Characterization of PTO and Idle Behavior for Utility Vehicles

Arnaud Konan, Adam Duran, Kenneth Kelly, Eric Miller, and Robert Prohaska
National Renewable Energy Laboratory

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Technical Report
NREL/TP-5400-66747
September 2017

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List of Acronyms

AM	Altec material handler truck
AT	Altec trouble truck
CAN	controller area network
dPTO	diesel engine powered PTO
ePTO	battery powered PTO
NREL	National Renewable Energy Laboratory
PG&E	Pacific Gas and Electric
PTO	power take-off
RPM	revolutions per minute

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Executive Summary

This report presents the results of analyses performed on utility vehicle data composed primarily of aerial lift bucket trucks sampled from the National Renewable Energy Laboratory's Fleet DNA database to characterize power takeoff (PTO) and idle operating behavior for utility trucks. Two major data sources were examined in this study: a 75-vehicle sample of Odyne electric PTO (ePTO)-equipped vehicles drawn from multiple fleets spread across the United States and 10 conventional PTO-equipped Pacific Gas and Electric fleet vehicles operating in California. Novel data mining approaches were developed to identify PTO and idle operating states for each of the datasets using telematics and controller area network/onboard diagnostics data channels. These methods were applied to the individual datasets and aggregated to develop utilization curves and distributions describing PTO and idle behavior in both absolute and relative operating terms. This report also includes background information on the source vehicles, development of the analysis methodology, and conclusions regarding the study's findings.

1 Introduction and Background

1.1 Project Objective

In an effort to develop a better understanding of power take-off (PTO) and engine idling behavior of U.S. commercial vehicles, the U.S. Environmental Protection Agency through an Interagency Agreement with the U.S. Department of Energy tasked National Renewable Energy Laboratory (NREL) researchers with performing focused analyses characterizing the real-world commercial vehicle operating data stored in NREL's Fleet DNA database. This online database and tool—available at http://www.nrel.gov/fleetdna—provide both static and interactive data summaries and visualizations representative of the real-world "genetics" for medium- and heavy-duty commercial fleet vehicles. One-hertz (1-Hz) controller area network (CAN) recorded data for a subset of aerial lift utility vehicles (referred to here as "utility vehicles") configured with conventional hydraulic or hybrid PTO systems in the Fleet DNA database were analyzed to develop a distribution of PTO event durations as well as a distribution describing the proportion of PTO usage as a percent of total vehicle operating time. A similar subset of data was sampled from Fleet DNA to develop corresponding distributions of in-gear and out-of-gear idle behavior.

1.2 Source Data

In collaboration with fleet and industry partners across the country, the Fleet Testing and Evaluation team in NREL's Transportation and Hydrogen Systems Center focuses on evaluating the real-world performance of alternative fuel and advanced vehicle technologies deployed in medium- and heavy-duty commercial fleet vehicles throughout the United States. NREL's Fleet Testing and Evaluation team instruments vehicles operating in the field with data recording devices to capture 1-Hz telematics and CAN data. The data are then used to calculate in-use fuel economy and perform drive-cycle characterization and system-level duty-cycle analysis, which can be complemented with chassis dynamometer emissions and fuel economy testing. These results are used to provide feedback to stakeholders such as fleets, technology providers, researchers, and government agencies, helping to inform and provide insight on the performance of advanced technology and fuels operating under real world conditions. The data for these evaluation projects are stored in the Fleet DNA database along with additional externally sourced data that have been supplied by Fleet DNA project partners. For more information about the Fleet DNA database project, please consult [1].

While the Fleet DNA database includes a wide range of vehicle vocations, utility vehicles were identified as the focus of this study. The final statistics in this report are limited to data from 75 Odyne vehicles, which had useful data for this analysis, and 10 utility vehicles from Pacific Gas and Electric (PG&E), as shown in Table 1.

Table 1. Summary of Source Vehicle Data

Project	Odyne	PG&E
Vocation	Utility vehicle	Utility vehicle
Number of vehicles	75	10
Collection period	7 months	4 months
Location	Various U.S. cities/states [2]	California
Number of vehicle days	1,164	406
Total miles	29,025	41,400
Fuel type	Diesel	Diesel
Class 5	0	5
Class 6	10	0
Class 7	33	0
Class 8	32	5
Total	75	10

The utility vehicle data were collected in two separate studies. For the PG&E fleet, NREL installed data loggers on five class 5 "Altec Trouble Trucks" (AT) bucket trucks and five class 8 "Altec Material Handlers" (AM) double-bucket trucks, collecting 1-Hz data from vehicles operating in the PG&E service area in California. Appendix A includes vehicle specifications and Appendix B includes a detailed list of data channels. In addition to the PG&E data, 1-Hz data from Odyne vehicles were provided by the Electric Power Research Institute under a U.S. Department of Energy-funded electric vehicle deployment program awarded to the South Coast Air Quality Management District [2]. The Odyne vehicles analyzed in this study operated in multiple fleets spread across the United States. Appendices C and D include the vehicle specifications and data channels for the Odyne vehicles. Appendices E and F contain the associated data dictionary and results generated from both the PG&E and Odyne vehicles.

2 Analysis Approach

To determine the correct operating range of engine speed corresponding to engine idle events and engine PTO operation for each vehicle, custom data mining techniques were developed for each of the two major datasets. Using exploratory data analysis, engine speed ranges corresponding to idle and PTO operation were identified for each vehicle in the datasets. Once engine speed values were identified for each vehicle, a margin around those values was applied, and the data were reprocessed in a recursive algorithm to identify and aggregate the time and fuel for each operating mode. This involved employing a series of logic statements involving engine speed, brake switch activity, transmission signals, and other supporting information to separate in-gear vs. out-of-gear idle conditions from PTO operation using the engine speed values identified in the data mining exercise.

For the Odyne hybrid systems dataset, a separate set of logic filters was developed to determine vehicle operating state as a result of nonstandard data parameters being available for analysis. The dataset format resembles SAE J1939, but a few channels custom channels have been added. Notably, global positioning system data are unavailable, and an extra channel was established to describe the general operating state of the truck. This "Mode" signal is not communicated over the vehicle CAN network, but is used by Odyne to aid in data analysis.

The original reported modes are:

- Drive: Vehicle is in drive gear with engine running.
- Park: Vehicle is in park or neutral with the parking brake set.
- Charge: Vehicle is plugged into a charger, and the hybrid battery is being charged.
- Operate: The vehicle is utilizing the PTO functionality of the vehicle or powering other loads such as the heating, ventilating, and air conditioning; lighting; or tool chargers with the electric hybrid PTO (ePTO) system.

Modes were added for field charging and engine-on PTO. The final set of modes relevant to this study is: Drive, Idle (Park), diesel engine-on PTO (dPTO) and electric PTO (ePTO) (battery-powered PTO, engine-off). The logic shown in Table 2 was applied to the Odyne data, which already included basic mode information.

Table 2. Odyne Mode Determination Conditional Logic

Mode	Conditions
Drive	Mode = Drive
dPTO	Mode = Operating, and Engine Speed > 0 revolutions per minute (RPM), or Mode = Park, and Engine Speed > 1,000 RPM
Idle	Mode = Park, and Engine Speed > 0 RPM
ePTO	Mode = Operating, and Engine Speed = 0 RPM
Park	Mode = Park, and Engine Speed == 0 RPM

Two techniques were evaluated to determine the more robust method for quantifying PTO and idle operation from the available data .These two methods included examining different available data channels using custom logic similar to that developed for identifying vehicle operating state .These methods include:

1. Engine speed method
2. PTO channel method.

These two methods are explained and compared in the following sections.

2.1 Engine Speed Method for Characterizing PTO and Idle Operation (RPM Method)

2.1.1 Idle Characterization

For the PG&E vehicles, idle activity is defined as:

- Vehicle Speed = 0 miles per hour
  - The vehicle is stationary.
- Engine Speed > 0 RPM
  - The engine is running, and the vehicle is not in a key-off state.
- Engine Speed < 650 RPM +10% for AT trucks, and 750 RPM +10% for AM trucks
  - The engine is running, but not performing PTO-related tasks.

An Altec trouble truck (AT) is shown in Figure 1, and an Altec material handler (AM) is shown in Figure 2. The differences between vehicle configurations are primarily the number of axles (ATs are a 4x4 configuration while AMs are 6x6 configured) and vehicle weight class (ATs are class 5, and AMs are class 8) as well as boom length (35-ft. single boom for ATs, 55-ft. double boom for AMs). The ATs are mostly assigned to "troublemen" who respond to a variety of local grid issues. They spend more time driving and less extended PTO work, but do idle their vehicles a considerable amount of time whereas the AMs are deployed to perform extensive heavy-duty PTO work.

Figure 1. Altec AT trouble bucket truck

Figure 2. Altec AM material handler double-bucket truck

The logic applied to the PG&E data ensures that PTO operating time is not included in the idle statistics. However, this logic does not try to differentiate the various types of idling such as in-gear idling at traffic lights or parked idling when running the heating, ventilating, and air conditioning system for cabin comfort when at the job site.

For Odyne hybrid vehicles, the "idle" mode was identified as conditions where:

- Vehicle Engine Speed > 0 RPM
    - The vehicle engine must be running.
- Operating Mode = Parked
    - The vehicle is in parked mode as defined in the previous section.

This logic differs slightly from the logic used with the PG&E dataset due to the mode variable, which differentiates parked state from PTO operation.

2.1.2 PTO Characterization

For the PG&E vehicles, PTO use is defined for the AT vehicles as times where vehicle speed is zero and engine speed is greater than 800 RPM. For the AM vehicles, PTO use is defined as times where the vehicle is not moving and the engine speed is greater than 850 RPM. PTO-ready mode for the AM trucks was set to be time when engine speed is between 850 and 1,050 RPM. "PTO-ready" corresponds to the vehicle being set to PTO mode but not performing any PTO work. The PTO-in-use mode was set to the time when the vehicle is not moving and the engine speed is greater than 1,050 RPM. The overall PTO state is a combination of the PTO-ready and the PTO-in-use modes. Figure 3 illustrates the different operating modes identified for a sample vehicle in the PG&E dataset. One can see that by performing a peak detection analysis, each of the states and corresponding RPM values can be identified and visualized.

For the Odyne dataset, inclusion of the mode identifier simplified the analysis. In this case, time spent when the vehicle is in "Operate" mode is considered PTO time, as well as time when the

vehicle is parked and the engine is operating at RPM ranges in excess of 1,000 RPM, which is very similar to the values identified and applied for the PG&E dataset.

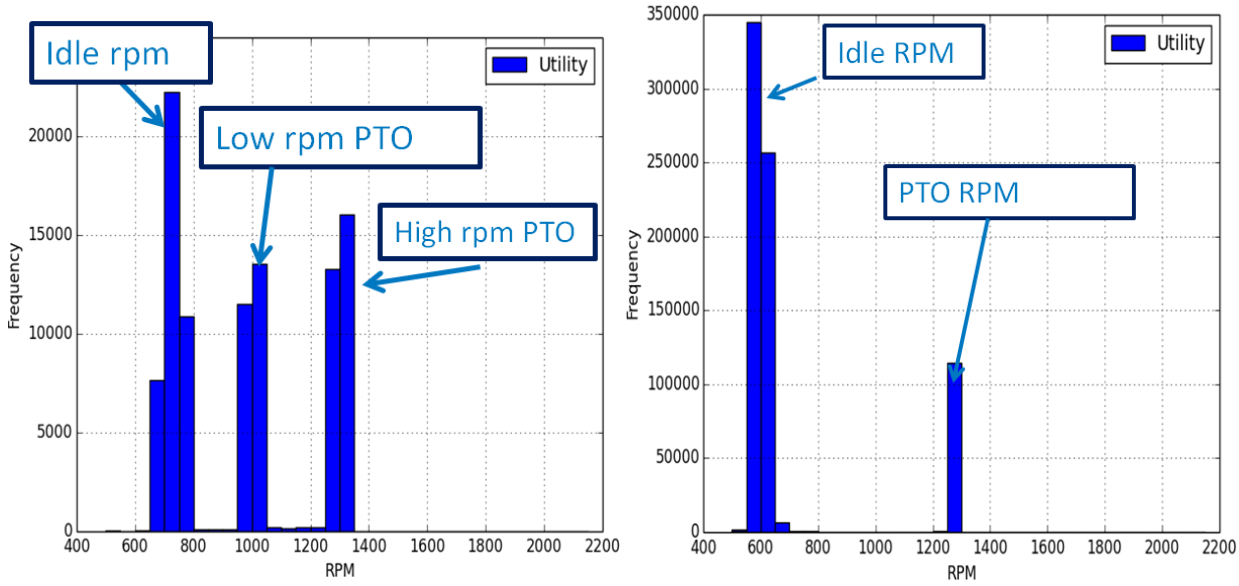


Figure 3. Illustration of the RPM method, histogram of engine RPM where vehicle speed is zero, but engine speed is greater than zero.

The distinct operation modes for the AT are on the left and for the AM are on the right.

2.2 PTO Channel Method for Characterizing PTO and Idle Operation

The PTO channel method is an alternative analysis method that was explored in addition to the RPM determination method described above. This method uses the "PTOState" SAE J1939 channel as the sole source indicating whether or not a vehicle is operating under PTO conditions. This analysis was only performed on the PG&E dataset as the Odyne dataset already integrated PTO state in its mode identifier.

2.2.1 Idle Characterization

The same technique for idle in the RPM method was used for the PTO channel method as there is not specific channel for second-by-second tracking of engine idle speed.

2.2.2 PTO Characterization

The "PTOState" channel was used for the PTO method; "PTOState" greater than zero but less than 20 is an indication of PTO enable operation, according to SAE J1939.

2.3 Driving Mode

The driving mode for all methods is defined as time where vehicle speed is greater than zero and engine speed is greater than zero.

3 Discussion and Results

Using the logic sets described above, data recorded for each vehicle for each day of operation were processed, and the time spent driving, idling, and PTO operation were calculated. The engine RPM and the PTO channel methods were compared against each other for validation. The RPM method was also compared to engine control unit binned data when available, for validation purposes. Aggregated days were removed where the vehicle did not drive for at least six minutes and days where the logged data accounted for more than 24 hours of operating time. These days were removed as they are not representative of typical vehicle operation due to either insufficient or excessive operating time. The final combined results include operating data for 85 utility vehicles representing 1,570 days of operation.

It was observed that even with limited PTO channel data, the PTO channel method and the RPM method results are very similar. As seen in Figure 4, the Engine RPM method yielded an average daily PTO usage time of 1.51 hours with a standard deviation of 1.72 hours and the PTO channel yielded an average daily PTO usage time of 1.81 hours with a standard deviation of 2.03 hours.

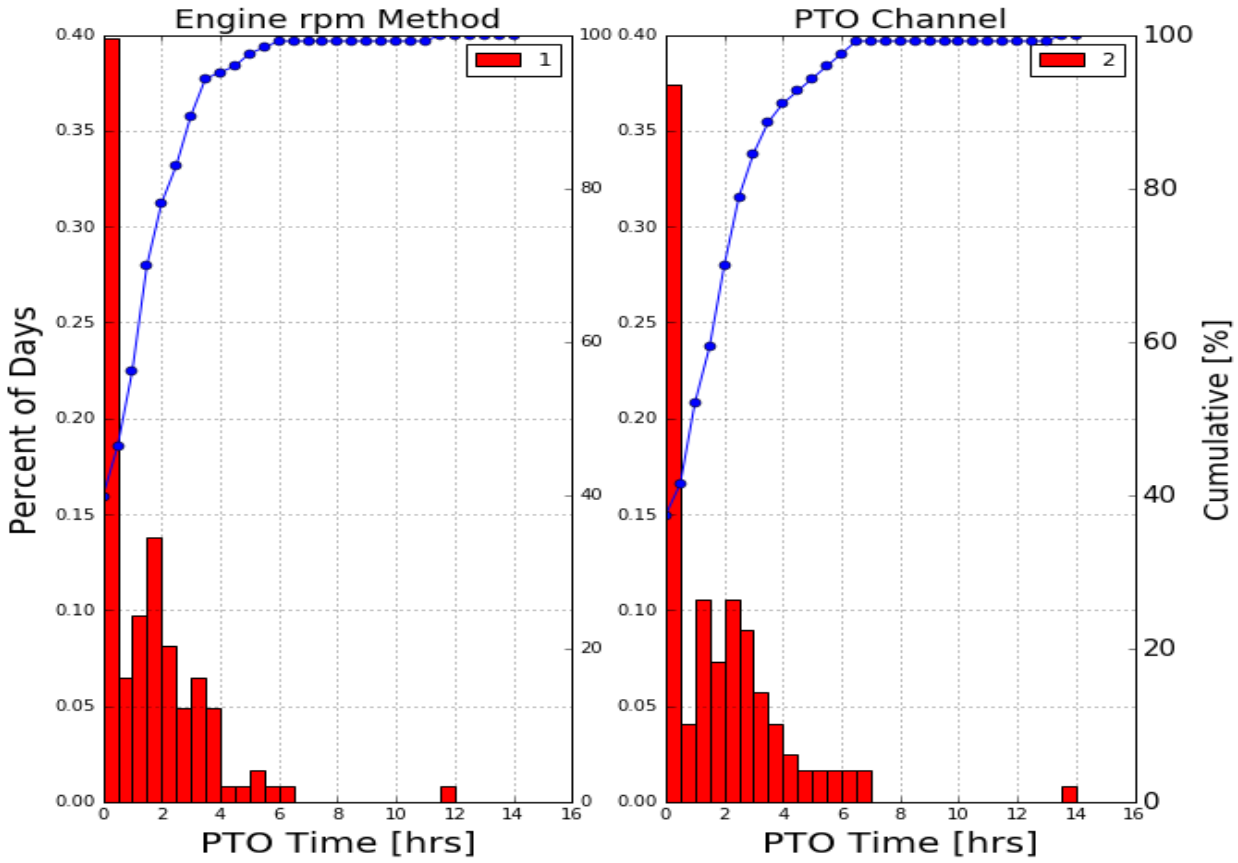


Figure 4. Comparison of PTO and engine RPM derived cumulative PTO operation for five PG&E material handler trucks over 123 operating days.

