

New England Railroads – The Next Generation

New England Railroad Club
Presentation to UMass – Amherst
November 29, 2018

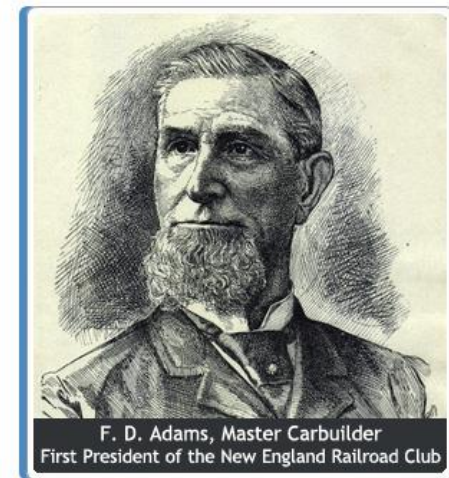


Introduction

- **What we are going to cover:**
 - New England Railroad Club and Railroading
 - Megaregions and the Northeast Corridor
 - New Start Passenger Rail Projects
 - Railroad Career Opportunities

Introduction

- John Read, PE, Secretary
- New England Railroad Club established in 1883 – objective “...the promotion of knowledge on all matters related to the construction, maintenance, operation and management of railroads...”
- Association is 135 years old
- First President was F. D. Adams
- Website – www.nerailroadclub.com
- We recognize a need to connect with students and young professionals interested in the railroad industry



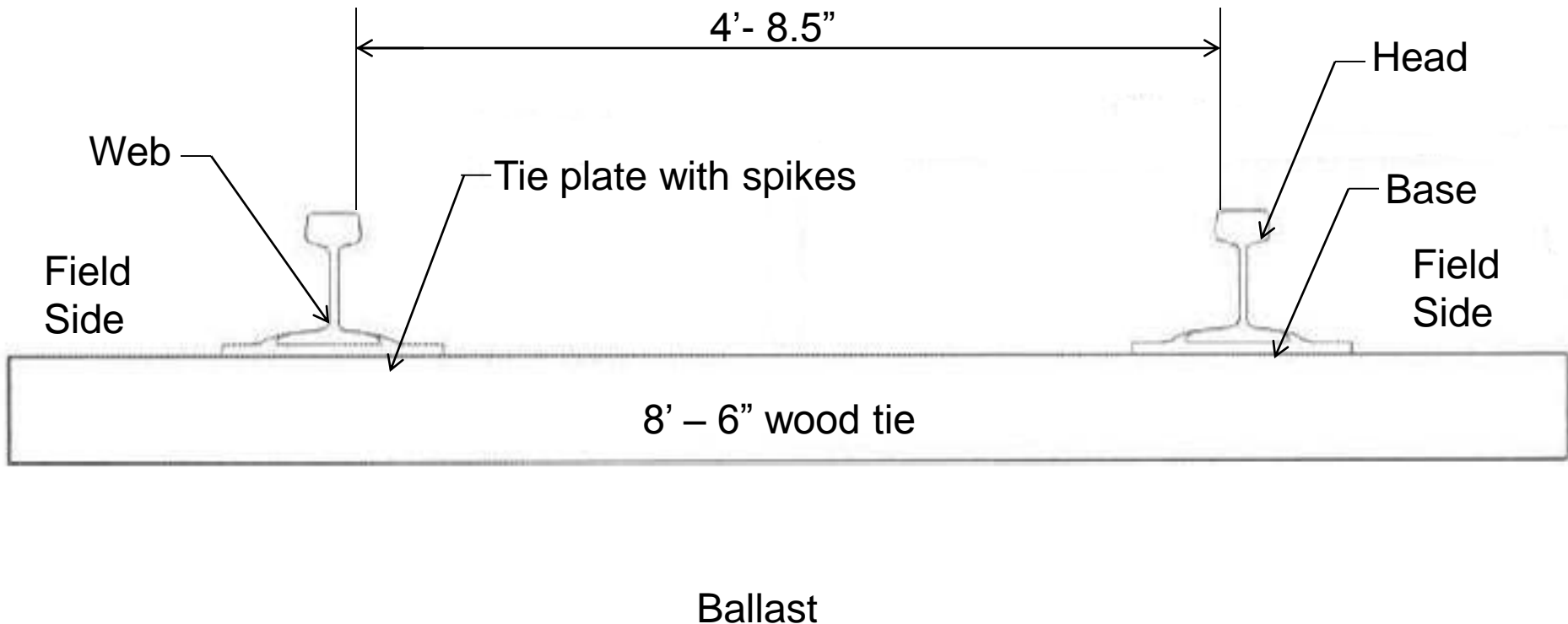
Females and the Railroad Industry

- Rebecca Lukens, 1825
America's first Female
CEO and Industrialist,
supplying the Railroad
industry.
- Marjorie P. Silver, NERR
Club President 1992-
1993; President Pinsky
Railroad Company 1977
– 2014, Member
Woman's Transportation
Seminar



What is Railroad Track?

Track Construction – Rail, Ties, Fasteners, and Ballast
Standard Gauge is 4'-8½" measured 5/8" below TOR



FRA Class of Track

§ 213.9 Classes of track: operating speed limits

9(a) Except as provided in paragraph (b) of this section and §§213.57(b), 213.59(a), 213.113(a), and 213.137(b) and (c), the following maximum allowable operating speeds apply-

[In miles per hour]

<i>Over track that meets all of the requirements prescribed in this part for</i>	<i>The maximum allowable speed for freight trains is</i>	<i>The maximum allowable speed for passenger trains is</i>
<i>Excepted</i>	<i>10</i>	<i>N/A</i>
<i>Class 1 track</i>	<i>10</i>	<i>15</i>
<i>Class 2 track</i>	<i>25</i>	<i>30</i>
<i>Class 3 track</i>	<i>40</i>	<i>60</i>
<i>Class 4 track</i>	<i>60</i>	<i>80</i>
<i>Class 5 track</i>	<i>80</i>	<i>90</i>

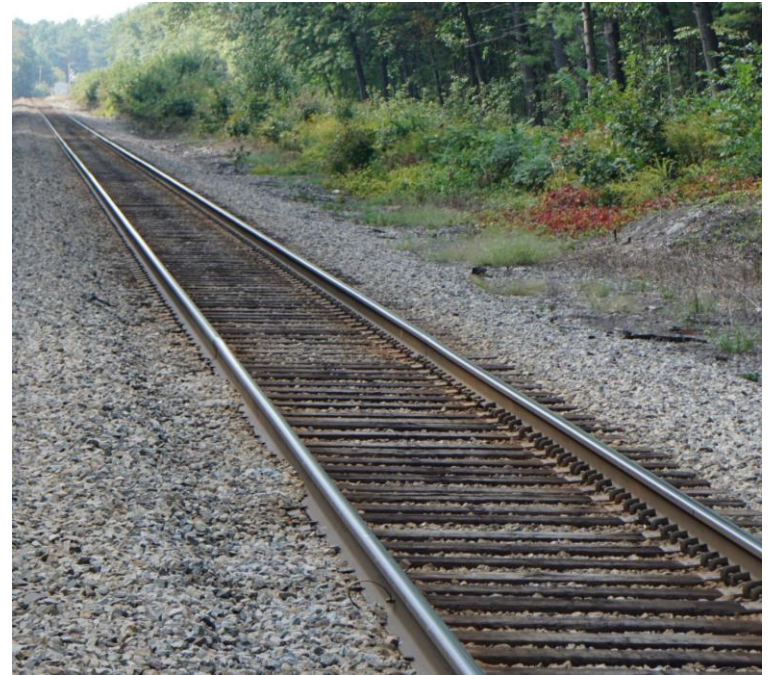
What is Railroad Track ?

