

## Freight Advisory Committee Meeting #2: Summary

March 9, 2017, 2:00 PM to 3:30 PM

The Conference Center at Bentley University, 175 Forest Street, Waltham, MA

### Purpose

The second meeting of the Freight Advisory Committee (FAC) was held to review the conversation from the first FAC meeting, discuss the drivers and scenarios for what might happen in the future, and conduct a group exercise to discuss the implications of these future scenarios on freight. The presentation can be downloaded from the Freight Plan website: [www.mass.gov/massdot/FreightPlan](http://www.mass.gov/massdot/FreightPlan)

### Freight Advisory Committee Attendees

Name of FAC member	Organization	Present	Sent Designee
Tom Tinlin, Chair	Massachusetts Department of Transportation (MassDOT) Highway Division	<input checked="" type="checkbox"/>	
Ed Anthes-Washburn	Port of New Bedford		
Chris Atwood	Unistress Corp.	<input checked="" type="checkbox"/>	
Joe Barr	City of Cambridge	<input checked="" type="checkbox"/>	
Pierre Bernier	Maritime International		
Gary Roux	Massachusetts Association of Regional Planning Agencies (MARPA)	<input checked="" type="checkbox"/>	
Matthew Burwell	Legal Sea Foods	<input checked="" type="checkbox"/>	
Joe Carter	SBA Global		
Tom Cosgrove	NFI Industries		
George Fournier	Cumberland Farms	<input checked="" type="checkbox"/>	
Charles Hunter	Genesee & Wyoming Railroad	<input checked="" type="checkbox"/>	
Colleen Kissane	Connecticut Department of Transportation		
Mark Marasco	Maple Leaf Distribution Services	<input checked="" type="checkbox"/>	
Lisa Wieland	Massport	<input checked="" type="checkbox"/>	
Brandon Wilcox	Federal Highway Administration (FHWA)	<input checked="" type="checkbox"/>	
Kevin Young	Global Partners		

### MassDOT Attendees

Gabe Sherman and Trey Wadsworth, MassDOT Office of Transportation Planning (OTP).

### Project Team Attendees

Nathan Higgins and John Kaliski, Cambridge Systematics (CS).

Regan Checchio and Sarah Paritsky, Regina Villa Associates (RVA).

## Public Attendees

The following members of the public also attended: Debora Babin Katz, TrucBrush; Walter Bonin, Boston Metropolitan Planning Organization (MPO); Anthony Christakis, MassDOT; Frank DeMasi, Association for Public Transportation; Paul Dubiel, New England Motor Freight (NEMF); David Elwell, Pare Corp; Bill Kuttner, Central Transportation Planning Staff (CTPS); Laura Gilmore, Massport; Raymond Guarino, Old Colony Planning Council (OCPC); James Tracey, U.S. Postal Service; Mike Mauro, Northern Middlesex Council of Governments (NMCOG); Melissa Zampitella, A Better City; Jillian Zywien, Massachusetts Motor Transport Association (MMTA).

## Introductions

Thomas J. Tinlin, Chair of the FAC, introduced himself and welcomed everyone to the second FAC meeting. He said the first meeting was productive and invited FAC members to introduce themselves (see Attendance).

Gabe Sherman, MassDOT Project Manager, said the Massachusetts Freight Plan is a planning effort led by MassDOT, with the consultant team of CS, RVA, and Portscape. Trey Wadsworth, Manager of MassDOT's Capital Planning Group, is also overseeing the Plan. G. Sherman said the objectives for the Plan are to fulfill federal requirements and articulate a vision for the freight system. MassDOT also wants to raise awareness about freight's role and infrastructure needs. G. Sherman said this meeting will introduce scenario planning so the team can feel confident that its recommendations will work in a variety of possible futures.

G. Sherman then reviewed the project schedule. The first few months have been spent on background and data analysis. He noted that this is the second of four FAC meetings and open houses; two more will take place before the team drafts the Freight Plan.

