

DOE's Vehicle Technologies Office

Energy Efficient Mobility Systems



U.S. DEPARTMENT OF
ENERGY

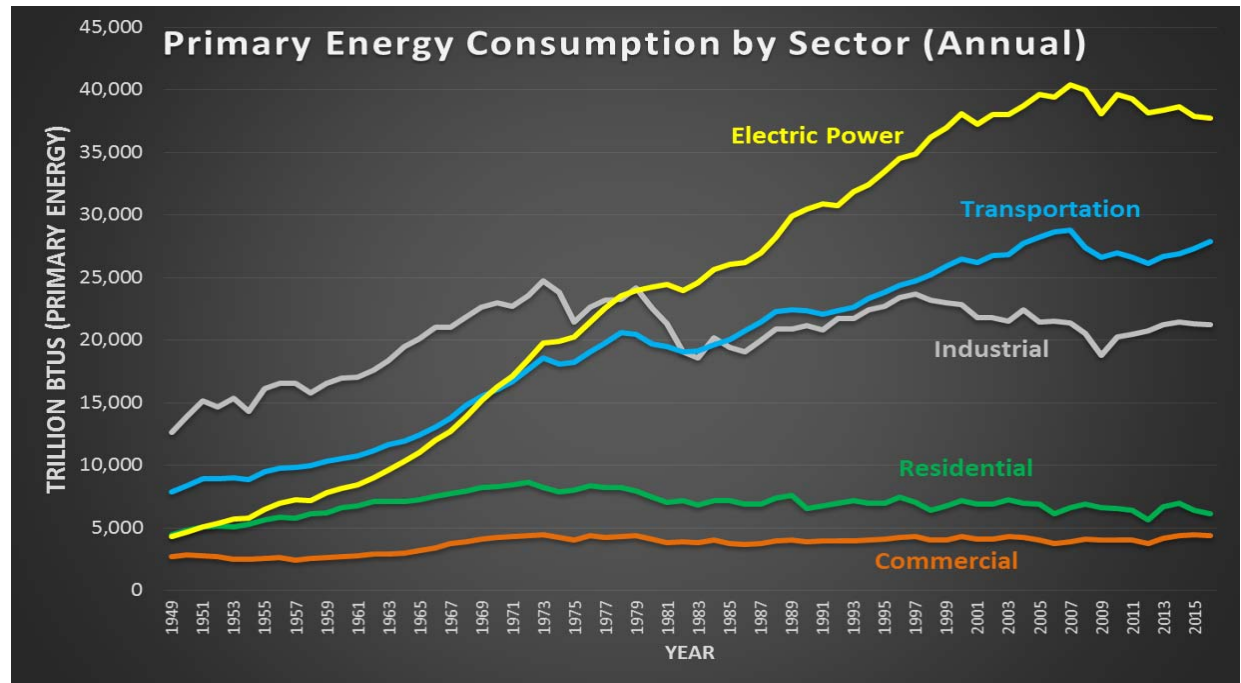
Energy Efficiency &
Renewable Energy

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Trends Shaping Mobility – Cost, Energy