- Track Constructed to FRA Track Standards



Trains Magazine

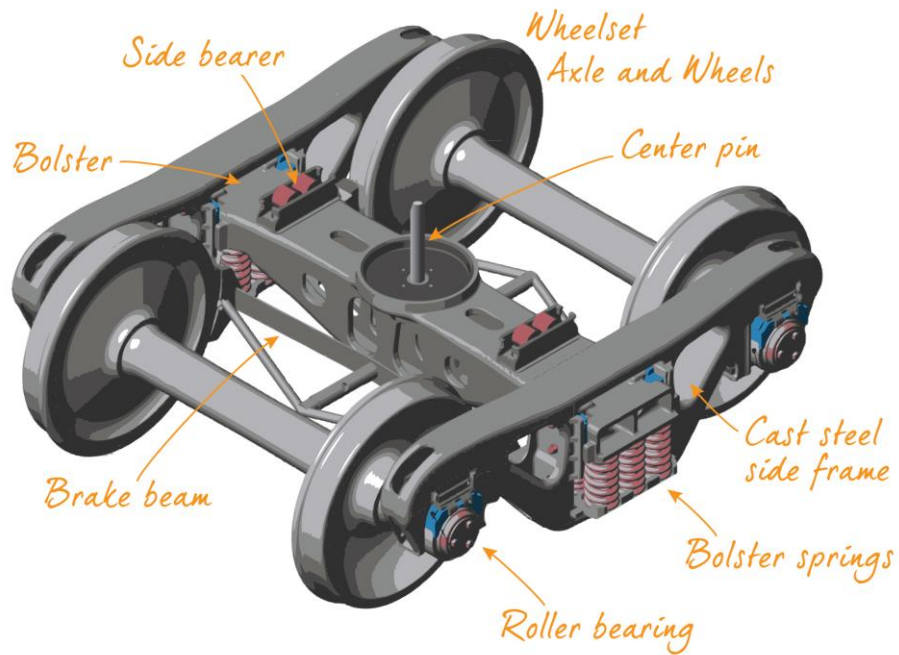
Class 1 – 10 mph freight
15 mph passenger



Class 3 - 40 mph freight
60 mph passenger

What is Railroad Equipment?

- Equipment - Freight/Passenger



What is Railroad Equipment?

- Example of four axle railroad hopper car

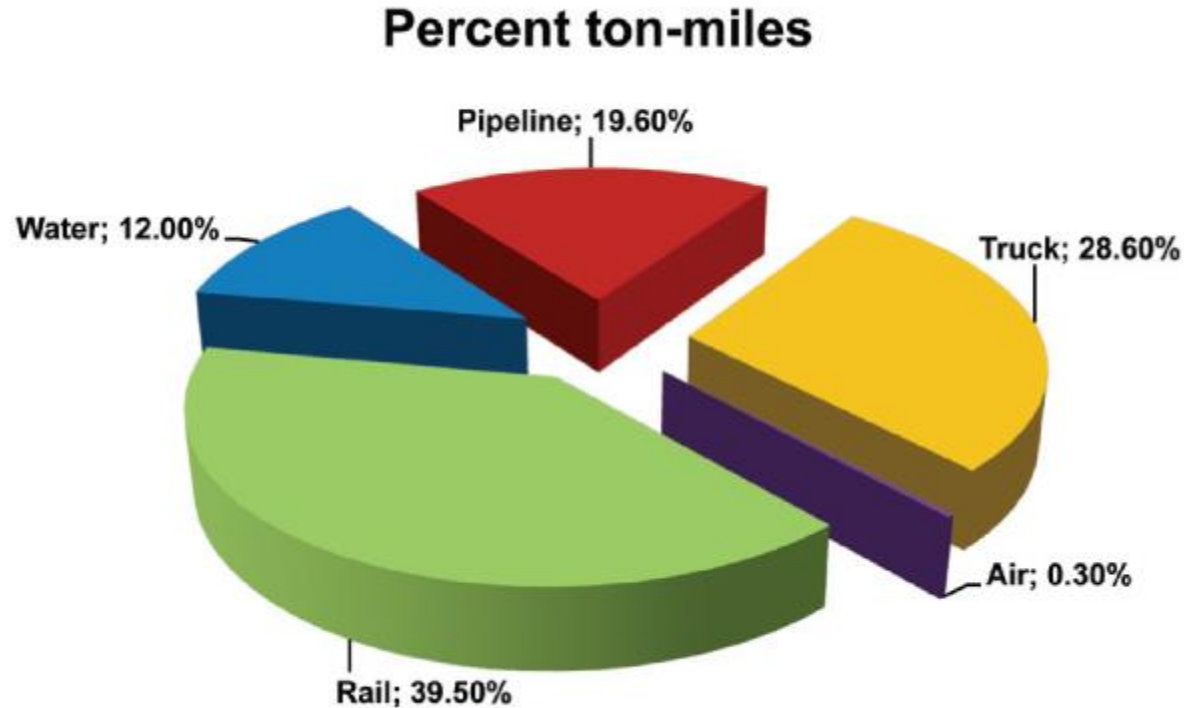


Freight Rail in the United States



AAR - Railroad 101 Page – 140,000 rail miles operated by 540 private railroads

How Does Freight Move?



FRA Freight Rail Overview – 40 % of US Freight moves by ton-miles (length freight travels

Freight Rail – Class I's







- FRA Defines Class I's as railways with individual operating revenues of at least \$463.9M
- Seven Class I Railroads
 - BNSF Railway Co.
 - CSX Transportation
 - Grand Trunk Corp. (CN's US Operation)
 - Kansas City Southern Railway Co.
 - Norfolk Southern
 - Soo Line Corporation (CP's US Operation)
 - Union Pacific Railroad Co.

