

Massachusetts Statewide Freight Plan

Freight Advisory Committee
Meeting 1



presented to
Freight Advisory
Committee

presented by
Massachusetts Department
of Transportation

Agenda

- **Introductions** Highway Administrator Tinlin, Massachusetts Department of Transportation (MassDOT)
- **What We Are Doing** Gabe Sherman, MassDOT
- **What We Observed** Nathan Higgins, Cambridge Systematics (CS)
- **What We Heard** Lance Grenzeback, CS
- **What's Next** Gabe Sherman
- **Adjourn**



INTRODUCTIONS

The freight planning team



- » Highway Division Administrator
Tom Tinlin
 - Chair, Freight Advisory Committee (FAC)



- » Gabe Sherman
 - Project Manager
 - Gabriel.Sherman@dot.ma.state.us



- » Trey Wadsworth
 - Manager of Capital Planning

P O R T S C A P E I N C

The Freight Advisory Committee

➤ **We want you to consider:**

- » The freight system today
- » The uncertainty in where it will go in the future
- » Strategies that should work in any future
- » A vision and goals for freight in the Commonwealth

➤ **Join us from 2:00 to 4:00 PM on:**

- » March 9, 2017 – Boston Region (TBD)
- » April 24, 2017 – Western Region (Springfield)
- » May 24, 2017 – Southeastern Region (New Bedford)

WHAT WE ARE DOING

Our objectives

- Fulfill all **federal requirements** for State Freight Plans
- Articulate a **vision** for the freight system
- **Raise awareness** of freight's role in the economy
- Use **scenario planning** to address an **uncertain future** and develop **robust strategies**