The RPM method was applicable to most of the PTO-equipped vehicle data in the Fleet DNA database and was selected as the preferred method of analysis. In addition to application to a

greater range of data, another reason for choosing the RPM method over the PTO channel method was due to the lack of reliability in the PTO signal; the PTO channel would either not report data or reported insufficient quality data for analysis. The RPM method, however, could always be applied to the Fleet DNA data as long as reliable engine speed signal data were collected at a sufficient frequency, which is necessary for this type of analysis. It is also worth mentioning that the data from PG&E utility vehicles were collected by the NREL Fleet Testing and Evaluation team whereas the data for the Odyne hybrid systems were provided by the Electric Power Research Institute as explained in previous sections. Odyne. In both cases, data was logged at 1Hz. The RPM method was able to solve some challenges associated with data collection from multiple sources. Due to the methodology, the RPM method could be applied across data sources as long as initial work to identify appropriate RPM ranges was performed on each dataset.

The results of the analysis using the RPM method applied to the PG&E and Odyne datasets were aggregated to create a unique utilization factor curve describing the PTO use in aggregate vs. total vehicle operating time. Figure 5 shows the aggregated statistics for all vehicles showing the proportions of time spent and fuel used for each of the operational modes—driving, idle, and PTO. Fuel used was determined from the SAE J1939 CAN-reported fuel rate data. Driving mode accounted for 34% of the operation time but 79% of the fuel used. PTO operation was about 37% and used 11% of the fuel. Idle mode represented 30% of the time for 10% of the fuel.

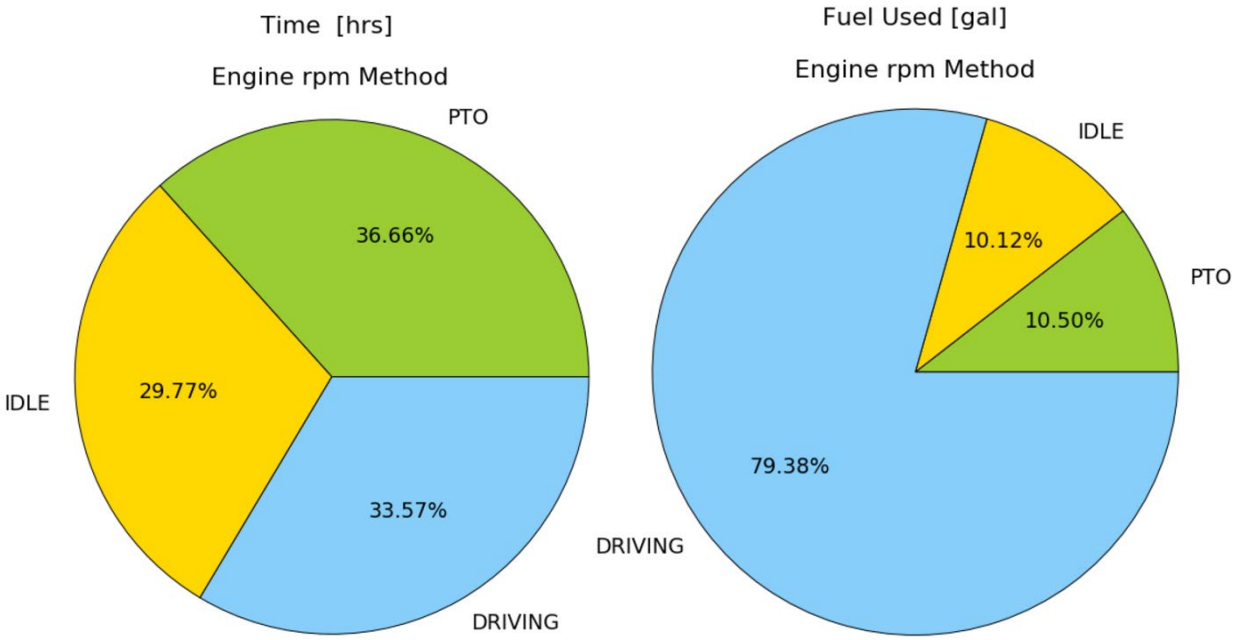


Figure 5. Percent of time [left] and fuel [right] spent in each operating mode

Figure 6 shows the resultant PTO utilization curves for the entire set of vehicles (PG&E and Odyne combined) as a distribution of the hours of PTO operation by the number of days and the percentage of total days in the data. The data were also provided as an attached spreadsheet with the hours of driving time, idle time, and PTO operation time for each of the 1,570 days of operation. Figure 7 shows similar utilization curves for idle time.

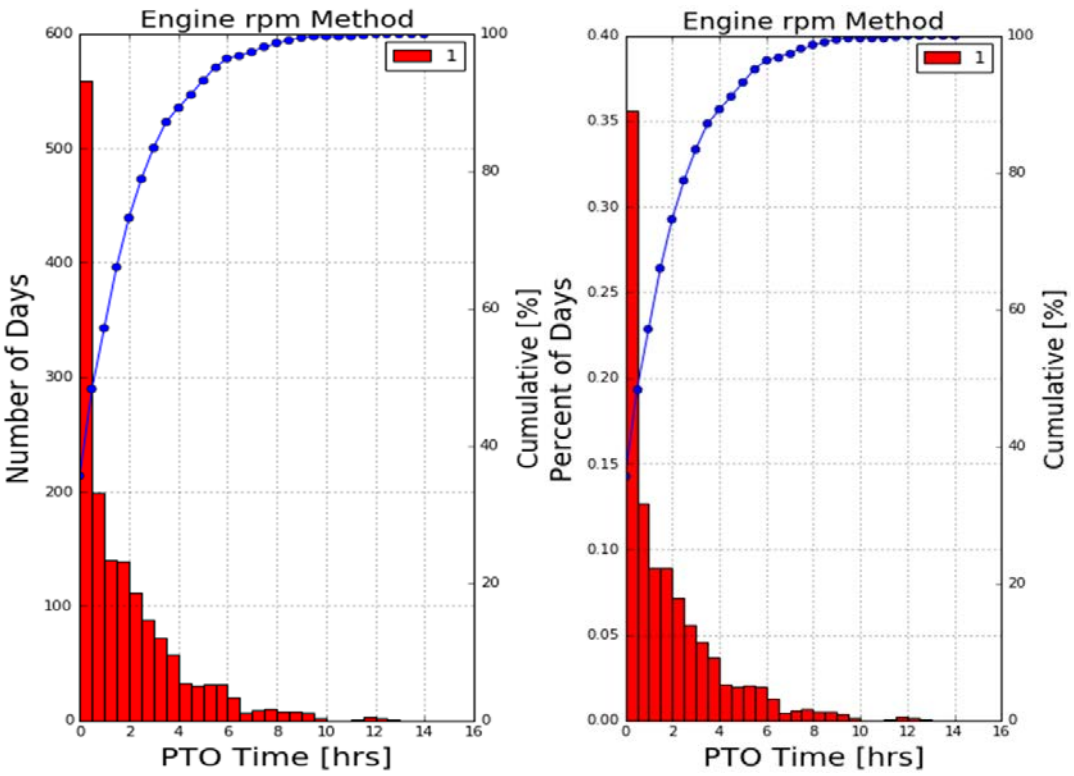


Figure 6. Distribution of PTO time for all vehicles in this study (PG&E and Odyne combined)

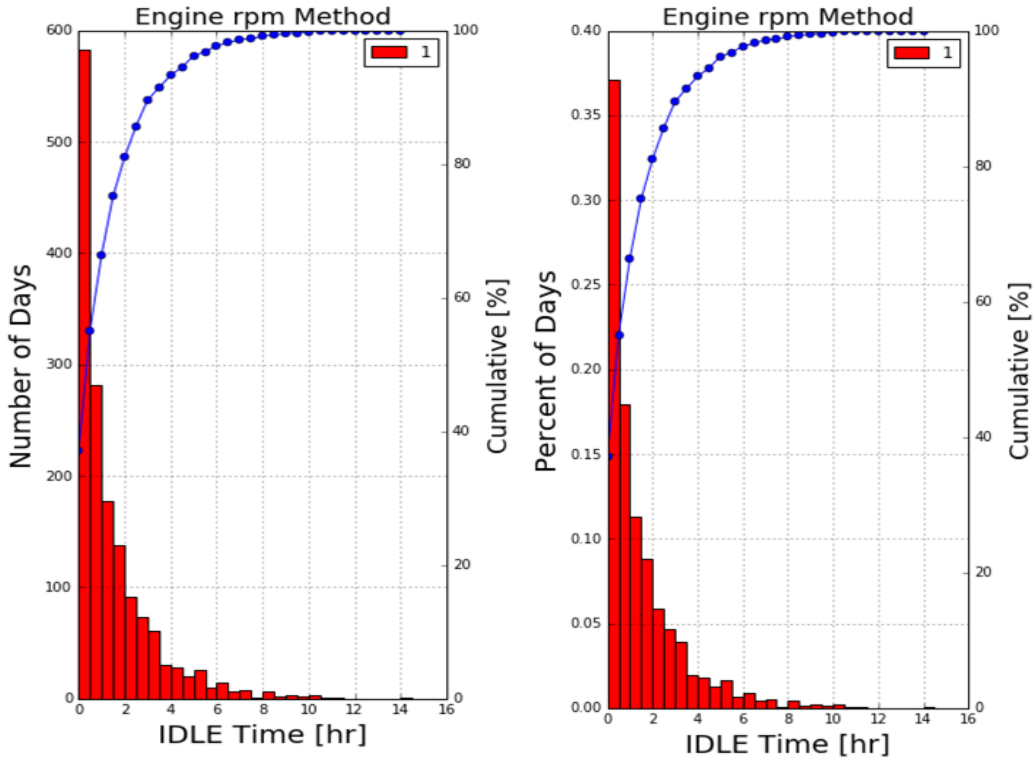


Figure 7. Distribution of idle time for all vehicles in this study (PG&E and Odyne combined)

4 Conclusion

The analysis described in this report resulted in the development of a utilization factor curve for PTO operation and idle time for a range of aerial lift utility trucks operating in the real world captured as part of two distinct data collection efforts. The analysis was conducted on data from 406 vehicle-days of PG&E vehicle operation in California and 1,154 vehicle-days of operation from Odyne vehicles across several states. The researchers found that the RPM method is the preferred approach for analyzing PTO and idle behavior of the two methods examined in this report, as it is based on historical data mining techniques and demonstrated a greater level of flexibility and applicability when compared to the PTO method. This method provides aggregate operating statistics from various sources, types, and classes of vehicles. This approach gives insights on engine operation, and works very well with PTO equipped vehicles that have distinct operating modes. While the driving mode of utility vehicles does not overlap either with the idle mode or PTO mode, as is sometimes the case with PTO channel data., the engine RPM method might not be well suited for other applications such as refuse collection or concrete mixing trucks, as they typically utilize PTO while the vehicle is driving . In this case, the RPM method will not be able to separate increased speed due to PTO demands from traction power demands.

Another PTO operation that the RPM method might not be able to accurately capture is when the driver uses the PTO switch as a means to bypass an idle shut-down timer. In this case, the driver may set the engine PTO RPM at the engine idle RPM.

This study aggregated operation time from very different vehicles classes and types to come up with one utilization factor to characterize them. This approach, although it is valid and yields a good estimation of the overall bulk utilization breakdown, currently lacks the ability to give details on the utilization by vehicle class and type breakdown from one class and type of vehicle to another.

We saw for example that the class 5 utility vehicles from PG&E mostly assigned to “troublemen” who respond to a variety of local grid issues spend more time driving and less extended PTO work, but do idle their vehicles a considerable amount of time whereas the class 8 material handlers were deployed to perform extensive heavy-duty PTO work; when combined, these differences are difficult to extract.

5 Future Applications

NREL researchers believe that the RPM method gives us the ability to look at details of a vehicle’s behavior on a case by case basis while still offering the possibility for large batch-run processing. Researchers are interested in utilizing this technique in the future to look at emission rates based on the vehicle’s engine speed in specifically defined operating modes instead of looking solely at the vehicle’s speed.

References

[1] Walkowicz, K., K. Kelly, A. Duran, and E. Burton. (2014). *Fleet DNA Project Data*. National Renewable Energy Laboratory. http://www.nrel.gov/fleetdna

[2] Kosowski, M., J. Dunckley, and D. Bowermaster. (2016). Results of Plug-In Hybrid Medium-Duty Truck Demonstration and Evaluation Program, 1–12.