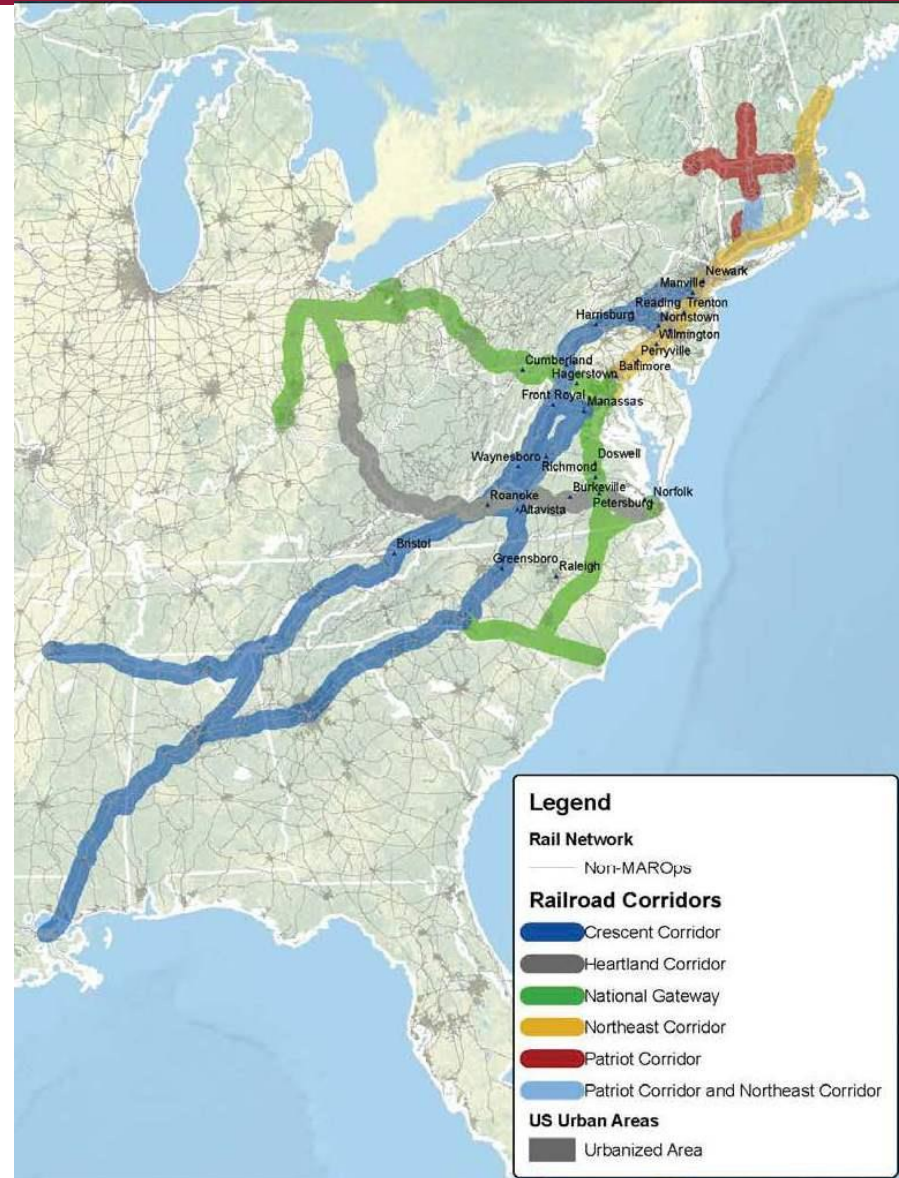


BUILDING AMERICA®

I-95 Corridor Coalition

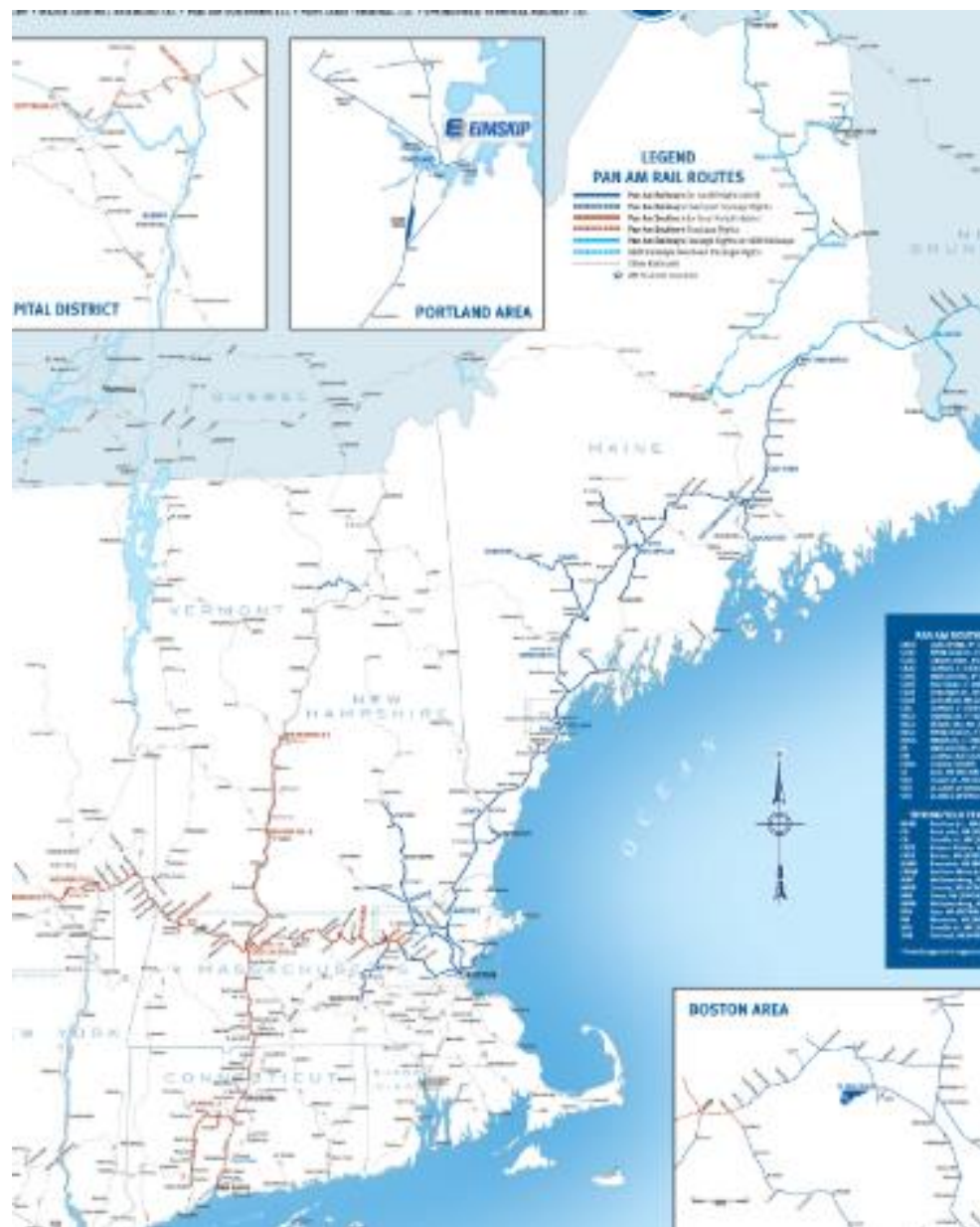
Rail Corridors: Mid Atlantic Rail Operational Study and Northeast Rail Operation Study

-  ■ Crescent (NS)
-  ■ Hartland (NS)
-  ■ Gateway (CSX)
-  ■ Northeast (Amtrak)
-  ■ Patriot
-  ■ Knowledge



Class I and Short Line Freight Rail in New England

- CSX Transportation
- Genesee and Wyoming
 - CSOR
 - NECR
 - P&W
 - SL&A
- Housatonic Railroad
- Pan Am Southern (NS)
- Pan Am Railways
- Vermont Rail System



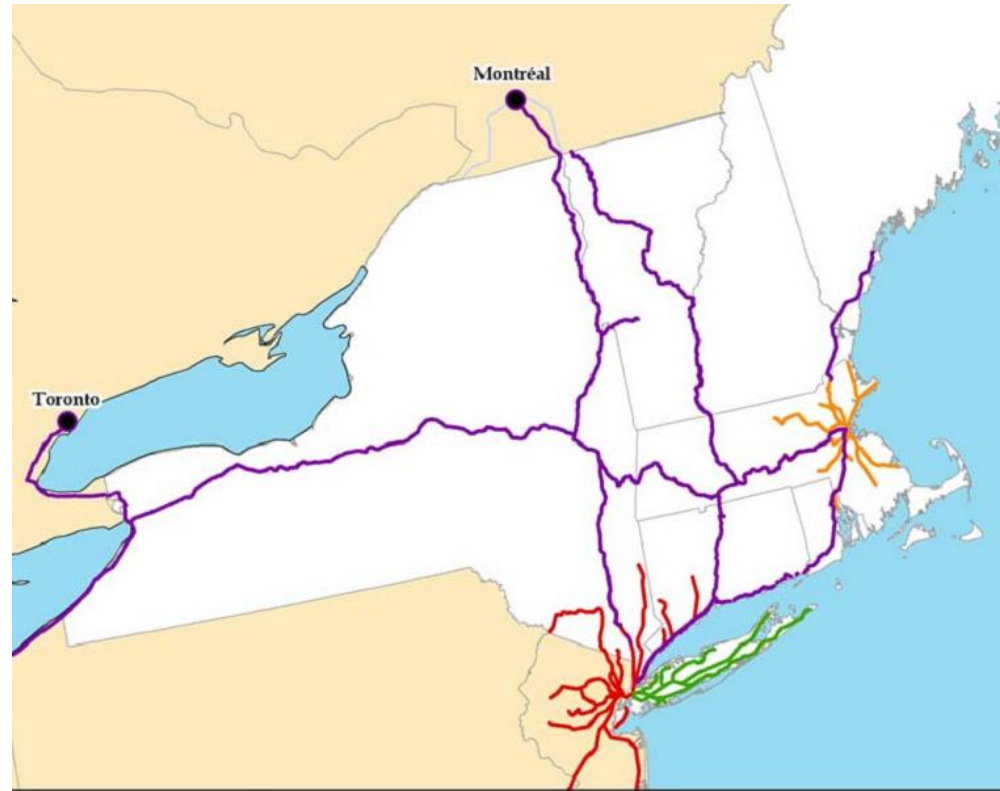
Northeast Passenger & Transit Rail

■ Intercity / Commuter Rail

- Amtrak
- CTail – Hartford Line
- Downeaster
- MBTA - Commuter Rail
- Metro North Railroad

