

Draft Memorandum for the Record

Boston Region Metropolitan Planning Organization Meeting

January 9, 2014 Meeting

10:10 AM – 1:05 PM, State Transportation Building, Conference Rooms 2&3, 10 Park Plaza, Boston

Clinton Bench, Chair, representing Richard Davey, Secretary and Chief Executive Officer, Massachusetts Department of Transportation (MassDOT)

Decisions

The Boston Region Metropolitan Planning Organization agreed to the following:

- approve three work programs:
 - *MBTA 2014 Review of Fare Structure, Tariffs, and Policy*
 - *Pedestrian Signal Phasing Study*
 - *Traffic Signal Retiming Program*
- approve the minutes of the meetings of December 5 and December 19, 2013

Meeting Agenda

1. Public Comments

There were none.

2. Chair's Report—*Clinton Bench, MassDOT*

C. Bench reported that MassDOT has released its five-year *Capital Investment Plan* for fiscal years 2014-2018. The plan is available on MassDOT's website. Public meetings about this plan are scheduled for the following dates:

- January 29, 6:00 – 8:00 PM, at the State Transportation Building, Second Floor Conference Rooms, Boston
- January 29, 6:00 – 8:00 PM, Union Station, Worcester
- February 3, 6:00 – 8:00 PM, Bangs Community Center, Amherst
- February 3, 6:00 – 8:00 PM, Berkshire Athenaeum, Pittsfield
- February 5, 6:00 – 8:00 PM, UMass Dartmouth, North Dartmouth
- February 10, 6:00 – 8:00 PM, location to be determined

MassDOT's statewide strategic plan, *weMove Massachusetts*, will also be available on MassDOT's website. The plan compares strategies for investment across the MassDOT Divisions and includes performance measures.

C. Bench also noted that the MBTA has entered into an eight-year contract (with an option for an extension) with Keolis for the operation of the MBTA's commuter rail. The contract begins on July 1, 2014. The other bidder was the Massachusetts Bay Commuter Railroad Company (MBCR). C. Bench congratulated the MBTA staff who reviewed the submittals from these firms.

3. Committee Chairs' Reports

For the benefit of newly-seated MPO member designees, C. Bench gave an overview of the MPO's three certification documents – the Long-Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP) – the MPO's staff, and its committees

The LRTP is a fiscally constrained plan with a 20-year horizon. It focuses on strategies that the MPO wants to employ to solve mobility problems. Projects that cost more than \$10 million are identified in this plan. Priority projects are programmed in five-year bands. The LRTP is prepared every four years.

The TIP is prepared annually. It programs specific projects that are to receive federal funding in this region over a four year period. The current TIP covers FFYs 2014-2017. Through the TIP, MPOs prioritize federal transportation dollars made available through the federal surface transportation legislation. The UPWP is also prepared annually. It identifies planning studies that are to be implemented over the course of a year and administrative tasks that will be performed by the MPO staff.

Central Transportation Planning Staff (CTPS) serves as the staff to the MPO and conducts transportation analysis activities. The Metropolitan Area Planning Council (MAPC), the regional planning agency for the Boston area, also handles some MPO staff activities. The MPO has three committees: the UPWP Committee, the Administration and Finance Committee, and the Congestion Management Committee.

The MPO then heard reports from two committee chairs. Sreelatha Allam, MassDOT, reported that the next meeting of the UPWP Committee will be on February 23. The agenda will include a discussion of the quarterly report and a change in the UPWP development schedule. Lourenço Dantas, Massachusetts Port Authority, announced that the Congestion Management Committee will also meet on February 23.

4. Regional Transportation Advisory Council Report—*David Montgomery, Chair, Regional Transportation Advisory Council*

D. Montgomery invited MPO members to attend the meetings of the Advisory Council and to share ideas for ways to make the Council a vital organization.

He reported that the Council met on January 8 and heard presentations from MPO staff on the MPO's certification documents and on modeling tools that will be used for the development of the LRTP. The next meeting, on February 12, will feature a presentation by Stephanie Pollack of Northeastern University's Dukakis Center for Urban and Regional Policy.

D. Montgomery also raised an issue regarding the Advisory Council's detailed comment letter on the TIP and UPWP that the Council submitted to the MPO last year. Some Council members are frustrated because MassDOT has not yet responded to the letter. C. Bench informed him that a letter has been drafted but is currently being revised. He then talked about having a discussion about a better way for the Council to communicate with the MPO. K. Quackenbush also expressed his interest in having a discussion about the role of staff in these communications.