Appendix B: PG&E Vehicle Specifications

Altec AM JEMS Trucks (Material Handler)	
Make	International
Model	WorkStar 7500
GVWR	56,000 lbs.
Engine Power	300 hp
Torque	860 ft.-lb.
Transmission	Allison 3500 5-Speed
Drive	6x6
JEMS Battery Capacity	18 kWh

Altec AT JEMS Trucks (Trouble Trucks)	
Make	Ford
Model	F-550
GVWR	19,500 lbs.
Engine Power	300 hp
Torque	660 ft.-lb.
Transmission	6-Speed Automatic
Drive	4x4
JEMS Battery Capacity	8 kWh

Source

1. http://www.altec.com/site/uploads/Green_Fleet_literature.pdf

Appendix B: PG&E Data Channels

Conventional Altec Trouble Truck (AT)
Date
time
BoxT
BoxV
Acc_Lat
Acc_Long
Acc_Vert
gps_Time
gps_Lat
gps_Long
gps_NbSatellite
gps_Altitude
gps_Speed
LOAD_PCT
COOLANT_TEMP
MAP
EngSpeed
WheelBasedVehicleSpeed
IAT
MAF
THROTTLE_POS
PTO_Status
Time_Since_Engine_Start
Fuel_Rail_Pressure_diesel_and_di
Commanded_EGR
EGR_Error
Barometric_Pressure
CATTEMP11
Relative_Throttle_Position
Ambient_Air_Temperature
Accelerator_Pedal_Position_D
Accelerator_Pedal_Position_E
Commanded_Throttle_Actuator_Control

Conventional Altec Trouble Truck (AT)
Minutes_Run_with_MIL_Activated
Relative_APP
FUEL_TIMING
EngFuelRate
EngPercentTorque_DD
EngPercentTorque_ACT
EngReferenceTorque
OBDEngineDTC001

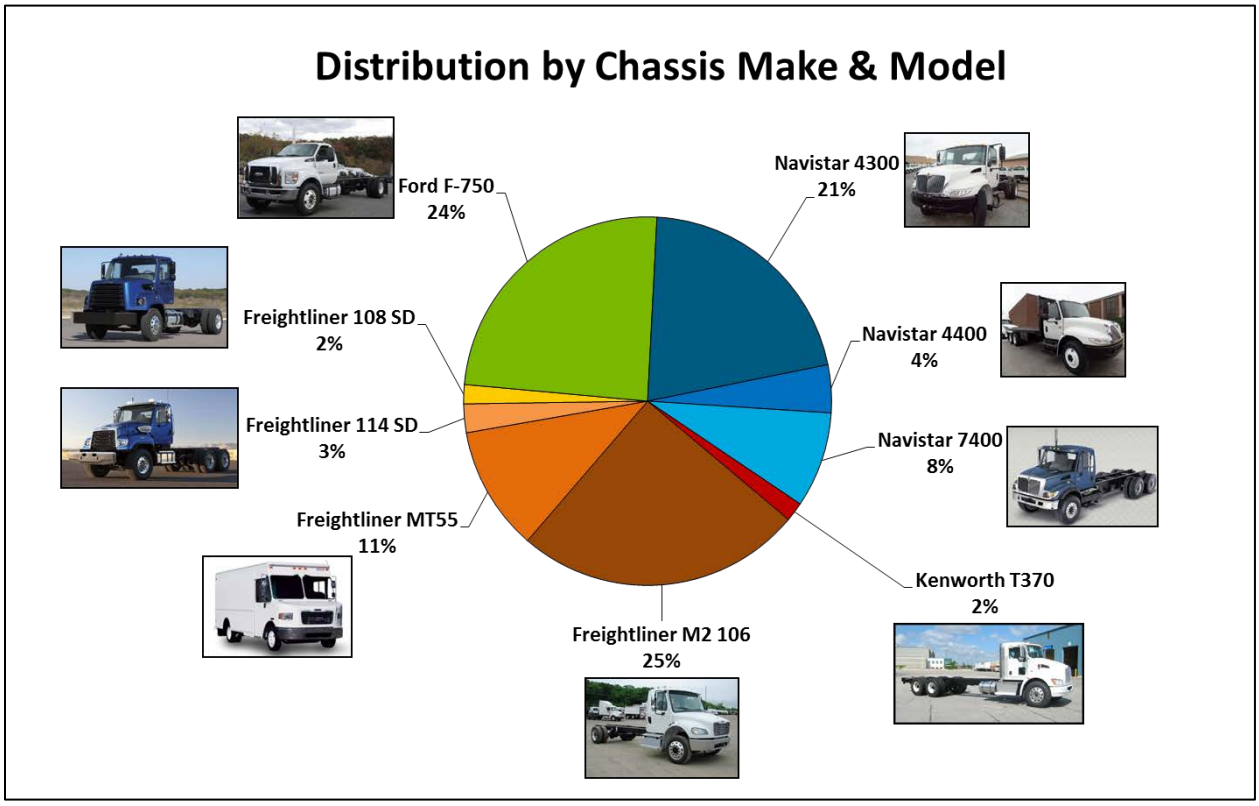
Conventional Altec Material Handler	
Date	EnggmntSttsPTOEngAccssoryDrive1
time	EnggmntSttsPTOEngAccssoryDrive2
BoxT	AtLeastOnePTOEngaged
BoxV	AftrtrtmntDslPrtcltFltrInt_0001
Acc_Lat	AftrtrtmntDslPrtcltFltrDffPrss
Acc_Long	AftrtrtmntPrtcltTrpOtltGasTemp
Acc_Vert	Aftertreatment1ExhaustGasTemp1
gps_Time	AftrtrtmntDslPrtcltFltrInt_0000
gps_Lat	EngExhaustGasTempRightManifold
gps_Long	EngExhaustGasTempLeftManifold
gps_Quality	AftrtrtmntSCRCatalystTankLevel
gps_NbSatellite	EngExhaustGasRecirculation1Temp
gps_Altitude	PneumaticSupplyPress
gps_Speed	AirCompressorStatus
TransOutputShaftSpeed_1	EstPercentFanSpeed
TransInputShaftSpeed_1	FanDriveState
AccelPedalPos1	FanSpeed
EngPercentLoadAtCurrentSpeed	HghRslutionTotalVehicleDistance
ActMaxAvailEngPercentTorque	ProtectLampStatus_1
EngTorqueMode	AmberWarningLampStatus_1
DriversDemandEngPercentTorque	RedStopLampState_1
ActualEngPercentTorque	ProtectLampStatus_2
EngSpeed	AmberWarningLampStatus_2
TransSelectedGear_1	RedStopLampState_2

Conventional Altec Material Handler	
TransCurrentGear_1	EngTotalIdleFuelUsed
EngExhstGsRcrcltionMassFlowRate	EngTotalIdleHours
EngInletAirMassFlowRate	NominalFrictionPercentTorque
Aftertreatment1IntakeNOx	EstEngPrsticLossesPercentTorque
Aftertreatment1IntakeO2	ExhaustGasMass
Aftertreatment1OutletNOx	EngSpeedAtIdlePoint1
Aftertreatment1OutletO2	EngPercentTorqueAtIdlePoint1
EngProtectLampData	EngSpeedAtPoint2
EngAmberWarningLampData	EngPercentTorqueAtPoint2
EngRedStopLampData	EngSpeedAtPoint3
AftrtrtmntDslOxdtnCtlystDffPrss	EngPercentTorqueAtPoint3
AftrtrtmntDslOxdtnCtlystIntkGsT	EngSpeedAtPoint4
AftrtrtmntDslOxdtnCtlystOtltGsT	EngPercentTorqueAtPoint4
AftrtrtmntDslOxdtnCtlystDffPrss	EngSpeedAtPoint5
AftrtrtmntDslOxdtnCtlystIntkGsT	EngPercentTorqueAtPoint5
AftrtrtmntDslOxdtnCtlystOtltGsT	EngSpeedAtHighIdlePoint6
AftrtrtmntSCRCtlystIntkGasTemp	EngGainOfEndspeedGovernor
AftrtrtmntSCRCtlystOtltGasTemp	EngReferenceTorque
AftrtrtmntSCRCtlystExhstGsDffPr	EngTotalHoursOfOperation
AftrtrtmntDslExhstFldTnkLwLvlIn	EngTotalRevolutions
DslPrtcltFilter1SootLoadPercent	EngTripFuel
DslPrtclteFilter1AshLoadPercent	EngTotalFuelUsed
DslPrtcltFltr1TmSncLstActvRgnrtn	EngCoolantTemp
DieselParticulateFilterLampCmd	EngFuelTemp
DslPrtcltFltrPssvRgnrtionStatus	EngOilTemp1
DslPrtcltFltrActvRgnrtionStatus	EngIntercoolerTemp
DieselParticulateFilterStatus	EngFuelDeliveryPress
ExhaustSystemHighTempLampCmd	EngOilPress
DslPrtcltFltrActvRgnrtnFrcdStts	PowerTakeoffSetSpeed
Aftertreatment1FuelRate	EngPTOGovernorEnableSwitch
EnblSwtchTrnsfrCsOutputShaftPTO	EngPTOGovernorSetSwitch
EnableSwitchTransOutputShaftPTO	ParkingBrakeSwitch
EnableSwitchTransInputShaftPTO2	WheelBasedVehicleSpeed
EnableSwitchTransInputShaftPTO1	BrakeSwitch

Conventional Altec Material Handler	
EnableSwitchPTOEngFlywheel	PTOState
EnblSwitchPTOEngAccessoryDrive1	EngFuelRate
EnblSwitchPTOEngAccessoryDrive2	BarometricPress
EnggmntSttsTrnsfrCsOtptShaftPTO	AmbientAirTemp
EnggmntSttusTransOutputShaftPTO	EngAirInletTemp
EnggmntSttusTransInputShaftPTO2	EngTurboBoostPress
EnggmntSttusTransInputShaftPTO1	EngIntakeManifold1Temp
EngagementStatusPTOEngFlywheel	EngAirInletPress
EngFuelRate_1	EngExhaustGasTemp
EngineSpeed	PTOControlSwitch
WheelSpeedABSAxle1Left	PTOMode
WheelSpeedABSAxle1Right	MassFlowRate
TotalVehicleDistance	BatteryPotential

Appendix C: Odyne Vehicle Specifications

Vehicle configuration details for all 119 Odyne hybrid vehicles NREL received data on that were partially funded by the American Recovery and Reinvestment Act (ARRA). Eighty-six of the 119 vehicles (72%) were configured as aerial/bucket trucks.

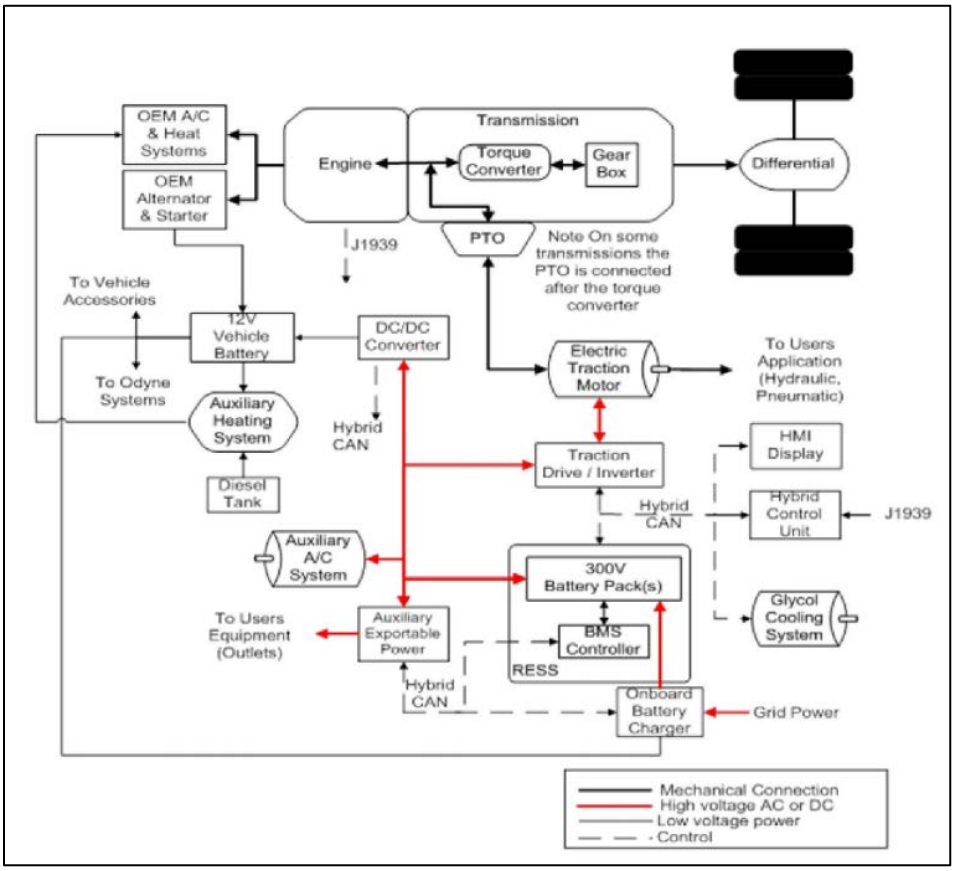


Chassis Manufacturer	Chassis Model	Engine Models
International	4300/4400	DT, N9
International	7300/7400/7500	DT, N9, N10, ISB6.7, ISL9
Kenworth	T370	PX-9
Ford	F750	ISB6.7
Freightliner	M2 106	ISB6.7, ISL9
Freightliner	108SD	ISB6.7, ISL9
Freightliner	114SD	ISL9, DD13
Freightliner	MT55	ISB6.7

Aerial Vehicles (Bucket Trucks): Service Body Manufacturers
Altec
Dueco
Terex

Additional Odyne System Specifications	
Platform GVWR	23,000-56,000 pounds
Motor Power	Peak: 95 hp | Cont.: 56 hp
Motor Torque	232 ft.-lbs.
Battery Capacity	14.2 or 28.4 kWh
Transmission	Allison 2000, 3000 & 4000
Drive	RWD 4X2 or 6X4

Odyne Hybrid Systems architecture schematic:



Sources

1. Odyne Hybrid Systems
2. http://www.osti.gov/scitech/servlets/purl/1234437

Appendix D: Odyne Hybrid Systems Data Channels

Odyne Data Channels
Seconds elapsed beginning of month UTC
Timestamp
Accelerator Pedal Position
Ambient Temperature
Battery Current
Battery Pack DC Power
Battery Pack SOC
Battery Voltage
Brake Pedal Position Or Force
Charger AC Current
Charger AC Voltage
Electric Air Conditioner State
Engine Speed
Export AC Current 1
Export AC Current 2
Export AC Voltage 1
Export AC Voltage 2
Fuel Flow Or Volume
Odometer
Operating Mode
PTC Calibration
PTC Firmware Version
Vehicle Speed

Appendix E: Final Data Dictionary

Header	Descriptions
Day Index	A sequential numerical number to identify a vehicle day
Driving Time [hr]	Time spent driving for that day
Idle Time [hr]	Time spent while at idle for that day
PTO Time [hr]	Time spent on PTO operation for that day
Total	Total operating time of the day. It is the sum of all operating modes

Appendix F: Final Data

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
0	0.9789	1.5142	2.1883	4.6814
1	0.7461	0.2281	0.1628	1.1369
2	0.7853	0.1836	0.0017	0.9706
3	2.8008	0.5906	0.0289	3.4203
4	0.9289	0.3833	0.0069	1.3192
5	0.8386	0.3422	0.0031	1.1839
6	1.8353	0.6267	0.4258	2.8878
7	1.0167	0.2378	0.0694	1.3239
8	1.0089	0.8625	1.4094	3.2808
9	2.5014	1.1944	1.5658	5.2617
10	0.6006	1.3533	4.1856	6.1394
11	0.7217	0.0753	0.0103	0.8072
12	0.2919	1.5681	2.8453	4.7053
13	0.6197	0.6050	0.8503	2.0750
14	1.0911	0.3864	0.3622	1.8397
15	0.7875	0.3019	0.0208	1.1103
16	0.8033	0.5078	0.8633	2.1744
17	0.7228	1.1858	2.0639	3.9725
18	1.3656	0.5094	0.0186	1.8936
19	0.8225	0.2614	0.4956	1.5794
20	1.9708	1.0569	0.9319	3.9597
21	0.9336	0.4178	0.0228	1.3742
22	0.6061	0.2872	0.0033	0.8967
23	1.2078	0.9897	2.0372	4.2347
24	0.4803	0.7839	1.5644	2.8286
25	1.2097	0.9917	1.1622	3.3636
26	0.5408	0.2958	0.0025	0.8392
27	0.9919	1.2114	1.9256	4.1289
28	1.5800	0.9600	1.0739	3.6139
29	0.5511	1.2025	1.7314	3.4850
30	0.4606	1.5306	3.9989	5.9900
31	2.3742	1.8244	1.8747	6.0733

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
32	2.6867	1.0114	2.2908	5.9889
33	1.8694	1.4506	2.0081	5.3281
34	2.4564	1.9619	1.8817	6.3000
35	2.0936	0.9206	1.5497	4.5639
36	2.1997	0.8608	1.8033	4.8639
37	2.6781	0.8700	1.4636	5.0117
38	3.3800	1.1931	0.7694	5.3425
39	3.8347	2.7939	3.4894	10.1181
40	1.3417	1.3244	2.6092	5.2753
41	1.5164	0.7433	1.3894	3.6492
42	2.4928	1.3133	1.5806	5.3867
43	1.4069	1.0742	1.6239	4.1050
44	3.0897	1.8147	3.1317	8.0361
45	1.5133	1.7133	1.9589	5.1856
46	0.8200	0.4603	0.9808	2.2611
47	2.0125	0.5389	0.7375	3.2889
48	3.1003	0.2047	0.0022	3.3072
49	0.1347	0.1194	0.0003	0.2544
50	4.2578	3.3539	11.5111	19.1228
51	0.1014	0.6861	0.0194	0.8069
52	2.0722	1.7172	5.8422	9.6317
53	1.6267	3.2858	3.6814	8.5939
54	1.8075	1.3517	3.8114	6.9706
55	2.9806	0.3456	0.0122	3.3383
56	2.8639	0.2675	0.0092	3.1406
57	0.5992	0.4317	0.0189	1.0497
58	0.5108	1.0106	3.1661	4.6875
59	2.2717	0.4642	0.0186	2.7544
60	1.5625	1.6936	1.9397	5.1958
61	1.2811	2.1192	4.8700	8.2703
62	0.7942	0.7892	1.7828	3.3661
63	1.0339	0.2542	0.4711	1.7592
64	0.9300	0.7450	0.9744	2.6494
65	1.0450	1.3578	3.2681	5.6708

