


360 degree camera trial

Serco contract

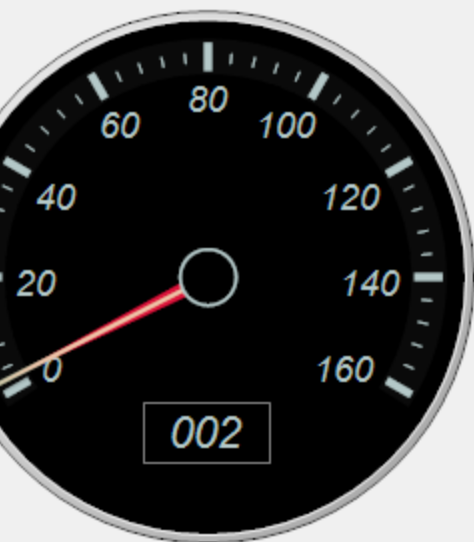
Background

- Serco were asked to trial the use of 4 x 360 degree cameras fitted to a waste collection vehicle
- Cameras were fitted to a refuse collection vehicle in July 2017
- Following slides are stills taken from video footage obtained from those cameras

Incident 1 – Fallen tree

- Collection vehicle knocked down a tree causing a road blockage
 - CCTV proved that no damage was caused to parked cars – useful in terms of potential insurance claims
 - Base of tree trunk was rotten
- 

Speed (MPH)



002

ms



ails

Latitude: N51° 37.40'
 Longitude: W0° 47.26'
 Bearing: 0.45° (N)
 GPS Rate: 1 reading a second

[Open Web Map](#)