Transportation is the **2nd** largest expense for U.S. households



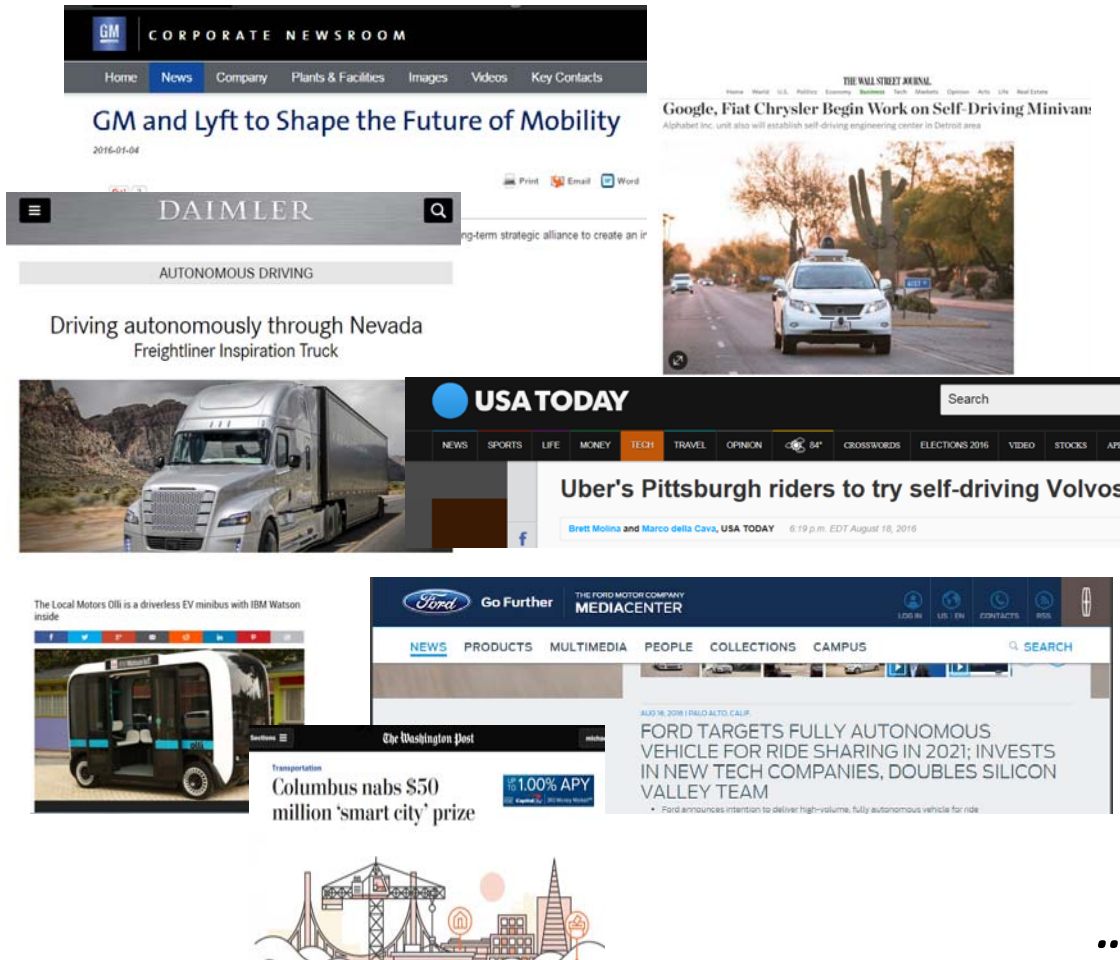
70% of total U.S. petroleum usage is for transportation

On-road vehicles account for **85%** of transportation petroleum usage



Fundamental Disruption in Transportation

Unprecedented Disruption ...



+200%

Potential
Increase in
Energy
Consumption

2050 Baseline
Energy Consumption

-60%

Potential
Decrease in
Energy
Consumption

... with dramatic energy implications

What are the Gaps in Understanding? Opportunities?

A Maximum-Mobility, Minimum-Energy Future

How will disruptive forces in the mobility landscape affect energy consumption in the future?

Opportunities to enable and/or encourage deep gains in energy efficiency?

Identify the technologies and system level innovations that provide the biggest levers?

Opportunities to better understand how travelers make mobility decisions?

How can we better support and encourage a maximum-mobility, minimum-energy future?

Automated, Connected, Electric, Shared?

