

2018

GuardRail ELD User Guide



Chorus Logistics

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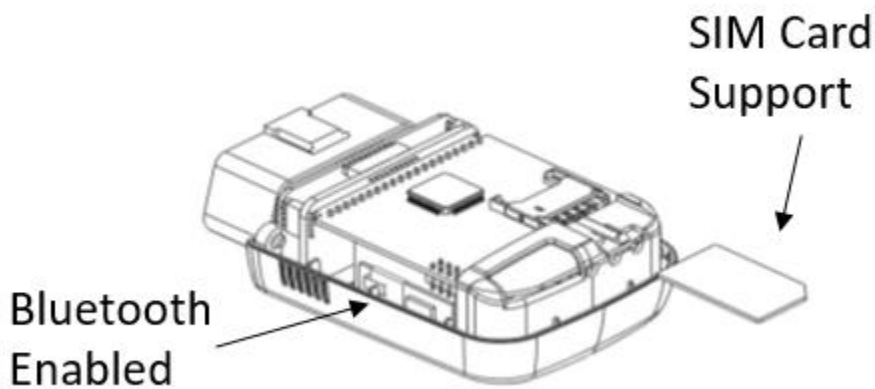
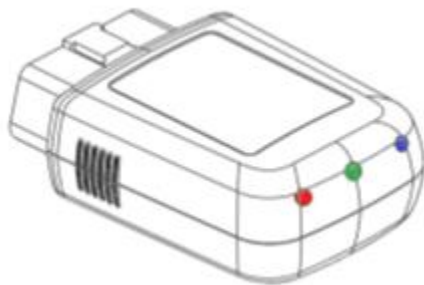
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ELD HARDWARE

GuardRail is an optional 2G/3G GPS tracking unit with OBD-II Interface and plug-n-play installation. Featuring OBD / CAN Bus J1939 data acquisition, Bluetooth connectivity, driving behavior event management, and user-defined reports, GuardRail is an ideal solution for Usage Based Insurance, Car Rental, Fleet Management of both Passenger Vehicles and Heavy-Duty Trucks and Teenage Driver Tracking.





**J1939
Adaptor**

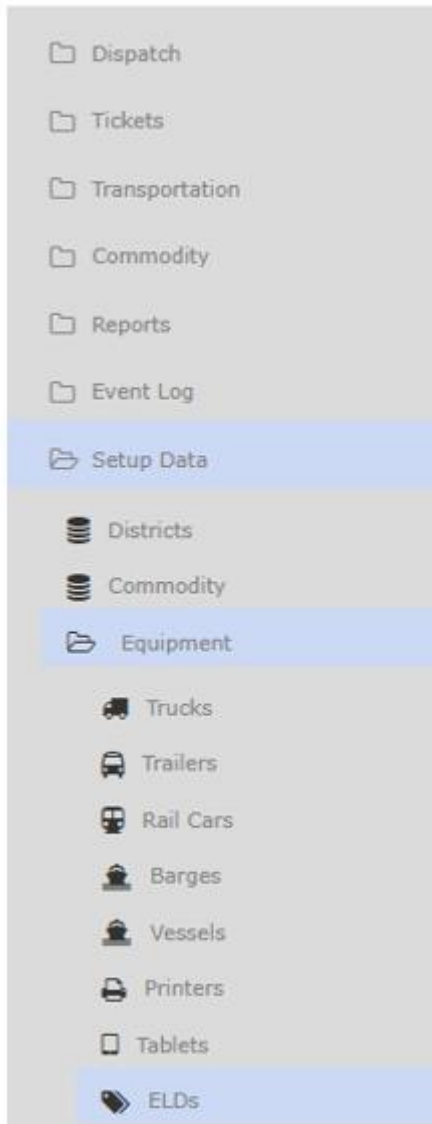
Product Features

- ❖ Flexible Wireless network options
- ❖ Small and easy plug and play installation
- ❖ Ultra-low current consumption in deep sleep mode
- ❖ Data communication by SMS/TCP/UDP
- ❖ High GPS sensitivity
- ❖ Built-in 3-axis G-sensor
- ❖ FOTA firmware upgrade using FTP
- ❖ Configurable Real Time Tracking & Logging
- ❖ 32 user-defined geofences
- ❖ Built-in buzzer for configurable event
- ❖ Roaming preference settings
- ❖ Harsh driving behavior events
- ❖ Configurable power management
- ❖ OBDII data collection
- ❖ FMS / J1939 data collection
- ❖ Fuel economy calculation
- ❖ User defined OBDII event transmission
- ❖ OBDII Diagnostic trouble code reporting
- ❖ Intelligent event control engine
- ❖ Buffered event message of 150,000 positions

ELD SETUP

The ELD can be setup manually or using the plug n play installation. This section will describe each method in detail.

ELD MANUAL SETUP



To manually setup and configure the ELD, login to AxleHub, the web based dispatching application. Select **ELD** menu item from the **Setup Data>Equipment>ELD** as shown in figure i.

When Selected, a list of all the ELD's previously defined in AxleHub will be displayed as shown in figure ii. Select the




hit  save. The ELD is now setup and ready to be deployed.

Figure i: ELD Menu

ELDS							
Version	Server Address	Status	IP Address	MAC Address	IMEI	Carrier	Phone Number
Rev.1.00 Build.1632	[23.253.253.47]	Attached to a Truck, and receiving data			358683069542828	ATT	346.773.9554
Rev.1.00 Build.1632	[23.253.253.47]	Attached to a Truck, and receiving data			358683069535442	ATT	346.773.9397
Rev.1.00 Build.1733	[23.253.253.47]	Attached to a Truck, and receiving data			354421072303043	ATT	346.774.7781
Rev.1.00 Build.1733	[23.253.253.47]	Attached to a Truck, and receiving data			359739070263710	ATT	346.773.9713
Rev.1.00 Build.1733	[23.253.253.47]	Attached to a Truck, and receiving data			354421072303076	ATT	346.774.7047
Rev.1.00 Build.1733	[23.253.253.47]	Attached to a Truck, and receiving data			354421072301062	ATT	346.773.9442

Showing 1 to 6 of 6 entries

Figure ii: Listing of ELDs

CREATE ELD

Status	<input type="text" value="Not Connected"/>
Version	<input type="text"/>
Server Address	<input type="text"/>
IP Address	<input type="text"/>
MAC Address	<input type="text"/>
IMEI	<input type="text"/>
Carrier	<input type="text"/>
Phone Number	<input type="text"/>
Comments	<input type="text"/>
Out of Service Date	<input type="text"/>

Figure iii: Create ELD

PLUG N PLAY ELD SETUP

As an alternative to the manual setup, the ELD can be plugged directly into the ODB II or J1939 port of the vehicle and the ELD will be automatically recognized and attached to the vehicle. At


this point, all the information about the vehicle is known including the make, model, VIN and year of the vehicle.