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
66	1.0200	0.5300	0.0136	1.5636
67	0.4736	0.5014	0.0297	1.0047
68	0.7022	0.7358	0.7886	2.2267
69	0.1694	0.3250	0.0289	0.5233
70	2.0181	0.9878	2.6497	5.6556
71	0.2978	1.1772	3.6664	5.1414
72	0.4175	0.8172	2.5031	3.7378
73	1.7856	0.9950	2.9936	5.7742
74	0.8547	1.4686	3.6517	5.9750
75	0.9531	0.8561	2.4914	4.3006
76	1.7047	0.3839	3.5714	5.6600
77	1.0700	0.3586	1.7753	3.2039
78	1.6111	0.2461	0.0022	1.8594
79	4.0219	0.3683	0.0025	4.3928
80	1.2547	0.6644	3.4019	5.3211
81	1.0703	0.7744	1.1400	2.9847
82	0.6147	0.3850	0.4219	1.4217
83	2.9161	0.9228	0.1431	3.9819
84	0.7275	0.4714	2.1281	3.3269
85	0.2536	0.2883	3.1214	3.6633
86	0.8239	0.2992	2.2544	3.3775
87	1.0550	0.7214	3.3164	5.0928
88	0.9781	0.8042	1.2439	3.0261
89	0.2981	0.2536	0.0550	0.6067
90	0.3572	0.4786	0.0078	0.8436
91	0.7078	0.2614	0.0128	0.9819
92	0.7011	0.4297	2.0842	3.2150
93	0.8244	0.6289	0.0092	1.4625
94	1.0283	0.4319	1.0086	2.4689
95	1.2114	0.9469	5.4933	7.6517
96	1.1558	0.7803	0.4639	2.4000
97	1.5311	0.7622	1.9111	4.2044
98	4.2500	0.3772	0.0106	4.6378
99	4.1058	0.3011	6.2456	10.6525

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
100	0.5839	0.4075	1.0639	2.0553
101	1.3814	0.5358	0.0161	1.9333
102	1.4389	0.4506	1.7397	3.6292
103	1.4267	0.5772	1.9672	3.9711
104	4.1561	1.0236	0.4633	5.6431
105	1.5950	0.3767	2.5742	4.5458
106	1.7811	0.6556	5.3700	7.8067
107	1.4964	0.2078	1.3933	3.0975
108	0.1936	0.2222	3.0114	3.4272
109	3.3189	0.1925	1.3467	4.8581
110	1.5581	0.2178	0.0217	1.7975
111	1.1725	1.0806	2.1353	4.3883
112	0.3564	0.4269	1.1419	1.9253
113	6.4792	2.1969	1.2978	9.9739
114	5.9672	3.0989	0.0303	9.0964
115	8.1264	3.2167	0.1011	11.4442
116	4.9639	0.9800	0.0025	5.9464
117	4.4828	5.4100	2.6097	12.5025
118	6.7989	2.9581	0.9481	10.7050
119	5.0719	2.0928	0.5125	7.6772
120	6.8306	2.3406	1.5833	10.7544
121	6.5133	4.5408	0.7233	11.7775
122	6.3592	5.6250	0.2428	12.2269
123	7.5011	3.4486	0.0728	11.0225
124	6.8614	3.3369	0.0350	10.2333
125	5.9064	2.2214	0.0156	8.1433
126	4.7511	4.3542	0.5736	9.6789
127	6.9711	4.2075	1.2722	12.4508
128	5.8183	5.8983	0.9919	12.7086
129	4.1050	2.0875	0.0664	6.2589
130	6.0522	1.0000	0.0097	7.0619
131	8.2369	3.6067	0.7597	12.6033
132	5.2606	2.1100	1.3292	8.6997
133	3.5964	2.0506	0.1942	5.8411

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
134	3.3164	2.7761	0.0333	6.1258
135	3.9886	1.7206	0.2528	5.9619
136	1.8561	0.6961	1.3594	3.9117
137	2.0078	0.5197	0.4661	2.9936
138	2.0136	1.5383	0.1919	3.7439
139	2.5056	1.0239	0.1081	3.6375
140	2.3544	1.6056	0.9178	4.8778
141	3.8708	4.0311	0.2222	8.1242
142	2.4133	2.2442	0.0172	4.6747
143	3.0492	1.4756	0.6183	5.1431
144	3.9978	1.3928	0.6469	6.0375
145	1.6767	1.0119	0.3231	3.0117
146	3.2847	3.8414	1.1883	8.3144
147	1.9331	0.8447	0.5264	3.3042
148	3.2053	2.5564	0.1972	5.9589
149	2.8811	1.5975	0.0078	4.4864
150	3.0061	1.6944	0.2344	4.9350
151	3.3431	2.3858	0.7394	6.4683
152	0.7831	0.2114	0.0283	1.0228
153	4.4719	5.2894	0.7961	10.5575
154	2.4408	2.0328	0.4047	4.8783
155	3.1878	9.0394	0.0469	12.2742
156	2.7511	1.4842	0.1686	4.4039
157	3.0436	2.2597	0.0339	5.3372
158	1.5306	2.4225	0.0053	3.9583
159	2.4511	2.4550	0.4228	5.3289
160	2.6933	1.3725	0.0194	4.0853
161	2.7264	2.1039	0.2269	5.0572
162	2.6069	2.3817	0.2183	5.2069
163	3.7289	0.8511	0.0558	4.6358
164	3.0200	1.1764	1.1436	5.3400
165	1.8961	0.8189	0.5047	3.2197
166	2.4603	1.2244	0.9972	4.6819
167	2.5764	0.7861	0.2658	3.6283

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
168	1.9919	1.8542	0.8631	4.7092
169	3.3525	1.4872	0.3622	5.2019
170	1.7650	0.9464	0.0189	2.7303
171	2.4061	1.0253	0.5250	3.9564
172	3.3997	1.6042	0.1892	5.1931
173	3.1886	3.5308	1.7508	8.4703
174	4.0331	2.0333	1.4381	7.5044
175	2.3086	0.9569	0.2764	3.5419
176	3.3075	2.8447	0.9186	7.0708
177	2.3717	0.7583	0.0100	3.1400
178	3.2031	1.9014	0.2756	5.3800
179	3.4556	1.0669	0.1831	4.7056
180	4.6786	2.6778	0.8069	8.1633
181	3.0125	1.0414	1.3194	5.3733
182	0.5325	0.0411	0.0467	0.6203
183	3.5328	3.2489	0.0214	6.8031
184	0.7108	0.1092	0.0419	0.8619
185	2.8086	6.5661	0.9717	10.3464
186	4.3364	7.4428	2.1050	13.8842
187	2.6831	10.9856	2.0267	15.6953
188	3.4517	9.9581	0.2608	13.6706
189	6.2183	7.8581	0.4417	14.5181
190	5.3681	8.6408	0.7444	14.7533
191	4.7483	8.4758	0.0100	13.2342
192	3.6219	1.6597	0.0347	5.3164
193	2.0139	1.3569	0.0267	3.3975
194	2.8289	8.1103	0.1303	11.0694
195	4.9756	6.6453	0.2056	11.8264
196	4.5600	11.1222	0.7756	16.4578
197	6.3436	14.3539	0.8086	21.5061
198	3.9589	3.8842	1.0903	8.9333
199	5.2594	6.9144	0.3453	12.5192
200	11.5608	10.4128	1.5286	23.5022
201	1.2475	3.0542	1.1586	5.4603

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
202	2.8997	8.4161	0.3572	11.6731
203	1.7764	6.0408	0.1000	7.9172
204	1.5992	2.3836	0.1211	4.1039
205	2.4833	4.6400	1.9111	9.0344
206	1.9339	3.3439	0.5300	5.8078
207	2.8786	4.7181	1.5581	9.1547
208	1.8308	5.2150	1.4536	8.4994
209	2.1092	3.6689	0.2983	6.0764
210	0.9658	0.6381	0.2447	1.8486
211	1.0083	0.5242	0.0278	1.5603
212	2.0094	2.7983	0.6242	5.4319
213	2.8514	3.2642	0.1994	6.3150
214	0.9656	0.2722	0.0136	1.2514
215	2.9364	3.3167	1.0158	7.2689
216	1.4475	2.1264	0.1333	3.7072
217	1.8544	3.8775	0.5094	6.2414
218	1.9361	3.6369	0.5961	6.1692
219	2.4364	4.0397	1.0228	7.4989
220	3.4925	3.6675	1.3428	8.5028
221	1.8078	4.4658	0.4319	6.7056
222	1.7939	3.4094	1.2503	6.4536
223	2.6264	1.0425	0.0300	3.6989
224	4.5903	3.5269	0.4758	8.5931
225	1.0000	2.2317	0.0311	3.2628
226	3.6442	3.2136	0.4394	7.2972
227	1.9411	3.2092	0.2447	5.3950
228	1.4403	2.4756	0.1003	4.0161
229	1.3197	2.5686	0.2800	4.1683
230	3.1919	3.4675	1.9342	8.5936
231	1.9283	1.1647	0.6647	3.7578
232	2.7119	2.0014	0.2225	4.9358
233	2.2989	1.6161	0.0394	3.9544
234	4.3586	1.8828	0.4244	6.6658
235	4.6378	8.5083	0.4131	13.5592

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
236	2.6664	2.2631	0.8669	5.7964
237	4.2147	4.7567	0.6381	9.6094
238	2.8786	2.9206	0.6878	6.4869
239	2.5747	1.9747	0.7172	5.2667
240	3.9758	3.8853	0.6728	8.5339
241	3.8797	5.4753	0.7033	10.0583
242	3.8944	5.5492	1.0306	10.4742
243	3.3083	6.3883	0.3267	10.0233
244	1.8153	1.5450	0.2503	3.6106
245	3.1269	1.3869	0.0519	4.5658
246	2.1572	5.3258	0.5842	8.0672
247	4.4344	4.6978	0.4192	9.5514
248	5.0200	5.3908	0.9447	11.3556
249	2.7308	4.4281	0.5028	7.6617
250	3.6944	3.0806	0.9350	7.7100
251	3.6367	2.1078	0.8231	6.5675
252	2.5450	1.8267	1.2736	5.6453
253	2.5258	2.2639	0.8431	5.6328
254	3.3517	9.4936	0.6572	13.5025
255	3.7167	2.0708	0.2092	5.9967
256	1.3889	0.2769	0.0403	1.7061
257	6.5436	7.1711	1.4481	15.1628
258	9.3086	10.4233	2.2400	21.9719
259	5.6233	5.5683	0.6069	11.7986
260	7.4894	6.2489	1.9636	15.7019
261	6.2650	6.2508	0.4281	12.9439
262	5.4553	3.4372	0.7403	9.6328
263	6.5325	3.3422	1.0381	10.9128
264	2.8644	1.8372	0.0017	4.7033
265	5.0219	2.5186	0.4931	8.0336
266	3.3508	4.8842	0.3308	8.5658
267	6.8775	3.9681	0.9269	11.7725
268	4.0586	3.6394	0.4808	8.1789
269	6.0308	4.3831	0.1931	10.6069

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
270	7.8050	4.8008	2.5244	15.1303
271	5.5047	2.4025	0.3583	8.2656
272	4.9281	3.0572	0.5606	8.5458
273	1.4692	1.0333	0.0219	2.5244
274	2.4342	1.5672	0.0233	4.0247
275	4.1019	3.9972	2.0678	10.1669
276	2.6706	2.5200	0.2050	5.3956
277	4.6944	5.1997	1.3067	11.2008
278	1.9956	1.7858	0.5536	4.3350
279	2.9594	3.1997	0.7050	6.8642
280	2.1136	1.6753	0.2306	4.0194
281	2.8550	1.9019	0.2603	5.0172
282	3.9000	3.5794	0.4636	7.9431
283	1.1625	1.4361	0.1394	2.7381
284	1.7456	1.0497	0.5617	3.3569
285	1.7989	2.4092	0.0189	4.2269
286	3.3367	2.9125	0.5525	6.8017
287	1.9892	2.4892	0.3667	4.8450
288	2.6222	1.7503	0.0703	4.4428
289	3.6078	2.7450	0.6353	6.9881
290	2.0044	1.0211	0.0311	3.0567
291	2.4158	0.9047	0.2631	3.5836
292	2.1356	2.3433	0.5028	4.9817
293	2.2231	1.5903	0.5711	4.3844
294	2.8644	3.1075	0.4919	6.4639
295	0.2108	0.0633	0.0000	0.2742
296	1.9014	1.8403	1.0394	4.7811
297	2.9031	4.4192	0.6978	8.0200
298	1.9625	3.3217	0.0542	5.3383
299	2.0869	2.8408	1.1297	6.0575
300	1.6258	1.6569	0.0347	3.3175
301	4.5122	3.8894	0.6261	9.0278
302	4.1278	1.6464	0.0475	5.8217
303	6.2114	4.2344	0.3983	10.8442

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
304	2.6103	2.0922	0.0267	4.7292
305	0.4117	0.1172	0.0283	0.5572
306	3.4714	2.1828	0.8103	6.4644
307	1.5125	0.6031	0.0250	2.1406
308	5.5181	4.2489	2.6778	12.4447
309	6.0225	2.0228	2.0078	10.0531
310	4.0847	1.5842	0.0175	5.6864
311	1.4900	0.2317	0.0156	1.7372
312	3.5197	3.0561	0.8253	7.4011
313	6.0636	4.5928	0.7078	11.3642
314	2.2550	0.2897	0.0028	2.5475
315	6.0408	0.2864	0.0072	6.3344
316	3.1842	1.1014	0.7919	5.0775
317	4.3528	1.1797	0.3344	5.8669
318	4.8617	1.7694	0.0133	6.6444
319	7.8217	6.0928	3.4814	17.3958
320	3.0725	2.1761	2.1494	7.3981
321	9.8300	2.0989	0.5414	12.4703
322	3.2608	1.2592	0.2639	4.7839
323	4.6886	1.1361	0.0192	5.8439
324	4.9703	1.6731	1.4683	8.1117
325	7.0594	1.6897	1.6003	10.3494
326	2.9514	0.7147	0.1522	3.8183
327	2.7103	1.0303	0.3067	4.0472
328	1.6869	3.1344	0.6544	5.4758
329	1.2556	0.4586	1.2414	2.9556
330	4.8722	2.1028	0.4786	7.4536
331	4.9086	1.5739	1.2694	7.7519
332	4.5067	1.2261	0.0139	5.7467
333	0.3953	0.5817	0.0017	0.9786
334	3.1694	0.9753	0.1719	4.3167
335	1.9167	1.8158	0.6769	4.4094
336	3.9525	2.1372	0.1442	6.2339
337	1.9008	1.7986	0.9186	4.6181

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
338	3.0481	2.2728	0.0072	5.3281
339	1.6353	2.6542	0.0097	4.2992
340	3.2456	0.9861	0.1361	4.3678
341	0.7089	0.2456	0.0200	0.9744
342	0.4639	0.8036	0.6519	1.9194
343	2.8606	2.4422	0.1978	5.5006
344	8.9050	5.6353	2.7747	17.3150
345	3.6622	2.8753	1.1186	7.6561
346	7.0847	8.2553	0.9394	16.2794
347	6.9672	4.0506	0.3053	11.3231
348	4.2142	5.9808	0.2322	10.4272
349	4.8081	2.5267	0.3025	7.6372
350	7.5653	5.7017	2.0178	15.2847
351	7.4767	7.3844	1.3667	16.2278
352	4.0661	0.4033	0.0139	4.4833
353	7.4681	3.4344	0.4144	11.3169
354	7.0947	3.0636	0.8211	10.9794
355	9.8769	7.0625	2.9864	19.9258
356	1.3897	1.8247	0.0033	3.2178
357	12.1842	4.8597	0.5228	17.5667
358	7.6122	2.2075	0.7036	10.5233
359	6.0989	1.9458	0.8850	8.9297
360	12.6169	2.2933	1.6603	16.5706
361	9.3286	7.1444	0.2644	16.7375
362	4.2700	2.1867	1.0025	7.4592
363	0.2819	0.0058	0.0017	0.2894
364	4.0700	0.9175	0.3011	5.2886
365	0.1872	0.2008	0.0086	0.3967
366	2.5231	0.2000	0.0031	2.7261
367	3.7222	0.9628	0.3186	5.0036
368	4.7286	4.1953	0.3878	9.3117
369	3.2975	2.9639	1.5211	7.7825
370	6.5836	5.0047	3.8181	15.4064
371	4.1822	4.0694	0.1256	8.3772

