would likely reduce cities'/MPOs' interest in funding the project in the future.

Members agreed to launch the website with password protection and allow members to use the website for a few weeks and then revisit the question of open public access. Members agreed to share datasets openly with other members. The website will be launched for members soon and a link will be sent out.

Jones suggested that freight accessibility would be a useful future project direction. Owen responded that this is a challenging area to study; he would like to form a member subgroup to discuss how to measure freight accessibility. An invitation for this discussion will be e-mailed and the conversation will take place before the next TAP meeting. Srivastava noted that the National Highway Freight Program has some new accessibility-related funding.

Jones suggested creating case studies and graphics to recruit new members to the fund. McGinnis asked members whether they would be willing to provide testimonials about how the project has provided value to them. Owen requested that members also let him know if they are hearing from cities and MPOs about the value of this data, as those testimonials would be valuable for recruiting new local agencies as members.

Dock suggested reaching out to NACTO (National Association of City Transportation Officials) and offered to connect Owen to this group. Cities tend to not be well-informed about pooled fund programs. Owen noted that even if a city or MPO is located within an existing member state, joining the pooled fund would grant the MPO access to much more detailed reporting about their area (potentially to the neighborhood level) as well as the ability to join the TAP and shape the future of the program. Member costs would be different for MPOs than for states due to different data costs. If the state DOT is a pooled-fund member, the fee for an MPO within that state would be roughly half of what it is for the state.

Dock suggested that the D.C.-area MPO may make a valuable first local-agency TAP member to lead the way given that D.C., Maryland, and Virginia are all members. Peter Ohlms requested materials to help members recruit city/MPO members.

## Member Updates

Doug McLeod shared that the new edition of the Highway Capacity Manual has been released, and the promotional brochure specifically mentions accessibility as an area needing more attention. He also shared a draft of the Florida DOT's 2017 Multimodal Mobility Performance Measures Matrix. He is conducting outreach with all 27 Florida MPOs and is finding high interest in accessibility measures, particularly for non-motorized transit. Members agreed that non-motorized accessibility metrics are very desirable on both state and local levels. Owen noted that this information will help the project prioritize expanding to these modes in future years, although the data available for these modes presents challenges.

McLeod shared that FHWA just released its rules on highway performance measures yesterday afternoon; they are auto- and freight-focused. Brian Gardner noted that while interest in other modes is high, it must be acknowledged that many state agencies would struggle to gather data for these modes. Brendan Murphy agreed that consistently codifying local bike/pedestrian infrastructure on a national level is very challenging.

Gardner said that open street maps are also a resource of high interest, acknowledging the challenges in nationwide coverage and detail. Owen requested to hear about future updates in this realm.

Dock shared that D.C. just completed a multimodal mobility study. The next iteration of the online mobility tool will include access to jobs using this project's data. Some of the District's mapping work could offer insight for other cities and districts working to produce similar work around reliability and congestion. Every street in the District has been assigned a level of traffic stress as relates to cycling, incorporating the existing bike infrastructure. This will make it easier to examine routing and gaps. Murphy noted that he'd like to learn more about this methodology as the Accessibility Observatory has been considering similar methods.

Jones shared that Arkansas has examined cycling infrastructure by ADT and shoulder design. Srivastava noted that Google has created bike maps for the area around their headquarters including advanced features such as topography. Owen stated that he looks forward to continuing the examination of bike-related measures and tools. Members encouraged the research team to release work in this area as soon as possible, whether or not it is perfectly refined in the first iteration. Virginia Porta shared that People for Bikes is also doing some work in this area.

Srivastava asked how bike accessibility would be calculated in future reports. Owen shared that accessibility will be examined by varying stress levels to help reveal how much accessibility is being sacrificed due to lack of low-stress bike infrastructure (highlighting areas where riders avoid travel altogether or take circuitous routes to avoid high-stress roads).

Stephen Miller shared he's hearing interest in weighted decay information that weighs the "value" of the job based on its travel time. Owen responded that the existing datasets support creation of these weighted metrics should member agencies want to do that. He agreed that this metric could be added

to future-year reports, as well. Dock suggested that decay measures could be used as an example of what prospective members can do with their datasets should they join.

Michael Henry asked whether there has been interest in calculating access to housing (or calculating access to members of the workforce) as a reverse way of examining access to jobs. Owen agreed that the program is interested in studying this; reversing the calculation processes will take some effort but is likely possible. This can be considered during future prioritization discussions with the TAP. McGinnis noted that this could be attractive to private or MPO members.

Owen shared that he is eager to participate in studies related to scenario planning. The Accessibility Observatory has done this kind of work before. He asked members to connect him to agencies seeking scenario-planning services.

Owen recently participated in a workshop with the Organization for Cooperative Development, which is looking at global accessibility evaluations. He will share updates about this as this conversation develops.

The Brookings Institution is hosting a Moving to Access Initiative event tomorrow morning. This event will discuss the importance of using accessibility measures to evaluate transportation system.

Wallace and Owen thanked members for their participation and adjourned the meeting.

## Draft Report Feedback and Responses

Partner organizations received draft versions of the partner reports in order to solicit feedback to improve the final version of the reports. Feedback items and their responses are summarized below.

1. Clarify what date ranges contribute to speeds and how they are aggregated
2. Provide comparisons of accessibility for different days, months, etc.  
*TomTom's Speed Profile dataset breaks down speeds by day of week and hour of day, but not by months or weeks. This renders the request in #1 impossible at this time. Comparisons across days of the week are possible, but would add significant computation time. This can be discussed with the TAP as a possible enhancement.*
3. Improve labeling on congestion impact maps to clarify what is represented  
*Map labels updated to reference congestion first and then explain job change metric more clearly.*
4. Consider removing positive change colors in congestion impact maps  
*Map legend was updated to only include negative change colors.*
5. In future updates, include summary data for commute duration (from ACS) for counties, MPOs  
*This is a fairly straightforward enhancement that can be considered for future updates.*
6. In future updates, include data on access to airports, seaports, rail stations  
*This is feasible but requires some additional consideration and decisions on how to calculate and represent such metrics. This should be discussed with the TAP.*
7. In future updates, include pedestrian and bicycle maps/data  
*This enhancement is already planned for future years.*
8. Summarize transit considerations like walk access, transfers, etc in the report  
*Methodology section was expanded to include these items.*
9. Consider mapping travel time thresholds longer than 30 minutes for transit  
*The current set of maps is designed for comparability across modes, though this may be useful. Additional maps could be provided as addenda or in separate files. This can be considered as an enhancement for future updates.*
10. Provide maps/summaries for urbanized areas (UZAs) which contain multiple MPOs  
*This is fairly straightforward but will require some new data collection and tracking. It can be considered as an enhancement for future updates.*
11. Include UZA boundaries on maps  
*We have not incorporated UZA boundary data into our input datasets, but this is a fairly straightforward change that can be considered for future updates.*
12. Include scale on maps

*We are looking into this but there are some technical challenges – each map is a distinct scale to best match the boundaries of its subject state/MPO/CBSA, and we do not yet have a way to render accurate custom scales for each map. We will continue pursuing this.*

13. Change choropleth scales to match map contents (most metro areas don't get into highest categories/colors)

*Feedback in other contexts has cited consistent legend/scales across maps to be a strong benefit for comparability, and there is also some effort saved by not having to make different legends for different maps – we should discuss this further.*

14. Use “uncongested” rather than “free-flow” when discussing congestion impact calculations

*The reports were updated to use “uncongested.”*