How we see the freight system

Economy

*Types of Industries, Number of Households,
Types and Volumes of Commodities*

Logistics

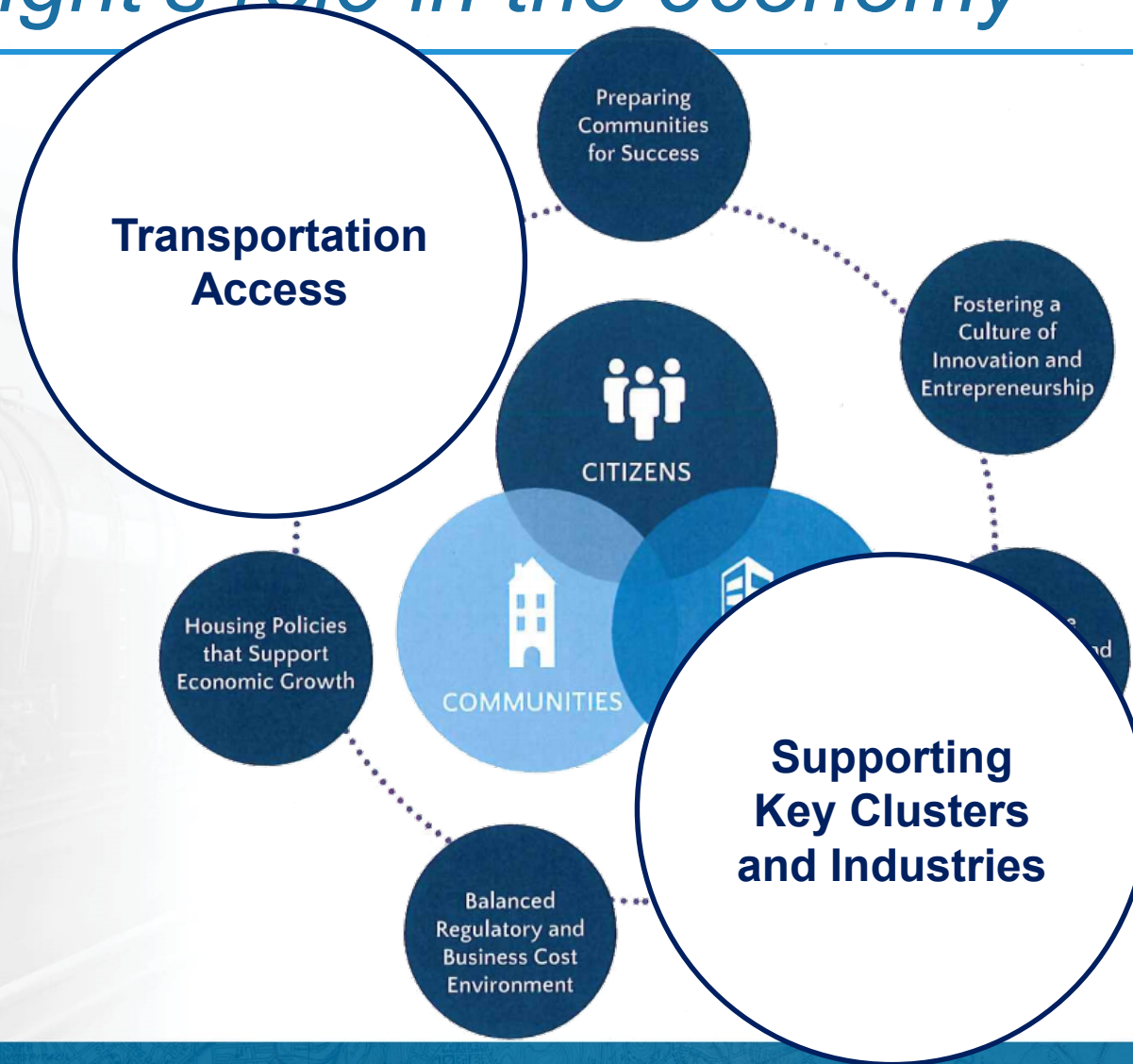
Supply Chains, Distribution Networks

Transportation

*Infrastructure: Highways, Rail Lines, Ports, Airports...
Vehicles/Flows: Trucks, Planes, Rail Cars, Ships...*

Policy and Regulation
Ownership, Use, Pricing, Taxation...

Freight's role in the economy



What we are doing

Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul

Synthesize 30+ reports
Analyze Freight Data
4 Agency Round Tables
25+ Industry Interviews

**4 FAC Meetings and
Open Houses**
Scenario Planning to
articulate vision, goals,
objectives, and robust
strategies.

**2017
Freight
Plan**

How MassDOT thinks about overall transportation goals



Customer Experience

Provide reliable and accessible services to MassDOT and MBTA customers and ensure that they are satisfied with the services provided.



System Condition

Ensure that the transportation system is well maintained and follows best practices for maintaining, preserving, and modernizing assets.



Budget and Capital Performance

Maximize capital investment effectively and efficiently by delivering programs and projects that produce the greatest benefits to the Commonwealth, its residents, and its visitors.



Safety

Provide and support a multi-modal transportation network that is safe for our workers and all users.



Healthy and Sustainable Transportation

Invest in and support a transportation system that promotes and protects the health of all users and the natural environment.

How MassDOT thinks about investment priorities

1

Reliability

Maintain and improve the overall condition and reliability of the transportation system

2

Modernization

Modernize the transportation system to make it safer and more accessible and to accommodate growth

3

Expansion

Expand diverse transportation options for communities throughout the Commonwealth

QUESTIONS?

WHAT WE OBSERVED

Economy

General trends

- Growth in exports will be driven, in part, by **medical equipment** and **pharmaceuticals**
- Growth in **imports** be driven, in part, by **consumer goods** (e.g. household appliances, information and communication technology equipment, and apparel).
- The top US trading partners for **exports** include **Canada, Mexico, and China**
- The top US trading partners for **imports** include **China, Canada, Mexico, Japan, and India**

Economy

Massachusetts trends

- **The Massachusetts economy is strong and growing**
 - » Population is growing faster than neighbor states
 - » Employment is growing faster than the US overall
 - » GDP is largest and growing fastest in New England
 - » Principal industries are *consumers* of freight
- **The Central MA economy is growing but more slowly than the state as a whole**
 - » Population is growing faster than the state as a whole
 - » Employment is growing more slowly than the state
 - » Principal industries are *consumers* of freight

