Energy Savings in State and MPO Freight Plans

AMPO Annual Conference 2017—Freight Panel
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The American Council for an Energy-Efficient Economy is a nonprofit 501(c)(3) founded in 1980. We act as a catalyst to advance energy efficiency policies, programs, technologies, investments, and behaviors.
ACEEE’s Transportation Program

• Vehicle fuel efficiency: CAFE standards, trucks and bus standards, advanced technologies
• Consumer resource:

• System efficiency
  • Urban mobility
  • Sustainable freight
• With policy team: scorecards, technical assistance
State Energy Efficiency Scorecard

- Map shows results for all energy-consuming sectors
- Transportation energy efficiency: 10 out of 50 points

- State freight plan: 1/2 point if plan includes multimodal strategies, 1/2 points if it includes fuel-efficiency or GHG reduction goal.
- 1 pt.—1 state; 0.5 pt—31 states; 0 pts.—remainder
City Energy Efficiency Scorecard

Transportation: 30 out of 100 points
City Scorecard--Freight Metrics

• 1 point: At least one freight efficiency strategy, e.g. urban consolidation centers, last-mile solutions, off-hours delivery programs.

• 1 (additional) point: Sustainable freight plan or a freight mobility plan w/ multiple strategies to increase efficiency.

• 1 point: City served by real-time application or service for freight/package delivery (Convoy, Transfix).

Results: NYC—3 pts; Portland and Seattle—2 pts; 11 others—1 pt.
Importance of freight sector

• Energy: Freight accounts for 18% of US oil consumption

• Environment (USEPA):
  • Transportation responsible for up to 30% of all global emissions, including particulate matter, methane, carbon and other harmful air pollutants
  • Freight fastest-growing transport emissions in U.S. and globally
  • Ports and other communities near to freight hubs are disproportionately impacted

• Economy (USDOT):
  • Between 2012 and 2045, US freight activity will grow by about 50% to 17 million tons and more than double in value to $37 trillion.
  • In 2015, freight-intensive industries generated 47%, or 62.13 million, of 132.2 million total U.S. jobs.
Central question: How to promote freight energy efficiency while meeting economic and other objectives for freight systems?
“Phase 2” Fuel Efficiency and GHG Standards for Heavy-Duty Vehicles

- Final rule published October 2016
- With Phase 1, 37% reduction in fuel consumption of new heavy-duty vehicles
- Current challenges to trailer requirements—court, EPA, Congress
EE opportunities: urban freight

- Trip consolidation, neighborhood package pickup locations, cargo bikes, off-hours delivery
- Interface with intercity freight movement
EE opportunities: intercity freight

• Routing, driver behavior
• Automated and connected vehicles, e.g. platooning
• Collaborative shipping
• More multimodal
• Network, distribution center optimization; land use planning
• 3PLs, migration to the cloud

Recurring themes: data and technology
Role for government

• Invest in shared infrastructure, networks, distribution facilities
• Provide information (data, tools), forum for discussion
• Guide, and remove barriers for, innovative service providers
Federal freight efficiency policy

• Has received considerable attention from both Congress (bipartisan!) and the administration in recent years

• MAP-21
  • National Highway Freight Network
  • National Freight Strategic Plan
  • National Freight Advisory Committee
  • Freight performance measure
  • State freight plans

• But focus on highway freight movement; not much on energy and sustainability issues
Federal freight efficiency policy (cont.)

• FAST Act
  • Multimodal
  • Dedicated $ for freight

• Rules and guidance
  • State and Metro Planning Rule
  • Freight performance measure: measurement of travel time reliability on the Interstate System
  • Also in 3rd rule: GHG measurement
  • State freight plan guidance
Federal requirement for GHG measurement

- Rule: States and MPOs must measure % $\Delta CO_2$ from on-road mobile sources, relative to 2017 levels, and set reduction goals
- Part of NHS/Freight/CMAQ performance management rule adopted 1/18/17
- FHWA delayed effective date of reporting requirement, then suspended it (5/19/17)
- Several states sued (7/17 and 9/17)
- Effective date of October 2018 reinstated by FHWA
- FHWA issued NPRM on 10/5/17 to repeal GHG measure; comments due 11/6/17
State freight plans

• Final guidance references resiliency, climate change, innovative technologies and operational strategies; but very limited requirements

• Plans must be in place by 12/4/17 to obligate formula funding under NHFP (not multimodal elements)

• Guidance emphasizes:
  • Inclusion of MPOs in state freight advisory committees
  • Alignment between freight plans and both STIPs and TIPs
MPO freight policy and planning opportunities

- Frameworks for federal and state processes to plan and evaluate freight projects are unfinished business.

- Some MPOs will be addressing: a) GHG/energy/sustainability goals (which may have been adopted at the city level), and b) multimodal issues (including port and urban freight issues).

- For these issues, MPOs can build on/draw from federal and state frameworks to set a vision for freight and milestones to get there.
Conclusion

• Efficiency of freight movement is important to meeting energy efficiency and environmental objectives

• MPOs can pursue through:
  • Metro freight plan
  • State DOT (freight plan advisory committee)
  • Project programming
  • New opportunities through data, technology advances
  • Input to federal freight planning

• Consider setting freight-specific targets for:
  • Energy efficiency (energy per ton-mile)
  • Mode share (e.g. % intermodal entering metro region)
  • GHG (e.g. total freight-related CO₂)
# Upcoming ACEEE Conferences

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<td>October 15—18, 2017</td>
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<td>National Conference on Energy Efficiency as a Resource</td>
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*The top convener in energy efficiency.*

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