

# Northeast Diesel Collaborative Partners Meeting

Progress, Challenges and Opportunities for a Cleaner and Prosperous  
Northeast



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# • Massport Perspectives, Challenges and Opportunities

- Massport Overview
  - Background
  - Climate Change
  - Sustainable Planning and Design
- Logan Airport
  - ConRAC
  - Fuel Switching / Conversion
  - Tenant Equipment
- Port of Boston
  - ECA compliance
  - Diesel Retrofit Program
  - Fish Pier Berth Electrification
  - Conley Terminal Improvements
  - Conley Clean Truck Program





# Massport Properties

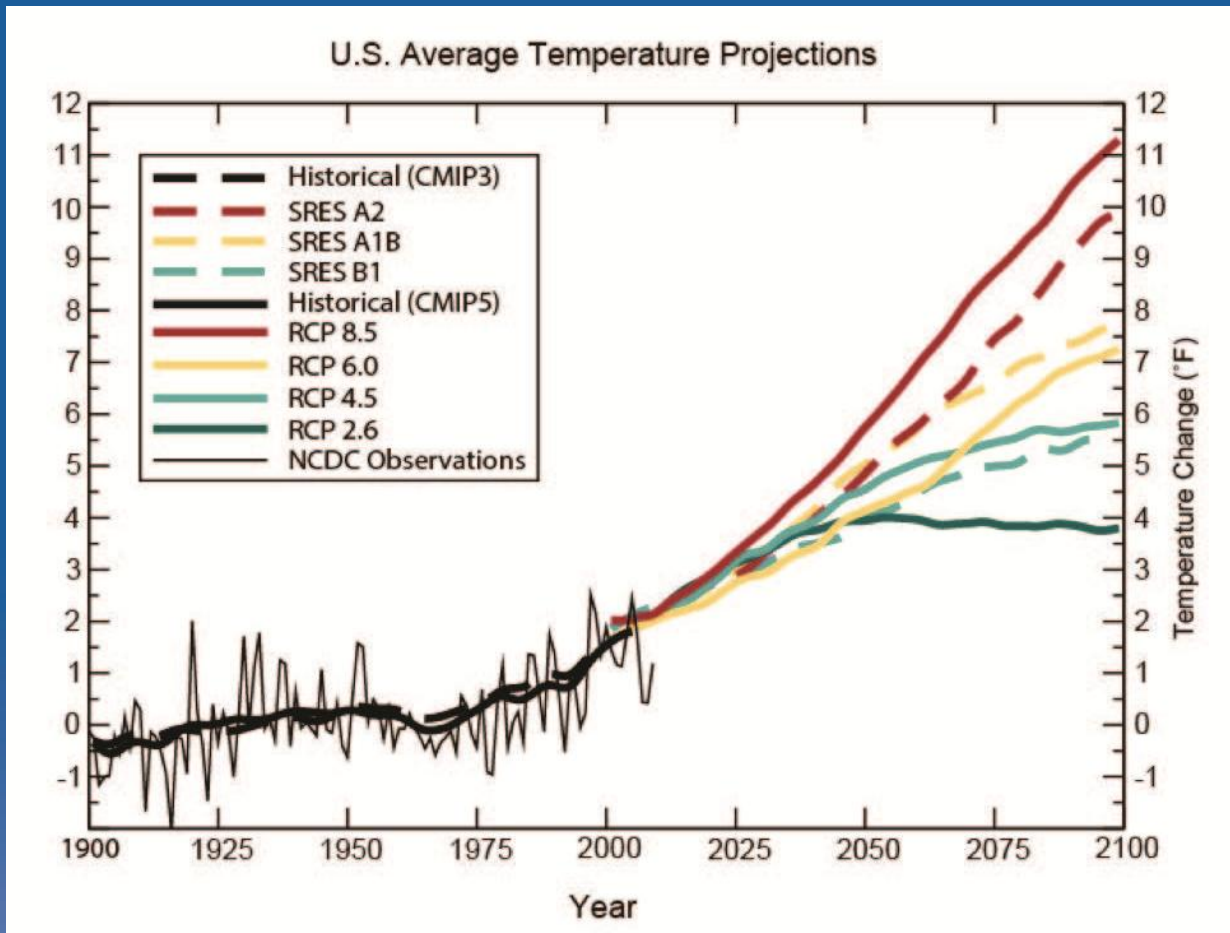


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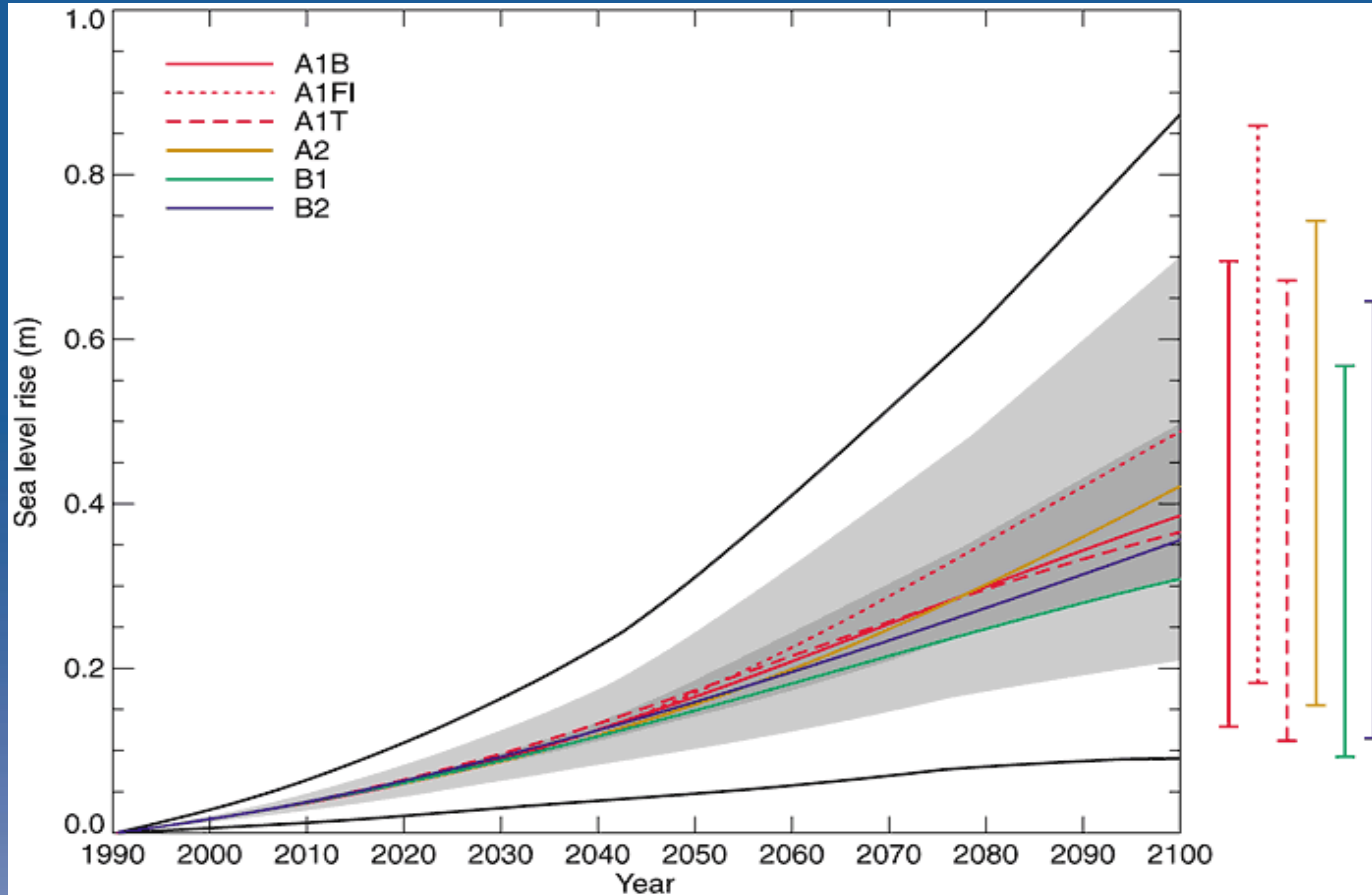


Range of temperature projections for 2100 goes from about 4<sup>0</sup>F to about 11<sup>0</sup>F

Third National Climate Assessment Report (2013 draft)



# Sea Level Rise is Projected to Accelerate **2-4 FOLD** During Next 100 Years.



Global average sea level rise (1990 to 2100)

for the IPCC SRES emission scenarios

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# Sustainable Planning and Design

Sustainability

- Massport Sustainable Design Standards and Guidelines mandatory for all Massport capital projects as of June 2009
- Voluntary compliance with “LEED Plus” green building requirements
- Seek to redevelop underutilized and brownfield properties and support regional “smart growth” policies
- “Green” lease terms with tenants, environmental audits, and voluntary sustainable tenant initiatives



