Idaho National Laboratory
Sustainable Fleet Management

Scott Wold, Director
Transportation and Fleet Management Services

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Idaho National Laboratory

4,000 Scientists & Support Staff

890 Sq. Mile area – INL facilities are over 50 miles from local communities

780 Motorized Fleet Vehicles

94 Motor Coaches transport over 3,000 employees each workday.
Sustainable Fleet Management

• **INL Fleet Strategies**
  – Allow the Fleet Manager to manage the fleet
  – Decrease Fossil Fuels and Increase Alternative Fuels
  – Right size and align fleet composition
  – Reduce miles driven

• **Challenges**

• **Looking Ahead**
INL Fleet Strategies

Allow the Fleet Manager to manage the fleet:

• Fleet Manager and staff have sufficient authority, training, and support to assume and enforce assigned fleet management duties and responsibilities.
  – **Lesson Learned:** obtain services of professional fleet management organization to help guide and train staff.

• Implement fleet processes to fulfill laws, regulations, and Executive Orders relating to the reduction of energy and petroleum consumption and greenhouse gasses.
  – **Lesson Learned:** fleet management needs to build and maintain a close relationship with sustainability organizations, as well as local and headquarter level points of contact.

• Implement a set of standard performances measures that provide on-going benchmarks and improvement goals for fleet management.
  – **Lesson Learned:** communicate goals, expectations, and successes throughout the organization (and community). Use your public affairs office to help get the word out.
INL Fleet Strategies

Decrease Fossil / Increase Alternative Fuel Use:

• Replace as much unleaded and regular diesel fuel with E85 and biodiesel as possible. Operate on B20 year round. Implement reduced idling campaign.
  – **Lesson Learned:** Expect a steep learning curve for both staff and local vendors. INL assigned a full-time fuel coordinator to manage the transition and enlist the aid of fuel and vehicle vendors, other users, and groups such as the National Biodiesel Board.

• “Encourage” staff to make the right fuel choice.
  – **Lesson Learned:** Use technology to track and reduce fuel usage
    • Install radio-frequency identification (RFID) fuel rings to prevent unauthorized fuel types.
    • Share GSA “Missed Opportunity Report” and hold management accountable for their organization’s fuel usage.
INL Fleet Strategies

Right size and align fleet composition:

- Reduced Motorized Fleet Size by 37% (1,237 in 2005 to 780 today).
- Worked with GSA Fleet Services to replace over 75% of light duty fleet with alt-fuel vehicles / hybrids, and modernize our aging bus fleet with new, more fuel efficient buses.
  - **Lesson Learned:** Use facts and data (e.g. utilization reports) to overcome emotional attachment to vehicles and equipment. Incorporate hook-trucks into fleet to minimize number of vehicles needed and to increase utilization without impacting operations.
INL Fleet Strategies

Reduce miles driven:

- Increase bus route efficiency by:
  - Establishing centralized park and ride (PnR) areas
  - Providing express routes from PnR to complexes
- Provide tax incentives for Van Pools

**Lesson Learned:** Work with local and state transit groups to increase ride share opportunities for employees.
INL Fleet Strategies – Sustainability Results

INL Fuel Usage
(Current Fuel Use 33% lower than 2005)

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GreenGov Presidential Award
Leadership in Environmental, Energy, and Economic Performance
Lean, Clean, and Green
Presented to Idaho National Laboratory Team
October 2010
Challenges

Fossil Fuel Reduction

• In FY13, the INL operated bus and other fleet vehicles year round using B20. Fuel reduction will plateau or decrease only slightly compared to previous years.

Increase Use of Alternative Fuels

• Reducing fleet size, mileage drive, and introduction of hybrid vehicles result in a plateau or decrease in alternative fuel use (will not meet goals of EO 13423)
Looking Ahead

Continue to modernize the fleet

- Obtain additional fuel efficient buses through GSA Fleet Services.
  - Drive train spec’d for our conditions
  - 2 - 4 mpg better per bus than existing owned fleet
  - Lower GHG emissions
  - Higher passenger capacity
Looking Ahead

Use INL Fleet Resources for Fuel Efficiency R&D

• Motivation
  – 10% reduction in fuel = $500k savings annually

• Fleet Resources
  – Professional Drivers and Maintenance Staff
  – 98 Motor coaches
    • Travel 2.75 million miles annually
    • Standardized routes (repeatability of driving conditions for different driving styles)
    • Full system data recorded every second of operation
  – Numerous hybrid, electric and alternatively fueled vehicles

• Established working relationship with industry, INL, and University researchers through CAES (Center for Advanced Energy Studies)
Looking Ahead

Bus Simulator – Fuel Efficiency Research

• Improve driver behavior and fuel mileage
  – Some drivers have 30% better fuel economy than their peers
  – Investigating strategies to replicate behavior (make all drivers your most efficient driver).
Looking Ahead

Pursue bus fleet dual fuel (Natural Gas and Biodiesel) conversion

- **Benefits**
  - Reduce fossil fuel use and fuel costs
  - Increase use of Alternative Fuel (CNG)
  - Spur development of CNG infrastructure in SE Idaho
Looking Ahead

Executive Order 13423
INL Alternative Fuel Use Increase Requirement


Required Actual Potential with CNG Projected - No CNG

Natural Units (Gallons)
Looking Ahead

Executive Order 13514
INL Fossil Fuel Reduction Requirement

- Executive Order Requirement
- Actual INL Fossil Fuel Reduction using B20
- Projected INL Fossil Fuel Reduction using B20
- Potential INL Fossil Fuel Reduction using B20 and CNG
INL Contacts

• Scott Wold
  Director, Transportation and Fleet Management Services
  scott.wold@inl.gov
  208-526-3162

• Tad Pearson
  Manager, INL Transportation Services
  tad.pearson@inl.gov
  208-526-5705

• Ira Pray
  Manager, INL Fleet Management Services
  ira.pray@inl.gov
  208-526-8843