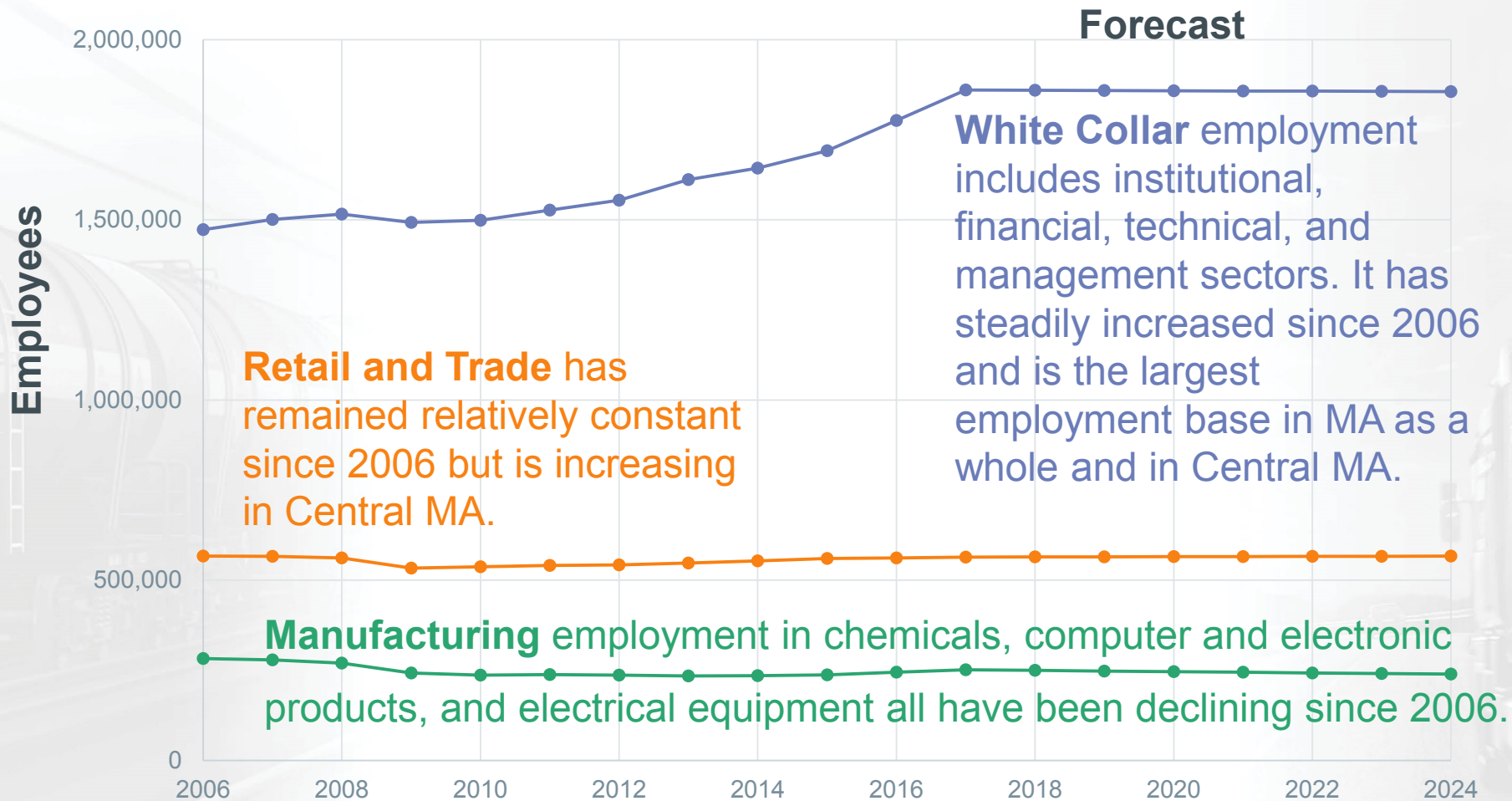
Economy

Growth in Massachusetts GDP



Economy

Growth in Massachusetts employment



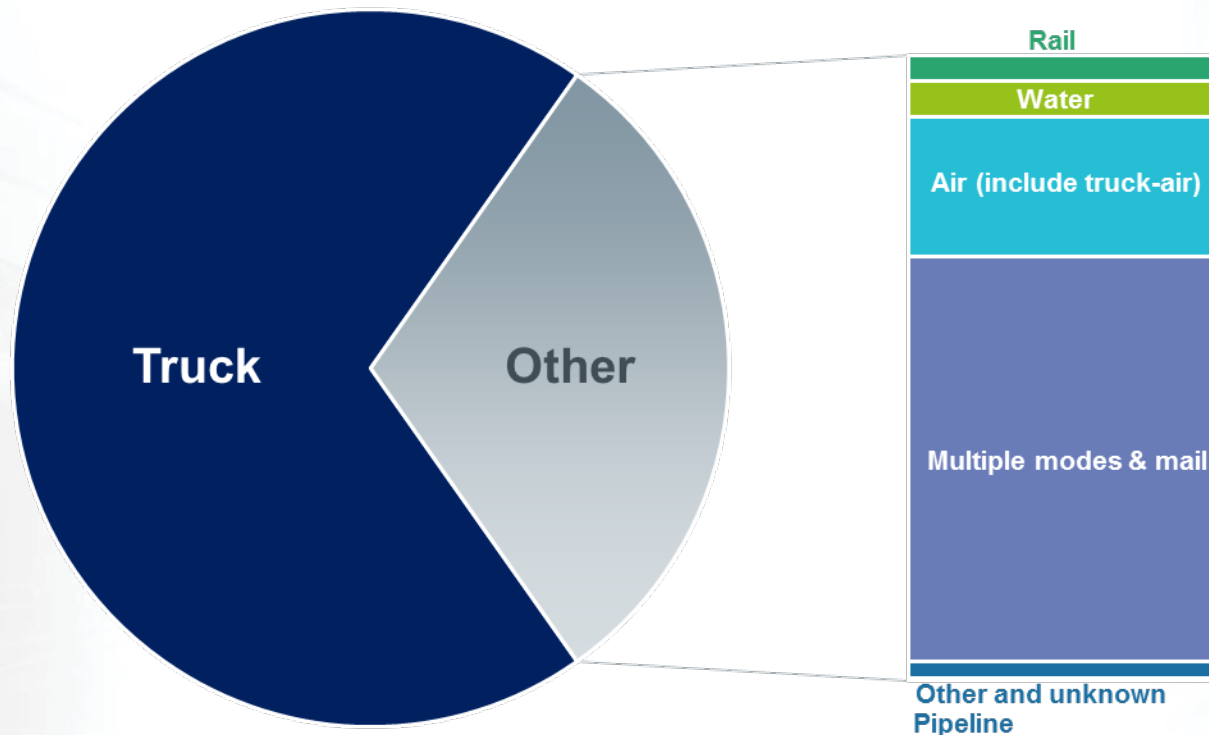
Logistics and transportation

More change and innovation

- **Potential change in global outsourcing**
 - » Risk-averse firms move toward regional sourcing
 - » Potential plateau as globalization achieved
- **Supply chains may change dramatically**
 - » Different trade lanes
 - » Automation
 - » E-commerce
- **Commodities are increasingly becoming low-weight and high-value and require just-in-time logistics**