BEACONS



00047.4398W 5137.6787N
 VX13 LJJ R 0 MPH
 C1 09:00:13.25 30/08/17

Camera 1

BEACONS



00047.4398W 5137.6787N
 VX13 LJJ F 0 MPH
 C2 09:00:13.23 30/08/17

Camera 2

BEACONS



00047.4398W 5137.6787N
 VX13 LJJ NS 0 MPH
 C3 09:00:13.26 30/08/17

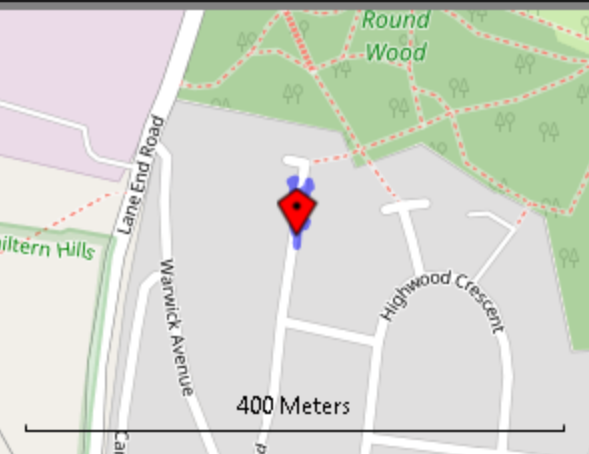
Camera 3

BEACONS



00047.4398W 5137.6787N
 VX13 LJJ OS 0 MPH
 C4 09:00:13.26 30/08/17

Camera 4



Map

400 Meters

Map

General all camera view including map of where vehicle is

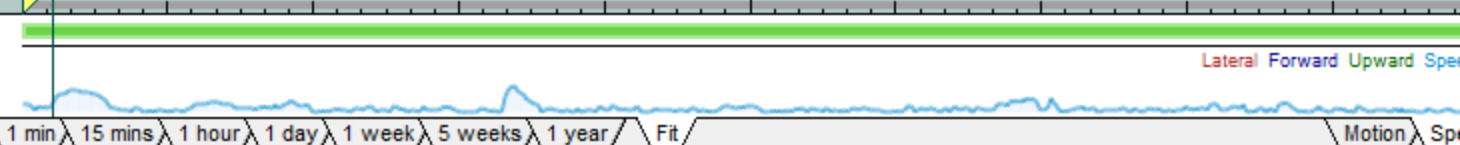
Playback Controls

Speed: 1.0x

30 Aug 2017 09:00:13



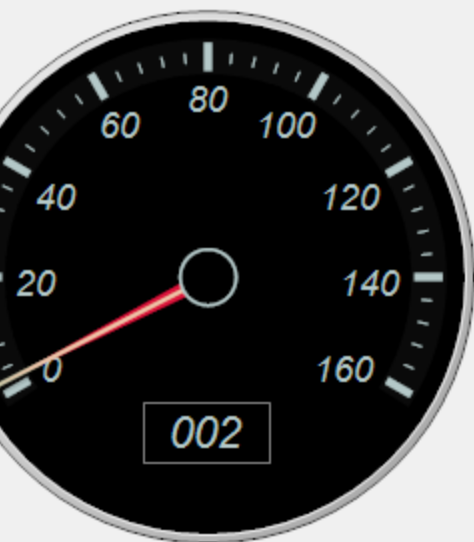
30 Aug 17 09:00 09:01 09:02 09:03 09:04 09:05 09:06 09:07 09:08 09:09 30 Aug 17



1 min 15 mins 1 hour 1 day 1 week 5 weeks 1 year Fit

Lateral Forward Upward Speed

Speed (MPH)



002

ms



ails

Latitude: N51° 37.41'
 Longitude: W0° 47.26'
 Bearing: 329.75° (N)
 GPS Rate: 1 reading a second

[Open Web Map](#)