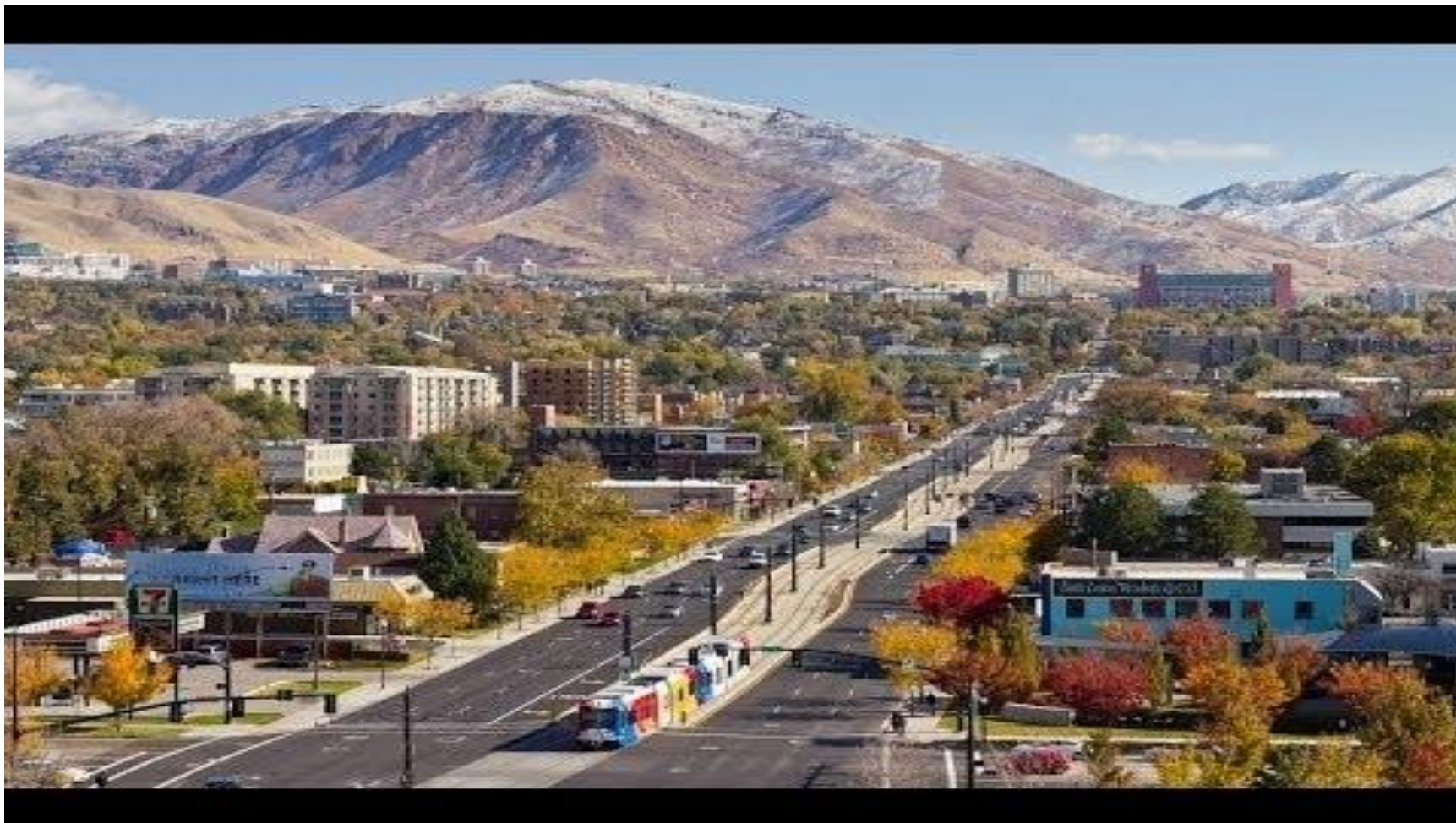
■ Transit / Light Rail

- MBTA – Boston
- MTA – NY City



Transportation For America

www.t4america.org - <https://youtu.be/SiB8Z0xhDY8>



Transportation for America

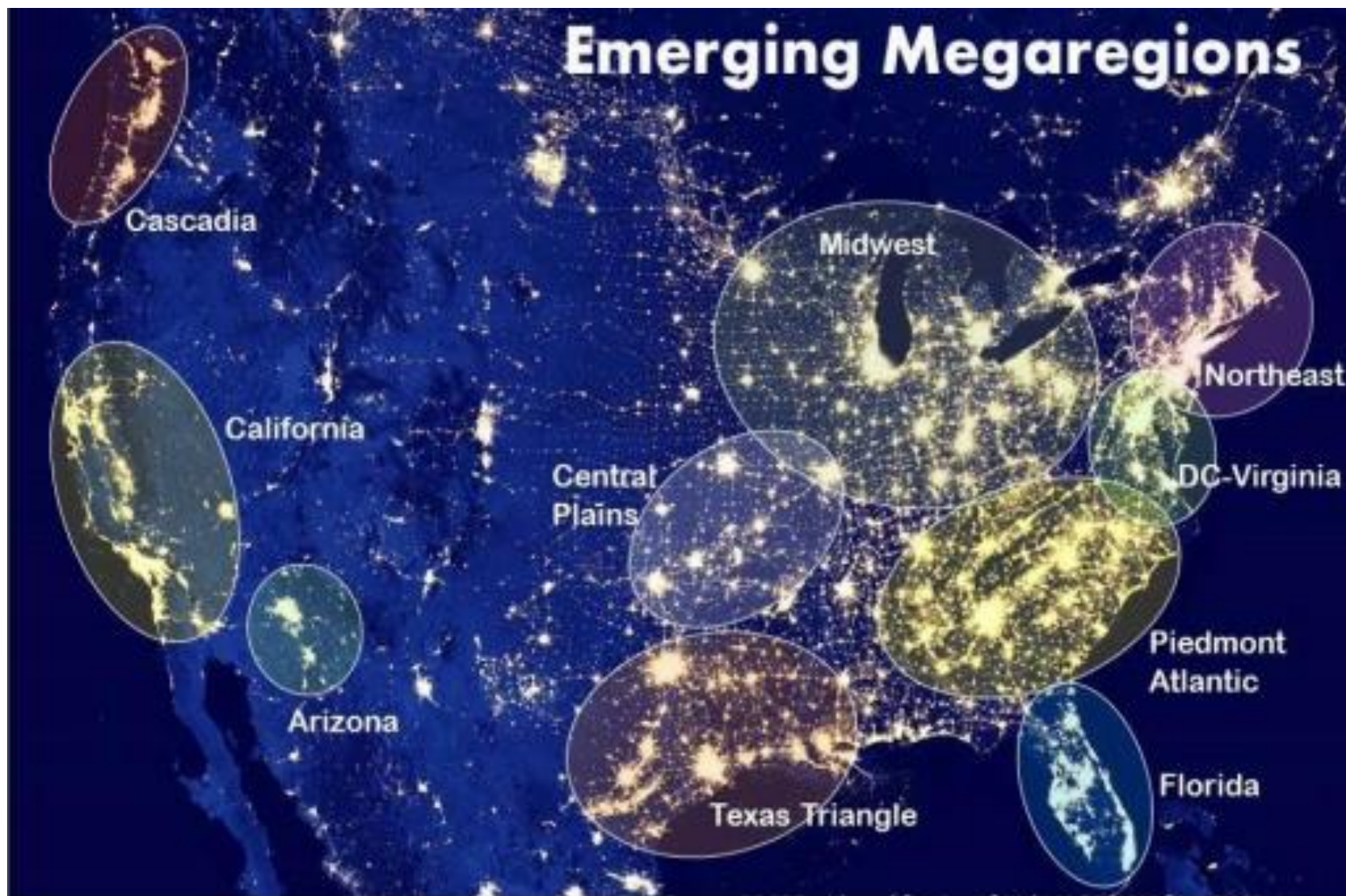
- Discussion:

- How many modes of Transportation?
- What was the video's message?