## WHY BUILD

# GREEN

### Massport Goals:

#### Asset Management

sustainability increases the value and revenue generating potential of projects on Massport properties

#### Environmental Benefits and Permitting Strategy

reduce environmental impact of buildings and reduce permitting time for individual projects

#### Citizenship

positively impact the communities surrounding Massport-owned property

#### Design Excellence

promote innovative, environmentally responsible and beautiful design



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# Massport Disaster and Infrastructure Resiliency Planning Study

## Strategy

- Modeling of storm surge for 25 years
- Identification of critical infrastructure for resiliency planning
- Implement Short and Long Term Programs

## Program Elements

- Planning
- Existing Buildings and Infrastructure
- New Buildings
- Emergency Response



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# Logan Airport



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# Fuel Switching

- Voluntary conversion of Logan Airport central heat plant boilers from #6 Fuel Oil to #2 Fuel oil
- Transitioning from portable diesel fired snowmelters to natural gas and steam driven snowmelters
- Massport purchase of CNG and flex fuel powered vehicles
- Tenant switching from diesel equipment to alternative fuel.
  - Replacing Diesel Ground Service Equipment with Electric
  - Conversion of on-road fleets to CNG and E-85
- Installation of gate electrification and pre-conditioned air systems at nearly all Logan Airport gates



# Consolidated Car Rental



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# Consolidated Car Rental Facility

- **Construction of Consolidated Car Rental Facility (ConRAC) was opened on 9/25/2013.**
  - The ConRAC is a LEED certified four level garage with approximately 1.3 million square feet of parking, office and check in space
  - New Massport operated shuttle busses offer significant environmental benefits by eliminating approximately 94 existing, diesel-powered rental car buses, and replacing them with 32 clean diesel-electric hybrid buses
  - Hybrid shuttle buses purchased using a FAA VALE grant






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# Port of Boston



-  Massport Property
-  Other Public (USCG & BRA)
-  Private Port Facilities



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# North American Emission Control Area (ECA)



- Effective 8/1/2012
- All vessels required to use  $\leq 1.00\%$  sulfur fuel
- Effects already felt at the port of Boston with at least one cruise ship no longer using Boston as a port of call
- Recently announced agreement between U.S. EPA / U.S. Coast Guard and Carnival Corporation to develop advanced emission control technology utilizing DPFs and SO<sub>x</sub> Scrubbers
- By allowing flexible compliance options, the U.S. EPA and Coast Guard have helped to minimize the adverse impact of the ECA rules



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# Conley Container Terminal



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# Conley Terminal Yard Equipment Retrofit and Replacement

- Voluntary installation of Diesel Oxidation Catalyst in 9 pieces of pre-2007 yard equipment
  - Retrofit project utilized an EPA DERA grant awarded in 2006
- Between 2003 and 2006, 25 pieces of yard equipment were replaced with newer cleaner operating models.
- Ongoing replacement of older yard equipment with current Tier rated diesel powered equipment.



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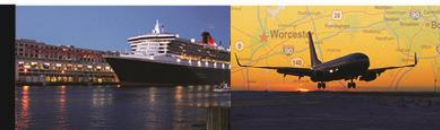