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
372	3.4583	1.4333	0.0264	4.9181
373	3.0614	1.1072	0.5017	4.6703
374	2.3072	1.1919	1.1889	4.6881
375	3.9511	2.4142	0.3572	6.7225
376	2.9631	1.6686	0.5467	5.1783
377	5.5425	3.7286	1.8583	11.1294
378	4.0081	4.1275	0.3978	8.5333
379	1.0233	0.6858	0.3342	2.0433
380	1.8783	1.5417	0.3989	3.8189
381	3.9117	1.0758	0.4289	5.4164
382	5.3219	5.0803	1.9503	12.3525
383	2.8706	6.0867	0.7569	9.7142
384	1.1400	0.4242	0.0075	1.5717
385	2.3122	0.7544	0.0369	3.1036
386	1.3808	0.2444	0.0325	1.6578
387	2.4667	2.9572	0.0525	5.4764
388	4.4322	2.4975	0.2717	7.2014
389	5.0328	2.5358	1.5608	9.1294
390	3.5139	4.0114	0.5897	8.1150
391	2.2225	0.1878	0.0944	2.5047
392	3.6014	5.0550	1.1411	9.7975
393	5.2942	1.4722	0.7050	7.4714
394	4.0961	1.1619	0.3300	5.5881
395	2.7397	0.7136	0.5575	4.0108
396	1.3869	0.2494	0.4217	2.0581
397	1.7547	1.0722	0.6103	3.4372
398	1.9394	0.6158	0.0506	2.6058
399	4.0153	0.7911	0.3650	5.1714
400	3.4750	1.9039	1.1628	6.5417
401	3.6208	1.7625	1.7642	7.1475
402	4.1539	1.4431	0.2658	5.8628
403	2.0494	1.1703	0.4447	3.6644
404	2.5197	1.6475	0.0406	4.2078
405	1.5636	1.6369	0.3981	3.5986

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
406	1.1794	0.4150	1.9633	3.5578
407	0.3758	2.0639	0.0000	2.4397
408	1.4064	0.9689	4.5528	6.9281
409	1.3631	0.4817	0.7653	2.6100
410	1.1239	0.2778	0.3450	1.7467
411	0.7711	0.4250	4.6039	5.8000
412	0.2908	0.0439	2.0969	2.4317
413	0.7217	4.1689	0.5294	5.4200
414	1.0456	1.8711	2.3178	5.2344
415	1.0703	3.5147	0.2919	4.8769
416	0.7617	1.8306	0.6189	3.2111
417	1.4733	3.9789	1.7839	7.2361
418	1.2592	2.2692	1.8928	5.4211
419	0.8144	0.9714	2.0636	3.8494
420	1.0875	0.9936	0.9419	3.0231
421	0.9308	0.8322	0.3625	2.1256
422	0.8792	1.2744	0.4728	2.6264
423	1.8917	0.7564	1.9936	4.6417
424	1.8967	2.5536	2.1119	6.5622
425	1.0969	1.5675	1.5969	4.2614
426	0.6383	2.1197	0.9375	3.6956
427	1.3581	2.2444	6.3200	9.9225
428	2.4594	0.8033	6.1497	9.4125
429	1.5306	0.7600	1.2239	3.5144
430	1.4775	0.7867	1.7428	4.0069
431	3.4492	1.0711	3.2950	7.8153
432	1.6756	1.8531	5.8956	9.4242
433	0.2764	0.0267	4.2656	4.5686
434	1.3361	0.0797	0.5364	1.9522
435	1.6856	0.0881	0.0000	1.7736
436	0.9392	0.0989	0.1217	1.1597
437	0.2558	3.3033	0.5375	4.0967
438	1.8686	0.0547	0.0000	1.9233
439	1.9828	1.0367	2.4097	5.4292

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
440	1.2464	0.7556	1.9253	3.9272
441	0.7619	0.2569	0.0122	1.0311
442	2.0489	1.4594	2.8097	6.3181
443	0.6442	0.3311	1.6011	2.5764
444	0.5033	1.4014	1.0442	2.9489
445	0.6597	1.3347	2.3383	4.3328
446	0.3219	1.3403	0.4697	2.1319
447	1.2736	6.4172	0.0000	7.6908
448	0.9950	0.3289	5.1939	6.5178
449	1.2814	2.2206	3.8519	7.3539
450	1.2117	0.0847	0.0000	1.2964
451	1.1044	0.7883	1.1456	3.0383
452	0.1436	0.2761	8.9414	9.3611
453	1.0725	2.6953	0.0000	3.7678
454	0.6356	0.2686	1.4783	2.3825
455	0.1217	0.9092	7.6075	8.6383
456	2.4019	0.2078	0.4756	3.0853
457	1.2364	0.1706	3.7958	5.2028
458	0.9706	0.3506	1.0911	2.4122
459	0.8231	0.0156	0.0200	0.8586
460	0.4483	1.3750	2.7539	4.5772
461	1.2628	2.3500	1.8500	5.4628
462	0.6825	1.0978	3.0269	4.8072
463	2.1192	2.6131	0.1664	4.8986
464	0.8042	1.7992	1.7317	4.3350
465	2.6844	2.2622	4.1061	9.0528
466	1.1858	1.0425	2.3050	4.5333
467	0.1297	1.3619	2.9419	4.4336
468	0.6011	1.9214	1.6133	4.1358
469	0.1861	1.7822	3.0244	4.9928
470	0.1581	1.3878	3.1200	4.6658
471	1.2292	1.2133	2.3417	4.7842
472	0.7258	0.6094	2.5189	3.8542
473	0.9631	3.3197	1.2586	5.5414

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
474	0.4300	1.9017	2.7603	5.0919
475	1.3506	2.7272	1.5131	5.5908
476	1.5064	1.7681	3.0186	6.2931
477	1.0242	2.1461	1.9536	5.1239
478	2.0681	1.3692	0.9208	4.3581
479	1.3728	0.8294	1.8686	4.0708
480	1.9367	1.1428	2.4681	5.5475
481	0.7911	0.2278	2.3675	3.3864
482	0.2686	0.6686	2.7003	3.6375
483	0.1678	2.6075	0.2789	3.0542
484	1.2053	1.4233	3.9119	6.5406
485	3.6200	1.8803	2.7072	8.2075
486	0.5844	0.2542	3.8158	4.6544
487	3.2817	1.3178	1.3281	5.9275
488	0.4644	5.0475	0.7311	6.2431
489	0.9228	1.9233	3.0950	5.9411
490	1.5964	6.5856	0.4789	8.6608
491	2.1275	6.8217	3.1717	12.1208
492	0.2775	6.8639	2.7553	9.8967
493	1.9128	8.2847	2.8675	13.0650
494	2.4203	2.5542	2.1442	7.1186
495	1.8353	2.7150	1.0781	5.6283
496	1.4114	1.7972	1.8147	5.0233
497	2.3889	1.8197	4.3572	8.5658
498	1.5153	0.6558	3.2286	5.3997
499	0.7414	1.2558	1.0947	3.0919
500	2.2458	1.2042	2.3117	5.7617
501	2.7017	5.4428	3.8267	11.9711
502	2.4442	6.2642	1.7269	10.4353
503	1.2122	1.6131	3.0914	5.9167
504	1.6544	2.1092	3.1303	6.8939
505	1.2631	0.6681	2.1108	4.0419
506	1.3397	0.4911	1.9875	3.8183
507	1.5817	1.3828	1.5092	4.4736

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
508	1.7833	0.1275	1.3689	3.2797
509	1.2136	0.7422	1.3383	3.2942
510	0.7906	0.1797	0.3803	1.3506
511	1.7356	0.2336	0.2003	2.1694
512	1.8733	0.1161	0.0000	1.9894
513	2.1806	1.0797	1.1994	4.4597
514	1.8400	0.5119	2.8008	5.1528
515	0.9047	0.6961	4.9717	6.5725
516	1.2539	1.2875	0.1900	2.7314
517	1.9650	0.6444	1.1783	3.7878
518	2.4664	0.3181	0.2489	3.0333
519	2.0289	1.3817	0.2803	3.6908
520	0.9183	0.5542	2.9353	4.4078
521	1.0511	3.0211	0.0000	4.0722
522	0.1425	0.0942	1.7278	1.9644
523	1.0692	1.4106	1.9878	4.4675
524	1.3897	1.0953	3.4833	5.9683
525	1.4528	0.8939	0.2239	2.5706
526	0.7881	0.6078	0.4353	1.8311
527	4.2258	0.7111	3.5122	8.4492
528	0.6011	0.0581	1.4144	2.0736
529	0.5456	0.0000	0.0000	0.5456
530	0.2342	0.0103	3.5617	3.8061
531	4.0292	1.3825	6.3017	11.7133
532	2.2042	0.0336	5.8836	8.1214
533	0.5239	1.4186	6.4142	8.3567
534	1.0644	1.1894	0.4061	2.6600
535	1.4336	3.2889	1.6383	6.3608
536	2.5636	2.6522	0.5592	5.7750
537	0.4164	2.9172	2.0253	5.3589
538	0.4864	1.5694	4.1219	6.1778
539	1.1831	4.0964	5.8631	11.1425
540	0.4442	0.8806	5.1342	6.4589
541	0.5253	0.5767	3.0703	4.1722

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
542	0.3322	1.5478	4.1886	6.0686
543	0.3911	3.1933	6.4025	9.9869
544	0.1006	0.5194	9.6772	10.2972
545	0.1181	0.7497	12.7925	13.6603
546	0.9728	1.0272	5.9936	7.9936
547	0.7881	0.3656	7.9997	9.1533
548	0.5253	0.8867	7.7094	9.1214
549	4.4417	5.4775	0.0103	9.9294
550	0.2917	0.7156	3.4967	4.5039
551	0.4786	0.5619	2.2969	3.3375
552	0.9158	0.2478	3.5169	4.6806
553	0.1928	0.7956	12.3700	13.3583
554	0.1211	1.0644	7.1725	8.3581
555	0.2333	1.6917	9.1042	11.0292
556	0.2953	0.9153	11.2736	12.4842
557	1.7267	1.5675	2.6517	5.9458
558	0.2272	0.9211	11.6714	12.8197
559	0.1111	0.5706	6.3094	6.9911
560	0.1792	0.4997	11.7542	12.4331
561	0.1303	0.3761	7.3728	7.8792
562	0.2153	0.4611	8.6136	9.2900
563	0.2675	0.3642	5.9475	6.5792
564	0.1256	0.8067	3.4828	4.4150
565	0.3350	0.7256	7.2503	8.3108
566	0.1214	3.5164	1.0983	4.7361
567	0.2936	0.6853	1.0797	2.0586
568	0.7717	5.4506	1.9772	8.1994
569	0.9242	4.7689	2.8286	8.5217
570	0.8786	4.3292	2.7639	7.9717
571	0.4031	4.0728	5.2008	9.6767
572	0.8825	2.2133	1.4406	4.5364
573	1.2056	2.6878	0.7425	4.6358
574	0.9528	4.8717	6.2878	12.1122
575	1.0856	3.1067	8.3767	12.5689

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
576	0.9133	2.5647	2.0561	5.5342
577	0.7056	4.2772	2.0981	7.0808
578	0.5375	5.8864	2.8753	9.2992
579	0.2683	2.1808	4.9133	7.3625
580	0.7508	2.6944	5.2533	8.6986
581	0.6050	1.3231	5.9736	7.9017
582	0.5256	2.9917	2.3489	5.8661
583	0.5347	3.1681	2.8606	6.5633
584	0.5542	2.0386	3.8578	6.4506
585	0.5600	3.1356	4.0111	7.7067
586	0.2547	1.4575	0.7914	2.5036
587	0.5725	4.7253	3.2875	8.5853
588	0.3433	2.8753	8.2911	11.5097
589	0.5350	3.1761	6.5175	10.2286
590	2.2431	0.9719	1.1153	4.3303
591	0.7611	1.2828	5.1256	7.1694
592	1.7864	4.0986	6.8961	12.7811
593	0.9244	2.6886	2.9292	6.5422
594	1.9375	0.9294	3.9878	6.8547
595	2.6131	2.7769	2.2744	7.6644
596	0.5744	1.8106	1.2933	3.6783
597	0.4317	1.6083	0.5839	2.6239
598	0.3206	1.3000	8.1789	9.7994
599	1.2225	2.7161	1.6617	5.6003
600	1.3108	0.7433	0.5364	2.5906
601	1.0086	1.8756	3.6058	6.4900
602	1.9664	5.2744	1.7286	8.9694
603	2.0856	2.0717	0.3786	4.5358
604	1.3736	1.6811	2.2044	5.2592
605	0.5714	1.4558	1.7733	3.8006
606	0.3456	1.4147	0.0000	1.7603
607	2.1139	6.4119	0.0000	8.5258
608	1.1919	3.4286	0.0000	4.6206
609	1.1300	5.0411	0.0350	6.2061

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
610	2.8603	2.6778	0.0000	5.5381
611	1.6144	1.4894	0.0000	3.1039
612	1.0675	5.4408	0.0000	6.5083
613	1.9364	1.2447	0.0000	3.1811
614	1.1639	0.4297	0.0000	1.5936
615	1.3803	1.7083	0.0000	3.0886
616	1.3767	4.8850	0.0000	6.2617
617	1.7300	2.7736	4.0981	8.6017
618	1.8222	0.5242	3.8575	6.2039
619	3.2964	3.2442	1.3997	7.9403
620	0.5158	0.2047	0.0000	0.7206
621	2.8189	1.7564	5.4294	10.0047
622	1.7267	0.7450	1.6425	4.1142
623	3.0864	3.3819	0.7728	7.2411
624	3.8603	0.5028	0.0000	4.3631
625	1.9158	1.9092	2.1286	5.9536
626	1.0356	3.4350	5.9311	10.4017
627	1.7917	3.1644	3.1653	8.1214
628	0.8081	0.3806	2.0917	3.2803
629	1.0333	1.4142	1.3919	3.8394
630	0.2881	0.8097	3.8903	4.9881
631	0.7986	0.9614	0.0000	1.7600
632	0.7100	2.4589	0.5106	3.6794
633	0.2786	0.5639	0.0000	0.8425
634	2.7633	3.5314	1.8397	8.1344
635	1.7103	1.8397	0.1528	3.7028
636	0.9744	0.8497	0.2122	2.0364
637	0.2847	2.9678	8.2917	11.5442
638	0.3011	0.6408	1.3558	2.2978
639	0.1392	0.0031	0.0000	0.1422
640	0.2139	0.5231	3.2050	3.9419
641	0.1597	1.8750	0.0486	2.0833
642	0.5675	0.2239	1.0464	1.8378
643	0.7531	1.9556	1.7378	4.4464

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
644	1.1378	1.9900	0.6394	3.7672
645	1.4106	0.4289	1.4003	3.2397
646	1.6433	2.0553	0.0000	3.6986
647	1.1894	1.4186	3.7875	6.3956
648	0.4522	0.6539	0.0000	1.1061
649	1.5756	0.6003	3.3872	5.5631
650	1.7539	0.3086	0.0000	2.0625
651	1.5244	0.9633	0.0000	2.4878
652	1.6150	0.8569	2.7911	5.2631
653	0.9425	0.8300	3.0767	4.8492
654	2.0564	0.4128	2.3364	4.8056
655	2.5283	2.0003	5.9161	10.4447
656	1.5175	0.4458	3.6878	5.6511
657	1.7803	1.0633	0.0000	2.8436
658	1.5808	2.0892	1.5392	5.2092
659	1.6175	0.8744	0.9339	3.4258
660	1.2069	1.3092	2.6283	5.1444
661	1.4411	1.6058	2.4092	5.4561
662	2.3564	3.0831	0.0183	5.4578
663	1.3264	0.6064	2.6642	4.5969
664	0.9233	0.5839	2.3042	3.8114
665	1.5544	0.3233	2.1933	4.0711
666	1.3781	0.7467	0.3158	2.4406
667	0.4906	0.1406	8.2389	8.8700
668	0.5664	0.0000	0.4494	1.0158
669	1.1089	0.4956	4.4497	6.0542
670	1.1336	1.0003	4.5892	6.7231
671	0.8867	0.4689	3.9406	5.2961
672	2.2394	9.2417	2.4808	13.9619
673	2.0803	8.2942	0.8156	11.1900
674	2.0336	3.0367	0.5889	5.6592
675	1.4911	5.1411	5.1378	11.7700
676	1.8003	3.1581	1.8692	6.8275
677	3.4169	3.0142	0.8297	7.2608