In AxleHub, you can view the ELD information as shown in figure ii above. The user can perform actions for the selected ELD by clicking one of the icons as shown in figure iv. These actions include edit, view details, delete, see vehicle attached to ELD and configure.



Figure iv: ELD Actions

ELD ATTACHED VEHICLE 

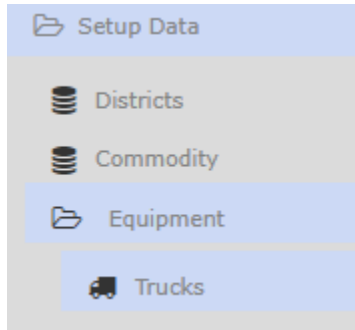
If the vehicle icon, , is green this means the ELD is plugged into a vehicle and AxleHub is receiving data. When selected, the vehicle information is displayed as show in figure V below.

ELDS				
3.47	Attached to a Truck, and receiving data	354421072303076	ATT	346.774.7047
3.47	Attached to a Truck, and receiving data	354421072301062	ATT	346.773.9442

Figure v: Vehicle Information

VEHICLE DETAILS

To access more information about the vehicles in AxleHub, select the **Trucks** menu item from the **Setup Data>Equipment>Trucks** menu as shown in figure vi.



When selected, a listing of All the vehicles defined in the system will display as shown in figure vii.

Figure vi: Vehicle Details

Truck Number	VIN	Last Known Location	Odometer Reading	Description	RRC Number	Out Of Service Date	
00006		1 Miles ESE of Houston, TX 77042	23	PACCAR: 957-1105	9571105		
00007		Houston, TX 77065	234	PACCAR: 957-1106	9571106		
00008	2MEHM75W75XG43353	1.82098 Miles NNE of Houston, TX 77065	57229	DOTY PACCAR: 957-1107	9571107		
00009		Houston, TX 77065	37572	PACCAR: 957-1108	9571108		

Figure vii: Vehicle Listing

From the vehicle listing screen, the user can select several actions for a selected vehicle as shown in figure viii. These actions include edit, display details, delete, add vehicle certifications, view ELD information and map current location of the vehicle.






Figure viii: Vehicle Actions

If the ELD icon is RED, then there is no ELD assigned to this vehicle. IF the ELD is BLUE, then when the icon is selected, the ELD details screen is displayed as shown in figure ix below.

ELD FOR TRUCK # 00008

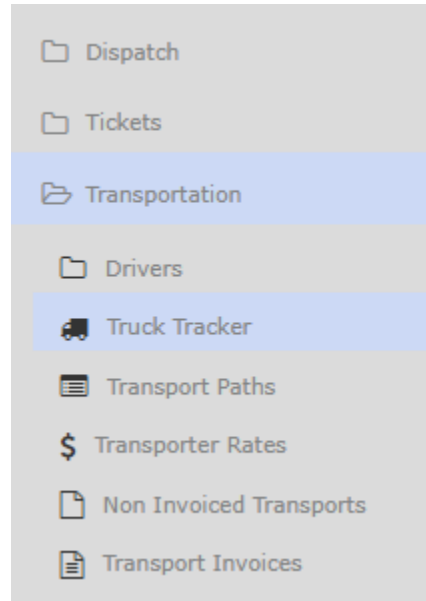
Search:

ELD ID	Start Date	End Date	Odometer Offset	
4	8/14/2017 4:41:40 PM		18500	  

Showing 1 to 1 of 1 entries

Figure ix: ELD Details

TRUCK TRACKING



To track a vehicle in the AxleHub that is using an ELD, select the **Truck Tracker** menu item from the **Transportation** menu as shown in figure X.

A full list of all vehicles in AxleHub will display along with a map showing the current location of all the vehicles as shown in figure xi.


The vehicles listed on the left side of the screen with a green  icon, means the vehicle has a working ELD attached.