Camera 1



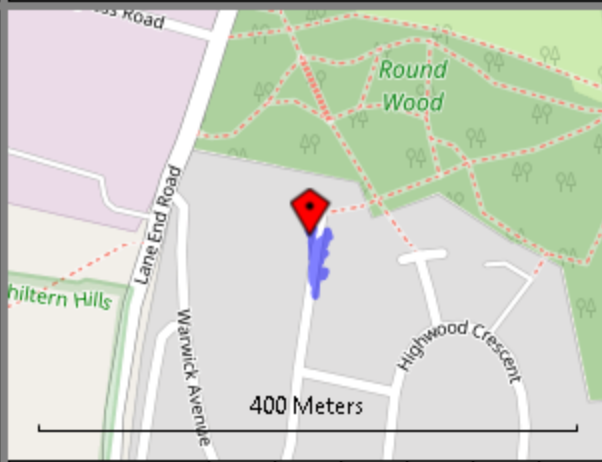
Camera 2



Camera 3



Camera 4

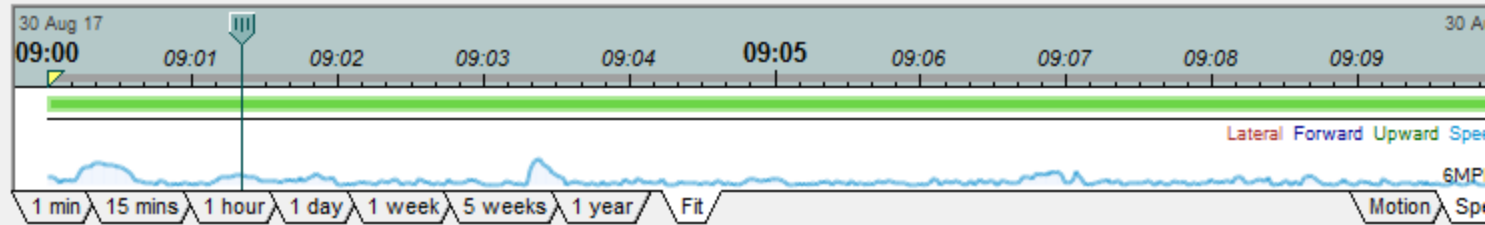


Map

Playback Controls

Speed: 1.0x

30 Aug 2017 09:01:20

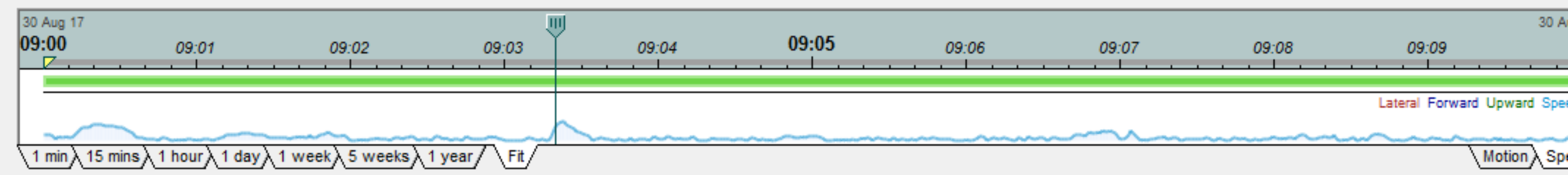


Playback Controls

Speed: 1.0x

30 Aug 2017 09:03:20

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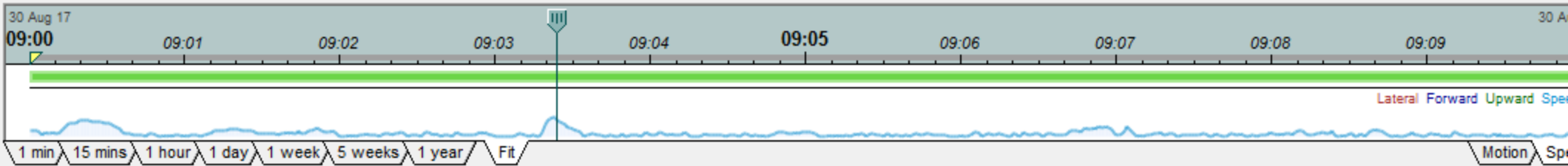


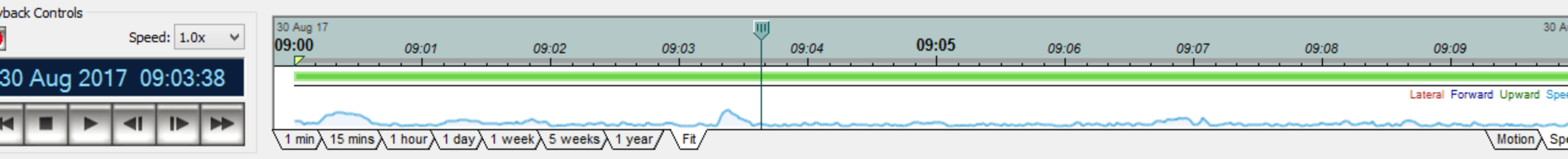
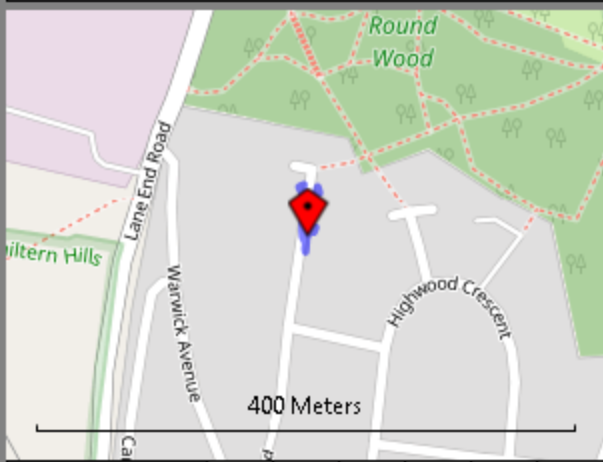
Camera mounted on drivers door facing backwards showing the tree about to fall