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
678	1.6789	2.3789	7.0961	11.1539
679	2.7633	4.5472	0.2050	7.5156
680	0.5825	0.4458	2.2192	3.2475
681	0.5050	3.0133	0.8958	4.4142
682	0.5361	3.0378	1.3167	4.8906
683	0.4764	3.0700	0.6044	4.1508
684	0.3133	2.9506	0.7236	3.9875
685	0.2650	6.2672	2.8161	9.3483
686	1.2858	1.7931	5.2411	8.3200
687	1.3347	1.9417	0.4944	3.7708
688	1.1278	3.1525	3.4472	7.7275
689	0.5300	1.8717	2.4600	4.8617
690	1.1239	0.8500	1.6319	3.6058
691	1.0600	1.4194	2.7744	5.2539
692	2.4653	2.2181	0.2897	4.9731
693	1.8536	3.8806	4.7833	10.5175
694	1.2161	1.7922	0.2939	3.3022
695	2.1850	0.8675	5.7631	8.8156
696	2.0311	2.5033	2.5700	7.1044
697	1.0844	0.4111	2.5642	4.0597
698	0.8775	1.2086	1.2072	3.2933
699	1.4681	0.1092	1.7200	3.2972
700	0.4981	0.3608	0.0000	0.8589
701	2.0508	0.1386	1.7372	3.9267
702	0.4331	0.0864	0.0000	0.5194
703	0.4772	0.1906	0.6506	1.3183
704	0.7497	0.0078	0.0000	0.7575
705	0.7631	0.0192	0.0000	0.7822
706	0.6864	0.9292	2.8547	4.4703
707	0.7050	0.3731	4.0622	5.1403
708	0.6500	1.6478	0.0297	2.3275
709	0.5128	2.3586	0.8231	3.6944
710	3.5633	2.8047	1.2642	7.6322
711	0.6281	1.2578	4.4183	6.3042

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
712	1.4853	1.8153	3.1444	6.4450
713	0.4003	0.4836	2.3969	3.2808
714	0.6214	1.6058	3.5133	5.7406
715	0.3797	1.4819	0.5994	2.4611
716	0.9594	2.2825	3.3986	6.6406
717	0.8181	1.4114	1.7778	4.0072
718	1.1853	0.2356	1.5294	2.9503
719	1.0314	0.5131	2.6669	4.2114
720	0.6683	0.9617	1.9169	3.5469
721	2.6222	1.3389	1.0344	4.9956
722	1.1247	0.3700	0.8281	2.3228
723	0.3708	0.4814	1.6044	2.4567
724	0.4200	2.7833	3.0519	6.2553
725	0.2439	0.9478	2.1944	3.3861
726	0.6989	1.3033	3.2286	5.2308
727	0.7794	0.9942	0.5575	2.3311
728	0.7756	2.0536	3.1431	5.9722
729	0.5786	0.9575	1.6397	3.1758
730	1.0486	0.2750	1.1789	2.5025
731	2.6233	0.4481	2.2353	5.3067
732	0.1717	0.2869	0.0000	0.4586
733	1.0914	0.2772	0.6511	2.0197
734	0.5975	1.9678	2.0492	4.6144
735	1.0478	0.3183	1.4308	2.7969
736	0.5500	0.4042	0.6669	1.6211
737	2.3467	2.0200	1.0314	5.3981
738	0.7883	0.1775	3.6986	4.6644
739	0.6531	0.2119	0.9542	1.8192
740	1.2156	0.8194	1.4689	3.5039
741	0.9436	0.6069	1.2081	2.7586
742	0.5869	0.8972	2.0500	3.5342
743	1.1900	0.8558	0.0000	2.0458
744	1.1008	3.3633	2.1911	6.6553
745	1.0053	0.5489	1.9125	3.4667

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
746	0.8358	0.9400	0.6031	2.3789
747	2.2361	0.8483	1.8775	4.9619
748	1.3531	0.2039	5.8939	7.4508
749	0.3558	0.1894	3.7683	4.3136
750	0.2389	0.0000	0.1050	0.3439
751	0.4356	0.0944	1.5064	2.0364
752	0.5414	0.3725	2.8711	3.7850
753	1.5119	0.0489	0.0000	1.5608
754	0.5144	1.5717	2.6564	4.7425
755	0.9567	0.3756	2.1636	3.4958
756	1.8094	3.3444	2.0614	7.2153
757	1.4778	0.3011	1.8481	3.6269
758	0.5236	1.0028	1.8839	3.4103
759	0.3303	0.1631	0.3678	0.8611
760	0.1014	0.1731	1.6308	1.9053
761	0.5017	4.4300	1.5028	6.4344
762	0.3944	0.6728	2.6481	3.7153
763	0.3847	0.1178	0.1142	0.6167
764	1.1969	2.3700	4.3761	7.9431
765	1.2231	6.1106	0.7894	8.1231
766	0.6728	4.3528	1.0183	6.0439
767	0.7319	4.9231	0.4867	6.1417
768	0.2831	8.0639	0.3417	8.6886
769	0.7089	0.0083	0.0000	0.7172
770	0.7192	2.5197	1.7217	4.9606
771	2.3367	2.4642	1.7361	6.5369
772	1.5683	0.8819	3.2122	5.6625
773	0.7758	0.0086	0.0000	0.7844
774	0.6236	0.6869	1.8858	3.1964
775	0.6992	0.2433	1.6442	2.5867
776	1.5383	0.2586	2.7297	4.5267
777	0.6183	3.3256	3.0097	6.9536
778	0.9892	1.2369	3.9456	6.1717
779	1.2533	0.3172	0.9039	2.4744

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
780	0.9258	1.5900	0.1183	2.6342
781	2.2711	1.3483	3.4361	7.0556
782	1.3931	0.3328	0.0000	1.7258
783	2.4522	4.9269	0.2125	7.5917
784	1.1083	1.3872	0.1567	2.6522
785	0.6811	2.5903	5.7731	9.0444
786	0.6903	0.1639	2.3967	3.2508
787	2.6242	1.4750	1.7603	5.8594
788	1.8761	0.2836	0.2319	2.3917
789	0.7483	0.1253	2.5667	3.4403
790	1.1703	0.7017	1.5122	3.3842
791	1.4772	5.2764	1.3733	8.1269
792	1.4158	0.5922	4.8411	6.8492
793	3.2142	1.3864	1.5019	6.1025
794	2.1064	0.4253	0.6744	3.2061
795	1.0478	3.1794	1.1589	5.3861
796	0.8675	1.4328	2.4619	4.7622
797	0.3578	0.0972	0.2261	0.6811
798	1.5847	1.0400	1.8875	4.5122
799	0.7794	4.1994	5.8944	10.8733
800	1.4553	0.5967	0.1439	2.1958
801	1.5781	2.5264	2.1106	6.2150
802	1.3519	1.1622	5.1775	7.6917
803	1.1906	0.3200	4.2314	5.7419
804	0.5011	0.4269	3.5031	4.4311
805	0.2842	0.3289	2.3094	2.9225
806	0.6131	0.6161	4.1189	5.3481
807	0.6925	0.1397	2.1944	3.0267
808	0.3367	1.4286	0.7583	2.5236
809	0.4375	0.3789	4.9822	5.7986
810	0.4031	2.5572	2.5028	5.4631
811	0.1019	0.6553	3.7072	4.4644
812	0.1219	0.0253	0.0925	0.2397
813	0.2531	0.0042	0.0000	0.2572

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
814	0.2192	0.0303	0.0000	0.2494
815	0.2000	0.1014	0.0439	0.3453
816	0.2508	0.1578	4.7286	5.1372
817	0.4492	0.7775	3.1308	4.3575
818	0.4706	0.9728	4.9061	6.3494
819	0.4428	0.0042	0.0000	0.4469
820	0.1231	0.1269	0.0000	0.2500
821	0.2014	0.0042	1.1756	1.3811
822	0.1328	0.1200	0.0306	0.2833
823	0.3264	0.5819	0.2917	1.2000
824	0.1389	0.1167	0.0000	0.2556
825	0.1425	0.0000	0.0000	0.1425
826	0.2567	0.0000	0.2942	0.5508
827	0.2125	0.0000	0.3239	0.5364
828	0.1733	0.0042	0.0000	0.1775
829	3.2617	0.5453	0.0000	3.8069
830	0.1633	1.9128	1.0789	3.1550
831	0.5236	0.5269	0.0139	1.0644
832	1.0917	2.5342	0.9575	4.5833
833	0.9369	2.6069	1.5100	5.0539
834	2.3650	5.5175	3.3075	11.1900
835	0.5008	2.1925	2.4719	5.1653
836	0.6869	0.5047	4.7961	5.9878
837	0.4425	1.7842	0.1139	2.3406
838	0.3333	0.2794	3.4706	4.0833
839	0.1556	0.0583	0.3472	0.5611
840	0.5625	0.6967	2.8525	4.1117
841	0.8072	0.5522	0.9289	2.2883
842	2.2006	0.1203	1.5608	3.8817
843	1.1269	0.8867	4.7903	6.8039
844	0.4483	0.5292	7.6725	8.6500
845	0.4983	1.0456	6.2483	7.7922
846	1.8072	1.5156	9.6389	12.9617
847	1.3086	0.5647	5.0611	6.9344

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
848	0.8758	0.2608	4.5517	5.6883
849	1.0078	0.7994	5.0900	6.8972
850	1.1978	1.2875	5.0569	7.5422
851	0.9914	0.2842	4.4033	5.6789
852	0.9164	1.0989	5.4486	7.4639
853	0.1736	0.4625	7.4533	8.0894
854	0.5300	0.2972	4.1736	5.0008
855	0.2822	0.1831	1.4872	1.9525
856	2.9742	0.7811	4.8778	8.6331
857	0.4947	0.7519	6.8592	8.1058
858	0.4975	0.6042	5.7864	6.8881
859	0.4567	0.5067	7.5833	8.5467
860	0.5922	0.1919	1.2686	2.0528
861	0.9078	1.3958	2.4000	4.7036
862	0.7911	0.1506	5.2292	6.1708
863	1.6700	1.3394	2.7203	5.7297
864	0.2667	0.4392	3.1022	3.8081
865	0.2597	0.0233	2.2631	2.5461
866	0.2133	0.1631	1.1256	1.5019
867	0.4944	0.0228	1.6786	2.1958
868	0.9108	0.0397	1.3564	2.3069
869	0.7708	0.0928	5.2111	6.0747
870	0.6664	0.0731	4.5314	5.2708
871	0.6486	0.0111	6.1208	6.7806
872	0.4292	0.0000	0.8914	1.3206
873	0.3575	0.0000	0.0000	0.3575
874	0.5539	0.2681	7.4694	8.2914
875	0.8061	0.2158	5.7611	6.7831
876	0.6731	0.3464	6.7503	7.7697
877	0.9181	0.1222	1.5792	2.6194
878	1.0214	0.1397	3.3419	4.5031
879	1.0542	0.1814	1.4892	2.7247
880	0.6014	0.2378	2.2603	3.0994
881	0.6811	0.2181	0.0000	0.8992

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
882	0.4467	0.2056	0.0000	0.6522
883	1.2097	5.1478	1.1933	7.5508
884	1.1125	2.8578	1.0011	4.9714
885	1.2675	1.9164	0.3292	3.5131
886	1.5247	1.6744	0.0000	3.1992
887	2.4500	0.6094	1.0936	4.1531
888	1.4619	0.6867	0.0000	2.1486
889	1.1922	0.5297	2.8539	4.5758
890	1.7481	2.0517	2.1583	5.9581
891	2.0028	0.8908	0.0164	2.9100
892	1.2189	1.1239	0.9089	3.2517
893	3.1303	5.0875	2.8572	11.0750
894	1.1133	1.4072	3.4189	5.9394
895	0.7544	0.8947	1.7767	3.4258
896	0.7586	0.0950	4.9803	5.8339
897	0.5225	0.7672	3.5897	4.8794
898	0.8531	0.2742	1.4039	2.5311
899	2.1839	2.4006	3.0231	7.6075
900	1.0944	0.5631	5.5822	7.2397
901	1.5425	0.7711	0.6886	3.0022
902	1.3511	0.2350	1.1742	2.7603
903	1.5475	1.0825	0.3581	2.9881
904	1.8497	0.0950	3.6064	5.5511
905	0.4344	3.6103	0.0000	4.0447
906	0.5850	1.9194	1.8661	4.3706
907	1.2667	0.0822	2.7906	4.1394
908	1.4858	0.7508	0.3614	2.5981
909	1.0161	0.3106	4.1706	5.4972
910	1.3053	0.4803	0.5028	2.2883
911	2.4428	0.2228	1.9781	4.6436
912	2.3825	0.7422	4.0275	7.1522
913	1.9211	1.1292	0.8717	3.9219
914	0.4347	0.5592	0.1719	1.1658
915	1.1031	0.0592	2.8997	4.0619

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
916	1.8317	0.7358	2.4344	5.0019
917	1.7167	1.1089	2.5158	5.3414
918	1.1611	0.0469	0.7925	2.0006
919	0.8731	0.4461	1.0600	2.3792
920	1.0969	0.4061	2.5303	4.0333
921	0.6769	0.2550	2.2711	3.2031
922	1.8194	0.2436	0.2950	2.3581
923	1.3083	0.3064	0.3483	1.9631
924	0.8164	0.1089	1.7525	2.6778
925	1.4631	0.0347	0.5542	2.0519
926	1.3381	0.0825	0.0000	1.4206
927	1.4189	0.0569	5.4261	6.9019
928	0.7331	3.7158	2.2047	6.6536
929	0.3503	0.7244	0.0856	1.1603
930	0.7317	0.7581	3.3703	4.8600
931	0.6525	0.2503	1.3875	2.2903
932	0.9825	0.2644	0.9994	2.2464
933	3.9333	1.0672	1.9525	6.9531
934	1.8575	0.1028	1.6947	3.6550
935	2.2194	0.3117	3.6178	6.1489
936	0.3811	0.0172	0.0000	0.3983
937	0.7631	0.2192	0.5006	1.4828
938	1.4303	0.1031	4.6289	6.1622
939	0.3500	0.0453	0.0000	0.3953
940	0.7272	0.1872	0.0000	0.9144
941	2.3114	0.3844	2.3114	5.0072
942	2.7400	0.1083	2.6092	5.4575
943	1.4894	0.2772	0.5686	2.3353
944	0.4939	0.0000	0.0000	0.4939
945	1.4086	0.1547	3.1114	4.6747
946	1.0686	0.2503	4.2042	5.5231
947	3.2292	0.2431	0.5806	4.0528
948	0.6697	0.0144	4.8611	5.5453
949	0.7597	0.3797	0.0000	1.1394

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
950	0.7953	0.0450	0.0000	0.8403
951	0.3025	0.8089	0.4961	1.6075
952	2.4367	1.2667	0.4683	4.1717
953	0.7389	0.3736	0.0000	1.1125
954	0.6108	0.0739	1.4533	2.1381
955	0.9100	0.5786	0.0772	1.5658
956	0.4139	0.1169	0.0000	0.5308
957	1.3086	0.4172	0.0117	1.7375
958	0.6200	1.4408	1.7975	3.8583
959	2.4092	0.2256	1.7272	4.3619
960	0.2278	2.1225	2.0533	4.4036
961	0.4528	0.4433	1.4908	2.3869
962	0.5111	0.6725	3.3425	4.5261
963	0.3586	0.0936	2.7656	3.2178
964	0.6497	0.7125	1.3317	2.6939
965	0.3225	0.4439	3.4756	4.2419
966	0.4353	0.3983	1.2919	2.1256
967	0.1550	0.4528	0.9878	1.5956
968	0.2539	0.4142	1.4628	2.1308
969	0.7233	1.1208	4.8061	6.6503
970	0.4358	0.6503	0.2097	1.2958
971	0.4428	0.2353	2.1589	2.8369
972	0.1500	0.5892	4.1197	4.8589
973	0.4147	1.0333	2.9189	4.3669
974	0.1717	0.1083	2.0806	2.3606
975	0.3983	0.3678	4.3308	5.0969
976	0.5158	0.9133	0.2186	1.6478
977	0.3825	0.9392	3.9194	5.2411
978	0.3550	0.0528	0.0408	0.4486
979	0.3203	0.5397	2.5694	3.4294
980	0.1275	0.1906	3.5622	3.8803
981	0.3992	0.3442	2.3067	3.0500
982	0.1150	0.2203	2.5617	2.8969
983	0.2011	0.3231	0.0000	0.5242