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

K. Quackenbush drew members' attention to a chart showing the schedule of development for the FFY 2015 UPWP and the FFYs 2015-18 TIP. This chart has been updated to reflect changes to the schedule for the UPWP. Four meetings of the UPWP Committee have been rescheduled (two weeks later than originally scheduled). The date that the MPO will vote to approve the document remains the same.

Following the Executive Director's report, Dennis Crowley, South West Advisory Planning Committee (Town of Medway), asked several questions regarding the recent contract award for the operation of the MBTA's commuter rail system. He inquired as to whether the contract is now a public document, about the cost savings in the awarded contract, about the selection process, and about the price difference between the two bids.

Charles Planck, MBTA, addressed the questions. He explained that the MBTA conducted a competitive bidding process for an eight year contract. The rating information for the two proposals will be released to the public shortly.

The contract with Keolis is expected to produce cost savings for the MBTA in the first year of the contract as compared to last year, he said, however, the contract will be more expensive over its course as compared to the previous contract with the MBCR because of market price increases and new requirements to improve fleet maintenance. To address its aging commuter rail fleet, the MBTA will be acquiring some new locomotives and coaches over the next couple of years as part of its Capital Investment Program.

The contract awarded to Keolis was a “best value” contract, meaning that the MBTA was not required to select the lowest bidder. Keolis was selected because the MBTA deemed it as offering the best technical proposal and price.

John Romano, MassDOT Highway Division, then provided an update on the reconstruction of the Callahan Tunnel, which has been temporarily closed to traffic. He reported that the project is in the demolition stage and moving along well. Traffic impacts have been as expected. Drivers need to give themselves an extra 20-30 minutes for travel around the area. MassDOT has received and responded to some complaints about noise and vibration from the construction. The contractor operates a hotline that people may call 24 hours a day to report complaints.

6. MBTA Fare Increase Work Program—Karl Quackenbush, Executive Director, Central Transportation Planning Staff

C. Bench introduced the work program for the *MBTA 2014 Review of Fare Structure, Tariffs, and Policy*. He noted that the MBTA is considering changing fares and that this work program will examine the impacts of potential changes to the fare structure.

K. Quackenbush then provided background information and details about the work program. CTPS has conducted the technical work for the MBTA in the lead up to past fare changes. This work program represents a continuation of this work.

The last time that the MBTA raised fares and implemented service changes was in July 2012. Prior to that change, CTPS provided an analysis of the impacts those changes would have on ridership and revenue. In late 2012, CTPS contracted with the MBTA to continue to develop technical methods for future analysis of fare changes. Due to legislative action, the MBTA did not need to increase fares in 2013, but is now considering increasing fares in July 2014. The work program presented today is similar to the one that the MPO approved in 2012.

In this scope of work, CTPS will examine one or two fare change scenarios – using the travel demand and spreadsheet models – and provide forecasts of likely ridership and revenue changes. The analyses will examine potential impacts in terms of air quality, greenhouse gas emissions, ridership, Title VI, and environmental justice. Other tasks in the work program include providing staff support to interested parties, such as the MBTA’s Rider Oversight Committee (ROC).

CTPS will produce a draft report for public review and assist the MBTA with public hearings. Staff will also be available to conduct analyses for scenarios that may be

developed as a result of the public review process. Finally, CTPS will prepare a final report and a fare equity analysis.

Discussion

L. Dantas remarked that the term “tariff” is used in the work program and inquired if tariffs are considered to encompass parking rates at MBTA facilities. C. Planck replied that the term applies to all of the MBTA’s pricing, and he said that parking rates would be considered in the evaluation of the potential fare changes.

C. Planck then provided background information about what has led to the need for a fare change. In 2012, he explained, the MBTA was faced with a \$185 million deficit for FY 2013, which was due in part to the under-performance of the state sales tax relative to projections. This required the MBTA to consider serious options that included scenarios for fare hikes of 35% or 43% with cuts to service. These proposals produced a strong reaction from the public and the state legislature. Ultimately, MassDOT made funding available to reduce the deficit to \$75 million for FY 2013, and the MBTA then raised fares by 23%.