Playback Controls

Speed: 1.0x

30 Aug 2017 09:03:24





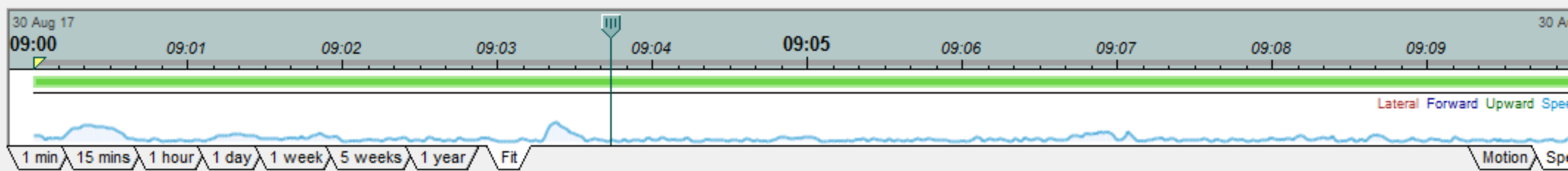


Playback Controls

Speed: 1.0x

30 Aug 2017 09:03:44

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Reverse assistant



Camera 1



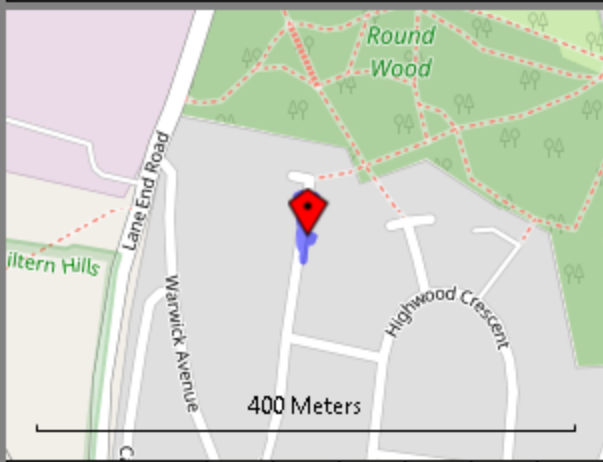
Camera 2



Camera 3

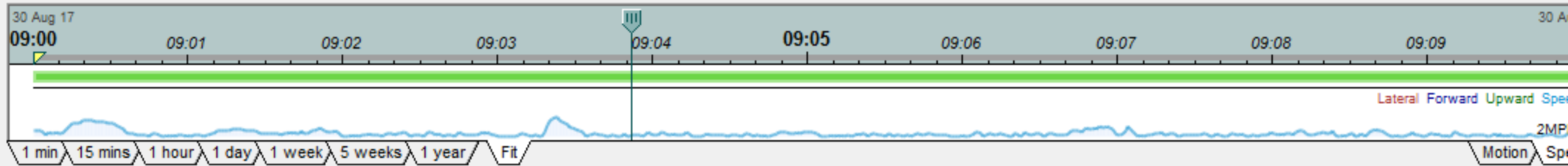


Camera 4



Map

Playback Controls
Speed: 1.0x
30 Aug 2017 09:03:52
[Play/Pause/Stop/Previous/Next buttons]





