



Vehicle Technologies Program

North American PHEV Demonstration

Monthly report for:

Vehicle ID: Madison 1

Reporting Period: December 2008

Date range of data received:

12/1/2008 to 12/31/2008

Number of days when the vehicle was driven: 22

All Trips Combined

| | |
|---------------------------------------|-----------------|
| Overall gasoline fuel economy (mpg) | 47 |
| Total number of trips | 113 |
| Total distance traveled (mi) | 724 |
| Trips in Charge Depleting (CD) mode * | |
| Gasoline fuel economy (mpg) | 53 |
| Number of trips | 80 |
| Percent of trips city / highway | 72.50% / 27.50% |
| Distance traveled (mi) | 496 |
| Percent of total distance traveled | 68.59% |

Trips in combined Charge Depleting and Charge Sustaining (CD/CS) modes**

| | |
|------------------------------------|-----------------|
| Gasoline fuel economy (mpg) | 44 |
| Number of trips | 11 |
| Percent of trips city / highway | 72.70% / 27.30% |
| Distance traveled (mi) | 103 |
| Percent of total distance traveled | 14.27% |

Trips in Charge Sustaining (CS) mode***

| | |
|---|-----------------|
| Gasoline fuel economy (mpg) | 36 |
| Number of trips | 22 |
| Percent of trips city / highway | 77.30% / 22.70% |
| Distance traveled (mi) | 124 |
| Percent of total distance traveled | 17.15% |
| Number of trips when the plug-in battery pack was turned off^ | 0 |
| Distance traveled with plug-in battery pack turned off (mi)^ | 0 |

* Trips when the plug-in battery pack charge is depleted to propel the vehicle throughout entire trip

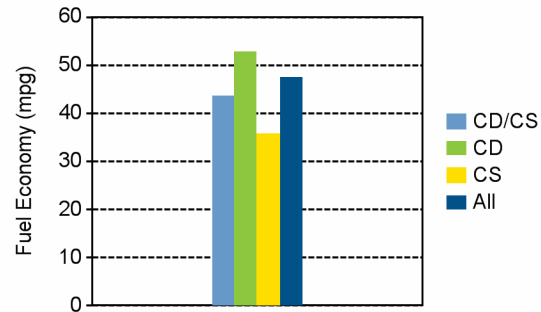
** Trips when the plug-in battery pack is depleted to propel the vehicle for a portion of the trip, but is fully depleted prior to the end of the trip

*** Trips when the plug-in battery pack is not used to propel the vehicle - either the plug-in battery is fully depleted before the beginning of the trip, or the plug-in battery pack is turned off

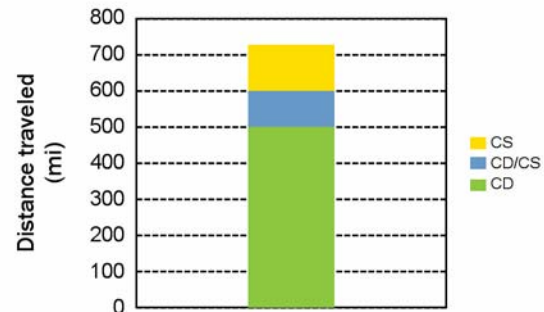
^ "Number of trips with plug-in battery pack turned off" is a subset of number of trips in combined CD/CS and CS mode

^^ "Distance traveled with plug-in battery pack turned off" is a subset of distance traveled in combined CD/CD and CS modes