Logistics and transportation

Trucks carry the most freight and link other modes

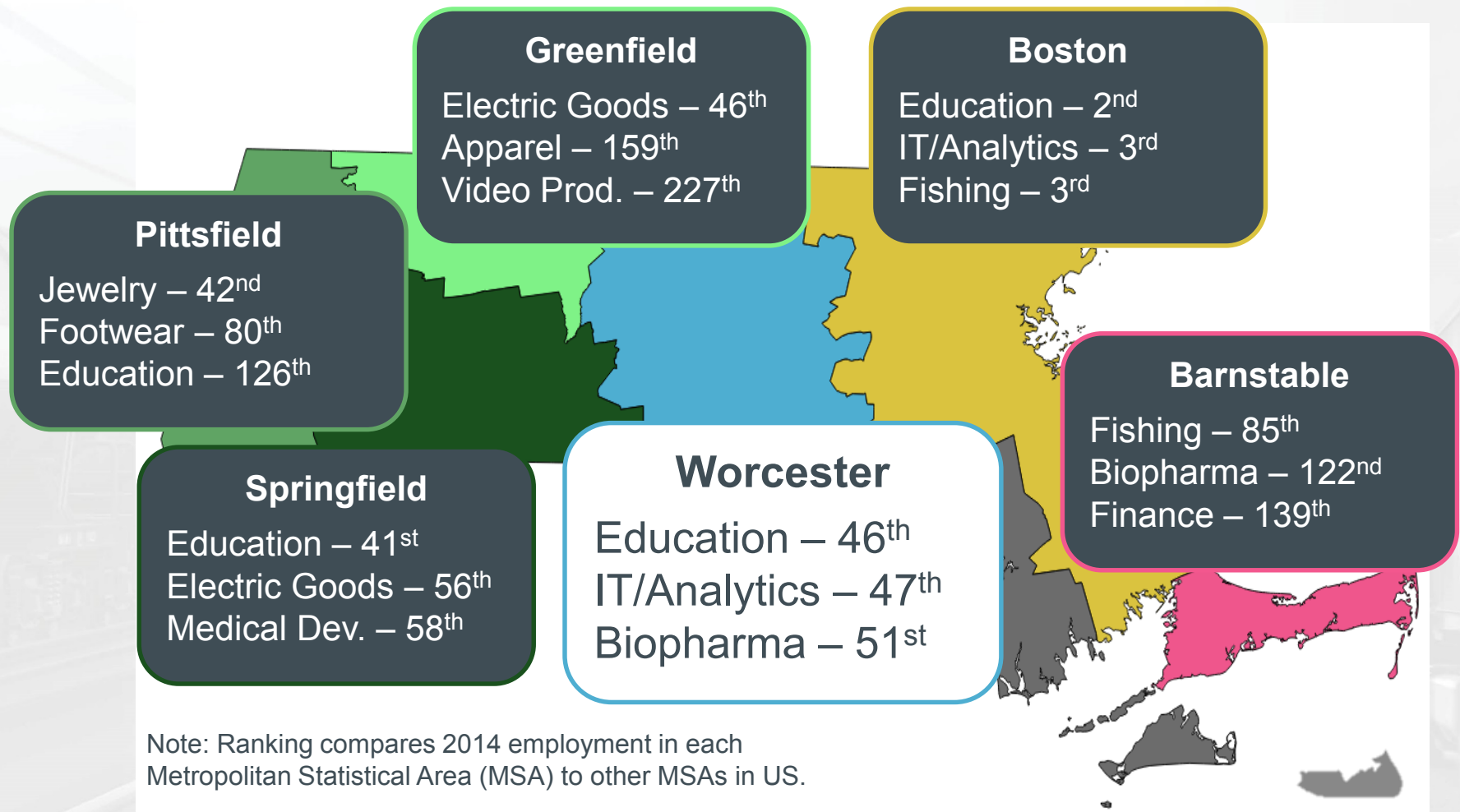


QUESTIONS?

WHAT WE HAVE HEARD

Metro areas

Economic engines with different economic strengths



State and regional/metro areas

Employment clusters align



Industry	MA	Worcester
Education and Knowledge Creation	4 th in nation	46 th among metro areas
Information Technology and Analytical Instruments	4	47
Biopharmaceuticals	7	51
Financial Services	8	55
Medical Devices	9	51
Apparel	10	60

Education/Institutions

Industry trends



- **Many general and specialized products inbound; mainly “household” waste outbound**
 - » All moved by truck
- **Multiple suppliers; limited opportunities for shipment consolidation**
- **Student (and faculty) e-commerce increasing volume and frequency of parcel deliveries**

Education/Institutions

Freight issues and opportunities



➤ **Difficult truck access and limited parking**

- » Narrow, one-way, truck-restricted streets
- » Poor signage and GPS route guidance for large trucks
- » Campus and adjacent neighborhoods densely developed with access, noise, and parking restrictions

➤ **Constrained delivery windows**

- » Time of day restrictions and large seasonal swings in volume and types of commodities