Camera 1



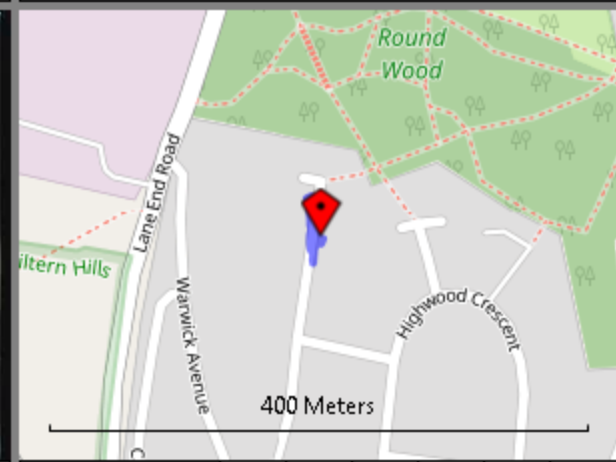
Camera 2



Camera 3



Camera 4



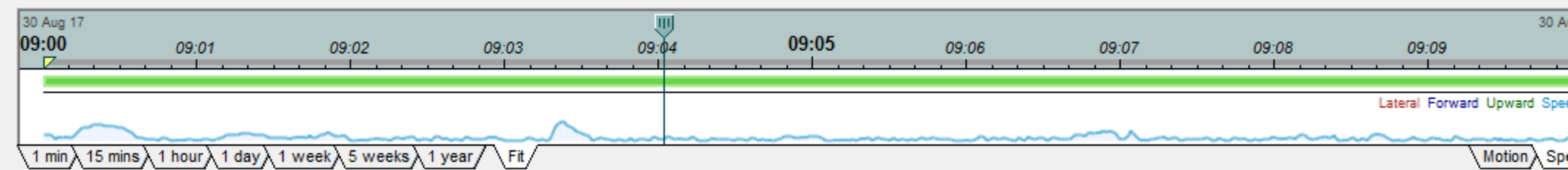
Map

Playback Controls

Speed: 1.0x

30 Aug 2017 09:04:02

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Incident 2 – validating crew activity

- Missed collection reported
- Collection rectified
- Subsequent report of missed miss from that property
- Serco checked the CCTV, on board CCTV map and vehicle tracker
- Serco could validate that collection had been rectified
- Footage showed resident's door number on bin being emptied
- Resident had refilled their bin!

Speed (MPH)

A circular speedometer with a black face and white markings. The needle is at 0. The scale ranges from 0 to 160 in increments of 20. A digital display at the bottom shows '000'.

ms

A set of control buttons including a left arrow, a green engine icon, a red stop icon, a Wi-Fi icon, and a right arrow.

Latitude: N51° 37.11'
 Longitude: W0° 49.35'
 Bearing: 170.69° (N)
 GPS Rate: 1 reading a second

Open Web Map

BRAKE

00049.5943W 5137.1841N
 VX13 LJJ R 0 MPH
 C1 11:59:54.83 18/10/17

Camera 1

BRAKE

00049.5943W 5137.1841N
 VX13 LJJ F 0 MPH
 C2 11:59:54.75 18/10/17

Camera 2

BRAKE

00049.5943W 5137.1841N
 VX13 LJJ NS 0 MPH
 C3 11:59:54.82 18/10/17

Camera 3

BRAKE

00049.5943W 5137.1841N
 VX13 LJJ OS 0 MPH
 C4 11:59:54.86 18/10/17

Camera 4

A map view showing a blue route on a street grid. A red location pin is placed on Simmons Way. A scale bar indicates 400 meters. Street names include Oak Tree Drive, Carter Road, and Philips Close.

Map

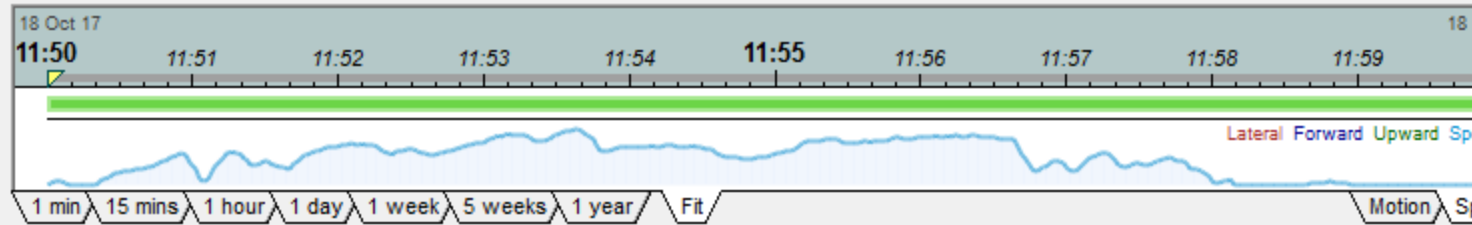
General all camera view including map of where vehicle is