Megaregion

- What is a Megaregion?
 - Jean Gottman, a geographer, used the term “Megalopolis” in 1961, when referring to the Northeast Megalopolis
 - Megaregion characteristics
 - Overlapping Metropolitan Areas
 - Interlocking Economic Systems
 - Shared Natural Resources
 - Common Transportation Systems
 - Blind to Political Boundaries

United States at Night

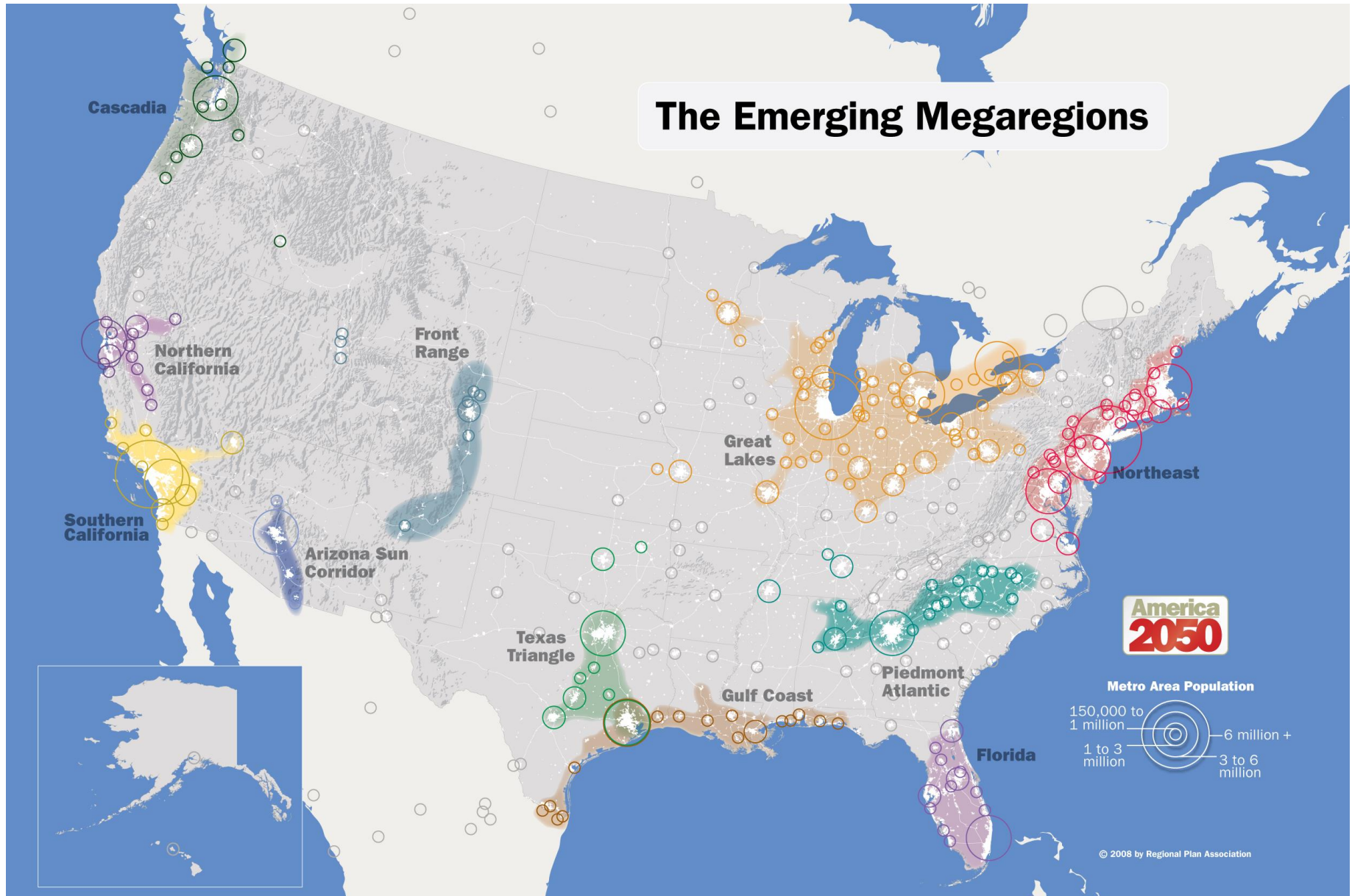


National Associations of Counties Legislative Conference, Feb 27, 2017, Washington, DC

Megaregions – Regional Plan Association (RPA)

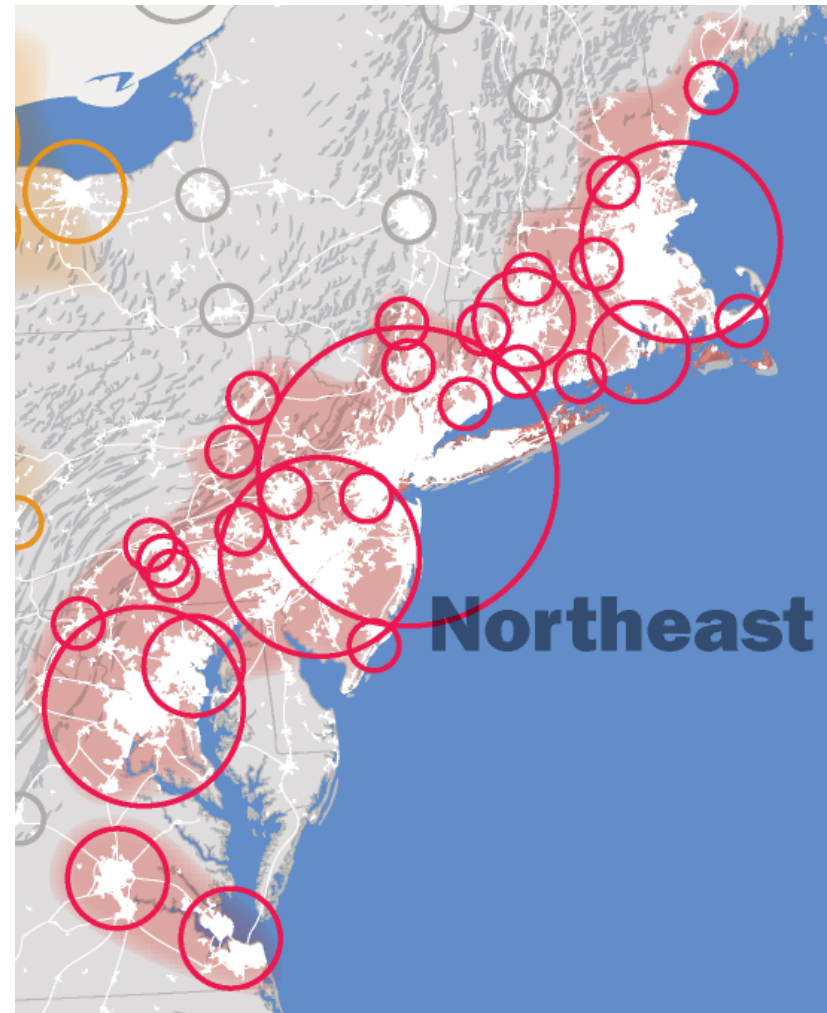
- RPA Methodology – Used a scoring system to ranked counties on the basis of:
 - Existing Population
 - Employment Levels
 - Projected Population Growth
 - Projected Employment Growth
 - Connectivity
- RPA Identified Eleven Megaregions in the United States