Energy Efficient Mobility Systems (EEMS)

Identifies & supports technologies & innovations that encourage a maximum-mobility, minimum-energy future

Research &
Development



**\$4M for 2017 EEMS
R&D Projects:**

*Scalable smart
mobility projects that
focus on system-level
opportunities to
significantly increase
the energy efficiency
of goods/people
movement*

Analysis &
Modeling



U.S. DEPARTMENT OF ENERGY

SMARTMOBILITY

Systems and Modeling for Accelerated Research in Transportation

Living
Labs



**\$5.6M for 2017 EEMS
Living Lab Projects:**

*Projects that
demonstrate & assess
the ROI of mobility
systems that reduce
energy consumption
while delivering the
benefits of new
mobility technology*

EEMS coordinates with DOE, DOT, and DOC initiatives including:

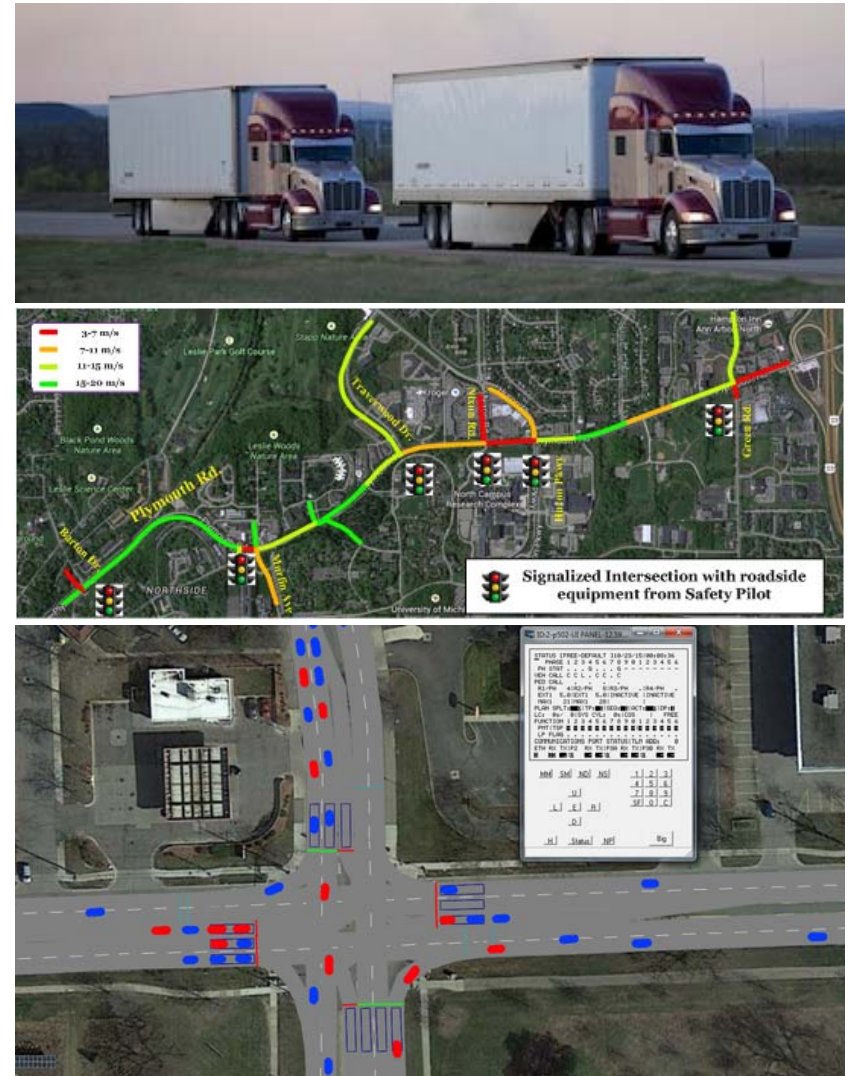


Connected & Automated Vehicles (CAVs)



Research & Policy Questions:

- What are the energy implications of CAVs and automated mobility districts?
- How will these systems operate in the real world?
- What are the critical levers to promote “eco-CAV” solutions?
- What fueling infrastructure is needed to support CAVs?
- What mechanisms are available to influence consumer decisions?



Counties can define the nexus of sustainability & CAVs

- If you are here – you are on the cutting edge! Incorporate energy into your systems-level transportation planning today.
- Let's work together to identify the data sets that you have – and need to have – to make system-level energy decisions.
- You can look to DOE and our national labs as a source for technical assistance.
- Your county may be participating in one of our forthcoming EEMS projects... or not... either way there will be lots of lessons learned to share.