

Draft Memorandum for the Record

Boston Region Metropolitan Planning Organization Meeting

October 1, 2015 Meeting

10:05 AM – 11:50 AM, State Transportation Building, Conference Rooms 2&3, 10 Park Plaza, Boston, MA

Steve Woelfel, Chair, representing Stephanie Pollack, Secretary and Chief Executive Officer, Massachusetts Department of Transportation (MassDOT)

Decisions

The Boston Region Metropolitan Planning Organization (MPO) agreed to the following:

- approve two work programs:
 - *Shared-Use Mobility Services: Study of Their Impacts on the Region's Transportation System*
 - *Temporal Changes in Demographics and Title VI Implications*
- approve the minutes of the MPO meeting of September 17

Meeting Agenda

1. Public Comments

There were none.

2. Chair's Report—*Steve Woelfel, MassDOT*

There was none.

3. Committee Chairs' Reports

Lourenço Dantas, Chair of the MPO's Congestion Management Committee, reported that a committee meeting will be scheduled in November.

4. Regional Transportation Advisory Council Report—*Mike Gowing, Advisory Council Chair*

M. Gowing reported that the Advisory Council will hold an election on October 14 to select a new chair and vice chair.

S. Woelfel thanked M. Gowing for his service as chair of the Advisory Council over the past year.

5. Executive Director's Report—*Karl Quackenbush, Executive Director, Central Transportation Planning Staff (CTPS)*

As October 1st is the beginning of the new federal fiscal year (FFY), K. Quackenbush took the opportunity to highlight some of the work that the MPO and its staff accomplished over the past fiscal year.

During FFY 2015, the MPO had some major achievements. The MPO went through the federal certification process, which occurs every four years, and produced three certification documents instead of the usual two: the Long-Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP). During the production of the LRTP, the MPO used novel approaches for project programming, scenario-planning, and for developing an on-line needs assessment and new goals.

The MPO staff increased its collaboration with MAPC by conducting more interdisciplinary planning and public outreach. The LRTP, for example, was a topic at MAPC's Winter Forum. Also, the two agencies are working on a joint land-use allocation model and acquiring a financial management system.

The MPO staff completed a number of projects and developed new analytic tools, including a new travel demand model based on the data from the Household-Travel Survey, and new web applications. Staff also installed a new computer backup system and a new phone system. All of this has been achieved in the context of a level budget. Also this year, while some staff members retired or otherwise left the agency, five new employees have been hired.

Plans for the upcoming fiscal year include the following: implementing the new financial management planning system; revamping the MPO's website; moving forward with performance-based planning; conducting more scenario-planning using the new analytic tools; revisiting the project evaluation criteria for the TIP; addressing recommendations from the federal certification process; continuing to work with MAPC to develop the land-use allocation model; conducting more studies (on the subjects of climate change and transportation equity, for instance); improving the visual interest of presentations; and developing a means to track the implementation of recommendations from MPO studies.

K. Quackenbush also stated that he would like to again schedule one-on-one meetings with MPO members to discuss issues of concerns to them.

6. Work Programs—Karl Quackenbush, Executive Director, CTPS

K. Quackenbush introduced two work programs, and then members discussed and approved them.

Shared-Use Mobility Services: Study of Their Impacts on the Region's Transportation System

Through the work program for *Shared-Use Mobility Services: Study of Their Impacts on the Region's Transportation System*, staff will research the use of point-to-point services, such as Uber and Lyft, and start-up transit services, such as Bridj, to understand how these new services are affecting traditional transit modes. MassDOT has commissioned this work, which will be funded through a MassDOT Section 5303 contract.

The study will involve a literature search and data collection. It will investigate a number of questions pertaining to the characteristics of shared-use mobility service trips in the region, whether they are complementing or competing with traditional transit services, the long-term impact they may have on mode choice, and the effect on car ownership. Origin-and-destination data will be used to analyze patterns of use in high-demand markets.