Figure x: Truck Tracker

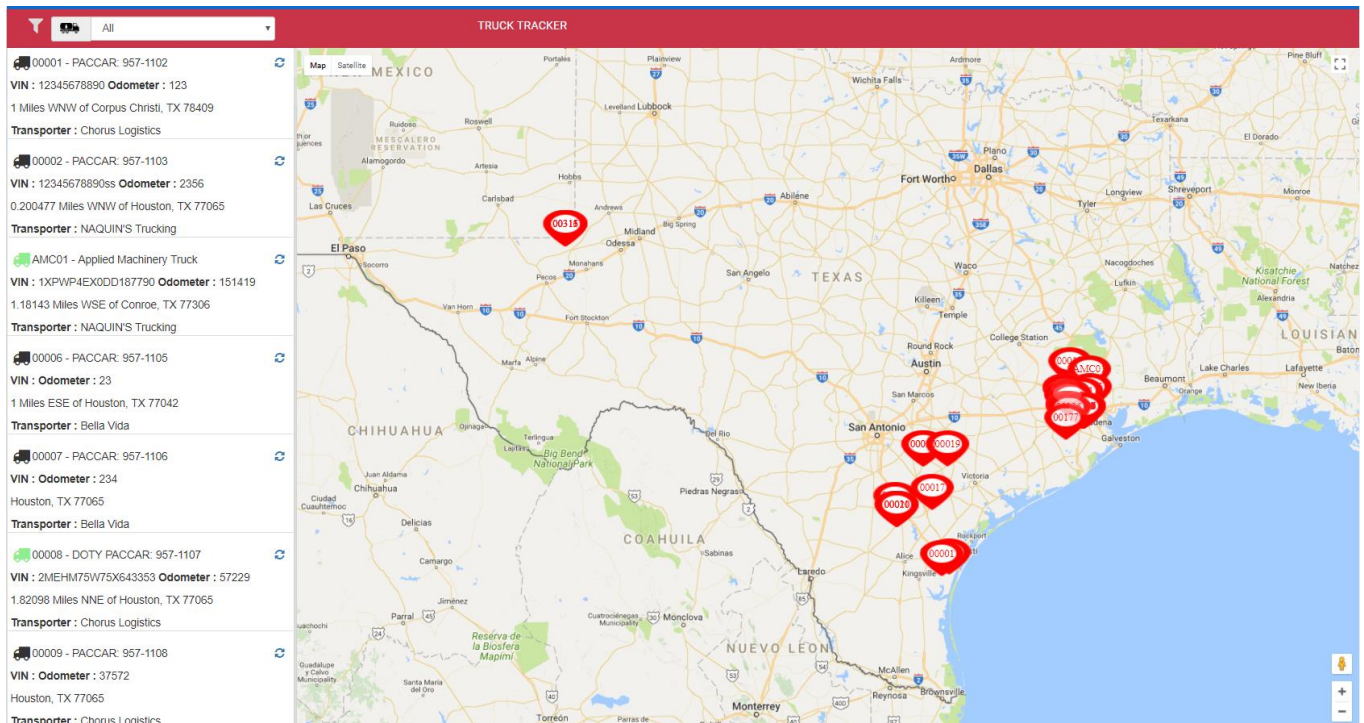


Figure xi: Truck Tracker









 00001 - PACCAR: 957-1102 
VIN : 12345678890 Odometer : 123 1 Miles WNW of Corpus Christi, TX 78409 Transporter : Chorus Logistics
 00002 - PACCAR: 957-1103 
VIN : 12345678890ss Odometer : 2356 0.200477 Miles WNW of Houston, TX 77065 Transporter : NAQUIN'S Trucking
 AMC01 - Applied Machinery Truck 
VIN : 1XPWP4EX0DD187790 Odometer : 151419 1.18143 Miles WSE of Conroe, TX 77306 Transporter : NAQUIN'S Trucking
 00006 - PACCAR: 957-1105 
VIN : Odometer : 23 1 Miles ESE of Houston, TX 77042 Transporter : Bella Vida

Figure xii: Vehicle Details


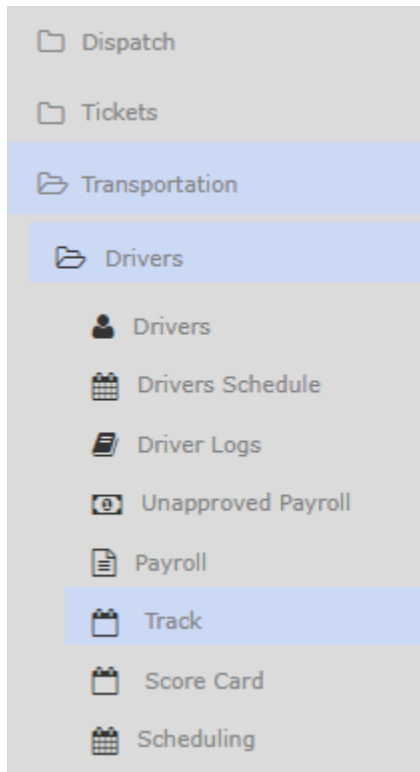
To see an individual vehicle's current location, select the vehicle by clicking the  icon. The right side of the screen will map the location of the select truck as shown in figure xiii below.



Figure xiii: Selected Vehicle

DRIVER TRACKING

Similar to Truck Tracking, an individual driver may be tracked. Select the menu item Track, under the **Transportation>Drivers** menu as shown in figure xiv. If a driver is in a vehicle with an ELD attached to the vehicle, then the driver and associated date will show in the pick list on the Track Driver screen as shown in figure xv.



Select the driver to track and the corresponding date to view the driver’s daily tracks.

Figure xiv: Driver Tracker Menu

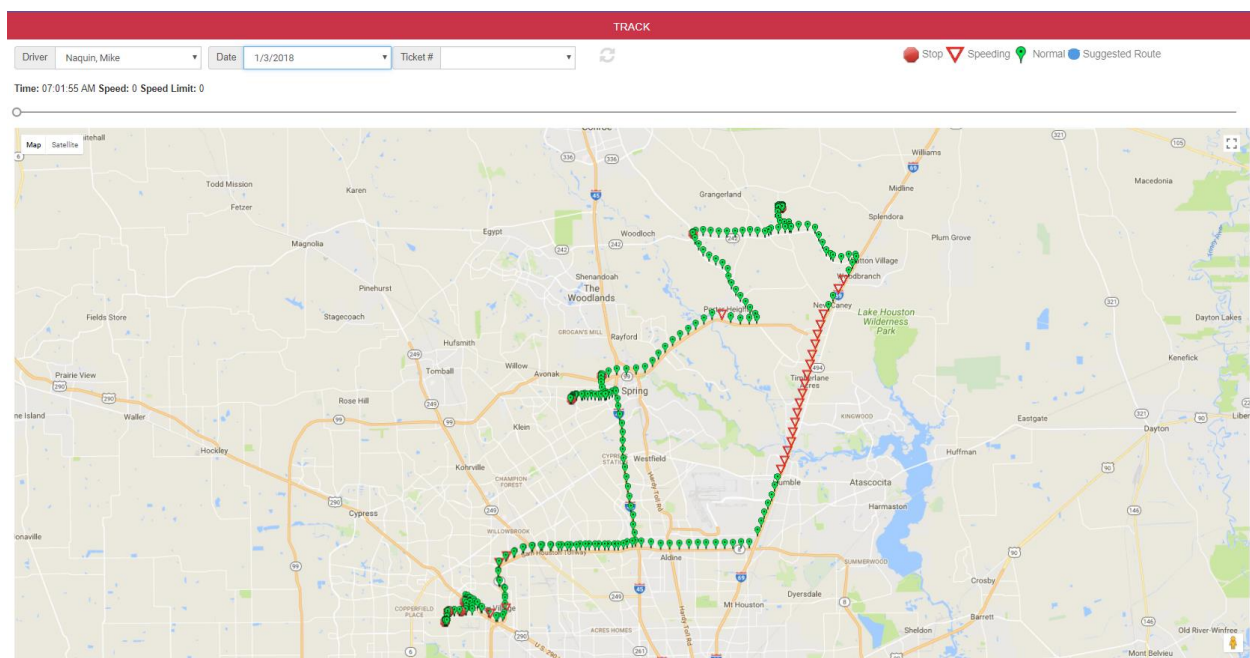


Figure xv: Track Driver

ROUTE REPLAY

To view a replay of the selected driver's route, use the drag bar as shown in figure xvi to drag the pointer to replay the driver's route. As the pointer is dragged, the time and speed are displayed for each point of the driver's route.

Time: 07:01:55 AM Speed: 0 Speed Limit: 0



Figure xvi: Route Replay

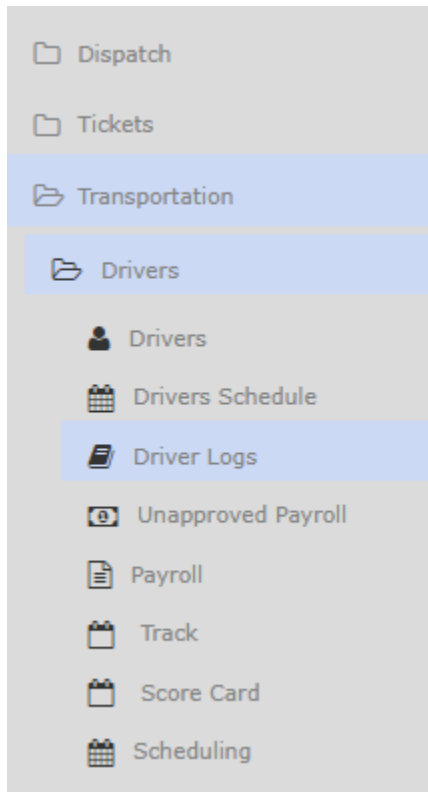
On the map, a series of icons are displayed on the driver's route. A description of what these icons represent are shown in figure xvii and are shown at the top of the screen.