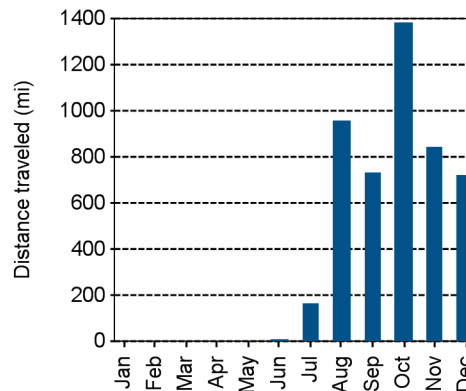
Gasoline Fuel Economy By Trip Type



Distance Traveled By Trip Type

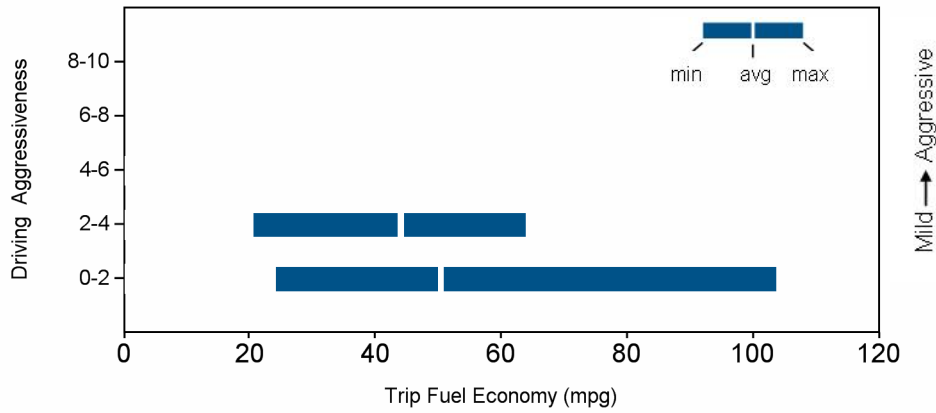


Miles Logged by Month This Year



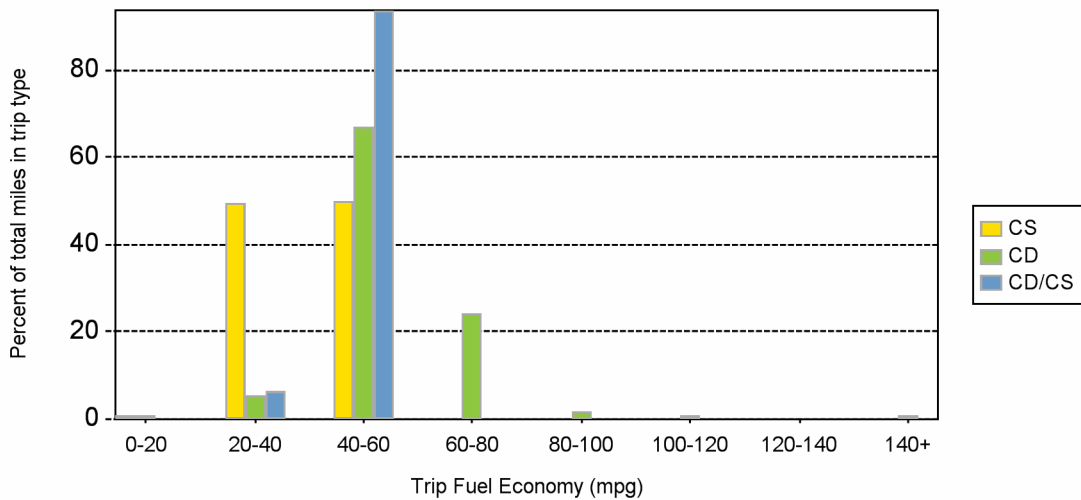
| Trips in Charge Depleting (CD) mode | | |
|--|----------|---------|
| | City | Highway |
| Gasoline fuel economy (mpg) | 50 | 55 |
| Percent of miles in electric-only mode | 9.00% | 2.00% |
| Average trip aggressiveness (on scale 0 - 10) | 1.3 | 1.9 |
| Average trip distance (mi) | 3.9 | 12.3 |
| Trips in combined Charge Depleting and Charge Sustaining (CD/CS) modes | | |
| Gasoline fuel economy (mpg) | 43 | 46 |
| Percent of miles in electric-only mode | 8.00% | 2.00% |
| Average trip aggressiveness (on scale 0 - 10) | 1.4 | 1.7 |
| Average trip distance (mi) | 8.5 | 11.7 |
| Trips in Charge Sustaining (CS) mode | | |
| Gasoline fuel economy (mpg) | 33 | 38 |
| Percent of miles in electric-only mode | 8.00% | 5.00% |
| Average trip aggressiveness (on scale 0 - 10) | 1.0 | 1.5 |
| Average trip distance (mi) | 3.3 | 13.6 |
| Average ambient temperature this month: | 22 deg F | |

Effect Of Driving Aggressiveness on Fuel Economy This Month



Aggressiveness factor is based on accelerator pedal position. The more time spent during a trip at higher accelerator pedal position, the higher the trip aggressiveness. The above plot excludes trips with distance less than 1 mile.

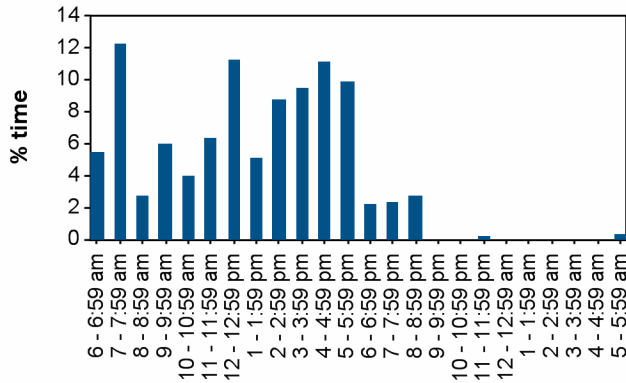
Trip Fuel Economy Distribution By Trip Type This Month