Discussion

A motion to approve the work program for *Shared-Use Mobility Services: Study of Their Impacts on the Region's Transportation System* was made by the MAPC (Eric Bourassa), and seconded by the At-Large Town of Lexington (Richard Canale).

Members then discussed the work program.

E. Bourassa inquired about the data sources that would be used in the study. Scott Peterson, Director of Technical Services at CTPS, explained that staff will be working with the service providers. Uber has discussed sharing its origin-and-destination data with the City of Boston, and staff may be able to access the data as well. Also, staff from Lyft have expressed interest in working with CTPS on this project. Certain non-disclosure agreements would have to be worked out, however. Staff has not yet spoken to Bridj.

Tom Holder, South West Advisory Planning Committee (Town of Medway), asked when the work will begin. K. Quackenbush then announced that Michelle Scott, MPO Staff, will be transitioning from her role as UPWP Manager to the Transit Service Planning Group, and she will be the manager of this project.

S. Woelfel remarked that during the development of the MBTA's new Program for Mass Transportation (PMT) consideration will be given to how these services will fit into the transit system in the future.

Tom O'Rourke, Three Rivers Interlocal Council (Town of Norwood/Neponset Valley Chamber of Commerce), asked about the geographic scope of the project and whether it will be focused only in urban areas. (It was noted that these services are coming into use in some suburban areas of the region.) K. Quackenbush replied that the focus will be on areas where the services are operating.

Marie Rose, MassDOT, asked if the data gathering would include the use of surveys. K. Quackenbush replied that the work program as written does not include surveying, rather existing data sources would be used. Staff and MassDOT have discussed surveying as a possibility if the existing sources are not sufficient.

Brad Rawson, Inner Core Committee (City of Somerville), suggested that staff make use of vehicle-registration data. He noted that MAPC has done great work in mining this resource.

Lourenço Dantas, Massachusetts Port Authority, remarked that it may be challenging to gather the data for this project because the shared-use mobility services are in their infancy. Then he discussed the importance of exploring the effect that these new services and emerging technologies, such as autonomous vehicles, may have on trip-making in the future. He suggested that they could be topics for consideration in future scenario-planning and travel modeling. S. Woelfel added that these topics will be discussed as the new PMT is developed.

M. Gowing remarked that this study could be important as a travel gap analysis considering that shared-use mobility services could fill first/last-mile transit needs. He suggested that the study include a cost analysis, noting that the shared-use mobility services should be affordable. He also suggested the possibility of travel training for customers.

E. Bourassa noted that MAPC is conducting research about the potential implications of autonomous vehicles and that the Volpe Center is also addressing this topic. He stated that in the development of the next LRTP and PMT there should be a consideration of the implications of this new technology, and he stated that this study will inform those plans.

David Koses, At-Large City of Newton, suggested forming a working group to provide an opportunity for communities to get involved in the study, and he offered to volunteer.

S. Woelfel stated that he would talk further with staff about this and noted that community input may be gathered during the development of the PMT.

Rafael Mares, Conservation Law Foundation, expressed support for the project. He remarked that acquiring the data from the providers will be a challenge, but that if staff can achieve it they will be in the forefront of research on this topic. Further, he noted that the role the shared-use mobility services provide varies by geographic region or urban area, so he suggested staff keep that in mind when reviewing information from other regions. He also asked staff to consider including an analysis of greenhouse gas (GHG) emissions as part of the study to determine if a mode shift caused by these services would have an impact on GHG emissions.

R. Mares also pointed out that due to Logan Airport rules, shared-use mobility vehicles may drop off passengers at the airport but not pick them up, resulting in trips from the airport in which there are no passengers. L. Dantas added that Logan charges no fee for passenger drop off. Taxi cabs and limousine services that pick up departing passengers must go through the cab or limousine pools and pay a passenger fee. Shared-use mobility services do not fall into the categories of cabs or limousines, so they are not able to pick up passengers at Logan, unless the pick-ups are pre-arranged through the limousine pool. He noted that the Massachusetts Port Authority is interested in learning more about the implications of the shared-use mobility services on airport travel, mode share, and parking.