Figure xvii: Route Legend

DRIVER LOGS

To view an individual driver log for a driver in AxleHub, select the **Driver Logs** menu item from the **Transportation>Drivers>Driver Logs** menu as shown in figure xviii. When selected, the driver log screen will be displayed as shown in figure xix below.



The picklist will have a list of all drivers that have a driver log available to view. When a driver is selected, the date picklist will be filled with all available dates where a log exists for the selected driver.

Figure xviii: Driver Logs

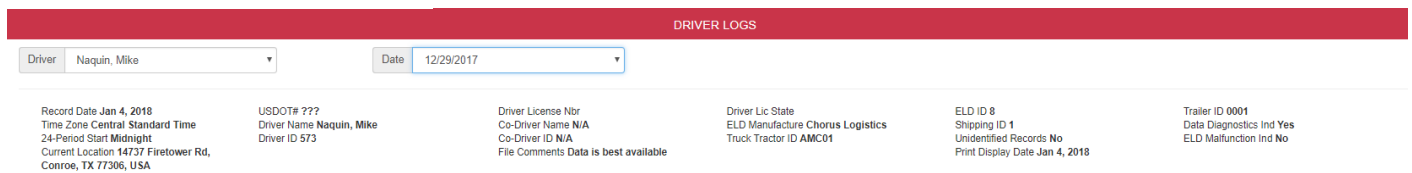


Figure xix: Driver Logs

DRIVER EVENT DETAILS

When a driver is selected, the driver event details will be displayed on the top of the screen. These details include the time the event occurred, the location, odometer reading, engine hours and other data as shown in figure xx below.

Time	Location	Odometer	Engine hours	Event Type/Status	Origin
06:54:01 AM	1.18195 Miles WSE of Conroe, TX 77306	151041	0	Picked Up	
07:39:01 AM	1.19821 Miles WSE of Conroe, TX 77306	151041	0	Picked Up	
07:40:01 AM	1.20424 Miles WSE of Conroe, TX 77306	151041	0	Picked Up	
07:58:00 AM	1.18536 Miles WSE of Conroe, TX 77306	151041	0	Picked Up	
08:00:00 AM	1.17398 Miles WSE of Conroe, TX 77306	151042	0	Picked Up	
08:01:00 AM	1.22701 Miles WSE of Conroe, TX 77306	151042	0	Picked Up	
08:55:00 AM	1.2681 Miles WSE of Conroe, TX 77306	151042	0	Picked Up	
08:56:00 AM	1.34409 Miles WSE of Conroe, TX 77306	151042	0	Picked Up	
08:57:00 AM	1.20423 Miles WSE of Conroe, TX 77306	151042	0	Picked Up	

Figure xx: Event Details

DRIVER LOG GRAPH

The driver log graph will be displayed on the bottom of the screen providing a visual representation of the selected driver’s day as shown in figure xxi.

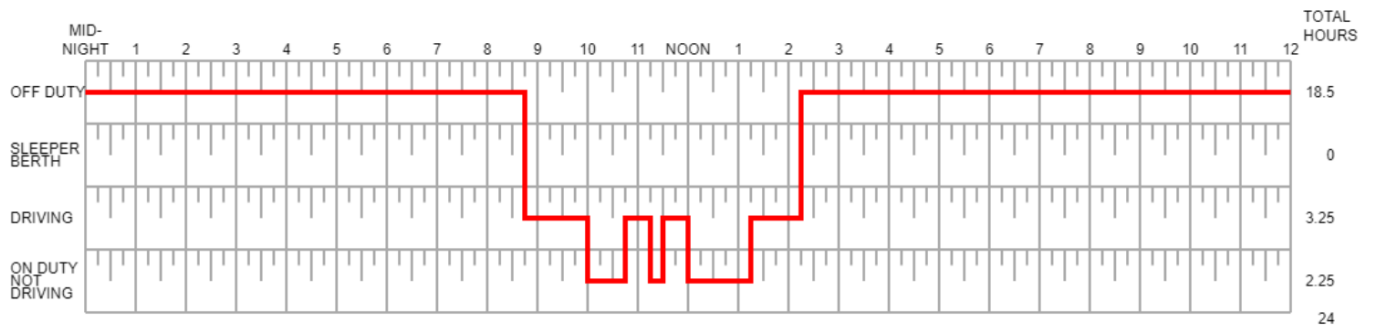
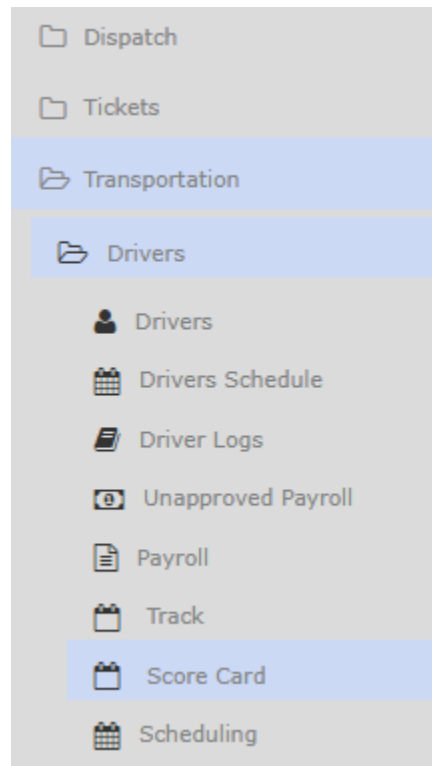


Figure xxi: Driver Log Graph

DRIVER SCORECARDS

Every driver in AxleHub that has driven a vehicle with an ELD, will have a scorecard based on driving behaviors. To access the driver scorecard, select **Score Card** from the **Transportation>Drivers>Score Card** menu as shown in figure xxii.



Once selected, a list of drivers will appear on the left side of the screen and the associated score card on the right side of the screen for the selected driver as shown in figure xxiii below. The driver scores are calculated automatically by the system based on weights defined by the user described later in this section.

To see details about and individual driving score, select the driving event and the Driver Events screen will display as shown in figure xxiv below.