Playback Controls

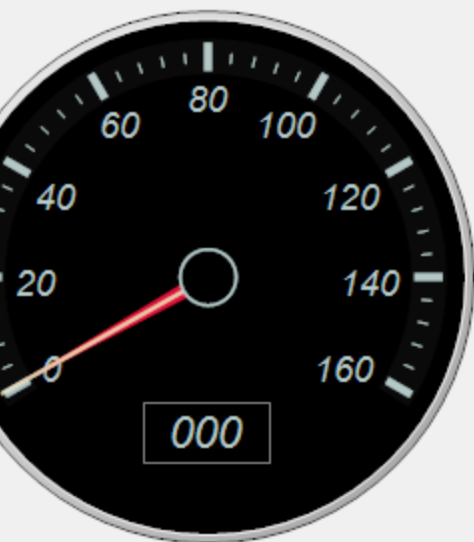
Speed: 1.0x

18 Oct 2017 11:59:54

Buttons for play, stop, previous, next, and full screen.



Speed (MPH)



000

ms



ails

Latitude: N51° 37.11'
 Longitude: W0° 49.35'
 Bearing: 170.69° (N)
 GPS Rate: 1 reading a second

[Open Web Map](#)



00049.5958W 5137.1841N
 VX13 LJJ R 0 MPH
 C1 11:59:26.19 18/10/17

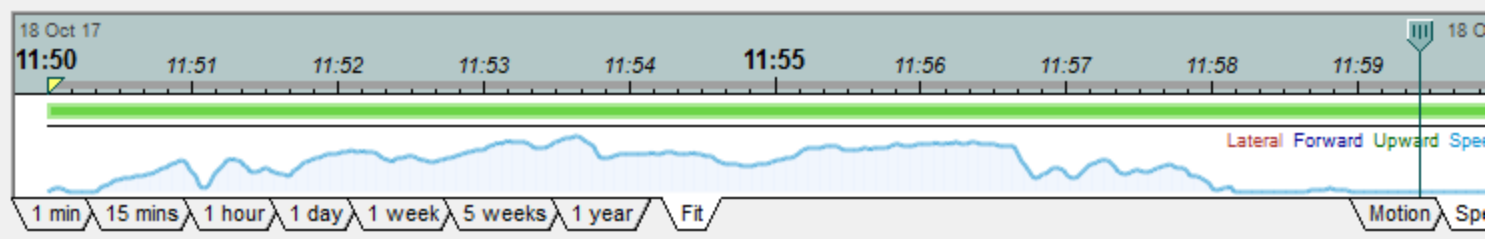
Camera 1

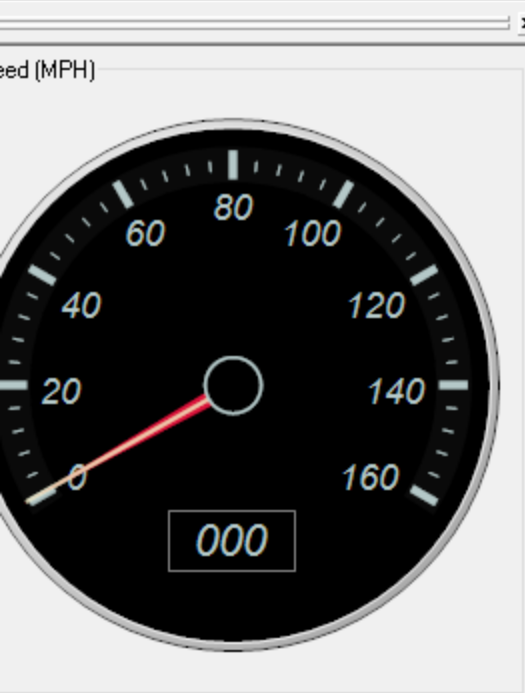
Resident bin showing number '25'