## What We Heard Last Time

Administrator Tinlin reviewed the conversation topics addressed during the first FAC meeting, including:

- Improve urban freight delivery – with safety as the priority for last mile deliveries;
- Build modern infrastructure – all electronic tolling system (AETS) was an improvement, but Massachusetts could make rail 286,000-pound capable or add time-sensitive tolling;
- Streamline freight policies – including truck driver licensing and permitting;
- Educate more truck drivers – address workforce and training issues;
- Add sufficient truck parking – drivers need a place to rest; and
- Communicate the value of freight – need to articulate the value of freight to the public.

Administrator Tinlin asked if any FAC members had additional topics to add to this list or felt the conversation at the first meeting captured different topics; The FAC members agreed with this summary of the first meeting.

## What Might Happen

John Kaliski, CS, said the focus of this meeting is on the future. The future is hard to predict, as the year 2040 is 23 years from now. To illustrate this challenge, J. Kaliski provided an example of how the 1995 movie (*The American President* released 23 years ago), tried to anticipate the future and how it differs from the present reality.

J. Kaliski explained that due to many changing dynamics, there is a range of plausible futures. The traditional planning process develops strategies for the most likely future but often there is an unanticipated future. Policy and investments need to anticipate trends in the future, so the team is developing and refining scenarios to ensure the Plan's freight strategies can work in any future.

J. Kaliski outlined a three-step process:

1. Develop Plausible Futures – At this meeting, the FAC will refine the plausible futures based on trends;
2. Develop Menu of Strategies – Assess how to plan for freight based on interviews and research; and
3. Test Strategies – The team and FAC will test the strategies against the plausible futures.

J. Kaliski described the various sources the team reviewed about possible futures, including the Commonwealth's Focus40 plan, ongoing work at a national level, popular literature, and media studies.

Nathan Higgins, CS, said there is a fair amount of agreement in drivers of the future: urbanization, technology, knowledge, globalization, and climate. N. Higgins provided an example of how the drivers are interrelated: cities need to urbanize to attract the knowledge workforce and this workforce will develop technology and ship it around the globe. N. Higgins said the team believes climate will impact all futures.

N. Higgins provided further detail on the drivers, starting with urbanization. He said the population is growing and becoming more urban, according to data from the United Nations. He added that the Metropolitan Area Planning Council (MAPC) forecasts that population growth will happen particularly in the urban core. N. Higgins said location preferences are changing, as millennials prefer bigger cities and older populations prefer medium-sized cities, but it can be difficult to predict if this will change as millennials age. N. Higgins described a range of possible urbanization futures, bounded by one that represents more of the current trend and one that represents less:

1. Continued urban growth – People and jobs could continue to flow into smart city centers, and population in suburban and rural areas could decline.
2. Slowing urban growth – As millennials age and empty-nesters leave the city, population could increase in suburban and rural areas.

N. Higgins described several new technologies that could affect people's lives, including robotics and automation, instruments and sensors, big data in the cloud, and 3D printing. He provided an example of how automated trucks, personal robot deliveries, and "Uber for Freight" could change the supply chain. N. Higgins said certain workforce activities, such as repeatable and routine data processing or physical work, could be automated in the future. N. Higgins described a range of possible technology futures, bounded by one that represents more of the current trend and one that represents less:

1. Ubiquitous technology – New businesses and industries could pop up, and trucks could move in automated platoons.
2. Narrow use of technology – Technology could help meet narrow business needs, 3D printing could only be used in specialized situations, and trucks could still need drivers.

