Sustainability
Hybrids Added to the Federal Fleet since 2010

Average 10 year improvement in Efficiency for LD Vehicles in Federal Fleet

U.S. Emissions from Transportation

30,923

1/3

16%
Agenda

1. Laws & Regs that Affect You
2. Select the Right Vehicle
3. Better Manage Your Vehicle(s)
Agenda

1. Laws & Regs that Affect You
2. Select the Right Vehicle
3. Better Manage Your Vehicle(s)
Air pollution over time...
Federal Fleet Requirements

- Obtain minimum size vehicle to meet mission
- Decrease petroleum / Use alternative fuel in alt. fuel vehicles
- 75% of annual light duty acquisitions must be alternatively-fueled vehicles
- Acquire light duty vehicles as low greenhouse gas
- Follow local emissions and idling laws
The White House recommends...

- Right-size Fleet
- Reduce Miles traveled
- Replace inefficient vehicles with more fuel efficient vehicles
- Align deployment of alternative fuel vehicles with fueling infrastructure
Agenda

1. Laws & Regs that Affect You
2. Select the Right Vehicle
3. Better Manage Your Vehicle(s)
New Vehicle Selection

2009 compact sedan

2019 SUV or crossover
Regulations can work!

Light Duty Fuel Efficiency (CAFÉ) Requirements

Actual Improvement Achieved
Vehicles are getting more efficient… I’m good right?

Prioritize

Select Low Greenhouse Gas

Match fuel type to fuel availability

Review Agency Guidance & Policy

Right-size
Select Low GHG Vehicles

- 25% most efficient each model year
- Qualify as AFVs when the alt. fuel is unavailable OR is cost prohibitive (denote in CDD!)
- What if no Low GHG vehicle meets my need?
  - Functional Needs Exception
  - Alternative Measures Exception

MY 2020 EISA 141 Low GHG Compliance Thresholds (max grams/mile CO2 emissions)

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>GHG Grams Per Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Cars</td>
<td>275</td>
</tr>
<tr>
<td>LD Trucks, MD Passenger</td>
<td>360</td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
</tr>
</tbody>
</table>
## FY20 Low GHG Vehicles

<table>
<thead>
<tr>
<th>Type</th>
<th>SINs Required to be Low-GHG</th>
<th># of Low-GHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedans</td>
<td>7, 9C, 8C, 8H, 8P, 8E, 9P, 9H, 10B, 12A</td>
<td>13</td>
</tr>
<tr>
<td>Passenger Vans</td>
<td>20, 20B, 20P, 21, 21X</td>
<td>5</td>
</tr>
<tr>
<td>Cargo Vans</td>
<td>30</td>
<td>3</td>
</tr>
</tbody>
</table>
“…Not Your fathers Oldsmobile”

Subcompact

8C Hyundai Elantra

8H Hyundai Ioniq

9H Ford Fusion
*Not Low GHG
*Closes in Feb

Compact

12A Nissan Kicks
(Low GHG GAS)

If you can go smaller, select SIN 7 Accent
# Vans

## Minivan

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Ford Transit Connect</td>
<td>Low Bid; Low GHG; Available nationwide;</td>
<td>Available in E85</td>
</tr>
<tr>
<td>20P Pacifica</td>
<td>Low GHG; 32 miles all electric; $18,997</td>
<td></td>
</tr>
<tr>
<td></td>
<td>incremental</td>
<td></td>
</tr>
<tr>
<td>20 Chrysler Voyager</td>
<td>Non Low GHG; Stow-N-Go seating is additional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$75/month</td>
<td></td>
</tr>
</tbody>
</table>

## Cargo Van

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 Nissan NV 200</td>
<td>Low Bid; Low GHG; Available nationwide</td>
</tr>
</tbody>
</table>

Map of U.S.; Grand Caravan ONLY available (for a limited time) in CARB States (Blue States)
SUVs

**4X2 Compact & Crossover:**
- 98 Hyundai Tucson
- 98H Kia Niro
- 12A Nissan Kicks / 98A Kona
- 98P Niro

**4X2 Intermediate:**
- 20 Transit Connect / Crossovers
- 100A Pathfinder
- 100H Explorer

**4X4 Compact & Crossover:**
- 99 Chevy Equinox
- 99A Hyundai Kona
- 96P Mitsubishi Outlander
- 99H Niro

**4X4 Intermediate:**
- 105A Explorer
- 105H Explorer
# Electric Vehicles

<table>
<thead>
<tr>
<th>SIN</th>
<th>Make / Model</th>
<th>Type</th>
<th>Range</th>
<th>MPGe/Gas</th>
<th>Price Above Low-Bid ICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8E</td>
<td>Chevy Bolt</td>
<td>BEV</td>
<td>258</td>
<td>118/-</td>
<td>$11,497</td>
</tr>
<tr>
<td>8E</td>
<td>Nissan Leaf</td>
<td>BEV</td>
<td>150</td>
<td>TBD</td>
<td>$13,333</td>
</tr>
<tr>
<td>8P</td>
<td>Hyundai Ioniq PHEV</td>
<td>PHEV</td>
<td>29</td>
<td>119/52</td>
<td>$6,905</td>
</tr>
<tr>
<td>9P</td>
<td>Ford Fusion Energi</td>
<td>PHEV</td>
<td>26</td>
<td>103/42</td>
<td>$11,306</td>
</tr>
<tr>
<td>98P</td>
<td>Kia Niro PHEV</td>
<td>PHEV</td>
<td>26</td>
<td>105/46</td>
<td>$6,562</td>
</tr>
<tr>
<td>98P</td>
<td>Ford Escape</td>
<td>PHEV</td>
<td>31</td>
<td>TBD</td>
<td>$8,808</td>
</tr>
<tr>
<td>96P</td>
<td>Mitsubishi Outlander</td>
<td>PHEV</td>
<td>22</td>
<td>74/25</td>
<td>$7,301</td>
</tr>
<tr>
<td>20P</td>
<td>Chrysler Pacifica</td>
<td>PHEV</td>
<td>32</td>
<td>82/30</td>
<td>$18,997</td>
</tr>
</tbody>
</table>
Electric Vehicles: Schedule EVs

