



AMERICAN PUBLIC TRANSPORTATION ASSOCIATION





Rail-Volution 2014

TRANSPORTATION AND ENERGY EFFICIENCY

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*Transportation, Land Use,
& Accessibility*



Alliance Commission on National Energy Efficiency Policy


JANUARY 2013





The cover of the report features a stylized illustration of the U.S. Capitol dome in white and green, set against a background of teal and blue diagonal stripes. Several blue arrows of varying lengths and directions point upwards and to the right, suggesting growth and progress. A green banner in the upper right corner contains the text "ENERGY 2030" in white, bold, sans-serif font.

Doubling U.S. Energy Productivity by 2030

 **ALLIANCE TO SAVE ENERGY**
Using less. Doing more.

Alliance Commission on National Energy Efficiency Policy

FEBRUARY 7, 2013



February 7, 2013

“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**

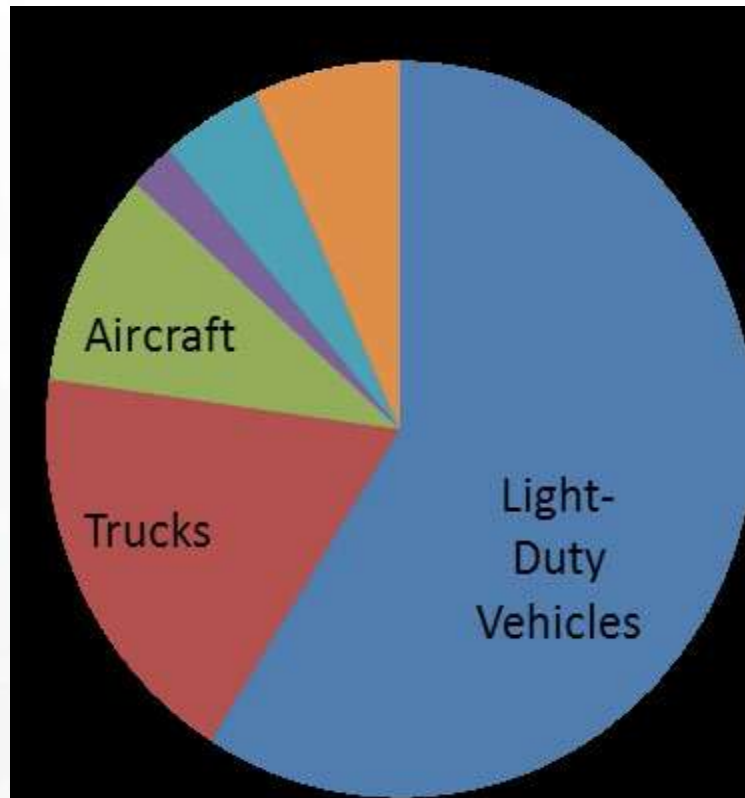
\$327 B



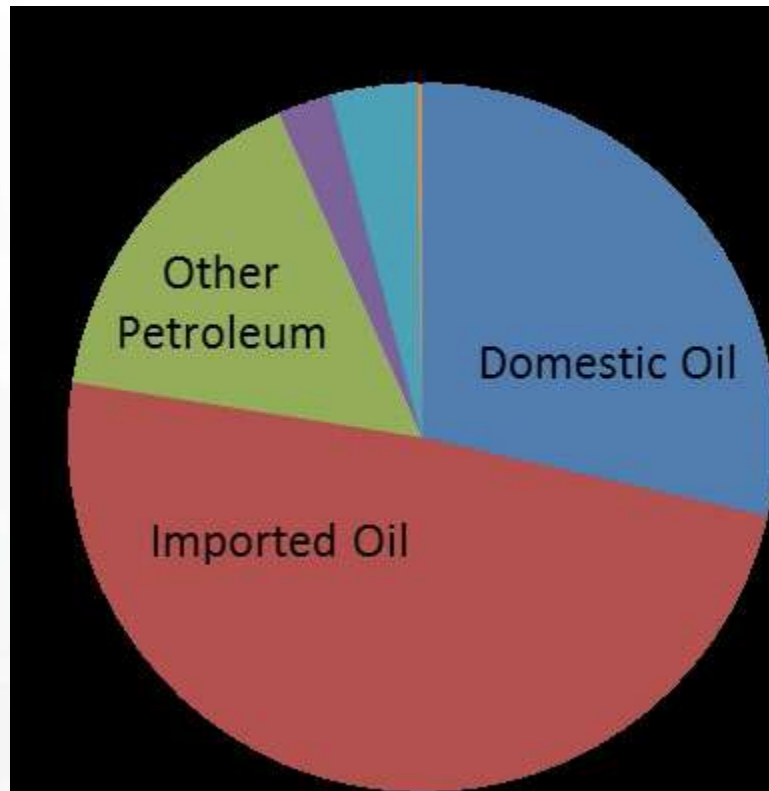
Transportation and Energy

- 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

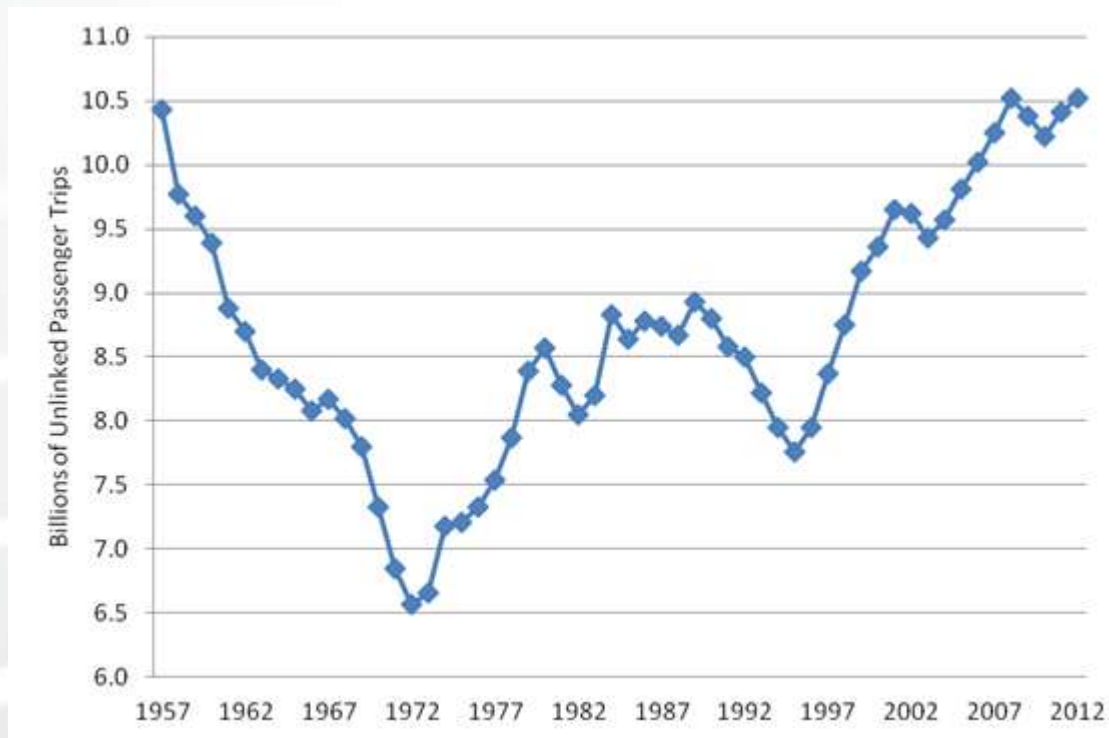


Societal Trends

- Population Growth
- Urbanization
- Demographic
- Economic
- Energy / Environment
- Affordability
- Ridership
- Transit Ballot Election
- Real Estate



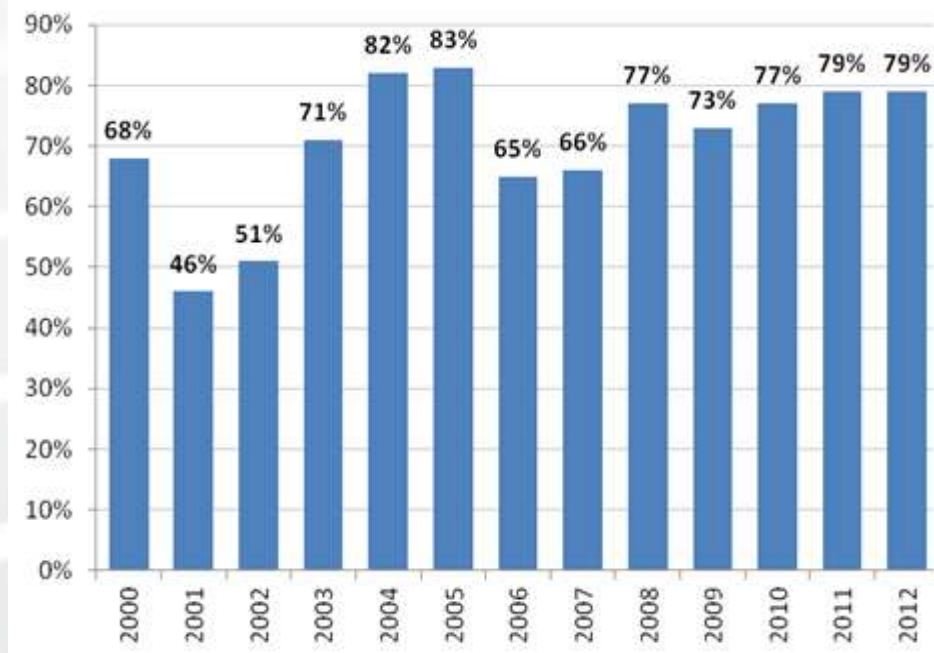
Public Transportation Ridership 1957-2012