As this was not a permanent solution to the MBTA’s problems, the Patrick Administration released a long-term transportation finance plan, *The Way Forward*, in January 2013. The legislature acted in the summer of 2013, providing level funding for the MBTA’s operating budget over the next four years. This funding is based on the assumption of fare increases and increases in tolls and Registry of Motor Vehicle (RMV) fees. The MBTA is considering a 5% fare increase for FY 2015 and also a fare increase for FY 2016. The MBTA is not considering service cuts for FY 2015.

Paul Regan, MBTA Advisory Board, remarked that fares for the MBTA’s THE RIDE service (non-premium service) have been reduced from \$4 to \$3. He asked about the impact that reduction would have on the overall fare mix. C. Planck explained that the MBTA is working to balance those impacts by making strong investments in the fixed-route system to improve accessibility for people with disabilities and seniors. The MBTA offers a system orientation program for people who would like a customized tour of the fixed-route system.

P. Regan asked about when the scenarios to be studied would be made available. C. Planck replied that the MBTA and CTPS are working on a schedule now and that the scenarios will likely be available in mid-March.

P. Regan noted that while the MBTA must maintain a cap of 5% on any fare raise, fares on various modes may vary. He asked if an environmental justice analysis would be

conducted as part of this work program. K. Quackenbush replied that this analysis is included in Task #5 of the work program.

P. Regan asked if the 5% cap on fares applies to ferries, or whether having ferry users (who are among the MBTA's wealthiest customers) pay the actual cost of the service could be considered in the scenarios. C. Planck explained that the legislation does not stipulate how the MBTA should treat various transit modes, and that the MBTA has the ability to be flexible across modes. He explained that the MBTA recovers 60% of revenue from ferries, 23% from buses, and 4% from THE RIDE. Ferry revenue represents a small portion of the MBTA's revenue, so fare hikes on those services would have a small impact on the MBTA's operating budget. C. Bench added that the Administration is paying attention to ferry service as a means to reduce highway and transit congestion and spur economic development, therefore it is unlikely that there will be aggressive fare hikes on ferries, although the MBTA does have the flexibility to consider those options.

David Koses, At-Large City (City of Newton), remarked that some MBTA parking lots have been under-utilized since parking fees were raised. He suggested giving consideration, when developing the scenarios, to reducing parking fees where there is demand. C. Planck replied that the legislation passed last summer required the MBTA to meet "own source" revenue targets, which includes revenues for parking. He described a pilot study that reduced fees on under-utilized lots, and which did not produce a change in utilization. He also noted that the MBTA is considering whether fees could be raised at over-utilized lots. Other factors that can be considered include encouraging car-pooling and parking for high-fuel efficiency vehicles.

Tom Kadzis, City of Boston, asked if the legislation precludes an analysis of parking as part of the larger picture of revenue. C. Planck replied that it does not, and that CTPS may include parking fares in the scenarios it analyzes. He offered to meet with members who are interested in this topic.

T. Kadzis asked when the new fares would be implemented. C. Planck replied that it would be on July 1, 2014.

T. Kadzis inquired as to whether one or two scenarios would be sufficient. C. Planck explained that this exercise will be simpler than the work CTPS conducted prior to the 2012 fare increase because, in this case, fares are capped at a 5% increase and no service reductions are planned.

T. Kadzis inquired about the role of the ROC and its subcommittees. C. Planck noted that he has met with the ROC's subcommittees for Finance and Capital as well as other

advocates to explain the situation and elicit feedback. Such conversations will be ongoing. Members of the ROC's subcommittees are self-designated.

D. Crowley inquired about what is included under the term "non-fare revenue," which is one of the categories of "own source" revenues. C. Planck explained that it includes revenue from advertising, marketing, and real estate.

Tom Bent, Inner Core Committee (City of Somerville), inquired about the impact that the legislature's rescission of the technology tax will have on the MBTA and transportation projects, and when those impacts will occur. C. Bench offered to check into the matter. MassDOT is working to meet its "own source" revenue targets and it does not expect the rescission to be an issue for transportation funding, he said. C. Planck added that the legislature's action this summer primarily passed capital funding; it does not fund system expansion.

Rafael Mares, Conservation Law Foundation, asked about how the public process fits in to the timeline of the CTPS study. C. Planck replied that the public process will begin after CTPS conducts the full analysis and the MBTA reviews it. The public review is expected to begin in March.

R. Mares asked about what baseline figure (\$3 or \$4) the MBTA will use for THE RIDE fares. C. Planck replied that the MBTA will use the \$3 fare figure.