➤ **Concern about safety and security of freight operations**

Biopharmaceuticals

Industry trends



- **High growth potential, especially exports to global markets**
- **MA firms specialize in R&D and small-batch production of complex biologic drugs**
 - » Skilled scientists and technicians are available in MA (“economy of agglomeration”)
- **High-volume manufacturing of commercial biologics is done outside MA**
 - » Labor and land are expensive in MA

Biopharmaceuticals

Freight issues and opportunities



- **Constant small-volume, inbound deliveries**
 - » Reagents, proteins, chemicals, and equipment
- **High-value, time-sensitive outbound shipments**
 - » Example: drugs on-demand for clinical trials are manufactured in small batches, shipped to fill/finish plant for packaging, and then shipped to customer
- **Highly dependent on truck and air service**
 - » Traffic congestion increases truck travel times and reduces reliability of delivery times

Food and Consumer Goods

Industry trends



- **Continuing urbanization**
- **Increasing demand and shifting preferences**
 - » More households, more affluent center-city households, older households, lower car ownership rates, more recycling/reverse supply chains
- **Denser development constraining store sizes**
 - » Increase turnover and restocking within smaller footprint
- **Multi-channel distribution networks with more small-volume deliveries** (on-line products to take-out food)

Food and Consumer Goods

Freight issues and opportunities



- **Very long, multimodal supply chains**
 - » Flexible and resilient, but easily disrupted
 - » New England is a supply chain “cul de sac”
 - » (Exception is the growing flows of local produce, etc.)
- **Adequate but constrained rail from Chicago and west; poor rail access from NY/NJ and southeast**
- **Traffic congestion increases truck travel times and reduces reliability of delivery times, driving up costs**
- **Off-hour/night deliveries constrained by local truck access and noise regulations**

Fuel

Industry trends



- **Gasoline, diesel and heating oil are imported to state**
 - » Ports at Chelsea, Providence, New Haven
 - » Pipelines at Braintree, Holyoke (expensive)
- **Trucks deliver almost all liquid fuels to customers**
- **Industry operates on small margins; distribution costs matter**
- **Alternative energy sources slowly restructuring the industry**

Fuel

Freight issues and opportunities



- **Difficult to truck south from Chelsea terminals**
 - » Hazmat restrictions on tunnels
 - » Congestion on I-95 (128 ring)
- **Chelsea and Braintree terminals very vulnerable to flooding**

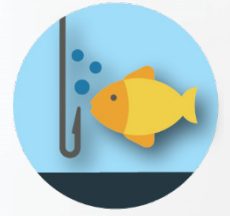
Fishing Industry Trends



- **Fish processing has become major industry**
 - » Processing industry employs 12,000 people
 - » Port of New Bedford contributes 2% of MA GDP
 - » MA processes fish flown in from the West Coast
- **MA fish processing industry serves international markets**
 - » 75% of seafood processed in Boston is shipped internationally
 - » Even fish caught locally is consumed internationally

Fishing

Freight issues and opportunities



- **Industry dependent upon international direct flights to Asia**
 - » Processed fish shipped in belly freight
- **Rail lines from New Bedford not yet certified for 286K rail cars**
 - » Limits ability to ship processed fish by rail

QUESTIONS?

WHAT IS NEXT FOR THE FAC

What's next right now

- Stick around to talk to the team
 - » Questions about Technical Memorandum 1
 - » Questions about the FAC
- Public open house from 4:00 – 5:30 PM

What is next in the coming months

Meeting	Scenario Planning	Vision, Goals, Objectives
March 9 – Boston Region	Explore uncertain futures	Ensure goals cover key freight topics
<i>Homework</i>	Propose strategies Test for robustness	
April 24 – Western Region	Agree no-brainer strategies and those to throw out Discuss hedging, shaping, etc.	Review vision, goals, and objectives
May 24 – Southeastern Region		Discuss the Freight Plan

Massachusetts Statewide Freight Plan

Freight Advisory Committee
Meeting 1



presented to
Freight Advisory
Committee

presented by
Massachusetts Department
of Transportation