Playback Controls

Speed: 1.0x

18 Oct 2017 11:59:26



ms

← [Engine Icon] [Refresh Icon] [Wi-Fi Icon] →

A row of control buttons including left and right arrows, an engine icon, a refresh icon, and a Wi-Fi icon.

ails

Latitude: N51° 37.11'

Longitude: W0° 49.35'

Bearing: 170.69° (N)

GPS Rate: 1 reading a second

[Open Web Map](#)



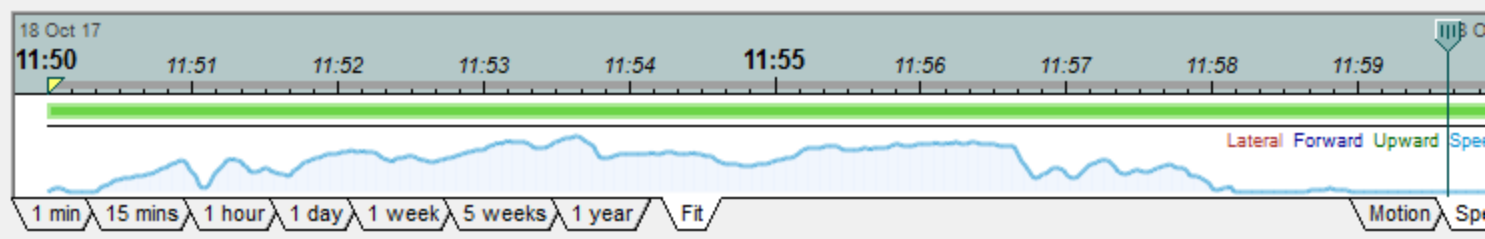
Playback Controls

Speed: 1.0x

18 Oct 2017 11:59:37

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Playback controls including a speed selector, a timestamp, and navigation buttons.



Speed (MPH)

000

ms

ails

Latitude: N51° 37.11'
 Longitude: W0° 49.35'
 Bearing: 170.69° (N)
 GPS Rate: 1 reading a second

[Open Web Map](#)



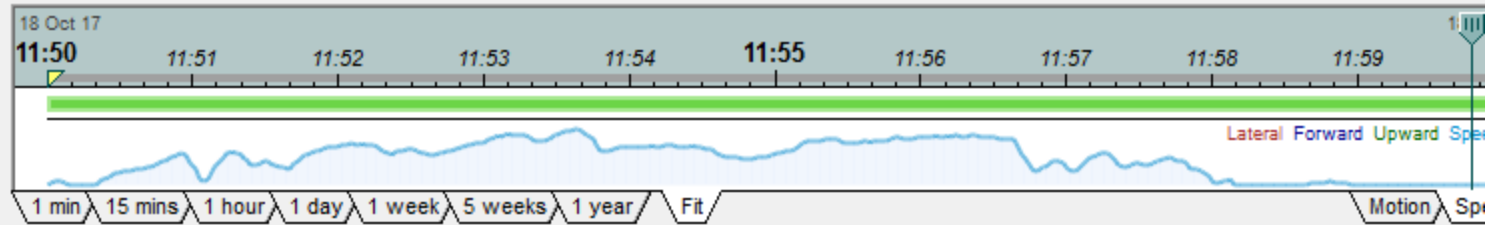
00049.5948W 5137.1841N
 VX13 LJJ OS 0 MPH
 C4 11:59:47.18 18/10/17

