The Fleet DNA Project:

The Fleet DNA Project aims to accelerate the development of advanced vehicle technologies while supporting the strategic deployment of market-ready technologies that reduce costs, fuel consumption, and emissions.

Designed by the U.S. Department of Energy’s National Renewable Energy Laboratory in partnership with Oak Ridge National Laboratory, the data summaries contained within this report are designed to illustrate the broad operation range of many of today’s vehicle vocations and to provide insight into key observable statistical trends.
Contained within this report are graphical data summaries based on real-world “genetics” of medium- and heavy-duty commercial fleet vehicles operating within a chosen vocation.

These graphical data summaries have been selected to highlight key statistical trends observed in past U.S. DOE fleet studies, and to provide insight into potential areas of interest for the continued development of technology to reduce costs, fuel consumption, and emissions.
Breakdown of Total Operational Days Collected by Deployment for Service Vans

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 29
Breakdown of Total Vehicles by Deployment for Service Vans

# of Vehicles Reporting: 4  # of Days Included: 29  Generated: Mon Aug 18, 2014
Breakdown of Total Miles Collected by Deployment for Service Vans

Number of Miles

Deployment ID

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 29

NATIONAL RENEWABLE ENERGY LABORATORY
Daily Average Driving Speed vs. Kinetic Intensity for Service Vans

Average Driving Speed (mph)

Kinetic Intensity (1/mile)

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 26
Daily Average Driving Speed vs. Distance Traveled for Service Vans

Distance Traveled (miles)

Average Driving Speed (mph)

Number of Days

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Average vs. Maximum Driving Speed for Service Vans

Average Driving Speed (mph)

Maximum Driving Speed (mph)

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 25
Daily Average Driving Speed Distribution for Service Vans

Average Driving Speed (mph)

Frequency

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Average Driving Speed by Deployment for Service Vans

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Mean Road Grade vs. Kinetic Intensity for Service Vans

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 12
Daily Mean Road Grade vs. Average Driving Speed (mph) for Service Vans

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 29
Average Driving Speed and Distance Correlation Examined for Service Vans

# of Stops per Mile

Average Acceleration (ft/s^2)

Average Driving Speed (mph)

Distance, Mile
Maximum
Minimum

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Detailed Average Driving Speed and Distance Correlation Examined for Service Vans

# of Vehicles Reporting: 4  # of Days Included: 29  Generated: Mon Aug 18, 2014
Stops per Mile and Distance Correlation Examined for Service Vans

- Average Driving Speed (mph)
- Average Acceleration (ft/s²)

<table>
<thead>
<tr>
<th>Distance</th>
<th>Maximum</th>
<th>Minimum</th>
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</thead>
<tbody>
<tr>
<td>1.00</td>
<td>1.25</td>
<td>1.50</td>
</tr>
<tr>
<td>1.75</td>
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<td>2.50</td>
</tr>
<tr>
<td>2.25</td>
<td>2.50</td>
<td>2.75</td>
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</tbody>
</table>

# of Vehicles Reporting: 4
# of Days Included: 29
Generated: Mon Aug 18, 2014
Daily Stops per Mile vs. Average Driving Speed for Service Vans

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 26
Daily Stops Per Mile vs. Kinetic Intensity for Service Vans

# of Stops Per Mile vs. Kinetic Intensity (1/mile)

- Number of Days: 29
- # of Vehicles Reporting: 4
- Generated: Mon Aug 18, 2014

# of Days Included: 29

(NATIONAL RENEWABLE ENERGY LABORATORY)
Daily Stops Per Mile Distribution for Service Vans

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 29
Daily Total Number of Stops vs. Distance Traveled for Service Vans

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 27
Daily Kinetic Intensity Distribution for Service Vans

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Distance Traveled by Deployment for Service Vans

Deployment ID

Distance Traveled (miles)

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Operating Distance Distribution for Service Vans

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Zero Speed Cycle Percentage Distribution for Service Vans

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 29
Daily Zero Speed Cycle Percentage by Deployment for Service Vans

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Captured Operating Time by Speed Bin (mph) for Service Vans

Driving Speed (mph):
- 0+ to 5
- 5+ to 10
- 10+ to 15
- 15+ to 20
- 20+ to 25
- 25+ to 30
- 30+ to 35
- 35+ to 40
- 40+ to 45
- 45+ to 50
- 50+ to 55
- 55+ to 60
- 60+ to 65
- 65+ to 70
- 70+ to 75
- 75+

Quantity of Data Captured (hrs):
- 1
- 2
- 3
- 4

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Captured Operating Time by Speed Bin (mph) for Service Vans

- Driving Speed (mph)
  - 0+ to 5
  - 5+ to 10
  - 10+ to 15
  - 15+ to 20
  - 20+ to 25
  - 25+ to 30
  - 30+ to 35
  - 35+ to 40
  - 40+ to 45
  - 45+ to 50
  - 50+ to 55
  - 55+ to 60
  - 60+ to 65
  - 65+ to 70
  - 70+ to 75
  - 75+

- % of Total Captured Data

- # of Vehicles Reporting: 4
- Generated: Mon Aug 18, 2014
- # of Days Included: 29
Total Mileage Collected by Speed Bin (mph) for Service Vans

- Total Miles Collected:
  - 0+ to 5
  - 5+ to 10
  - 10+ to 15
  - 15+ to 20
  - 20+ to 25
  - 25+ to 30
  - 30+ to 35
  - 35+ to 40
  - 40+ to 45
  - 45+ to 50
  - 50+ to 55
  - 55+ to 60
  - 60+ to 65
  - 65+ to 70
  - 70+ to 75
  - 75+

- Driving Speed (mph):
  - # of Vehicles Reporting: 4
  - Generated: Mon Aug 18, 2014
  - # of Days Included: 29
Total Mileage Collected by Speed Bin (mph) for Service Vans

% of Miles Collected

Driving Speed (mph) 0+ to 5 5+ to 10 10+ to 15 15+ to 20 20+ to 25 25+ to 30 30+ to 35 35+ to 40 40+ to 45 45+ to 50 50+ to 55 55+ to 60 60+ to 65 65+ to 70 70+ to 75 75+

% of Miles Collected

# of Vehicles Reporting: 4  # of Days Included: 29

Generated: Mon Aug 18, 2014
Daily Average Acceleration Rate for Service Vans

Average Acceleration (ft/s²)

Frequency

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Average Acceleration vs. Maximum Acceleration for Service Vans

Average Acceleration (ft/s^2)

Maximum Acceleration (ft/s^2)

# of Vehicles Reporting: 4  Generated: Mon Aug 18, 2014  # of Days Included: 29
Daily Maximum Acceleration Rate for Service Vans

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Average Deceleration Rate for Service Vans

Average Deceleration (ft/s^2)

-2.2 -2.1 -2.0 -1.9 -1.8 -1.7 -1.6 -1.5 -1.4

Frequency

# of Vehicles Reporting: 4
Generated: Mon Aug 18, 2014
# of Days Included: 29
Daily Maximum Deceleration Rate for Service Vans

- Maximum Deceleration (ft/s^2)
  - 0.0
  - 0.5
  - 1.0
  - 1.5
  - 2.0
  - 2.5
  - 3.0
  - 3.5
  - 4.0

- Frequency

# of Vehicles Reporting: 4
# of Days Included: 29
Generated: Mon Aug 18, 2014
Interested in Participating?

The statistical summaries presented in this report were generated with the support of a variety of organizations. It is through the continued support of these partner organizations that Fleet DNA continues to grow.

For more information about the project or to discuss partnership opportunities including contribution of data to the database, please contact:

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