Megaregions in the United States



Northeast Megaregion

- Northeast Megaregion Facts
 - Population (2010) of 52.3 Million –
 - 1 in 6 Americans
 - GDP (2010) of \$2.92 Trillion
 - U.S. GDP (2010) Economy- one-fifth of Nation's GDP
 - Projected Growth (2010-2050) – 35.2% (18.4 Million)
 - World's Second Largest Megaregion
 - (Wall Street Journal 2008)
 - If an independent country –
 - fifth largest economy in the world



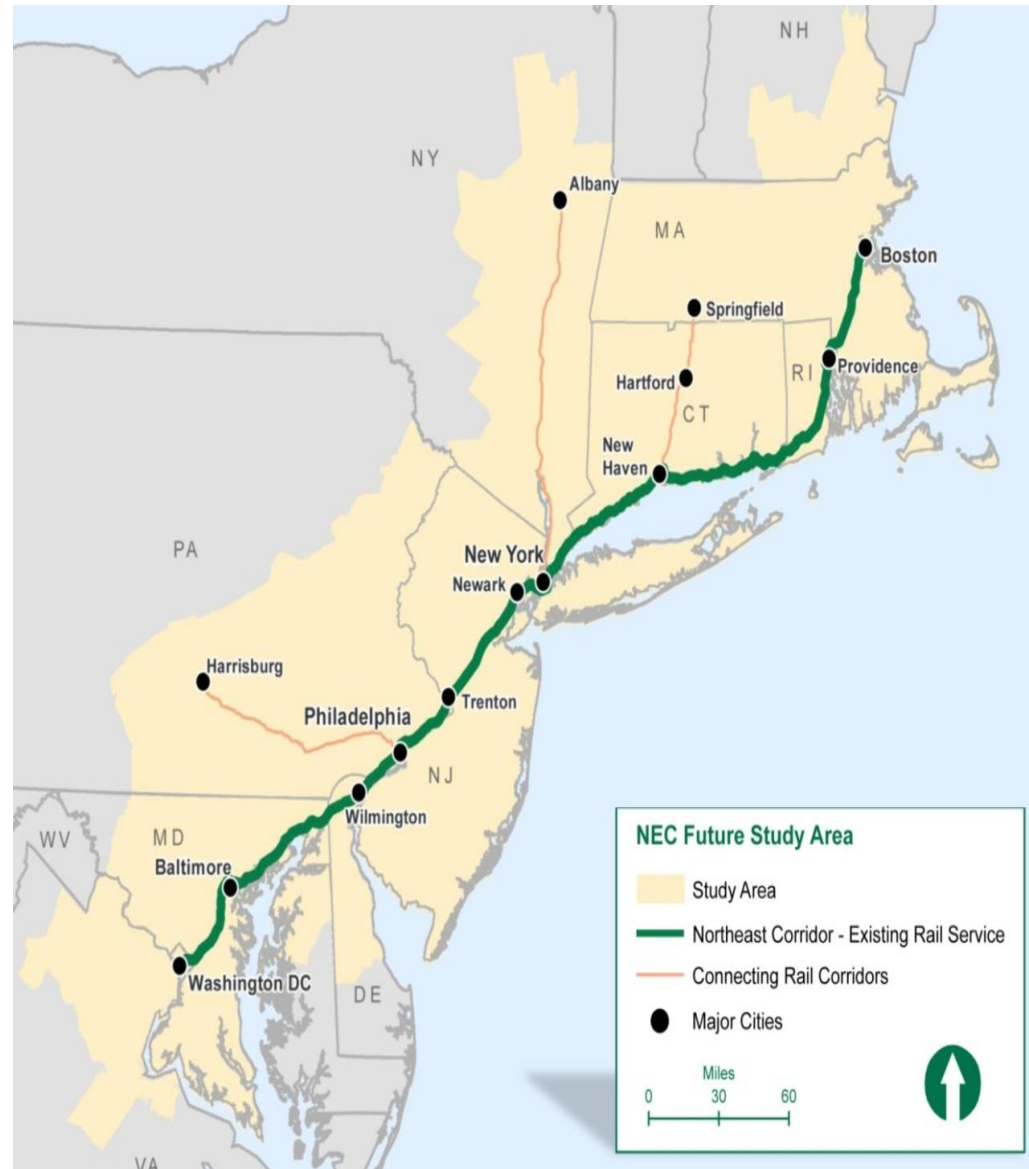
Northeast Corridor

NEC Daily Figures

- 2,220 Passenger Trains
- 720,000 passengers
- 70 Freight Trains
- 69% of combined air and rail market between Washington, DC and NY City
- 51% of combined air and rail market between NY City and Boston