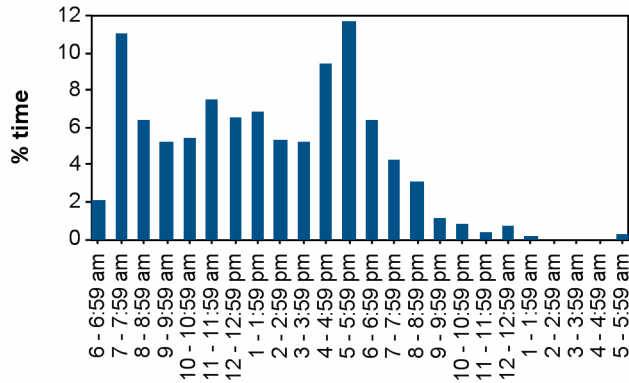
Plug-in charging

| | |
|---|-------|
| Number of charging events | 29 |
| Average number of charging events per day when vehicle driven | 1.3 |
| Average number of trips between charging events | 3.9 |
| Average duration of charging event (hr)* | 16.7 |
| Average energy per charging event (AC kWh) | 3.5 |
| Total charging energy (AC kWh) | 102.5 |

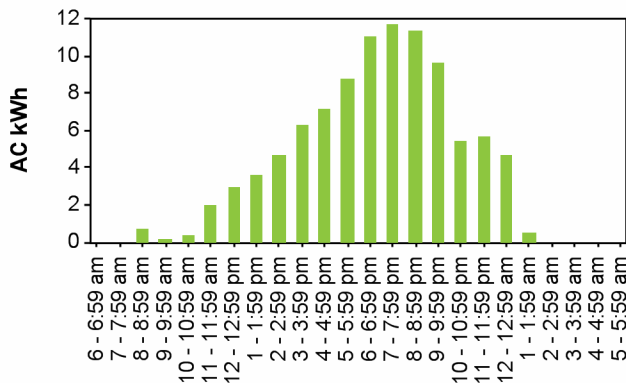
Time of Day When Driving - This Month



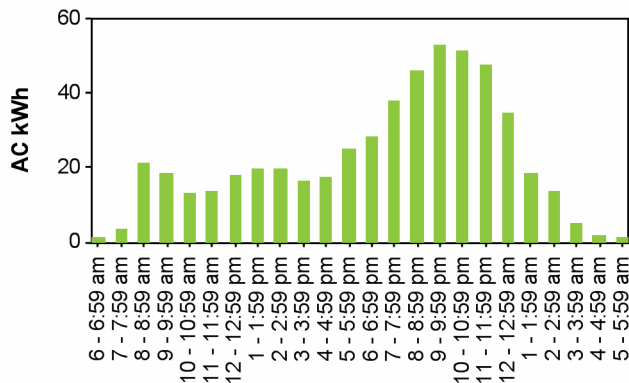
Time of Day When Driving - Lifetime



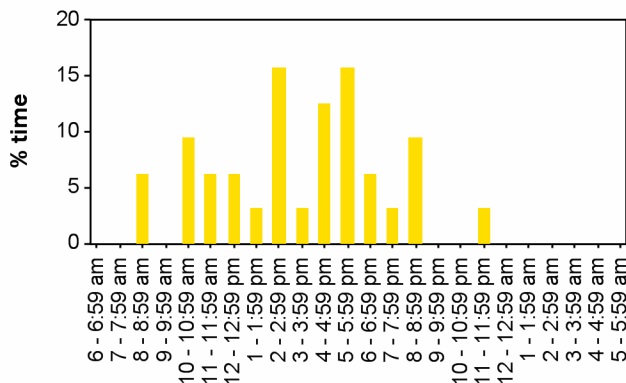
Time of Day When Charging - This Month



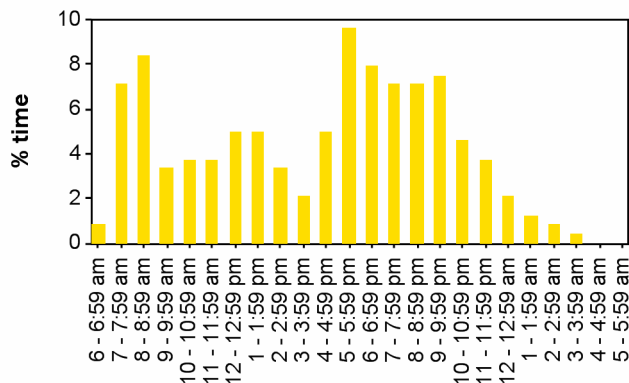
Time of Day When Charging - Lifetime



Time at the Start of Charging Events - This Month



Time at the Start of Charging Events - Lifetime



*Average duration of charging event is the average length of time per charging event when the vehicle was plugged into the electrical grid. Electrical energy was not necessarily drawn during the entire period when the vehicle was plugged in.