Figure xxii: Driver Score Card

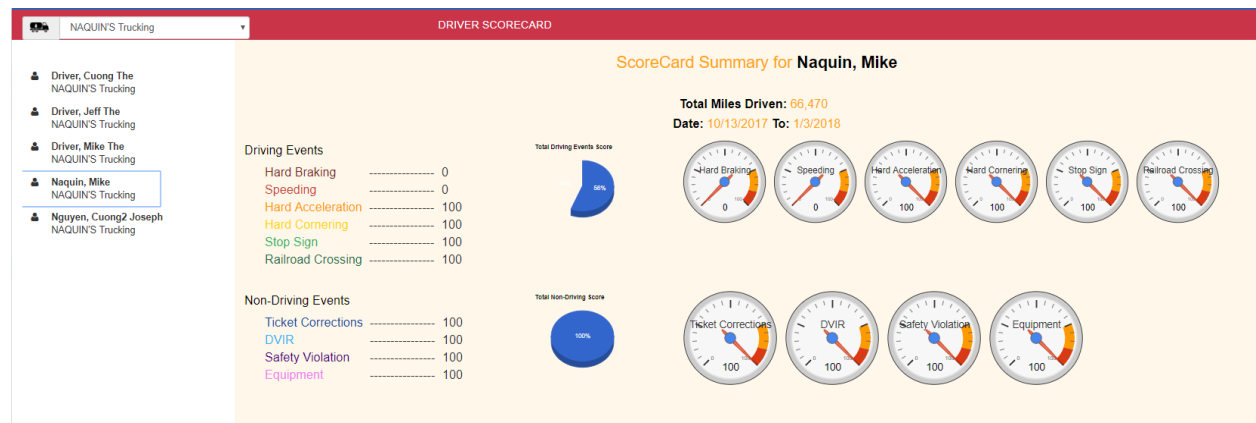


Figure xxiii: Score Card

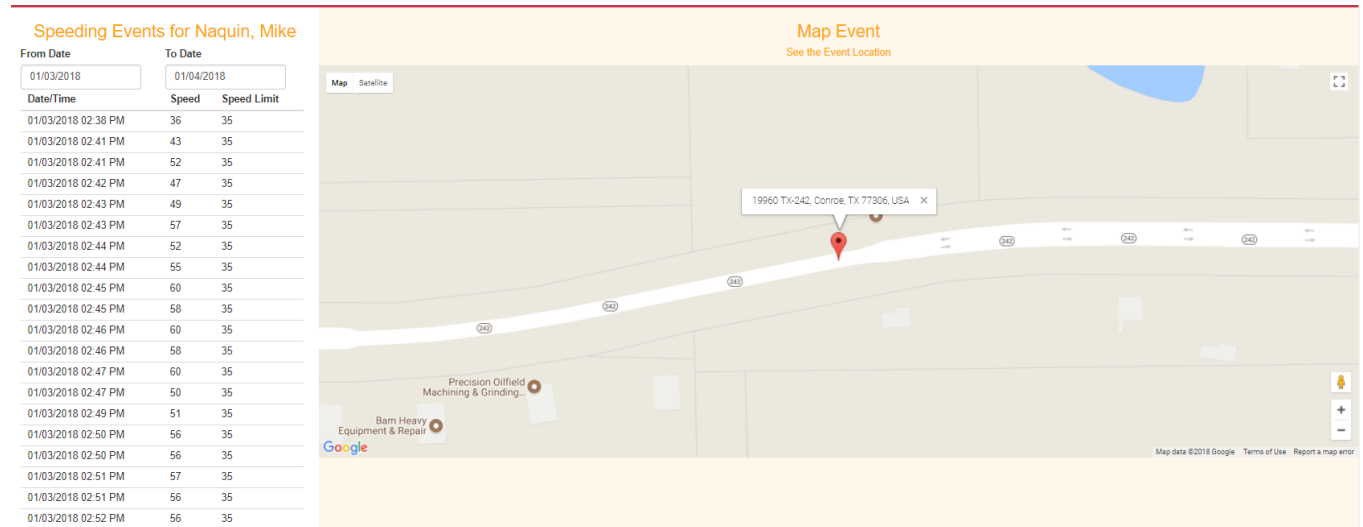
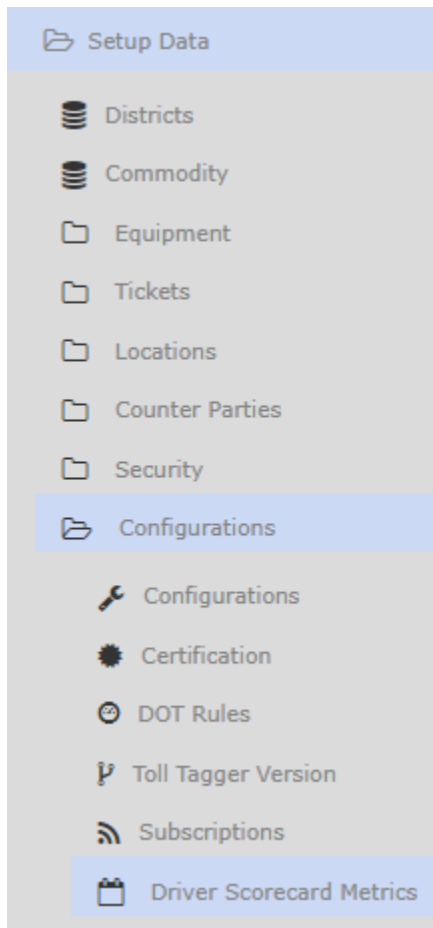


Figure xxiv: Driver Events

SCORE CARD METRICS



To define the weights for the calculation of driver score cards, select the **Driver Scorecard Metrics** menu item from the **Setup Data>Configurations>Driver Scorecard Metrics** menu as shown in figure xxv.

Using the slider for each driving and non-driving event, define the weight for each metric as shown in figure xxvi below. These values will be used in the calculation of the driver score card.

Figure xxv: Metrics

CONFIGURE DRIVER SCORECARD METRICS

First Purchaser
Chorus Logistics

Transporter
NAQUIN'S Trucking

Weighted Driving Behaviors

Selected Weights

- Speeding -----0
- Hard Braking -----0
- Hard Acceleration-----0
- Hard Cornering -----0
- Stop Sign -----0
- Railroad Crossing-----0

Weighted Non-Driving Events

Selected Weights

- Ticket Corrections-----0
- DVIR -----0
- Safety Violation -----0
- Equipment -----0

Driving Behaviors

Speeding
0 100

Hard Braking
0 100

Hard Acceleration
0 100

Hard Cornering
0 100

Stop Sign
0 100

Railroad Crossing
0 100

Non-Driving Events

Ticket Corrections
0 100

DVIR
0 100

Figure xxvi: Score Card Metrics



Weighted Driving Behaviors

Selected Weights

Speeding	-----	54
Hard Braking	-----	39
Hard Acceleration	-----	0
Hard Cornering	-----	0
Stop Sign	-----	0
Railroad Crossing	-----	0

Weighted Non-Driving Events

Selected Weights

Ticket Corrections	-----	0
DVIR	-----	0
Safety Violation	-----	0
Equipment	-----	0

DRIVER MOBILE APP

Login to the Chorus Logistics' mobile application, TollTagger, using a valid User id and password combination as shown in figure xxvii below. Once Logged in, select the Driver icon from the menu list at the top of the screen as shown in figure xxviii below.