<table>
<thead>
<tr>
<th>Passenger/Cargo Van</th>
<th>Shuttle Bus</th>
<th>Transit Bus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zenith</td>
<td>Phoenix MotorCars-Zeus</td>
<td>Proterra</td>
</tr>
<tr>
<td>80-120 mile range</td>
<td>100 mile range</td>
<td>55-350 mile range</td>
</tr>
<tr>
<td>$98K-$109K</td>
<td>Up to $263K</td>
<td>$660K-$771K</td>
</tr>
<tr>
<td>Seats up to 16</td>
<td>12-20 passengers</td>
<td>Charging stations up to $316k</td>
</tr>
</tbody>
</table>

*Low Speed Electric Vehicles Also Available*
Electric Vehicle Charging Stations

Plan
- AFV Deployment Tools
- Telematics & FMIS Data
- Building Management
- Site Assessments

Buy
- GSA EVSE BPA / Schedules
- Open Market
- Grants/ Utilities / Electrify America

Install & Manage
- Onsite Installer
- Contract with Engineer, Install Company
- Network Provider
Replacing Light-Duty Trucks

- Improved engines
  - Use techniques such as turbocharging and direct fuel injection to improve efficiency
- Stop/start technology
- Aluminum-alloy body
Replacing Trucks & Larger Vehicles: Do it!

Trucks make up 65% of the federal fleet

Gas used vs. MPG
Case Study

Agent Smith drives an intermediate SUV that can seat up to 7. It is eligible to be replaced.

In his current role, he needs a vehicle that can carry up to **4 people at a time**. Sometimes he has **gear and equipment** that he stacks on a seat or in the trunk. Three times a year he travels and is responsible for **transporting A/V equipment** and needs more storage.

What SIN/vehicle(s) is best?
# Right-sizing: Rules of Thumb

<table>
<thead>
<tr>
<th>FUEL ECONOMY</th>
<th>More Green</th>
<th>Less Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Small</td>
<td>Large</td>
</tr>
<tr>
<td>Transmission</td>
<td>Continuously Variable (CVT)</td>
<td>Automatic</td>
</tr>
<tr>
<td>Vehicle Class</td>
<td>Sedan</td>
<td>Truck/SUV</td>
</tr>
<tr>
<td>Advanced Powertrain</td>
<td>Battery/Electric</td>
<td>Hybrid</td>
</tr>
<tr>
<td>Engine Displacement</td>
<td>Smaller</td>
<td>Bigger</td>
</tr>
<tr>
<td>Vehicle Weight</td>
<td>Lighter</td>
<td>Heavier</td>
</tr>
<tr>
<td>Cylinders</td>
<td>Less</td>
<td>More</td>
</tr>
<tr>
<td>Age</td>
<td>Younger</td>
<td>Older</td>
</tr>
</tbody>
</table>
Agenda

1. Laws & Regs that Affect You
2. Select the Right Vehicle
3. Better Manage Your Vehicle(s)
Driver Behavior

According to the American Trucking Association (ATA) a truck traveling at \textbf{75 mph} consumes how much more fuel than one going \textbf{65 mph}?

a. 5%  b. 15%  c. 25%  d. 35%
According to the American Trucking Association (ATA) a truck traveling at 75 mph consumes how much more fuel than one going 65 mph?

c. 25%
Operating Your Vehicle

- Decrease speed and accelerate gradually
- Limit unnecessary idling
- Use cruise control where appropriate
- Reduce drag and weight
- Use air condition wisely
- Consolidate trips
What else can you do?

- GSA notifies drivers when leased vehicles are due for emissions testing
- May include smog checks, opacity tests, OBD port diagnostic checks
- Some states require reporting completion or registration
- GOVs should follow the regulations in the area they primarily operate
- Federal vehicles are not automatically exempt

Complete Emissions Inspections sooner rather than later
Improve Fleet Utilization

Collect  Analyze  Optimize
Reduced footprint

- Ride & Car Sharing
- Public Transit
- Motorpools

FedFleet 2020
Communicate and Keep your Ears Open

Nationwide Communication

- Internal Agency Policy
- GSA & DOE Policy & Guidance
- Intra and Inter Agency Engagement
- Validate Compliance
Resources

Training

Fleet Tools & Personnel

Fleet Solutions
Final Thoughts

Regulations
Laws and even policy – they work!

There’s more than one way to get where you want to go

Moore’s law, and well... progress!

FedFleet 2020
Contact Us

- gsafleetafvteam@gsa.gov
- www.gsa.gov/afv
- GSA’s Annual AFV Guide
- www.gsa.gov/evse
- Charging Station BPA resources