N. Higgins provided an overview of the knowledge workforce. He said that due to the location of this FAC meeting, he is focusing on the Boston region in the presentation. Boston has some of the highest global levels of scientific citations and patents, which is partly why the economy has been steadily growing over time. Since 1983 to today, routine jobs have maintained a level pace, while nonroutine (cognitive and manual) jobs have been growing. Boston currently ranks 24<sup>th</sup> among global cities, but is projected to rise to third place among global cities by the year 2026, based on personal well-being, economics, innovation,

and governance. N. Higgins described a range of possible knowledge futures, bounded by one that represents more of the current trend and one that represents less:

1. The knowledge workforce could grow, leading to a shortage of mid-skill and service workers.
2. Automation could affect the knowledge workforce and could cause it to decline while the service industry could grow.

N. Higgins explained that the world is currently globalized. As an example, the supply chain of the computer chip sources parts from all over the world. He said there is a lot of capital flowing across borders (e.g., foreign real estate investments and mergers), which creates strong global ties. N. Higgins said some experts believe globalization may hit a plateau as some companies consider the risks of globalizing supply chains. He said the container shipping trend throughput index could be flattening or could increase. N. Higgins described a range of possible globalization futures, bounded by one that represents more of the current trend and one that represents less:

1. Globalization could continue to increase and international investments could influence the economy.
2. Globalization could decline and supply chains could regionalize.

N. Higgins cited some predictions from Climate Ready Boston, including sea level rise, increase in rainfall from storms, increase in average summer temperatures and the number of very hot days, and a decrease in the number of very cold days. He said these trends will result in increased flooding and impacts on infrastructure and land use. Boston will need to adapt, perhaps with a potential harbor flood barrier. N. Higgins said the Freight Plan will assume that climate change impacts will materialize by 2040.

J. Kaliski said the team has looked at the five drivers and ways to consider the uncertainties in each; some are interrelated and others are moving independently. He said the team has not suggested a good or bad future, but rather a range of possibilities to prepare for. J. Kaliski described three possible scenarios based on different assumptions regarding urbanization, technology, knowledge, and globalization; the climate assumptions were assumed to be constant in all three scenarios:

- Scenario 1: Commonwealth Comfort – Current trends accelerate moderately; people flock to urban centers especially Boston and university cities; technology continues to grow; universities continue to educate a talented workforce; and globalization may plateau globally but would remain a strong component of Massachusetts' economy.
- Scenario 2: Economic Dream – Urbanization increases significantly; new technology (including 3D printing) is adopted rapidly; universities continue to educate a talented workforce; and globalization ramps up with increased trade in the global supply chain.
- Scenario 3: Return to Rural Roots – Urban living is temporary and empty-nesters move south while millennials move to the suburbs; technology revolution is slower; there is a gap in mid-skill jobs and more of a push for mid-skill careers; and there is a reshoring of manufacturing to the US.

J. Kaliski and N. Higgins welcomed questions from the FAC.

Charles Hunter, Genesee & Wyoming Railroad, asked how the population of Boston has increased over the last 10 years. N. Higgins said it has been increasing steadily but he could not say exactly how much. The population projections show increases in the future.

Lisa Wieland, Massport, confirmed that each scenario assumes the drivers all move in the same direction and asked if there are scenarios where the drivers diverge. N. Higgins said yes, there are many potential scenarios and the team chose some that are simpler and appropriate for a 30-minute discussion. J. Kaliski said the drivers may be moving in the same direction but the degree of change could vary.

Administrator Tinlin asked the team to develop a scenario for the next FAC meeting that has drivers moving in different directions. Joe Barr, City of Cambridge, said the scenarios seem correlated, but he could imagine urbanization continuing to increase while technology and globalization do not.

J. Barr said the title of Scenario 2 (“Economic Dream”) makes it sound like this future is better, but given the presidential election results, this kind of economic development/globalization trends may not be the dream of all Americans.

Brandon Wilcox, FHWA, asked how population and economic growth in the technical memoranda factor into these scenarios. N. Higgins said that population and economic growth overall were assumed to be constant across scenarios, but the distribution of population by location or of economic activity by industry could change.

