Rail-Volution 2014

TRANSPORTATION AND ENERGY EFFICIENCY

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Doubling U.S. Energy Productivity by 2030

Alliance Commission on National Energy Efficiency Policy

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“We are pleased to present this comprehensive report that can set our nation on a path to double our energy productivity (by 2030) and make our economy more competitive”

Alliance Commission on National Energy Efficiency Policy
February 12, 2013

“Let’s…free our families and businesses from the painful spikes in gas prices we’ve put up with for far too long. I’m issuing a new goal for America: Let’s cut in half the energy wasted by our homes and businesses over the next twenty years.”

President Barack Obama

State of the Union Address
ENERGY 2030 Recommendations

• Unleash investment in energy productivity.
• Modernize regulation and infrastructure.
• Educate and engage consumers, workers, business executives and government leaders.
Annual Savings to American Households, Businesses and Government Agencies (net of investment costs)

$139 B - Transportation

$ 97 B - Building

$ 94 B - Industry

$327 B
Transportation and Energy

• 71% of U.S. oil consumption
• 28% of energy use overall
• Significant role in affecting other national goals of environmental protection, national security, and economic performance
Energy Use in the Transportation Sector
Energy Use in the Transportation Sector
Strategic Investments In Transportation Technology

- Critical to realizing major productivity gains
- Weight reduction in passenger vehicles
- Fuel economy
- Race to the top
- March 15 White House announcement of the “Energy Security Trust”, which will invest $2 B to make technologies of the future cheaper and better.
Linking Energy, Transportation and Land Use Policy

Community planning, zoning and transit-oriented development which allow for residences, businesses, employment sites and recreational sites to be in mixed use, walkable environments will greatly reduce the amount of transportation necessary for the conduct of daily life.
A Transformational Policy Outcome

• Establish energy efficiency as a basis for regional transportation planning.

• Federal, state and local investments should be directed to energy-efficient transportation.

• Congress (together with and as a catalyst to other levels of government and the private sector) needs to provide additional investment resources
Human Behavior

- Greater choices and options
- Walkable environments
- Transit-oriented development
- Availability of public transportation
- Location efficiency
- The trip not taken
- Incentives (road pricing, commute benefit, etc.)
- Telecommuting
- Information technology / real-time travel info
- Bundling of strategies
Societal Trends

- Population Growth
- Urbanization
- Demographic
- Economic
- Energy / Environment
- Affordability
- Ridership
- Transit Ballot Election
- Real Estate
Public Transportation Ridership 1957-2012
Transit Ballot Election
2000 - 2012

Percentage of Transit Ballot Measures Approved

- 2000: 68%
- 2001: 46%
- 2002: 51%
- 2003: 71%
- 2004: 82%
- 2005: 83%
- 2006: 65%
- 2007: 66%
- 2008: 77%
- 2009: 73%
- 2010: 77%
- 2011: 79%
- 2012: 79%
Trends in Real Estate
Corporate Commitments to Energy Efficiency and Sustainability

- Temperature and lighting systems
- Weatherization
- HVAC
- Location efficiency
- Operations and maintenance practices
- Recycling
- Virtual meetings
- Signed commitments
Energy Efficiency – Case Studies

- Champaign-Urbana Mass Transit District has installed a HVAC system based on 300-ft geothermal wells, which will reduce electrical energy usage by 40% and cut natural gas usage by 60%, decreasing carbon dioxide emissions by 133 metric tons.
Energy Efficiency – Case Studies

• **Greater Cleveland Regional Transit Authority** is reducing electricity use in 10 facilities through a variety of strategies. With $2.3 million in TIGGER funding, the agency is upgrading its lighting and lighting controls and has replaced leaky, inefficient doors and a poorly insulated roof.

• The improvements are projected to reduce GCRTA’s facility-related energy consumption by 31%, amounting to nearly $500,000 in annual energy savings and yielding a payback period of 4.5 years on the TIGGER investment.
Energy Efficiency – Case Studies

Cleveland Energy Conservation Project

GCRTA retrofitted 10 of its bus facilities with efficient T8 fluorescent lighting. This photo comparison shows the Hayden bus garage before (top) and after (bottom) the retrofit.
Energy Efficiency – Case Studies

- TriMet (Portland, OR) has undertaken a project to install on-board energy storage in its light rail vehicles, improving its reuse of energy generated from vehicle braking from 70% to 100%. Preliminary data shows retrofitting the vehicles with capacitor units will result in annual energy savings of 2.8%.
ONWARD!

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