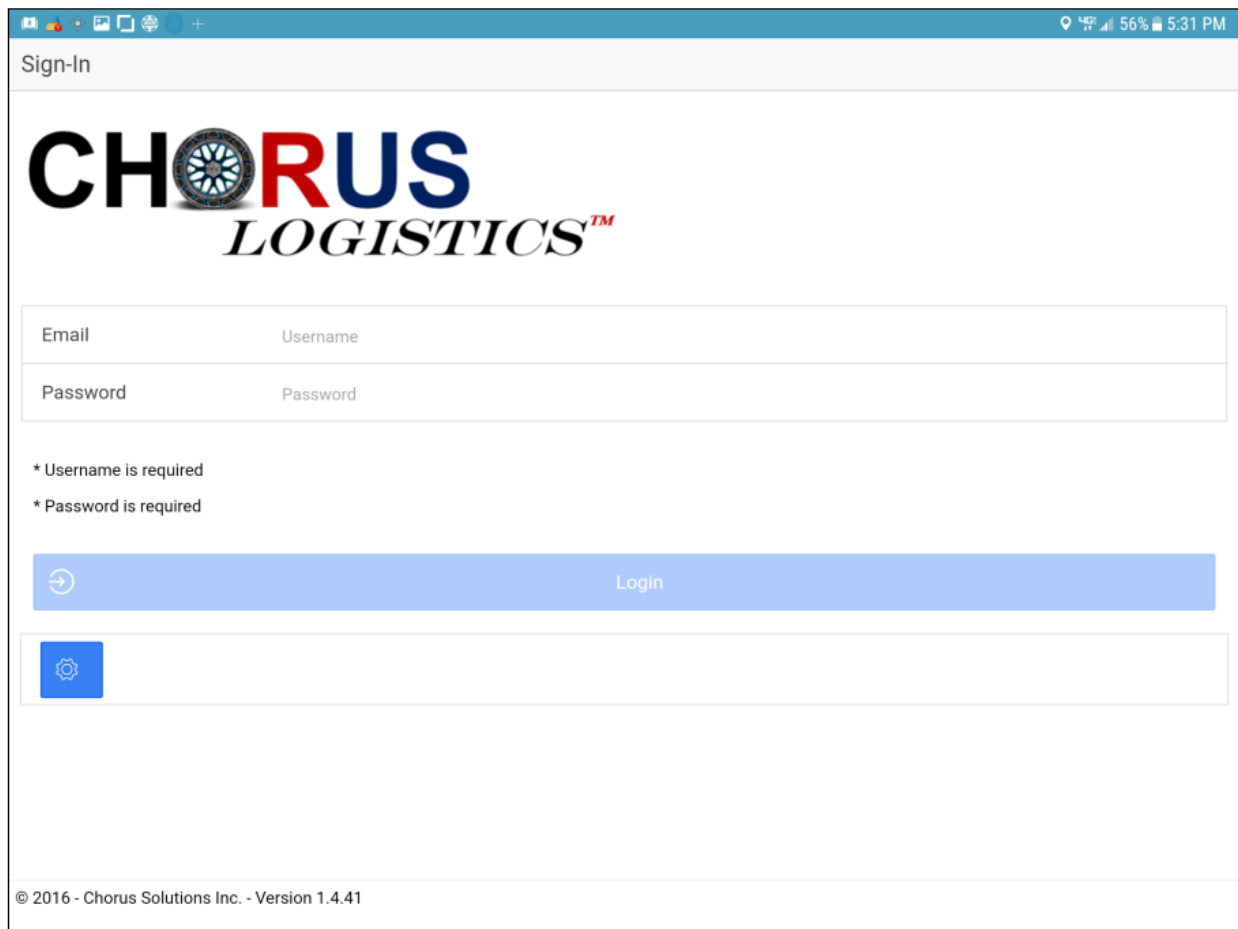


Figure xxvii: TollTagger Login Screen

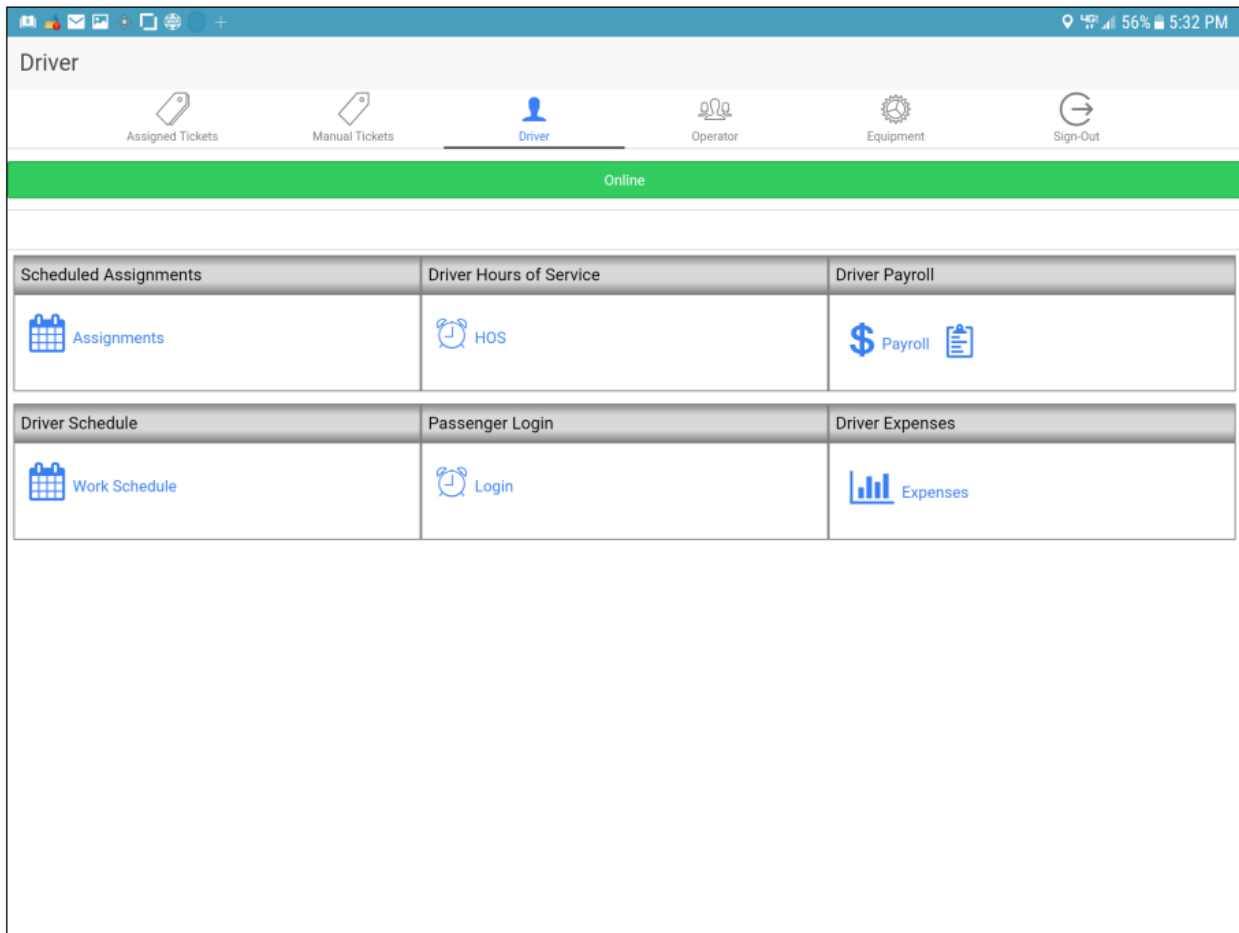



Figure xxviii: Driver Menu

HOURS OF SERVICE

Select the  from Drivers Hours of Service menu as shown in figure xxviii below. This will navigate to the Hours of Service screen as shown in figure xxvix below.