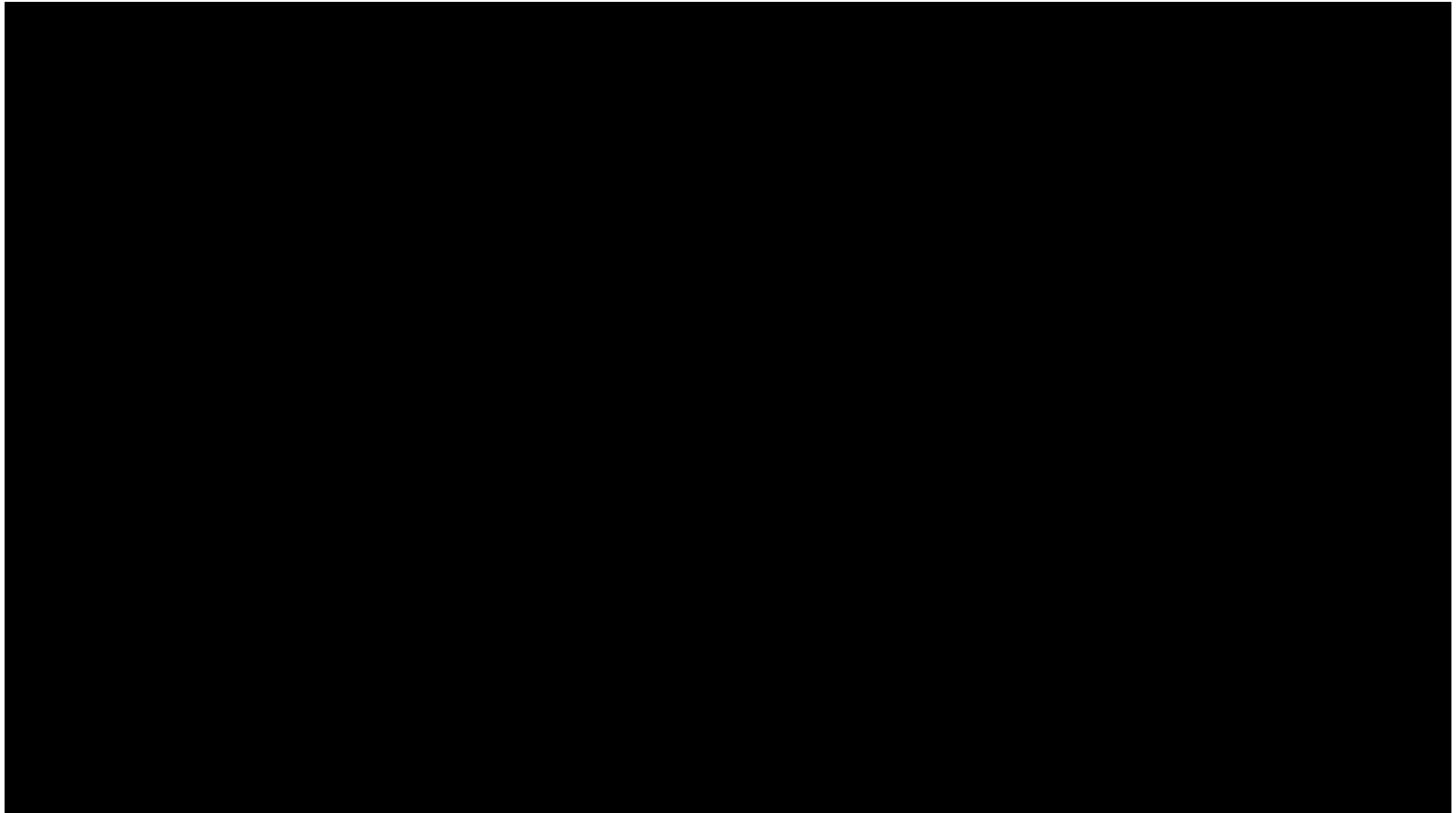
NEC is 457 miles long

- 17 Tunnels
- 1,186 bridges



Transit Orientated Development

www.tod.org - <https://youtu.be/iCWv0RfQzgk>



Passenger Rail Projects

■ All Aboard Florida

- Phase 1 – Miami to Fort Lauderdale to West Palm Beach
- Phase 2 – Orlando
 - North South
 - East West



MIA, FTL, WPB | PHASE ONE
Launching 2017



ORLANDO | PHASE TWO



235 MILE ROUTE



2018 New Start – All Aboard Florida



Fort Lauderdale Station



Train Arrival



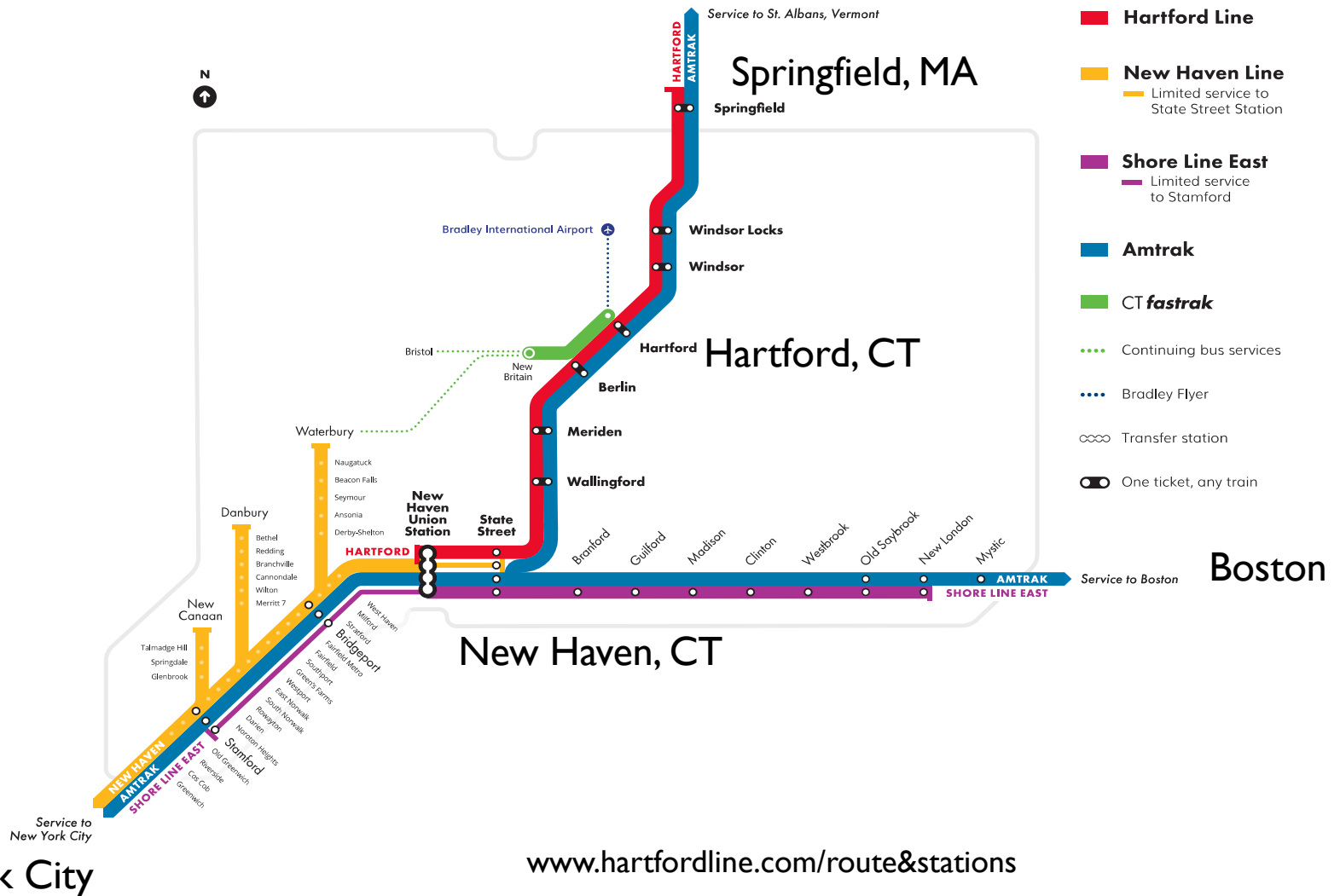
Passenger Coach



Passenger 2X2 Seating

New England Passenger Rail Project

■ New Haven – Hartford - Springfield



2018 New Start – New Haven to Springfield



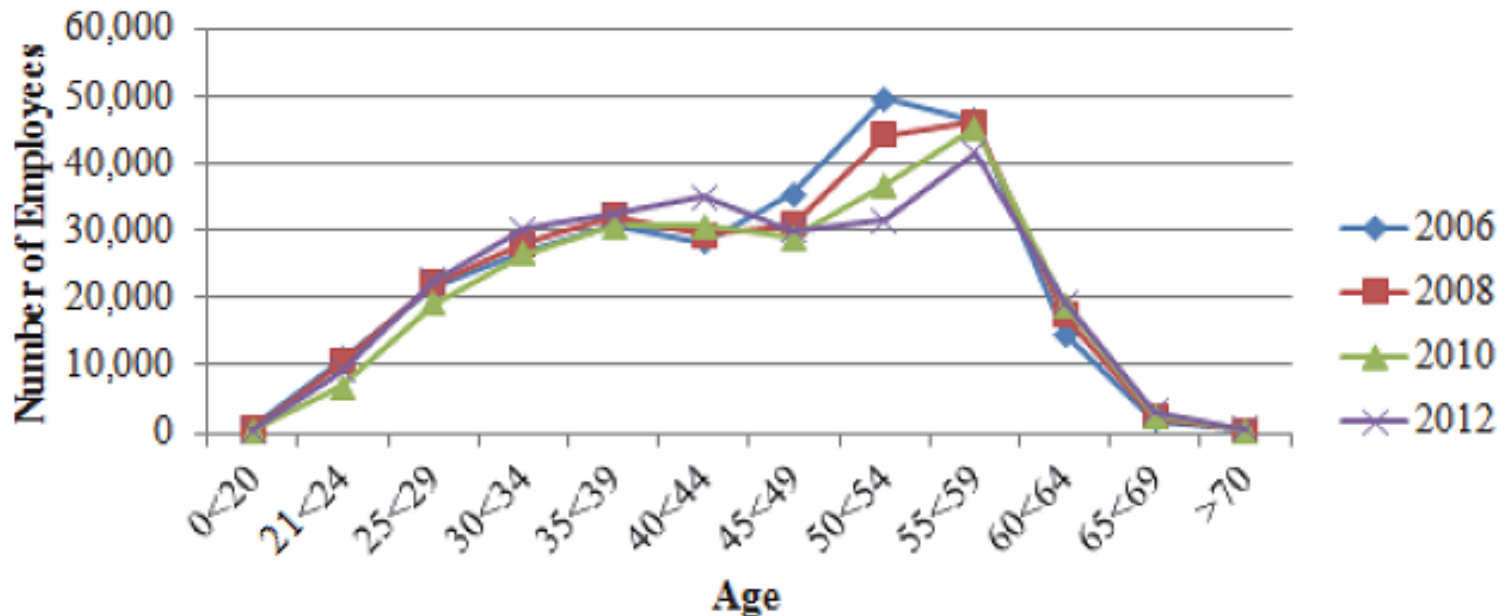
New Train Set at Wallingford, CT Station



Ticket Vending Machine

Career Opportunities

■ Railroad Employment Statistics



Source: Railroad Retirement Board (n.d.), Table D10.