R. Mares asked if the analysis of greenhouse gas emissions will be reflected in the report. K. Quackenbush replied yes.

R. Mares advocated for studying more than one scenario.

Wig Zamore, Somerville resident, suggested that black carbon be included in the greenhouse gas analysis. He also suggested that the MBTA consider Charlie Card availability as an equity issue. He advocated for the MBTA to move toward having a single card system. C. Bench and C. Planck both noted that the MBTA is interested in moving in that direction.

L. Dantas remarked that while transit fares have increased, there has been not comparable increase for highway tolls. He asked if the Administration is considering this as an equity issue. C. Bench reported that there are no studies underway now to address this issue. He noted that, because few roads are tolled, it may be more productive to study what is the actual cost of driving. He noted that MassDOT will be implementing an all-electronic tolling pilot project and that the agency will be

examining the impacts and considering implementation on other state highways. This may present an opportunity to address this issue further.

A motion to approve the work program for the *MBTA 2014 Review of Fare Structure, Tariffs, and Policy* was made by the MassDOT Highway Division (J. Romano), and seconded by the Advisory Council (D. Montgomery). The motion carried.

7. Pedestrian Signal Phasing Study—Karl Quackenbush, Executive Director, Central Transportation Planning Staff

K. Quackenbush introduced the work program for the *Pedestrian Signal Phasing Study*. This work program will address the issue of exclusive versus concurrent pedestrian signal phasing and examine under what conditions each type of signal control would be most beneficial in terms of pedestrian safety and efficiency.

Exclusive pedestrian phasing is beneficial from a safety perspective because all traffic stops to allow pedestrians to cross. Pedestrians may have to wait for a full traffic cycle before they can cross, however. With concurrent phasing, pedestrians have shorter wait times, however, they face more potential conflicts from turning traffic.

Through this work program, CTPS proposes to first conduct a literature review. Then staff will conduct five municipal case studies, which will involve talking with municipal officials about their policies and engineering practices regarding the use of each type of phasing. This will be followed by an analysis of traffic data to determine whether any discernible trends exist between safety and signal phasing under various traffic conditions. The final product will be a document that will provide guidance to the MPO and municipalities.

Discussion

Richard Canale, At-Large Town of Lexington, remarked that the state legislature is moving in the direction of a Complete Streets policy and that this will have implications for communities. He inquired about the extent to which this study would address the issue of pedestrian equity or if a separate study may be needed to provide guidance on how intersections can become “complete.” K. Quackenbush noted that while this study will examine a specific question, the subject matter is a facet of the larger pedestrian equity issue.

J. Romano remarked on the need to better educate the public about concurrent phasing; many people do not understand that both pedestrians and vehicles can move at the same time and must be aware of each other. C. Bench added that this study offers an opportunity to try to understand if these types of signal phases are confusing

to pedestrians. He asked staff to consider making recommendations to address this issue such as suggestions regarding pedestrian education, signage to warn pedestrians of turning traffic, or driver education that could be conducted through the RMV. He also suggested that staff communicate with the MassDOT Office of Transportation Planning about ways that CTPS and MassDOT could collaborate on future research on this topic.

Melissa Rozzi Santucci, South Shore Coalition (Town of Braintree), encouraged staff to select study locations from a variety of locations, both urban and suburban. K. Quackenbush assured her that it is staff's intention to do so.

Eric Halvorsen, MAPC, asked if staff would be considering lead-in phasing on concurrent phasing. K. Quackenbush replied yes.

E. Halvorsen asked if staff would be taking note of physical attributes that may affect the safety of the intersections studied. K. Quackenbush replied that staff would do so to the extent it could, based on the information available from communities.

A motion to approve the work program for the *Pedestrian Signal Phasing Study* was made by the Inner Core Committee (City of Somerville) (Tom Bent), and seconded by the Advisory Council (D. Montgomery). The motion carried.

8. Traffic Signal Retiming Program—Karl Quackenbush, Executive Director, Central Transportation Planning Staff

K. Quackenbush introduced the work program for the *Traffic Signal Retiming Program*. This work program has been derived from the MPO's Congestion Management Program, which is focused on promoting efficient traffic operations. Signal timing is a key factor in efficient traffic operations. Improvements to signal timing can reduce travel times and delay, and have benefits in regards to air quality, fuel consumption, and safety.