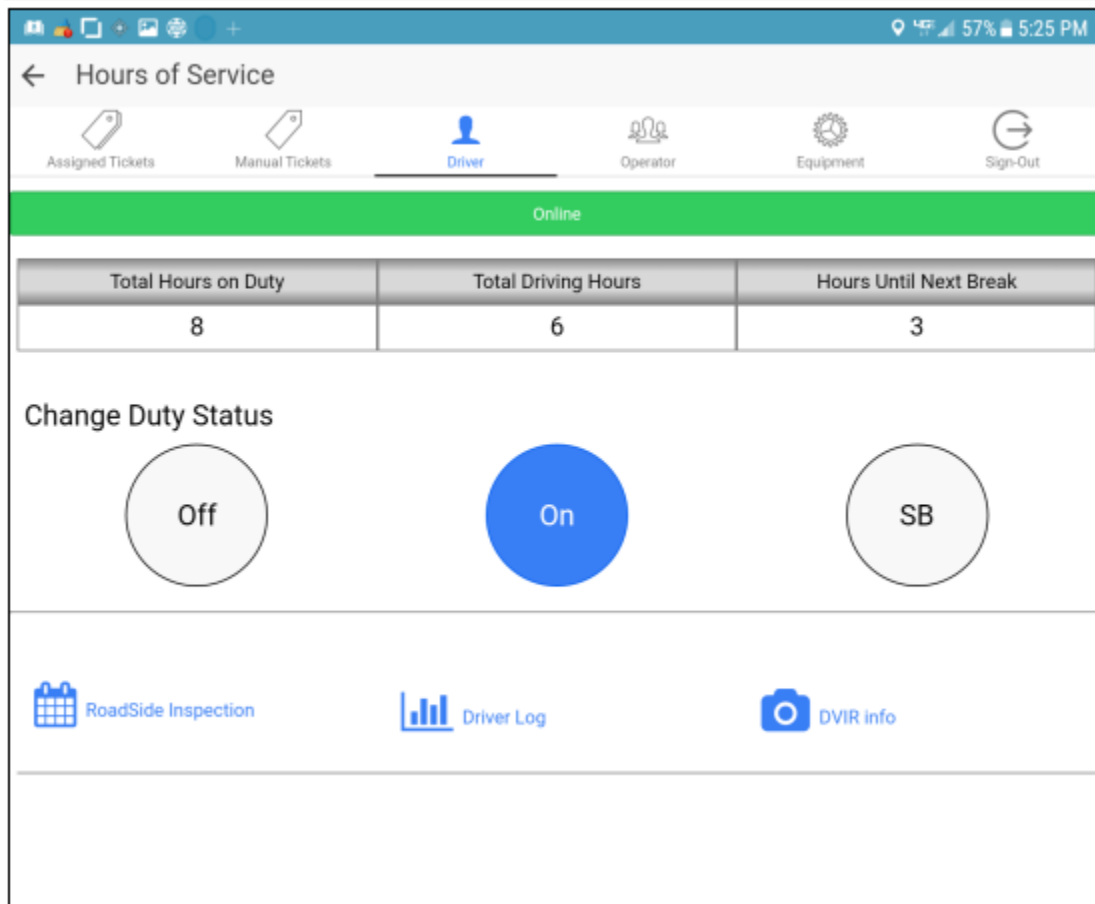


Figure xxix: Hours of Service

CHANGE DUTY STATUS

The current duty status will be displayed as a highlighted button based on the current duty status. To change the current duty status, select one of the options to change the status to the newly selected status.