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
984	0.4078	2.3475	5.0747	7.8300
985	0.3464	2.0117	2.0603	4.4183
986	0.1286	0.5092	0.4494	1.0872
987	0.1194	1.9119	7.9483	9.9797
988	0.1031	0.2678	0.4022	0.7731
989	0.2714	1.1742	0.7828	2.2283
990	0.1747	1.6167	3.7739	5.5653
991	0.6217	0.1797	3.1394	3.9408
992	1.5225	0.4011	0.0000	1.9236
993	0.8633	2.9617	2.0714	5.8964
994	0.3739	0.0411	0.0000	0.4150
995	1.5400	0.3133	2.7222	4.5756
996	2.2422	0.8775	4.7431	7.8628
997	0.8244	0.4075	1.9792	3.2111
998	1.3800	0.1919	2.3411	3.9131
999	0.3972	0.0528	2.7050	3.1550
1000	1.4664	0.1078	2.4064	3.9806
1001	1.8703	0.3686	4.4347	6.6736
1002	0.6206	0.2078	0.0000	0.8283
1003	0.5344	0.2983	3.9572	4.7900
1004	0.5369	0.2097	0.4492	1.1958
1005	0.1133	0.1572	0.1592	0.4297
1006	1.8767	0.1031	0.4908	2.4706
1007	0.9653	0.3669	0.4781	1.8103
1008	1.3519	0.1436	0.0000	1.4956
1009	1.3856	0.0942	0.0000	1.4797
1010	0.5875	0.0000	0.0000	0.5875
1011	0.3900	0.0000	0.9653	1.3553
1012	1.8994	0.3153	0.0961	2.3108
1013	0.4714	0.0000	0.0000	0.4714
1014	0.2431	0.1900	5.9331	6.3661
1015	0.1000	0.0133	0.0064	0.1197
1016	0.2564	1.8475	0.3369	2.4408
1017	0.1569	0.5322	2.7469	3.4361

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1018	0.6361	0.4875	0.6053	1.7289
1019	0.1519	0.0000	0.0000	0.1519
1020	1.2186	0.2500	5.0122	6.4808
1021	0.7783	0.0872	0.3319	1.1975
1022	0.1736	0.4403	0.3572	0.9711
1023	0.1817	0.0142	0.3589	0.5547
1024	0.6344	1.7200	0.7556	3.1100
1025	0.2889	0.3644	8.2917	8.9450
1026	1.0592	0.3558	2.1003	3.5153
1027	0.7069	0.0817	4.9656	5.7542
1028	0.4342	0.0092	0.1625	0.6058
1029	0.1400	0.0739	5.7772	5.9911
1030	1.1858	0.0958	3.3219	4.6036
1031	0.9783	0.2031	2.1128	3.2942
1032	2.1792	0.3278	1.0678	3.5747
1033	1.0947	0.2989	4.4286	5.8222
1034	3.2394	0.3261	2.6794	6.2450
1035	0.6478	0.2033	6.3172	7.1683
1036	0.6936	0.9592	8.5175	10.1703
1037	1.7711	0.6194	5.3000	7.6906
1038	0.8097	0.3122	0.5789	1.7008
1039	0.2203	0.1461	1.5203	1.8867
1040	0.1839	0.0058	0.0000	0.1897
1041	0.8097	0.1736	1.5753	2.5586
1042	1.1497	0.2189	3.2836	4.6522
1043	0.6683	0.2850	1.7122	2.6656
1044	1.2300	0.0750	0.0000	1.3050
1045	1.6183	0.0861	0.0000	1.7044
1046	0.9269	0.2478	0.1522	1.3269
1047	1.1097	0.1278	1.9258	3.1633
1048	0.2675	0.4261	2.6264	3.3200
1049	1.6925	0.9353	1.2517	3.8794
1050	0.7225	1.0147	1.4861	3.2233
1051	0.5153	1.6553	7.6339	9.8044

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1052	0.8597	0.5197	0.0000	1.3794
1053	1.3847	0.1989	1.3050	2.8886
1054	0.6403	0.0247	0.0000	0.6650
1055	2.4667	1.0386	3.4833	6.9886
1056	0.4872	0.7892	1.1664	2.4428
1057	0.1003	1.2444	1.7744	3.1192
1058	1.4828	0.5806	2.6206	4.6839
1059	1.1633	0.1758	1.3914	2.7306
1060	0.5500	0.5253	1.7656	2.8408
1061	1.4689	2.5200	3.9322	7.9211
1062	2.0131	0.8483	0.0189	2.8803
1063	1.3519	0.4817	0.0000	1.8336
1064	1.1625	0.3214	3.0494	4.5333
1065	1.2717	0.3419	1.4319	3.0456
1066	1.1300	0.7525	2.1458	4.0283
1067	1.2389	1.1931	0.1492	2.5811
1068	1.4675	0.6319	1.6886	3.7881
1069	1.8569	1.3808	1.9094	5.1472
1070	0.6297	0.4878	2.0700	3.1875
1071	2.2756	1.3236	0.1792	3.7783
1072	0.7278	1.2231	3.5303	5.4811
1073	0.5833	0.3003	2.2042	3.0878
1074	1.3492	0.4603	1.0817	2.8911
1075	1.6622	1.9214	0.0156	3.5992
1076	1.7481	6.2806	0.0117	8.0403
1077	1.4017	3.3089	0.8539	5.5644
1078	0.1436	0.1092	0.0142	0.2669
1079	0.9403	0.2681	2.0869	3.2953
1080	0.5914	0.3917	1.6614	2.6444
1081	0.1892	0.5311	0.2781	0.9983
1082	0.7583	0.4853	4.3289	5.5725
1083	0.5653	0.4017	4.7256	5.6925
1084	0.8494	0.3578	4.9239	6.1311
1085	1.0422	0.3861	1.6500	3.0783

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1086	0.7381	0.2589	2.0403	3.0372
1087	0.4222	0.0964	2.2942	2.8128
1088	0.6219	1.9325	2.3731	4.9275
1089	0.4167	2.1967	3.0750	5.6883
1090	1.7272	2.7125	2.5639	7.0036
1091	0.3956	2.6458	0.0947	3.1361
1092	0.7706	0.9097	3.3653	5.0456
1093	0.2578	1.2739	0.5208	2.0525
1094	0.1050	0.0000	0.0000	0.1050
1095	0.1414	0.0000	0.3019	0.4433
1096	0.7711	0.0000	0.0000	0.7711
1097	0.1061	0.0000	0.0000	0.1061
1098	0.1436	0.0000	0.0000	0.1436
1099	9.4569	0.0000	0.0000	9.4569
1100	0.8153	0.0000	0.0000	0.8153
1101	0.4978	0.0000	0.9561	1.4539
1102	0.5181	0.0000	0.7883	1.3064
1103	0.9031	0.0000	0.0000	0.9031
1104	0.8539	0.0000	0.0000	0.8539
1105	0.1411	0.0000	0.0000	0.1411
1106	6.5244	0.0000	0.0000	6.5244
1107	0.6156	0.0000	0.8106	1.4261
1108	1.7456	0.0000	0.2553	2.0008
1109	1.6500	0.0000	0.6861	2.3361
1110	2.2094	0.0000	0.2878	2.4972
1111	2.1217	0.0000	0.0000	2.1217
1112	0.7158	0.0083	0.1419	0.8661
1113	1.9975	3.0422	0.4361	5.4758
1114	1.0989	3.5275	0.0000	4.6264
1115	3.1625	5.2867	0.0000	8.4492
1116	1.8536	5.2239	0.0900	7.1675
1117	1.9836	4.6367	0.1625	6.7828
1118	5.1472	5.2808	0.1142	10.5422
1119	2.9883	7.3025	0.0000	10.2908

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1120	4.3228	6.1861	0.0217	10.5306
1121	3.7456	10.2661	0.7933	14.8050
1122	2.9617	6.4386	0.0208	9.4211
1123	0.7781	0.0000	0.0000	0.7781
1124	0.2367	0.0000	0.2494	0.4861
1125	1.0792	0.0000	0.0000	1.0792
1126	0.3414	0.0000	0.4711	0.8125
1127	0.1522	0.0000	0.4428	0.5950
1128	1.1039	0.0000	0.1750	1.2789
1129	0.5206	0.0544	0.0000	0.5750
1130	1.1039	0.3819	0.0158	1.5017
1131	0.4694	0.0686	0.0000	0.5381
1132	0.8617	0.4094	0.5128	1.7839
1133	2.1686	1.7447	0.6567	4.5700
1134	0.7039	0.1200	0.0000	0.8239
1135	1.3153	0.5175	0.0000	1.8328
1136	0.4075	0.0078	0.0000	0.4153
1137	1.5183	0.1794	0.0000	1.6978
1138	1.3064	0.1233	0.4842	1.9139
1139	0.9614	0.7719	0.5747	2.3081
1140	0.7264	0.3114	1.0161	2.0539
1141	2.1047	0.4486	0.0000	2.5533
1142	1.1722	0.1756	0.0081	1.3558
1143	1.1786	0.0514	0.0000	1.2300
1144	1.5061	0.2217	0.0000	1.7278
1145	0.6050	0.4536	0.6783	1.7369
1146	1.3525	1.2317	0.0047	2.5889
1147	0.1850	0.0092	0.0000	0.1942
1148	0.2486	0.0175	0.0000	0.2661
1149	2.5769	0.1672	0.1994	2.9436
1150	1.7450	0.2628	0.4869	2.4947
1151	0.6347	0.0297	0.6972	1.3617
1152	1.2533	0.5497	0.0000	1.8031
1153	2.4244	0.5414	3.7192	6.6850

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1154	0.6992	0.0317	1.9289	2.6597
1155	0.7514	0.1356	0.0031	0.8900
1156	0.3800	0.1597	0.0531	0.5928
1157	1.1111	1.5678	3.6392	6.3181
1158	0.9419	0.1206	5.3208	6.3833
1159	0.6275	0.5117	0.6050	1.7442
1160	1.3800	0.0628	2.9383	4.3811
1161	1.3067	1.1767	2.3122	4.7956
1162	1.9544	0.3897	2.7803	5.1244
1163	1.0761	0.1039	7.0761	8.2561
1164	1.2528	0.3297	3.8964	5.4789
1165	0.7106	0.2156	3.8903	4.8164
1166	1.2839	2.4156	0.0000	3.6994
1167	1.1939	0.4475	4.5625	6.2039
1168	1.3897	0.7239	1.6136	3.7272
1169	0.1858	0.6225	0.6083	1.4167
1170	0.4747	0.0000	0.2144	0.6892
1171	0.4944	0.0000	5.6081	6.1025
1172	1.2644	0.0658	2.0467	3.3769
1173	2.9417	0.0414	3.1128	6.0958
1174	1.3506	0.1769	1.7986	3.3261
1175	0.9861	0.0489	3.4903	4.5253
1176	0.6964	0.0772	3.5944	4.3681
1177	1.8675	0.6611	0.5447	3.0733
1178	0.6439	0.0078	5.0586	5.7103
1179	0.7242	0.4997	5.7050	6.9289
1180	1.5878	0.0419	2.2611	3.8908
1181	0.8347	0.0428	2.2481	3.1256
1182	0.4794	0.0728	0.0000	0.5522
1183	1.7206	0.0869	2.4964	4.3039
1184	1.1433	0.5392	0.8250	2.5075
1185	1.2889	0.0475	3.4681	4.8044
1186	0.4589	0.5844	0.7942	1.8375
1187	1.2850	0.3897	0.7267	2.4014

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1188	1.2850	0.1425	0.7997	2.2272
1189	3.4161	0.0711	0.0000	3.4872
1190	0.2922	0.0000	0.0000	0.2922
1191	0.2686	0.0000	3.7561	4.0247
1192	0.9289	0.0000	0.1761	1.1050
1193	0.1244	0.0000	0.0842	0.2086
1194	0.5036	0.0000	0.0000	0.5036
1195	0.2133	0.0000	1.2681	1.4814
1196	0.1175	0.4594	0.0897	0.6667
1197	0.2842	0.0339	0.0000	0.3181
1198	6.3644	0.3361	0.0275	6.7281
1199	0.1125	0.0767	0.0000	0.1892
1200	1.1369	0.0000	0.0000	1.1369
1201	0.2178	0.0000	7.3794	7.5972
1202	0.7847	0.0000	0.0000	0.7847
1203	0.9314	0.0000	0.1311	1.0625
1204	1.1739	0.0000	0.0000	1.1739
1205	0.3719	0.0000	0.0000	0.3719
1206	0.3306	0.0000	0.0000	0.3306
1207	0.3758	0.0000	0.6108	0.9867
1208	0.4919	0.0000	1.4678	1.9597
1209	0.3761	0.0000	0.0000	0.3761
1210	1.1508	0.0000	0.2956	1.4464
1211	4.1686	0.0000	0.0000	4.1686
1212	0.9325	1.1017	2.0089	4.0431
1213	0.6453	0.2392	1.9953	2.8797
1214	0.8617	1.7644	1.2911	3.9172
1215	0.7839	1.3875	1.8500	4.0214
1216	1.1936	0.9353	2.2850	4.4139
1217	0.7464	0.3931	5.9922	7.1317
1218	1.0597	0.3978	5.8119	7.2694
1219	1.1758	2.1056	3.6244	6.9058
1220	0.7694	0.1000	6.5536	7.4231
1221	1.0653	0.4550	6.4250	7.9453

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1222	0.8697	1.3606	1.0639	3.2942
1223	1.4103	1.5486	1.6167	4.5756
1224	0.4453	0.0950	3.1453	3.6856
1225	0.6167	0.5153	2.5500	3.6819
1226	0.9978	1.8967	3.9994	6.8939
1227	0.7239	0.0767	6.9892	7.7897
1228	0.4503	0.0567	0.8381	1.3450
1229	0.3808	0.0533	7.7292	8.1633
1230	0.4378	0.0600	9.0594	9.5572
1231	1.3733	0.8875	6.6419	8.9028
1232	0.3831	0.0897	5.9733	6.4461
1233	0.9061	0.0911	6.2422	7.2394
1234	0.3536	1.0911	7.7353	9.1800
1235	0.9256	0.5469	5.3972	6.8697
1236	0.4378	0.5439	5.9917	6.9733
1237	1.1822	0.5881	6.0867	7.8569
1238	0.3575	0.6178	3.0581	4.0333
1239	0.4606	0.5761	5.8233	6.8600
1240	1.4814	2.3425	3.4861	7.3100
1241	0.3917	0.1089	1.4958	1.9964
1242	0.1586	0.3739	0.0000	0.5325
1243	1.5053	0.7572	1.1528	3.4153
1244	0.2653	2.3464	0.2119	2.8236
1245	0.5000	0.5558	0.1450	1.2008
1246	0.1242	0.7439	2.6100	3.4781
1247	0.1969	0.3744	4.0233	4.5947
1248	1.0572	0.3614	3.0414	4.4600
1249	1.4103	0.5239	1.9192	3.8533
1250	0.7047	0.5431	2.0078	3.2556
1251	0.9669	0.6981	0.0853	1.7503
1252	1.1333	0.2294	0.0000	1.3628
1253	0.3806	0.2769	5.1283	5.7858
1254	1.6739	0.5161	2.2372	4.4272
1255	0.6508	0.2522	2.3575	3.2606

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1256	0.5322	0.1919	0.1456	0.8697
1257	0.1517	0.1344	0.0000	0.2861
1258	12.2736	0.6972	0.0000	12.9708
1259	0.9119	0.2356	0.2044	1.3519
1260	0.2114	0.0033	0.8736	1.0883
1261	0.7781	0.2783	1.5953	2.6517
1262	0.2081	0.0503	0.0297	0.2881
1263	0.2919	0.0706	0.0053	0.3678
1264	0.1683	0.1131	4.8958	5.1772
1265	0.5031	0.0603	0.8256	1.3889
1266	1.3400	0.0983	2.7219	4.1603
1267	1.3178	0.0489	2.7125	4.0792
1268	1.2819	0.0408	1.3692	2.6919
1269	1.3008	0.0122	1.3658	2.6789
1270	1.2836	0.0247	2.6978	4.0061
1271	1.2417	0.0364	2.6961	3.9742
1272	1.3289	0.0203	2.7003	4.0494
1273	1.3231	0.0186	2.7019	4.0436
1274	1.2931	0.0364	2.7131	4.0425
1275	1.2633	0.0172	2.3906	3.6711
1276	1.2456	0.0217	2.7114	3.9786
1277	1.2194	0.0206	2.3747	3.6147
1278	0.6589	0.3381	0.8069	1.8039
1279	2.6442	0.2869	2.2992	5.2303
1280	2.7281	1.5589	0.0000	4.2869
1281	1.8211	3.8094	0.1017	5.7322
1282	1.8828	1.5828	1.7053	5.1708
1283	1.8794	2.1272	1.8894	5.8961
1284	1.6733	3.9586	0.3731	6.0050
1285	1.3231	1.6578	3.2444	6.2253
1286	1.6622	4.2486	0.3264	6.2372
1287	0.8861	1.7989	3.1989	5.8839
1288	0.7264	5.1356	0.3317	6.1936
1289	1.3219	1.2647	0.4647	3.0514