CTPS proposes to review up to ten signalized intersections and craft new signal timing plans for them. The locations for study will be selected by eliciting ideas from municipalities. Staff will conduct outreach through the MPO's newsletter, *TRANSREPORT*, subregional meetings, and possibly other means.

Intersections that require geometric changes to improve traffic operations will not be selected for this study; only those that could benefit from signal retiming will be selected. The criteria for selecting intersections include consideration of operation problems for vehicles and pedestrians, safety issues identified by municipalities, and municipalities' interest in following through with the study recommendations. For the selected intersections, staff will conduct field work, evaluate crashes that have occurred

there, analyze level of service using Synchro software, and develop draft signal timing plans.

This study is linked to the MPO's TIP Intersection Improvement Program. There is \$350,000 available for implementation through this program in FFY 2014 and \$400,000 in FFY 2015. Recommendations that are developed from this study potentially could be implemented through the TIP Intersection Improvement Program.

A motion to approve the work program for the *Traffic Signal Retiming Program* was made by the At-Large Town of Arlington (Laura Wiener), and seconded by the MassDOT Highway Division (J. Romano).

Discussion

T. Kadzis asked for clarification regarding this work program's relation to the Intersection Improvement Program in the TIP. K. Quackenbush noted that this study is an adjunct to it and that recommendations from it could feed into the Intersection Improvement Program.

Tom O'Rourke, Three Rivers Interlocal Council (Town of Norwood/NVCC), asked whether staff would consider only single intersections or also multiple intersections that are affecting one another. Efi Pagtisas, MPO staff, replied that staff could look at areas with multiple intersections, but that it would not be an equitable way to spend MPO resources across the region. For that reason, staff is considering isolated intersections for this study.

C. Bench noted that MassDOT Secretary Richard Davey is very interested in implementing the MPO's Intersection Improvement Program at the state level. As such, state resources may be available during the next state fiscal year for improvements to state-owned intersections. He asked staff to inform MassDOT's Office of Transportation Planning if in the course of gathering candidate intersection they discover any state-owned intersections (isolated or a series) that could benefit from the program. E. Pagtisas noted that the focus of this study is on municipally-owned intersections, but that staff would pay attention to this issue.

L. Dantas suggested that staff clarify for the public how the three programs – the MPO's TIP Intersection Improvement Program, the state's Intersection Improvement Program, and the Traffic Signal Retiming Program – complement one another. C. Bench then suggested that staff identify the programs in the outreach materials to municipalities.

D. Koses asked if staff would actually be opening signal boxes to see what improvements are needed to the signal equipment (given that some signal equipment

may need to be replaced), and whether those costs would be estimated. K. Quackenbush replied that staff will not be opening the signal boxes, rather staff will be providing a draft signal phasing plan. E. Pagitsas also noted that staff would keep track of locations where equipment upgrades are needed; those needs could potentially be remedied through other MPO programs.

A motion to close debate and approve the work program for the *Traffic Signal Retiming Program* was made by the At-Large Town of Arlington (L. Wiener), and seconded by the South Shore Coalition (Town of Braintree) (M. Santucci Rozzi).

9. Meeting Minutes—Maureen Kelly, MPO Staff

A motion to approve the minutes of the meeting of December 5 was made by Minuteman Advisory Group on Interlocal Coordination (Town of Bedford) (Richard Reed), and seconded by the South Shore Coalition (Town of Braintree) (M. Santucci Rozzi). The motion carried. The MassDOT Highway Division (J. Romano) abstained.

A motion to approve the minutes of the meeting of December 19 was made by the Advisory Council (D. Montgomery), and seconded by the At-Large Town of Lexington (R. Canale). The motion carried.

Referencing an item discussed at the December 5 meeting, D. Crowley noted that the MPO will be discussing performance measures for the LRTP at an upcoming meeting in February. He suggested that the members may want this important discussion scheduled for a time that is not during school vacation week, when some people may not be able to attend.

10. Technical Memorandum: FFY 2013 Priority Corridors for LRTP Needs Assessment, Traffic Signal Retiming Study for Route 2 in Concord and Lincoln—Seth Asante, MPO Staff

S. Asante presented the results of a portion of the *FFY 2013 Priority Corridors for LRTP Needs Assessment* study, which was focused on a segment of Route 2 in Concord. (The portion of the study focused on Route 30 in Framingham and Natick was presented at the meeting of October 17.) The purpose of the Route 2 study was to address the need for signal retiming in response to the construction at Crosby's Corner.