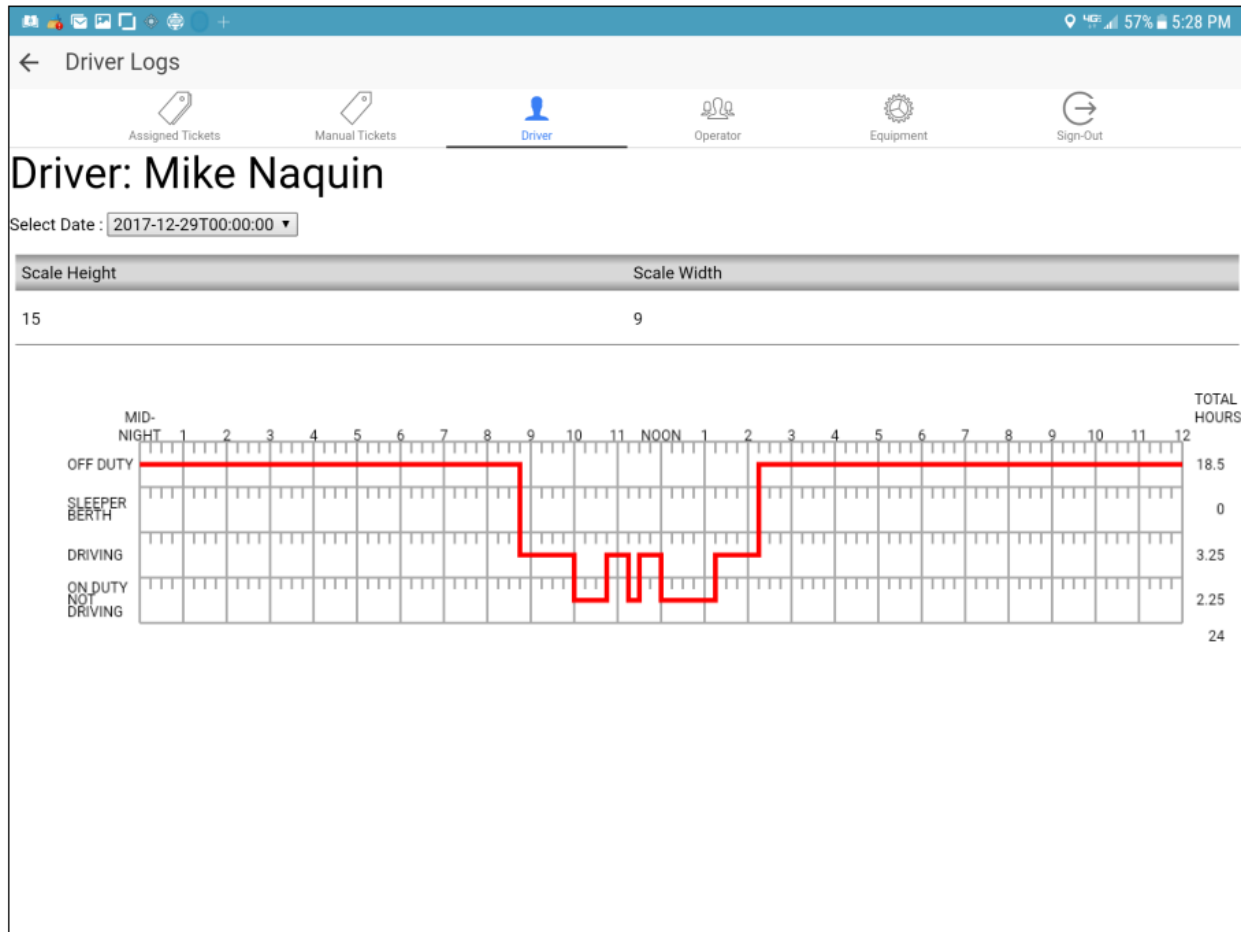


Figure xxx: Driver Log

DRIVER LOG



When the Driver Log icon is selected from the screen shown in figure xxix above, the driver log screen will be displayed as shown in figure xxx. Select a date from the picklist of available dates to view the corresponding driver log for the selected date.

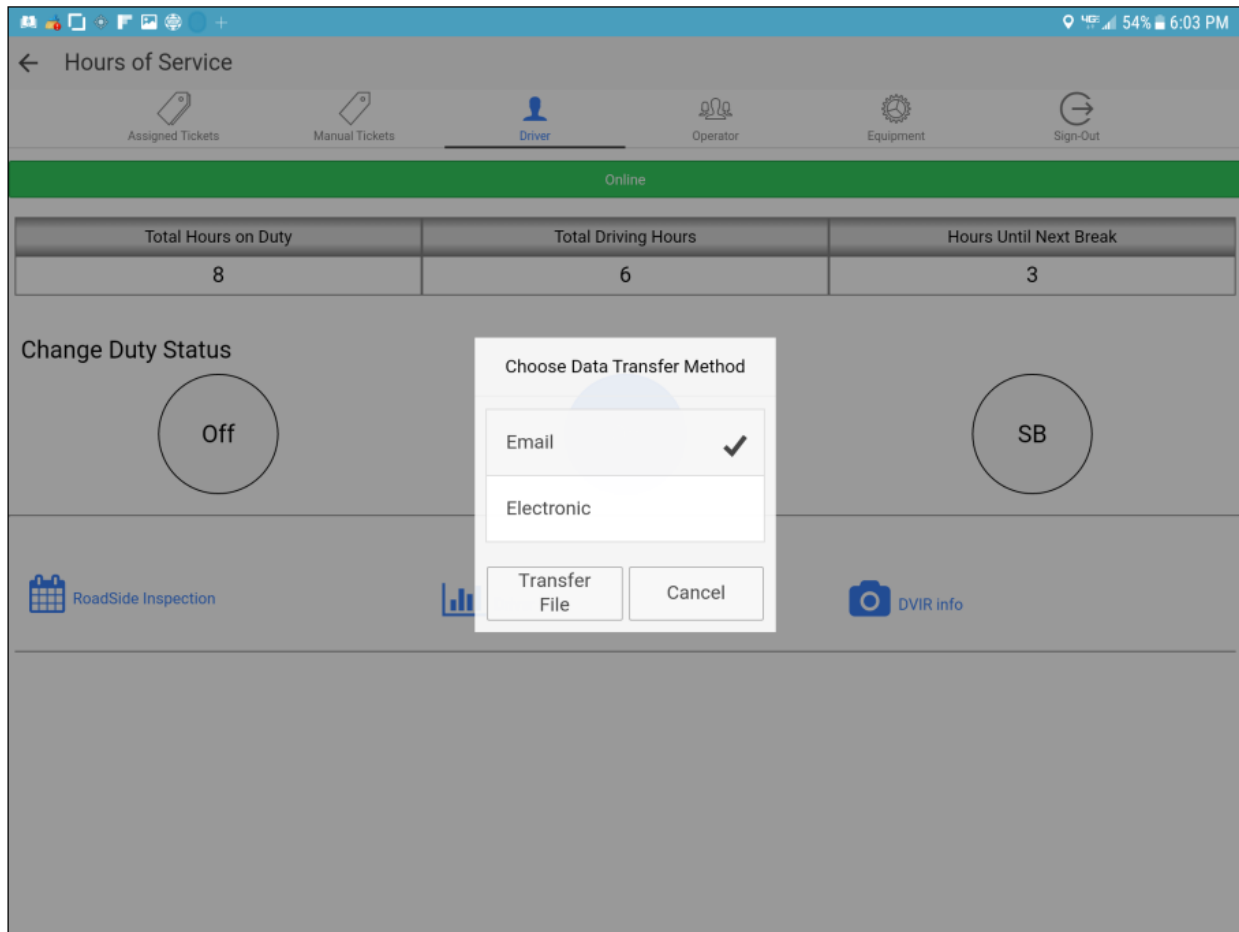


Figure xxxi: Roadside Inspection

ROADSIDE INSPECTION

To begin the process of transferring the requested driver logs electronically, select the Roadside

Inspection icon  from the screen shown in figure xxix. Once selected, the use

will be prompted with the method of data transfer either email or electronic data transfer.

Select the requested transfer and hit transfer file as shown in figure xxxi to begin the transfer of the requested driver logs.