Arthur Strang, Cambridge resident, expressed appreciation that the MPO is addressing this issue.

Elizabeth Moore, Director of Policy and Planning, reported that staff from Lyft have been talking with MPOs in hopes of being included in MPO traffic modeling and decision-making.

Members then voted on the motion to approve the work program for *Shared-Use Mobility Services: Study of Their Impacts on the Region's Transportation System*. The motion carried.

Temporal Changes in Demographics and Title VI Implications

The MPO staff regularly conducts Title VI and transportation equity analyses for MassDOT and the MBTA in the context of planning for infrastructure projects and transit service changes. When forecasting future conditions, these analyses are used to determine the impact on market segments and compare the benefits and burdens of the new project or program on minority and low-income populations.

The purpose of the work program for *Temporal Changes in Demographics and Title VI Implications* is to analyze the impacts of demographic changes on the results of Title VI and equity analyses.

Staff will review historical census data used for previous Title VI and equity analyses, and adjust the data for consistency in comparison with new data. Then staff will analyze the data sets to see if there are discernable changes in locations of the populations of interest over time. If there are major differences, the historical analyses will be redone using the current methodology to see if the demographic differences alter the conclusions concerning disparate impacts.

This project will be funded through a MassDOT Section 5303 contract.

Discussion

A motion to approve the work program for *Temporal Changes in Demographics and Title VI Implications* was made by the Advisory Council (M. Gowing), and seconded by the At-Large Town of Lexington (Richard Canale).

E. Bourassa encouraged staff to be in contact with Tim Reardon, who conducts demographic research at MAPC. He expressed concern about inferring too much from past trends because the location of the populations of interest in the future will be dependent upon housing availability and cost. Also, he noted that it will be a challenge to predict changes in the populations of interest at the traffic analysis zone (TAZ) level. K. Quackenbush expressed understanding about the concern and noted that the first step is to see if any meaningful historical changes are discernable.

R. Canale drew a correlation between this study and the *Shared-Use Mobility Services* study by expressing concern about the effect that shared-use mobility services could have on the mobility choices of minority and low-income populations considered in equity analyses. If, for instance, the ride-sharing services attract affluent customers away from public transit, there could be an impact on public transit service offerings and pricing. S. Woelfel remarked that it will be important for the MPO to engage on this issue in the PMT development.

Jay Monty, At-Large City of Everett, asked whether staff will be considering the impact of transit line extensions on population shifts. K. Quackenbush replied yes.

Members then voted on the motion to approve the work program for *Temporal Changes in Demographics and Title VI Implications*. The motion carried.

7. MPO Meeting Minutes—Maureen Kelly, MPO Staff

A motion to approve the minutes of the meeting of September 17 was made by the MAPC (E. Bourassa), and seconded by the At-Large Town of Lexington (R. Canale). The motion carried. The MassDOT Highway Division (John Romano) abstained.

8. Longitudinal Trends: Cities, Traffic, and CO₂—Lucy R. Hutyra, Associate Professor, and Conor K. Gately, PhD candidate, Boston University, Department of Earth and Environment

Scott Peterson, Director of Technical Services at CTPS, introduced a presentation by Conor Gately, a PhD candidate at Boston University, on research that used data provided by the MPO staff. Since 2008, staff has been collaborating with a team from Boston University that is researching the carbon footprint. This collaboration is an example of how MPO data feeds the scientific community.

C. Gately then gave a presentation on his research into carbon dioxide emissions from the transportation sector. The focus of the research is on urban areas, which account for 70% of energy-related carbon dioxide emissions. Another reason for the focus on urban areas is because cities are at the forefront of policy development to mitigate GHG emissions.

The research team built a model using TAZ-level data (provided by the MPO staff), traffic counts, and measurements of carbon dioxide in atmosphere. The model output gives vehicle emissions (tons of carbon dioxide) at the kilometer scale. The team downscaled vehicle emissions inventories – from the Highway Performance Monitoring System, a global emissions database (EDGAR), Federal Highway Administration data on fuel sales – and along with their own model, developed data for vehicle emissions in Massachusetts from 1980 to 2008.

