The Energy Savings of Truck Platooning
NASEO
November 27, 2019

Vehicle Technologies Office
Mark Smith
Program Manager, Technology Integration
TRANSPORTATION IS FUNDAMENTAL TO OUR WAY OF LIFE

The U.S. population is growing and aging

Population density is increasing—75% of the population lives in urban mega-regions

Technologies and fuel choices are expanding

Transportation costs are high—second only to housing expenses

3 Trillion Vehicle Miles

11 Billion Freight Tons

3 Trillion

11 Billion
VEHICLE TECHNOLOGIES OFFICE FOCUS

ALL LEVELS

Component  Vehicle  System
EEMS PROGRAM

+200%

- 60%

Shared Mobility
Mobility On Demand
Goods On Demand
Connected & Automated Vehicles
Emerging Fuels & Powertrains
New Modes of Transport

Empty miles
Easier Travel
Increased use by underserved populations

Vehicles right-sized
Less hunting for parking
Collision avoidance
Platooning
ACHIEVING GOALS

THROUGH FIVE EEMS ACTIVITY AREAS

Advanced R&D Projects

Living Labs

Smart Mobility Lab Consortium

Core Evaluation & Simulation Tools

HPC4Mobility & Big Transportation Data Analytics
SMART MOBILITY LAB CONSORTIUM

7 labs, 30+ projects, 65 researchers, $34M* over 3 years.

Connected & Automated Vehicles

Advanced Fueling Infrastructure

Mobility Decision Science

Multi-Modal Transport

Urban Science

*Based on anticipated funding
TECHNOLOGY INTEGRATION

FEEDBACK LOOP

Real-world Data

Scientific Research
USING REAL-WORLD DATA TO UNDERSTAND ENERGY IMPACTS

LIVING LABS

3 Projects, $4.9M in FY2017

**ELECTRIC SHARED MOBILITY**
Seattle, Portland, NYC, Denver
Uber, GM’s Maven, BMW’s ReachNow

**ELECTRIC LAST MILE**
Austin
Pecan Street, CapMetro

**ENERGY EFFICIENT FREIGHT LOGISTICS**
NYC-Albany Corridor
Rensselaer Polytechnic Institute, freight carriers & receivers, urban supply chain

15 Projects, $27M in FY2018

- High Performance Computing for Transportation Hubs
- First/Last Mile for People/Goods Movement
- System-Level Data for Energy Efficient Mobility
- Fuel Efficient Platooning
- Multi-Unit Dwelling & Curbside Residential Charging Innovation
- Open Topic
Fuel Efficient Platooning

- **American Center for Mobility**
  Project Title: Fuel-Efficient Platooning in Mixed Traffic Highway Environments
  - Improve multi-vehicle platooning efficiency and safety
  - Demonstrate multi-vehicle platooning in less than ideal weather conditions
  - Validate National Laboratory and University simulation models
  - Builds upon prior federal investment in autonomous trucks

- **Cummins Inc.**
  Project Title: Advancing Platooning with ADAS Control Integration and Assessment
  - Impact of variation of driving scenarios and variation in operational missions, that will be encountered in commercial use
  - Provide valuable data and insight into the challenges that platooning technology has in achieving maximum fuel savings
OUR VISION

ACHIEVING

MOBILITY ENERGY PRODUCTIVITY

more choices

more affordable

when & where it is needed
THANK YOU

Mark Smith
Vehicle Technologies Office
Mark.smith@ee.doe.gov

Energy.gov/eere/vehicles