### **Group Exercise**

Administrator Tinlin introduced the group exercise. He explained that the FAC members were split into three groups, and each will discuss freight transportation in the future under one of the three scenarios. The members of the public were also split into three groups to hold a similar discussion. After 30 minutes, Administrator Tinlin led a report back for each FAC group to describe the major highlights of the conversation.

#### **Scenario 1: Commonwealth Comfort**

N. Higgins highlighted the topics of his group’s discussion about Scenario 1:

- Increasing real estate prices push distribution centers outside of the urban core.
- Trucks are still used for long haul trucking but there is a need for smaller trucks to get from distribution centers to the urban core.
- A niche market develops for automation and robots on the ground or drones make last mile deliveries.
- With increased walking and biking in the urban core, robots could be integrated into street infrastructure.
- Due to increased demand for exports, Boston Logan Airport is at capacity with very little room to expand. This creates opportunities to move to other Massachusetts cities for exports.
- Well managed or dedicated freight lanes are explored as congestion increases, keeping Boston’s Seaport competitive for delivery times in Boston and New England.
- L. Wieland added that the use of artificial intelligence should be considered when designing things in and out of the urban core to allow flexibility for unknown changes in the future.

#### **Scenario 2: Economic Dream**

G. Sherman reviewed the topics covered during his group’s discussion about Scenario 2:

- Automation in a more urbanized world could be difficult since there is less space and it is harder to standardize processes. It may be easier to automate in a more suburban environment.
- Real estate tradeoffs could lead to more frequent deliveries and increase congestion.
- Massachusetts should look at foreign examples, such as Japan, and match to those scenarios.
- Goods will become more specialized and need more specialized deliveries (e.g., chemicals).
- Even in a highly automated world, how would one receive an automated delivery?
- Distinction between consumer goods and industrial goods – there would be a move towards 3D printing but consumer goods still need to be delivered to heavily urbanized areas.

- Mark Marasco, Maple Leaf Distribution Services, added that infrastructure could be utilized at off-hours to maximize productivity.
- Smaller vehicles would move into the city from distribution centers located outside of the urban core.

Administrator Tinlin suggested that distribution centers could be shared among companies in the same discipline. Gary Roux, MARPA, said a smart community would try to incentivize similar types of manufacturing in the same areas, thereby decreasing delivery costs.

### **Scenario 3: Return to Rural Roots**

G. Roux summarized the topics discussed in his group about Scenario 3:

- The migration back to suburban/rural areas is already evident as urban infrastructure capacity is disappearing, and in some cases, there is no choice for where future growth could locate.
- The types of impacts could vary across industries; generally, the group assumed some changes in manufacturing and distribution, but did not anticipate significant impacts on the service industry.
- Consumer trends of online shopping continue because people live further from urban core.
- 3D printing could continue to expand and increase even though it is not part of this scenario.
- Some types of autonomous vehicles could be more likely as people live farther from the city. There also could be an increase in telepresence technologies such as virtual meetings, distance learning, and telemedicine.
- Pricing would be impacted by congestion.
- There is more of a potential for congestion in suburban and rural areas. These areas may not be prepared for additional demand on roads and maintenance; rural areas receive the least amount of Chapter 90 money. A structure can be developed to pay for improving rural infrastructure, or else the industry would pass along the cost increases to the consumer.
- As populations disperse, there is a larger delivery challenge.
- The group does not feel Boston will compete with New York or New Jersey. There could be an increase in exports out of the US.
- Rural communities would need to be prepared for policy impacts, bylaws, and zoning required for huge distribution centers.

Administrator Tinlin noted some recurring themes and thanked FAC members for attending and continuing to participate in the process.

### **What's Next**

G. Sherman said at the next FAC meeting on April 24 in Springfield, the team will turn what it learned today into some strategies. Before then, the team will send out an online survey for FAC members to vote on what they think would be feasible. At the FAC meeting on May 24 in New Bedford, a draft Freight Plan will be shared for feedback.

G. Sherman thanked the FAC members for their participation, encouraged them to stay for the public open house, and closed the meeting.