Urban areas have been driving the growth in fossil fuel emissions for the past 30 years, while emissions from rural areas have been declining. The team examined the trend toward urbanization in terms of the effect on per capita emissions and the idea that increasing the density of cities will reduce per capita emissions. They found that very densely developed cities may see a reduction in per capita emissions if they become more densely developed, while sprawling cities with suburban growth may not see a decrease in emissions if they become more densely developed. In cities with transit networks there are reductions in emissions with transit usage.

The team is currently partnering with MPO staff on a project to quantify vehicle emissions at very high resolutions for the Boston MPO region, evaluate the impact of traffic congestion on emissions of air pollutants and GHGs, and identify local hot spots

of emissions. They are using data from the MPO's travel demand model, the roadway inventory, traffic counts, and vehicle speeds from INRIX (a dataset purchased by CTPS).

They are finding that if congestion were reduced to free-flow conditions, there would be a limited benefit in terms of emission reductions (between 2% and 6% of carbon monoxide emissions). More significant reductions could be achieved if traffic speeds increased.

Funded by NASA and NOAA, they are working to expand their tools for carbon monitoring. These tools will be able to validate the impact of emissions changes from the implementation of policies and projects.

C. Gately thanked the MPO staff who supported this project.

Lucy Hutyra then noted that the datasets used in the project are available for download.

Discussion

Laura Wiener, At-Large Town of Arlington, asked for clarification regarding the information presented on vehicle speeds. C. Gately noted that there is a reduction in emissions with faster vehicle speeds. For this project, they considered the best performance to be at free-flow speeds.

L. Dantas asked for clarification regarding the emission totals shown in the presentation and how they relate to this region being in attainment for national air quality standards. L. Hutyra explained that the emission totals shown represent only mobile sources of emissions. The measurements taken represent the air quality around the monitoring stations, but do not give a regional representation of emissions.

M. Gowing observed that their research might benefit from having a control area, such as Cape Cod, where there are few industrial sources of emissions.

9. Members Items

There were none.

10. Adjourn

A motion to adjourn was made by the Advisory Council (M. Gowing). The motion carried.

Attendance

Members	Representatives and Alternates
At-Large City (City of Everett)	Jay Monty
At-Large City (City of Newton)	David Koses
At-Large Town (Town of Arlington)	Laura Wiener
At-Large Town (Town of Lexington)	Richard Canale
City of Boston (Boston Redevelopment Agency)	Lara Mérida
City of Boston (Boston Transportation Department)	Tom Kadzis
Federal Highway Administration	Ken Miller
Inner Core Committee (City of Somerville)	Brad Rawson
Massachusetts Department of Transportation	Steve Woelfel
	Marie Rose
Massachusetts Highway Division	John Romano
Massachusetts Port Authority	Lourenço Dantas
MBTA	Janice Ramsay
Metropolitan Area Planning Council	Eric Bourassa
North Suburban Planning Council (City of Woburn)	Tina Cassidy
Regional Transportation Advisory Council	Mike Gowing
South West Advisory Planning Committee (Town of Medway)	Tom Holder
Three Rivers Interlocal Council (Town of Norwood/Neponset Valley Chamber of Commerce)	Tom O'Rourke

Other Attendees	Affiliation
Conor Gately	Boston University
Lucy Hutyra	Boston University
Rafael Mares	Conservation Law Foundation
Steve Olanoff	Three Rivers Interlocal Council (Town of Norwood)
Bryan Pounds	MassDOT Office of Transportation Planning
Arthur Strang	Cambridge resident

MPO Staff/Central Transportation Planning Staff

Karl Quackenbush, Executive Director

Robin Mannion, Deputy Executive Director

Maureen Kelly

Anne McGahan

Elizabeth Moore

Scott Peterson

Sean Pfalzer

Michelle Scott