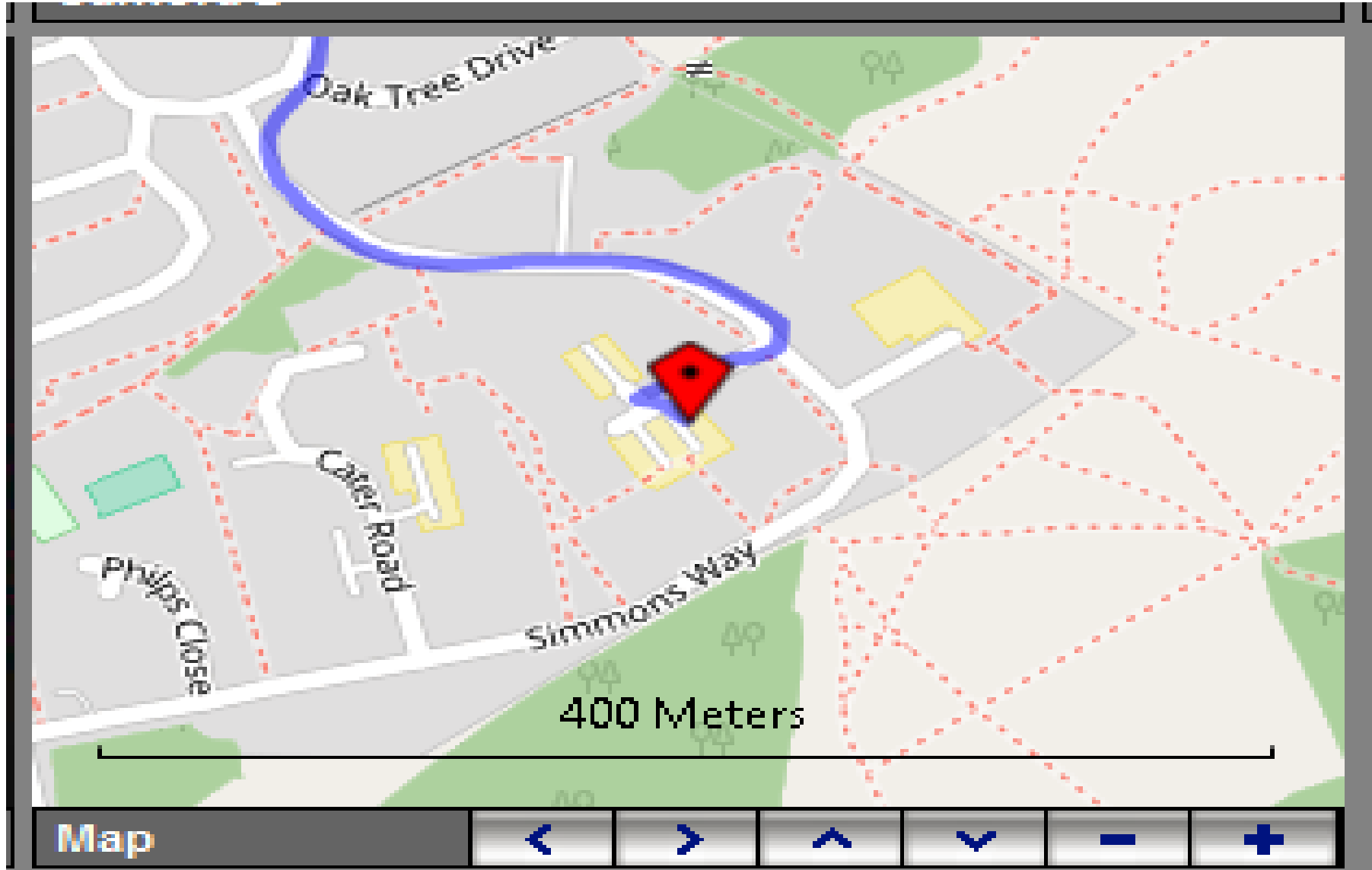
Camera 4

Playback Controls

Speed: 1.0x

18 Oct 2017 11:59:47





Discussion