# Conley Terminal Improvements and Dedicated Freight Corridor

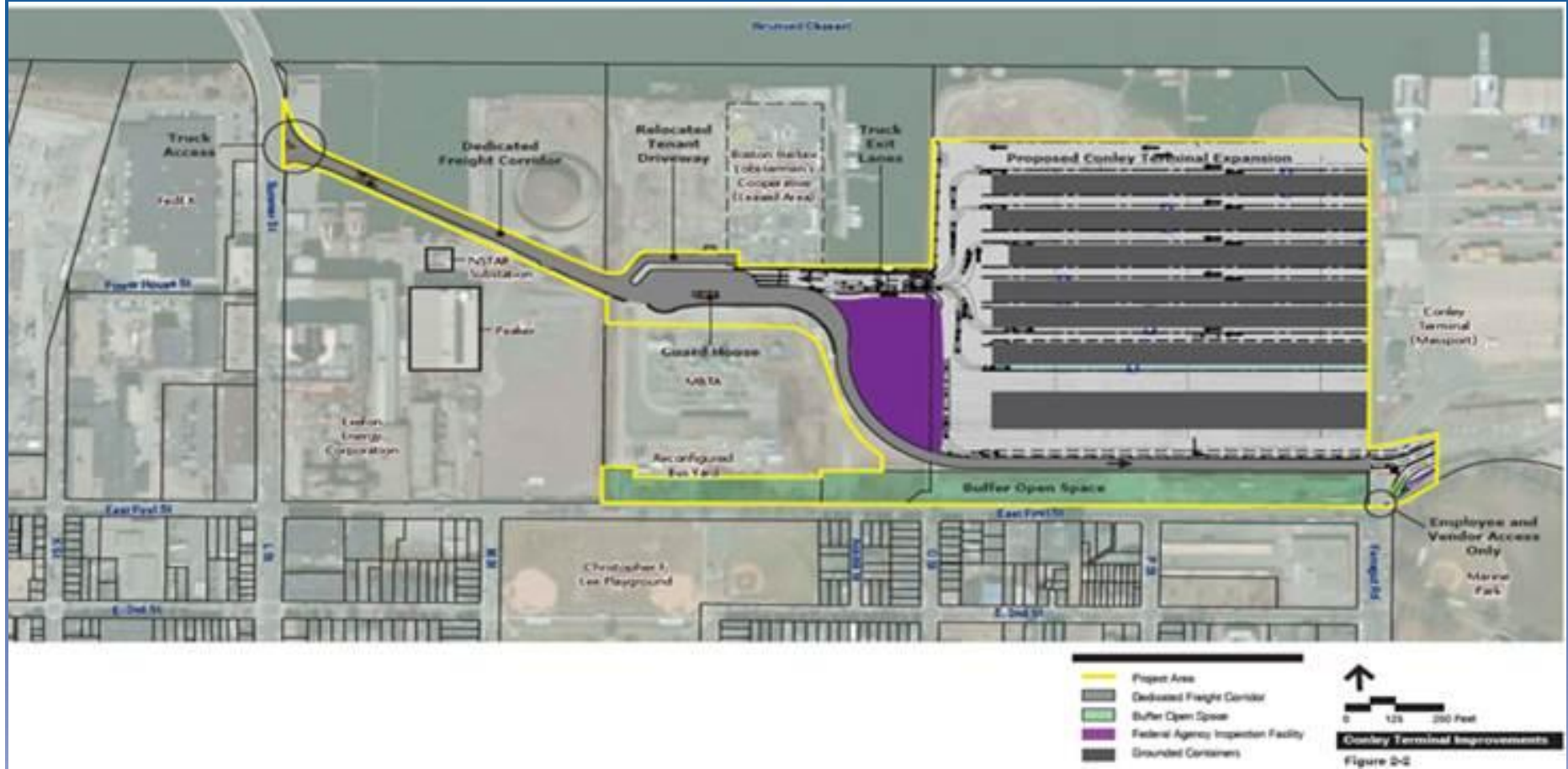
- Integration of the former Coastal Oil site into Conley Terminal to enable the Port of Boston to respond to future global shipping demand
- Construction a new 2/3-mile dedicated truck haul road
  - New Corridor will allow Massport to remove all container truck traffic from East First Street and portions of Summer Street
- Construction of a new 4.5-acre community open space to be built and maintained by Massport
  - The Buffer Open Space will serve as a significant noise and visual buffer for the adjacent residents



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# Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open Space



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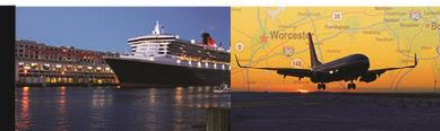


# Conley Drayage Truck Replacement Project

- Objective: Replace 20 Class 8b trucks with 1985-2000 model year engines with newer truck with a 2007 emission compliant engine
  - Projected Annual Emission Reductions :
    - 63% for hydrocarbons
    - 92% for carbon monoxide
    - 2% for carbon dioxide
    - 76% for nitrogen oxides
    - 92% for particulate matter
- Program started in September 2011
- Total Funding \$1.1 Million
  - \$500,000 EPA DERA grant, \$600,000 in private funding
- Vehicles Bought to Date: Ten



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# Conley Drayage Truck Replacement Project

- Phase 2 of the Conley Drayage Truck Replacement Project
  - Program will be modeled after current program
  - Massport has committed \$1,000,000 to fund the replacement of an additional 40 trucks
  - In total, 60 of the oldest drayage trucks serving Conley Terminal will be permanently removed from service and replaced with 2007 Compliant (or newer) trucks



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# Boston Fish Pier

- Fish Pier Berth Electrification Project
  - EPA DERA and DEP ARRA Grants
  - \$400K project electrified 18 berths
  - Eliminates use of on-vessel generators while berthed
  - Completed in 2011



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# Questions?

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