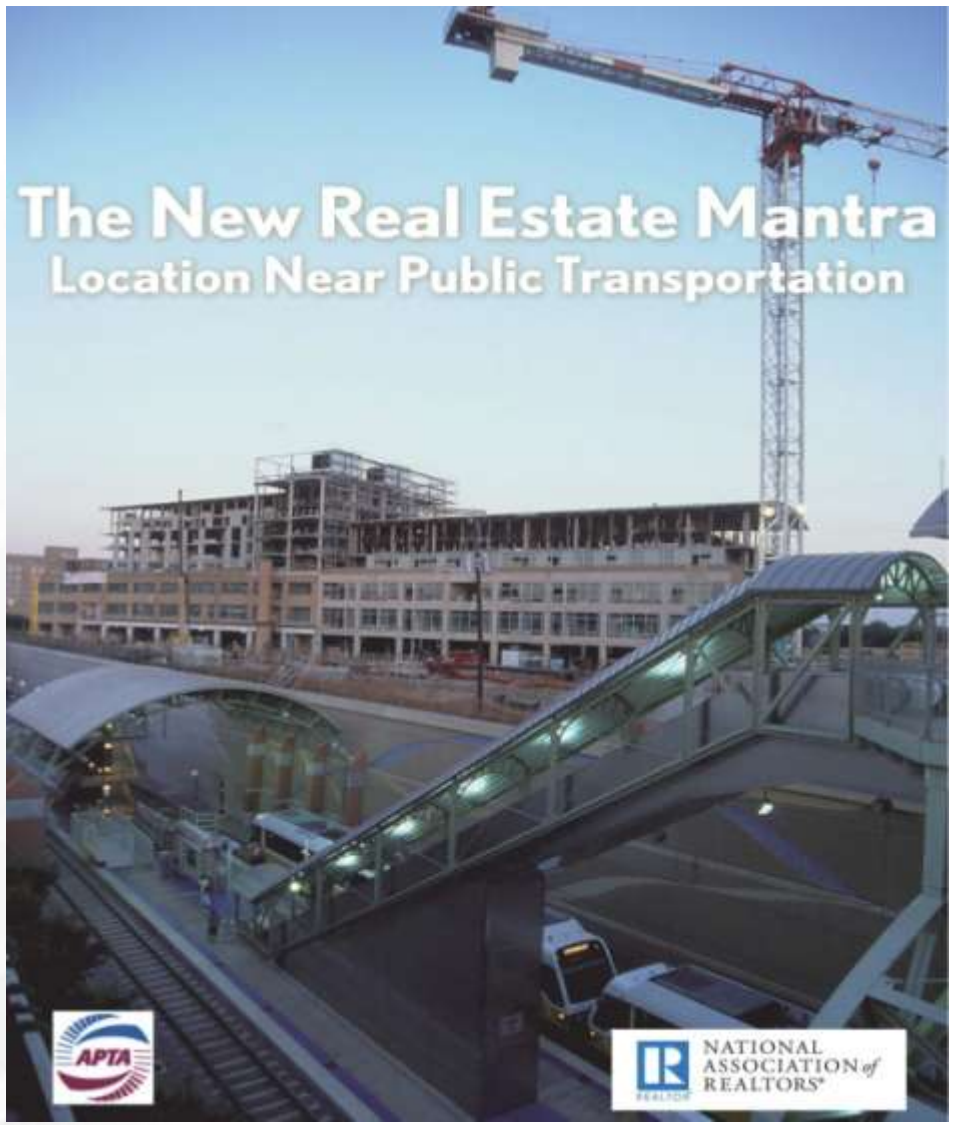
Transit Ballot Election 2000 - 2012



Percentage of Transit Ballot
Measures Approved



Trends in Real Estate





MILLENNIALS & MOBILITY.

UNDERSTANDING THE MILLENNIAL MINDSET



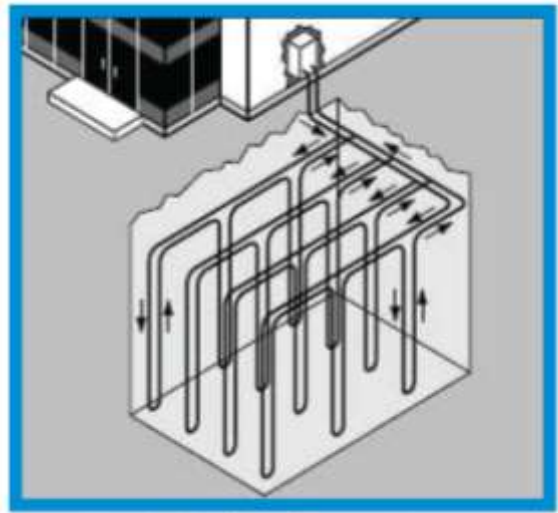


Corporate Commitments to Energy Efficiency and Sustainability

- 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.



Vertical Closed Loop System



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



Courtesy of GCRTA

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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