The study area is a 5.5 mile segment of Route 2. The four-lane roadway experiences long queues at peak travel times. There are six signals on this segment; four are coordinated and two are not coordinated. There are two projects in the project area: safety improvements at Route 2 and 2A between Crosby's Corner and Bedford Road,

and the improvements and upgrades to the Concord Rotary. The latter project is in preliminary design now.

There are four intersections in the study area that have crash rates exceeding the average crash rate for MassDOT District 4. A map was shown depicting these locations and providing the crash rate and the number of crashes between 2006 and 2010.

There are several operational problems in the study area. The intersections are operating at capacity and there are long traffic queues. Some left-turn lanes are too short causing congestion. There are long traffic delays and queues on side streets. And there are problems with pedestrians and bicycles crossing Route 2.

The MPO staff developed two options for signal retiming. Option 1 – a short-term option – would retime all traffic signals and re-coordinate four traffic signals. This option would be expected to reduce peak-period travel time by 4% to 8%, and save 86,875 vehicle-hours in peak-period travel time annually.

Option 2 – a medium term option – would implement the recommendations of Option 1 and add turn lanes to address delays on side streets. Option 2 would add a southbound left-turn lane on Bedford Road, a northbound right-turn lane on Sudbury Road, a southbound left-turn lane on Sudbury Road, and a second westbound left-turn lane on Route 2 at Main Street. This option would be expected to reduce peak-period travel time by 9% to 11%, save 147,500 vehicle-hours in peak period travel time annually, and reduce delays and queues on side streets.

The MPO staff also developed recommendations for bicycle and pedestrian crossing improvements. They include installing bicycle detectors for crossing Route 2, installing bicycle pavement markings and signs, and provide adequate pedestrian signal time.

Some of the short term recommendations for signal retiming have already been implemented by MassDOT District 4.

Discussion

R. Reed inquired about the level of involvement of the Towns of Concord and Lexington in the study. S. Asante replied that staff worked with the MassDOT District 4 Office, but did not meet with town officials. R. Reed suggested that staff brief the town officials before the MPO acts to approve this study.

R. Canale also noted that the town officials are expecting to hear from either MassDOT or its consultants. C. Bench noted that MassDOT District 4 would not move ahead with

any capital improvements without first consulting the towns and addressing public concerns.

Rafael Mares, Conservation Law Foundation, asked whether mode shift impacts could be considered in such studies. S. Asante replied that staff could do that by using the regional model.

D. Crowley asked about when the MPO approved funds for this study and the cost. K. Quackenbush and S. Asante replied that the project was approved in September 2012 and cost \$105,000 (40% was spent on the Route 2 study and 60% on the Route 30 study).

C. Bench noted that MPO action is not required to approve this study.

Joe Onorato, MassDOT District 4, and S. Asante reported that MassDOT has already implemented the short-term recommendations of the study.

In response to a question from R. Canale, S. Asante explained that the signal retiming that has been completed is for the current period during which Crosby's Corner is under construction. When the project is complete, the signals will need to be adjusted again.

M. Santucci Rozzi asked for clarification on table in the study report. C. Bench explained that the signal timing is operating under Option 1 now. It has not been determined whether Option 2 would be implemented after construction.

11. Development of Demographic Data for the LRTP—*Tim Reardon, Assistant Director of Data Services, MAPC*

T. Reardon gave a presentation on MAPC's work to develop population, housing, and employment projections (for the horizon year of 2040) for the Boston region; these projections are used in the development of the MPO's LRTP. MAPC has been working with an advisory team comprised of academics, state agencies, neighboring regional planning agencies, and some municipalities to develop these projections.

T. Reardon discussed the key findings of this work, which apply to a 164 municipality region that is covered by the MPO's travel demand model. He began by discussing challenges that the region will be facing due to demographic, housing, and employment trends, and showed maps and graphics depicting these trends.

Domestic out-migration is expected to be a major drag on population growth in the region. Between 1990 and 2010 there has been a net in-migration of people in their 20s, while there has been a net out-migration of all other age groups. MAPC projects that if

these trends continue, the region may grow 6.6% between 2010 and 2040, an average of 2.1% per decade (compared to 3.5% in the last decade).

Despite a slow growing population, housing demand is likely to outpace population growth because of the trend toward smaller household size. Average household size is expected to decline 10% by 2040. It is expected that 86,000 units of housing will be needed to accommodate the declining household size.