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1290	0.3842	1.3639	0.0081	1.7561
1291	1.9386	0.3000	0.0000	2.2386
1292	0.1367	1.2156	0.0000	1.3522
1293	0.4353	0.3528	0.0000	0.7881
1294	0.1817	0.0119	0.0000	0.1936
1295	0.4250	0.1689	0.0131	0.6069
1296	0.8492	3.9578	1.2883	6.0953
1297	1.0719	0.0653	0.0000	1.1372
1298	3.0222	1.6375	1.9278	6.5875
1299	2.7964	1.6661	0.6950	5.1575
1300	3.1686	2.6469	0.7253	6.5408
1301	0.6392	2.1228	1.3639	4.1258
1302	2.9036	4.1108	0.3633	7.3778
1303	2.8567	3.2333	1.8947	7.9847
1304	1.6100	3.4650	2.4228	7.4978
1305	1.0025	0.4014	0.9297	2.3336
1306	3.0569	2.8525	2.3317	8.2411
1307	0.7675	7.0158	0.4489	8.2322
1308	2.9072	0.5131	0.1325	3.5528
1309	1.4886	0.3494	0.0000	1.8381
1310	4.6322	3.3500	6.0600	14.0422
1311	5.0317	0.9025	5.1122	11.0464
1312	14.5106	0.1881	0.0214	14.7200
1313	0.1550	0.2806	0.5158	0.9514
1314	0.2814	1.8372	3.4308	5.5494
1315	0.5272	0.0089	6.2911	6.8272
1316	0.1889	0.4681	4.1000	4.7569
1317	0.4797	0.0114	0.0000	0.4911
1318	0.1828	0.2814	0.0000	0.4642
1319	0.5939	0.4086	0.4747	1.4772
1320	1.1028	0.9953	2.7406	4.8386
1321	4.0656	0.6017	0.0000	4.6672
1322	0.1144	0.2703	0.0958	0.4806
1323	0.2833	0.0647	1.3792	1.7272

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1324	0.1353	0.0900	1.6117	1.8369
1325	0.6953	0.0192	0.0000	0.7144
1326	0.1872	0.1708	2.7497	3.1078
1327	0.1558	0.8581	0.1789	1.1928
1328	0.1772	0.2117	4.1775	4.5664
1329	7.0717	9.5364	0.0353	16.6433
1330	12.6892	4.0158	0.0000	16.7050
1331	5.8708	0.3572	0.0000	6.2281
1332	0.4314	0.3392	1.0619	1.8325
1333	0.2403	0.1542	0.0039	0.3983
1334	0.2408	0.8428	1.6650	2.7486
1335	0.1847	0.0939	1.2828	1.5614
1336	0.1436	0.6731	0.0897	0.9064
1337	0.3167	0.1242	0.7636	1.2044
1338	5.0206	0.6728	2.3181	8.0114
1339	12.9617	2.5194	0.0000	15.4811
1340	7.5119	0.1519	0.0000	7.6639
1341	0.3086	0.0633	0.0742	0.4461
1342	0.2458	0.0558	0.2364	0.5381
1343	0.1742	0.1989	0.0675	0.4406
1344	2.3461	0.8764	0.7350	3.9575
1345	1.9556	1.5483	0.0700	3.5739
1346	2.5542	0.8906	0.4339	3.8786
1347	3.0136	1.2875	0.7653	5.0664
1348	0.2261	0.1472	0.1522	0.5256
1349	0.9394	0.4661	0.3872	1.7928
1350	3.5506	0.0967	0.3692	4.0164
1351	2.0975	1.6186	0.0000	3.7161
1352	2.1867	1.5747	0.0000	3.7614
1353	0.3900	0.3853	0.2078	0.9831
1354	1.0342	1.8131	1.1281	3.9753
1355	1.5908	0.1158	0.3906	2.0972
1356	1.3089	1.7350	0.3036	3.3475
1357	0.5278	0.1317	0.8850	1.5444

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1358	2.9925	0.7992	0.0408	3.8325
1359	0.6817	0.8619	0.3425	1.8861
1360	1.2314	0.3175	0.0000	1.5489
1361	1.5250	0.2958	0.2158	2.0367
1362	1.2156	2.1056	0.6328	3.9539
1363	0.9992	0.6119	4.5958	6.2069
1364	2.0339	1.1539	1.9994	5.1872
1365	1.9294	0.1078	0.8544	2.8917
1366	2.5342	1.2225	1.1536	4.9103
1367	3.1436	1.5794	0.9256	5.6486
1368	0.6233	0.6558	0.1711	1.4503
1369	0.1108	0.0350	0.0000	0.1458
1370	0.1306	0.2481	1.6164	1.9950
1371	0.3147	0.2217	0.0000	0.5364
1372	0.3092	0.0747	1.6278	2.0117
1373	0.2894	0.1878	1.5311	2.0083
1374	1.2700	1.1108	3.1247	5.5056
1375	1.4367	0.9925	1.9567	4.3858
1376	2.3694	1.4942	3.7458	7.6094
1377	1.2783	0.0744	3.4917	4.8444
1378	2.2603	2.4200	1.4658	6.1461
1379	1.6069	3.3753	0.4364	5.4186
1380	1.8944	1.4564	2.7658	6.1167
1381	1.7061	2.0836	2.8714	6.6611
1382	2.1428	1.1067	2.4303	5.6797
1383	1.7744	2.7358	2.1019	6.6122
1384	5.0394	2.9369	2.5944	10.5708
1385	1.8544	1.8550	1.8900	5.5994
1386	4.1933	1.4356	3.7400	9.3689
1387	0.6253	0.4919	0.0239	1.1411
1388	3.6450	0.8958	0.0111	4.5519
1389	3.5167	0.7425	0.0000	4.2592
1390	1.6439	1.5189	0.7639	3.9267
1391	2.3778	1.3364	0.9067	4.6208

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1392	1.7128	0.8725	0.6433	3.2286
1393	0.2922	0.1472	0.0000	0.4394
1394	2.0233	0.9908	0.7694	3.7836
1395	1.6733	0.3336	3.7708	5.7778
1396	1.6686	0.8772	1.7825	4.3283
1397	1.8161	0.6975	2.5328	5.0464
1398	2.0153	0.5503	1.9578	4.5233
1399	1.5822	0.2358	2.6503	4.4683
1400	2.0492	0.3994	2.3122	4.7608
1401	0.9719	0.0000	0.8792	1.8511
1402	0.2983	0.0000	0.0000	0.2983
1403	1.1817	1.0358	3.0817	5.2992
1404	10.0344	0.3189	1.2242	11.5775
1405	0.9569	0.1664	0.0000	1.1233
1406	0.4581	0.2481	0.0000	0.7061
1407	1.6228	0.7356	0.0036	2.3619
1408	0.4189	0.0381	0.0156	0.4725
1409	0.3256	0.0381	0.8533	1.2169
1410	1.7306	0.1569	1.0928	2.9803
1411	0.3350	1.4381	3.8622	5.6353
1412	0.5928	0.5122	0.0086	1.1136
1413	0.3886	0.4075	0.0094	0.8056
1414	0.5958	7.0397	0.2350	7.8706
1415	0.5317	0.7644	2.9889	4.2850
1416	1.9067	1.1464	3.0839	6.1369
1417	0.5925	0.1003	1.1486	1.8414
1418	0.3028	0.1625	0.0000	0.4653
1419	0.2225	0.0161	0.0000	0.2386
1420	2.7542	0.5139	1.2358	4.5039
1421	2.0306	0.1236	0.5933	2.7475
1422	2.2550	0.4531	1.3536	4.0617
1423	1.4069	0.5378	0.7175	2.6622
1424	1.7994	0.2600	0.2594	2.3189
1425	1.8981	0.0683	0.2500	2.2164

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1426	2.0692	0.1858	0.2775	2.5325
1427	0.2619	0.3439	0.2686	0.8744
1428	0.3317	0.0719	0.3647	0.7683
1429	3.6528	0.4522	0.5494	4.6544
1430	0.5308	0.0633	0.2939	0.8881
1431	3.3944	0.5347	1.3636	5.2928
1432	1.2061	0.1250	0.0000	1.3311
1433	0.7944	0.1000	0.0000	0.8944
1434	3.3972	0.4633	1.5886	5.4492
1435	2.5342	0.4408	0.1025	3.0775
1436	2.3569	0.6672	0.5456	3.5697
1437	2.4136	0.2244	0.1458	2.7839
1438	3.2094	0.4894	0.8217	4.5206
1439	1.5167	0.2200	0.0000	1.7367
1440	1.4769	0.3478	0.4458	2.2706
1441	0.1181	0.4967	2.4261	3.0408
1442	0.1456	4.6722	0.9444	5.7622
1443	0.1061	0.0650	0.0000	0.1711
1444	0.3206	0.2025	1.0542	1.5772
1445	0.2606	0.1567	0.1686	0.5858
1446	0.1614	0.0519	1.4669	1.6803
1447	0.3786	0.5972	1.4278	2.4036
1448	0.2722	0.6364	0.0039	0.9125
1449	0.2433	0.9683	0.4494	1.6611
1450	0.2906	0.0150	0.1339	0.4394
1451	0.3658	0.0561	0.0000	0.4219
1452	0.3803	0.0000	1.0850	1.4653
1453	0.3219	0.0081	0.0000	0.3300
1454	0.3458	0.0214	0.2469	0.6142
1455	0.3286	0.0939	0.0000	0.4225
1456	0.6158	0.0831	0.6647	1.3636
1457	1.0983	1.2244	2.0125	4.3353
1458	1.9225	2.3136	0.0422	4.2783
1459	1.2661	0.3939	1.0153	2.6753

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1460	0.8231	0.3872	12.2383	13.4486
1461	0.5317	0.0381	1.1328	1.7025
1462	0.3717	2.9569	0.3767	3.7053
1463	3.6453	3.6997	1.4058	8.7508
1464	1.8472	1.5017	3.9500	7.2989
1465	1.2378	2.7814	1.3769	5.3961
1466	1.8367	0.5153	0.4983	2.8503
1467	1.7258	1.4917	0.5083	3.7258
1468	1.3061	1.5119	2.3947	5.2128
1469	1.7528	1.6044	2.2086	5.5658
1470	0.9303	1.0478	4.4033	6.3814
1471	0.8731	2.7950	2.1944	5.8625
1472	0.3319	0.2453	0.2900	0.8672
1473	0.7697	3.4575	0.2269	4.4542
1474	1.4931	0.9961	3.8347	6.3239
1475	1.5814	5.0536	0.0036	6.6386
1476	1.7906	1.8222	0.0192	3.6319
1477	0.6997	0.7031	1.5414	2.9442
1478	0.4669	1.3244	3.9417	5.7331
1479	1.2508	1.7053	0.8783	3.8344
1480	1.0989	0.9136	0.5953	2.6078
1481	1.0397	1.2186	2.7281	4.9864
1482	1.9250	1.5025	0.7725	4.2000
1483	0.2047	0.5317	0.0000	0.7364
1484	0.7164	0.0000	0.0000	0.7164
1485	3.5167	2.9925	1.2975	7.8067
1486	0.4667	4.5492	0.1203	5.1361
1487	0.5489	0.5489	0.1950	1.2928
1488	2.5372	0.5039	0.0000	3.0411
1489	1.2489	0.7350	0.5753	2.5592
1490	2.2008	0.3314	0.6064	3.1386
1491	0.6275	0.1067	0.0000	0.7342
1492	0.2142	0.0000	0.0000	0.2142
1493	0.6744	0.4331	5.6008	6.7083

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1494	2.1192	0.3597	0.0000	2.4789
1495	1.8606	3.7436	3.3525	8.9567
1496	0.8383	1.1472	9.2997	11.2853
1497	0.5417	0.0856	5.2533	5.8806
1498	1.3681	0.1953	8.2364	9.7997
1499	0.1075	0.5294	1.1842	1.8211
1500	0.5606	1.1169	1.6978	3.3753
1501	0.3481	0.6728	0.9953	2.0161
1502	0.5308	3.8653	5.6181	10.0142
1503	0.4272	2.3867	6.0806	8.8944
1504	0.7722	2.0161	2.2986	5.0869
1505	0.3331	3.2575	4.3281	7.9186
1506	1.3328	0.5775	0.3133	2.2236
1507	0.2017	1.5458	1.3547	3.1022
1508	0.2386	1.4911	1.9864	3.7161
1509	0.3425	0.4475	2.8675	3.6575
1510	0.2464	2.0761	0.7128	3.0353
1511	0.4089	2.8189	0.7003	3.9281
1512	0.3525	0.8497	0.7214	1.9236
1513	0.3531	1.4525	1.5708	3.3764
1514	0.3642	2.9108	0.2703	3.5453
1515	0.3703	1.3356	5.3317	7.0375
1516	0.4094	1.6833	1.9539	4.0467
1517	0.6569	2.5722	0.6036	3.8328
1518	0.2456	3.1667	0.1717	3.5839
1519	0.3017	0.7775	0.9378	2.0169
1520	0.1400	0.2644	0.7458	1.1503
1521	0.1219	2.9322	5.3936	8.4478
1522	0.3731	1.5817	2.2953	4.2500
1523	0.5394	0.5817	8.9675	10.0886
1524	0.4986	1.8058	3.4264	5.7308
1525	0.2511	0.3422	7.3506	7.9439
1526	0.2231	0.7414	5.5528	6.5172
1527	0.6286	1.2411	4.6439	6.5136

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1528	1.1747	2.3950	3.6836	7.2533
1529	1.0436	2.4747	2.1867	5.7050
1530	0.5944	4.7300	4.9656	10.2900
1531	0.9953	2.6047	4.2875	7.8875
1532	0.2508	6.8842	0.1117	7.2467
1533	0.2925	2.2678	3.5911	6.1514
1534	0.8742	2.9289	8.5947	12.3978
1535	0.6450	1.0681	4.4144	6.1275
1536	1.3800	1.7250	5.5550	8.6600
1537	0.6456	2.8297	2.6625	6.1378
1538	0.2311	0.1222	0.0000	0.3533
1539	1.1792	0.6000	5.0575	6.8367
1540	0.7050	1.7386	7.9497	10.3933
1541	0.3847	2.5028	3.7042	6.5917
1542	0.3106	0.1239	1.7517	2.1861
1543	0.3444	0.8933	3.5783	4.8161
1544	0.7717	1.0839	5.3575	7.2131
1545	0.9472	1.1575	9.0428	11.1475
1546	0.7689	0.8497	6.0283	7.6469
1547	0.4858	1.7411	9.0906	11.3175
1548	0.5986	0.5194	8.9547	10.0728
1549	0.3350	0.1628	1.5403	2.0381
1550	0.3022	0.4067	6.4789	7.1878
1551	0.8392	0.9908	2.9811	4.8111
1552	0.7458	0.5533	9.3508	10.6500
1553	0.8606	0.9639	4.0769	5.9014
1554	1.5722	1.7569	8.2144	11.5436
1555	0.9475	2.8633	0.0369	3.8478
1556	0.3172	0.2553	4.2403	4.8128
1557	1.1339	1.0411	5.9328	8.1078
1558	0.5017	1.0056	8.6497	10.1569
1559	0.6167	0.6111	5.9308	7.1586
1560	0.9836	5.7425	6.3792	13.1053
1561	0.3281	1.7994	1.9386	4.0661

Day Index	Driving Time [hr]	Idle Time [hr]	PTO Time [hr]	Total [hr]
1562	0.4922	4.3639	4.8931	9.7492
1563	0.8947	1.7858	8.5883	11.2689
1564	0.3031	0.2217	0.0122	0.5369
1565	0.2072	0.5206	3.4628	4.1906
1566	0.1631	0.1492	1.6822	1.9944
1567	0.4189	0.9689	2.8689	4.2567
1568	0.4661	1.6072	5.3772	7.4506
1569	0.5633	1.4361	3.8328	5.8322