Figure 5. Railroad employee age distribution shift, 2006–2012.

Association for American Railroads

www.aar.org - <https://youtu.be/NXI0DIJl2-g>



Career Opportunities

Association of American Railroads (AAR)

THE AVERAGE FREIGHT RAIL EMPLOYEE EARNS 65 PERCENT MORE THAN THE AVERAGE U.S. EMPLOYEE

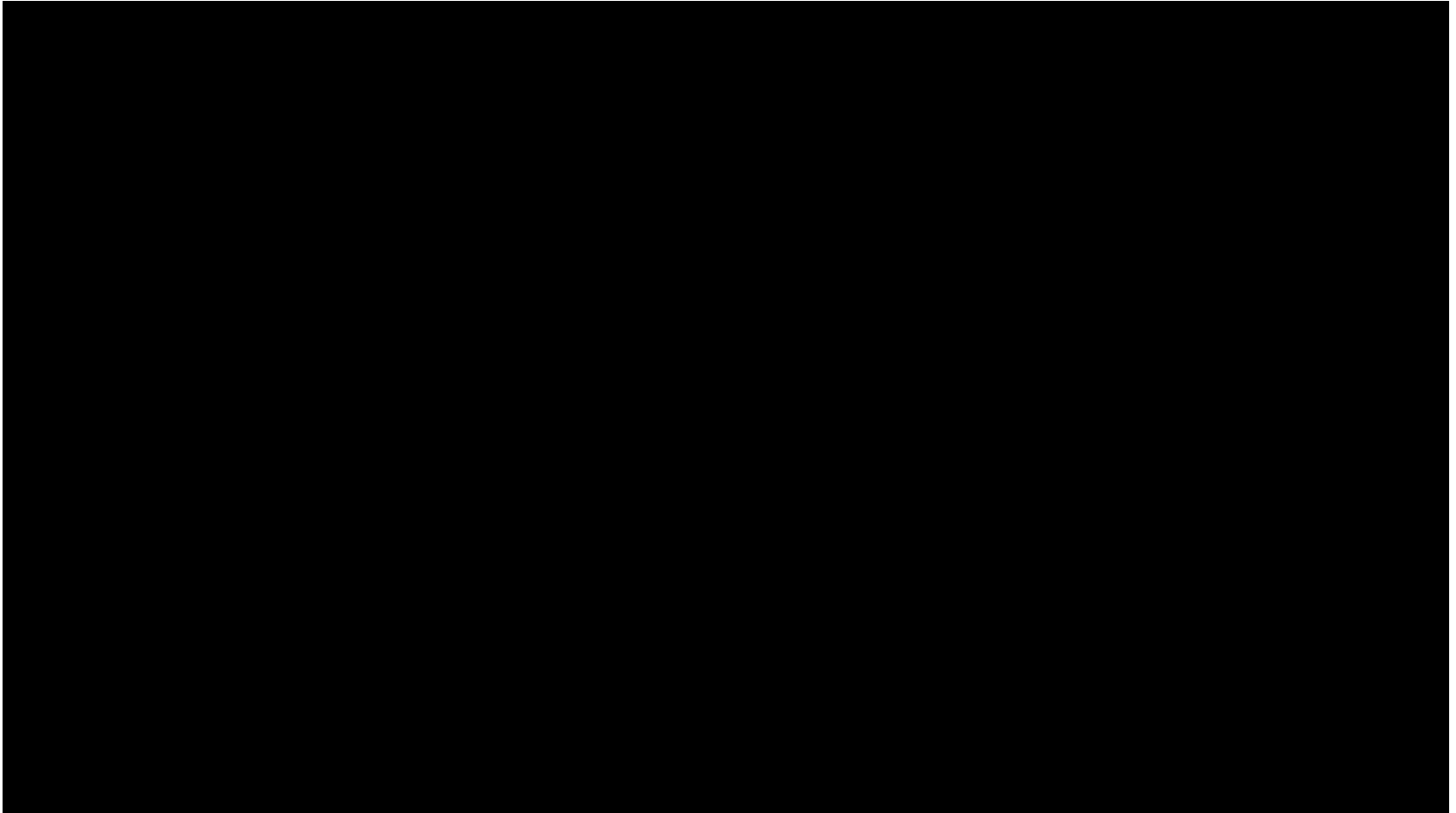
Average Compensation of Rail Employees vs. U.S. Employees



Employee compensation on U.S. Class I freight railroads, including benefits, averaged approximately \$125,400 in 2017. Railroad jobs range from locomotive engineers, train dispatchers and maintenance professionals to law enforcement, information technology and industrial development experts.

Federal Railroad Administration

www.fra.dot.org - <https://youtu.be/sPgEdkEDi-M>



Railroad Industry Disciplines

- Engineering
 - Chemical – Materials, Corrosion
 - Civil – Environmental, Geotechnical, Structural, Transport
 - Electrical – Computer, Power, Signal, Communications
 - Mechanical – Manufacturing, Vehicle, Power Plant
 - Interdisciplinary – Building Services, Industrial, Project, Software
- Administration/Operations
 - Business Administration
 - Marketing
 - Operation/Project Management
 - Public Relations/Customer Services
 - Accounting
 - Lawyer

New England Rail Employers

- New England Freight Railroads
- New England Passenger and Transit Rail (previous slide)
- State Departments of Transportation
- Federal Railroad Administration
- Association of American Railroads
- Volpe Transportation Center
- Rail Operators
- Rail Consultants
- Rail Contractors

NERR Club – Rail Tech Conference

- **WHEN:** March 21, 2019
- **WHERE:** DCU Center in Worcester, MA
- **WHAT TIME:** Registration 12:00PM; 12:30PM to 5:00PM
- **30 Table Top Displays** showcasing Suppliers, Engineering Firms, Transportation Organizations, and more
- **Four Timely Industry Seminars** (2018 Examples – Improving Crossties; Drones in Railroading; FRA Human Performance; Shipper, Railroad and State Agency Partnerships)
- **Who Should Attend:** Active Rail Professionals; Rail Industry Suppliers; College Students; Human Resource Personnel

Resources

Internet Resources:

- www.america2050.org America2050
- www.t4america.org Transportation For America
- www.rpa.org Regional Plan Association
- www.tod.org Transit Orientated Development
- www.aar.org The Associations of American Railroads
- www.fra.dot.gov The Federal Railroad Administration
- www.aar.org/about-us/careers

Women in Rail:

- Corina Moore, President and Chief Executive Officer of Ontario Northland Transportation Commission
<https://www.progressiverailroading.com/people/article/LRWs-Woman-of-the-Year-Corina-Moore-breaks-rail-sectors-glass-ceiling-to-move-Ontario-Northland-forward--56117>

Is a Career in Railroading for me?

Questions and Answers