Another challenge facing the region is the upcoming exodus of the Baby Boomer generation from the labor force. One million workers (one-third of the labor force) now over the age of 40 will be expected to retire from the labor force by 2030. If trends continue, there would be a growth rate of 1% in the labor force. Under these circumstances, attracting and retaining workers will be fundamental to economic growth in the region.

MAPC prepared two scenarios to estimate economic growth to 2040: the Status Quo and the Stronger Region scenario. A small positive in-migration under the Stronger Region scenario could add 175,000 workers to the labor force by 2040 and increase the 30-year housing demand from 305,000 units to 435,000 units. An anticipated "senior sell-off" of single family homes is expected to meet two-thirds of the housing demand for younger households under this scenario.

With an urban resurgence underway, urban municipalities attracted and retained 30,000 additional residents in the 2000s as compared to the 1990s. Half to two-thirds of future housing demand is expected to be for multi-unit housing, mostly in urban communities.

MAPC is now working on developing employment projections for the region. The agency is examining which sectors are growing and declining in the region. The sectors that produced the most jobs over the past four years are as follows: health care and social assistance; accommodation and food services; professional and technical services; administrative and waste services; and educational services. About two-thirds of job growth since the recession occurred in the urban inner core and regional urban centers.

MAPC and CTPS are developing an integrated transportation and land use model that can help evaluate how factors such as the development of new jobs, transportation services, or congestion play into decisions by households or companies about where to locate. In the new model there will be a cyclical interaction between CTPS's travel demand model and MAPC's land use model.

This work has several applications for MPO planning. The model will allow the MPO to test land use and greenhouse gas impacts of various transportation funding portfolios; assess demographic impacts of major investments; estimate the travel impacts of local zoning and regulatory changes; and target transportation investments to promote economic development, housing affordability, and workforce retention.

Discussion

Members discussed the demographic trends shown in one of the graphs which reflect the in-migration of people in their 20s and 30s and the out-migration of older people.

R. Reed suggested that it would be interesting to research the demographic trends of other major metropolitan areas of the country, as these trends may not be unique to the Boston region. He indicated that the data seen in this graph could reflect that people often make decisions to move to particular areas while in their 20s for college and then move away later to places where they would like to live on a more permanent basis.

C. Bench also noted that it would be interesting also to compare housing costs in other major metropolitan regions to see if they are as high as in the Boston region.

12. Members Items

There were none.

13. Adjourn

A motion to adjourn was made by the MBTA Advisory Board (P. Regan). The motion carried.

Attendance

Members	Representatives and Alternates
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 Authority)	Lara Mérida
City of Boston (Boston Transportation Department)	Tom Kadzis
Federal Highway Administration	Michael Chong
Federal Transit Administration	
Inner Core Committee (City of Somerville)	Tom Bent
Massachusetts Department of Transportation	Clinton Bench
	David Anderson
MassDOT Highway Division	John Romano
Massachusetts Bay Transportation Authority (MBTA)	Ron Morgan
Massachusetts Port Authority	Lourenço Dantas
MBTA Advisory Board	Paul Regan
Metropolitan Area Planning Council	Eric Halvorsen
Minuteman Advisory Group on Interlocal Coordination (Town of Bedford)	Richard Reed
North Shore Task Force (City of Beverly)	Mayor Michael Cahill
	Denise Deschamps
North Suburban Planning Council (City of Woburn)	Jay Corey
Regional Transportation Advisory Council	David Montgomery
South Shore Coalition (Town of Braintree)	Melissa Santucci
	Rozzi
South West Advisory Planning Committee (Town of Medway)	Dennis Crowley
Three Rivers Interlocal Council (Town of Norwood/NVCC)	Tom O'Rourke
	Steve Olanoff

Other Attendees	Affiliation
Sreelatha Allam	MassDOT Office of Transportation Planning
Kevin Hartunian	City of Beverly
John Lozada	MassDOT Office of Diversity and Civil Rights
Rafael Mares	Conservation Law Foundation

Joe Onorato	MassDOT Highway District 4
Charles Planck	MBTA
Greg Sobczynski	MassDOT Office of Diversity and Civil Rights
Kevin Wright	Federal Highway Administration
Wig Zamore	Somerville resident

MPO Staff/Central Transportation Planning Staff

Karl Quackenbush, Executive Director
Beth Isler
Maureen Kelly
Anne McGahan
Elizabeth Moore
Efi Pagitsas
Scott Peterson
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