Trip Matching - Part1

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```
source("telematic_util.R")
data.dir <- "c:/NO_BACKUP/kaggle/telematics/drivers"
drivers.dir <- dir(data.dir)
```

Manual Trip Matching

I've come to know driver 2591 fairly well, and was wondering if I could recognize his trip segments. I used the following code to scan through his trips 4 at a time:

```
par(mfrow=c(2,2))
i=-3
driver.id=2591
...  (repeat this lines)
i=i+4;for (j in 1:4) {print(i+j-1); plotTrip(getTrip(driver.id,i+j-1),header=F)}
```

Here are the segments I identified as being similar (? marks less confidence): 10,11,16,37,40,43, 44,45, 47? ,49,53,54, 63?, 70,80?, 82, 104, 105?, 107, 111, 115, 117?, 123,130,131, 138, 140, 142?, 146, 154, 155, 157,162, 178,180?, 184?, 192, 198,200
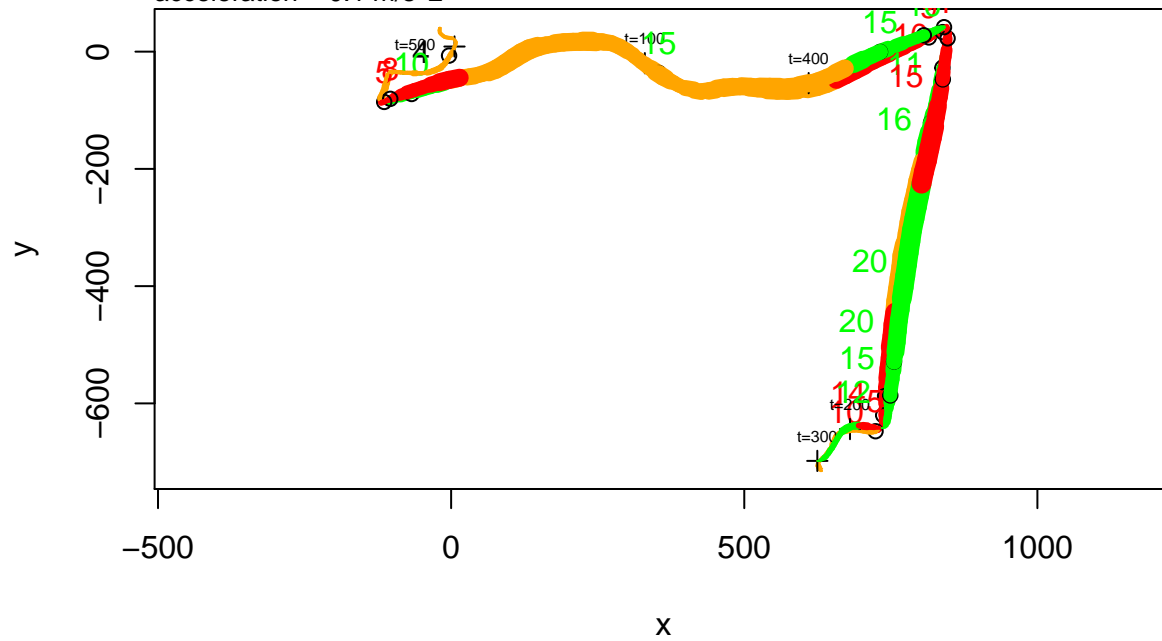
Here are the plots:

```
driver.id=2591
same.route <- c(10,11,16,37,40,43, 44,45, 47 ,49,53,54, 63, 70,80, 82, 104, 105, 107, 111, 115, 117, 123

for (trip.id in same.route) {
    cat("driver", driver.id, "trip", trip.id)
    plotTrip(getTrip(driver.id, trip.id))
}
```

```
## driver 2591 trip 10
```
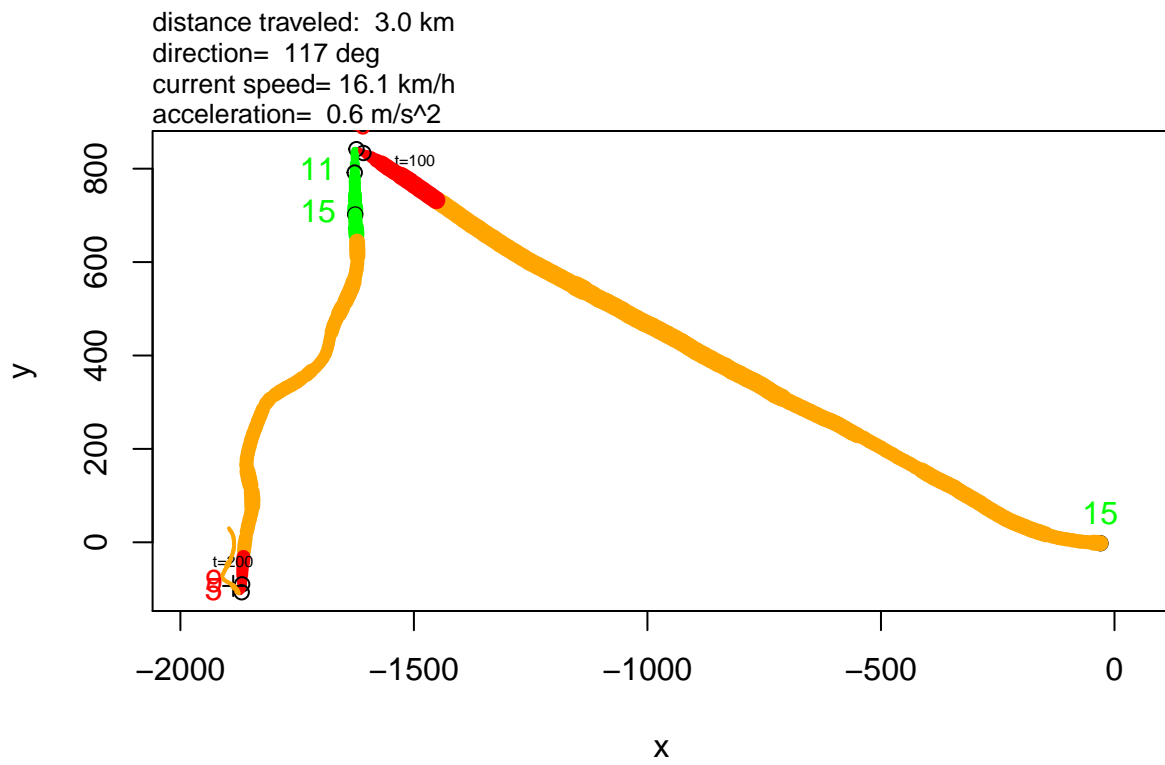
1

Plot of Route

distance traveled: 4.2 km
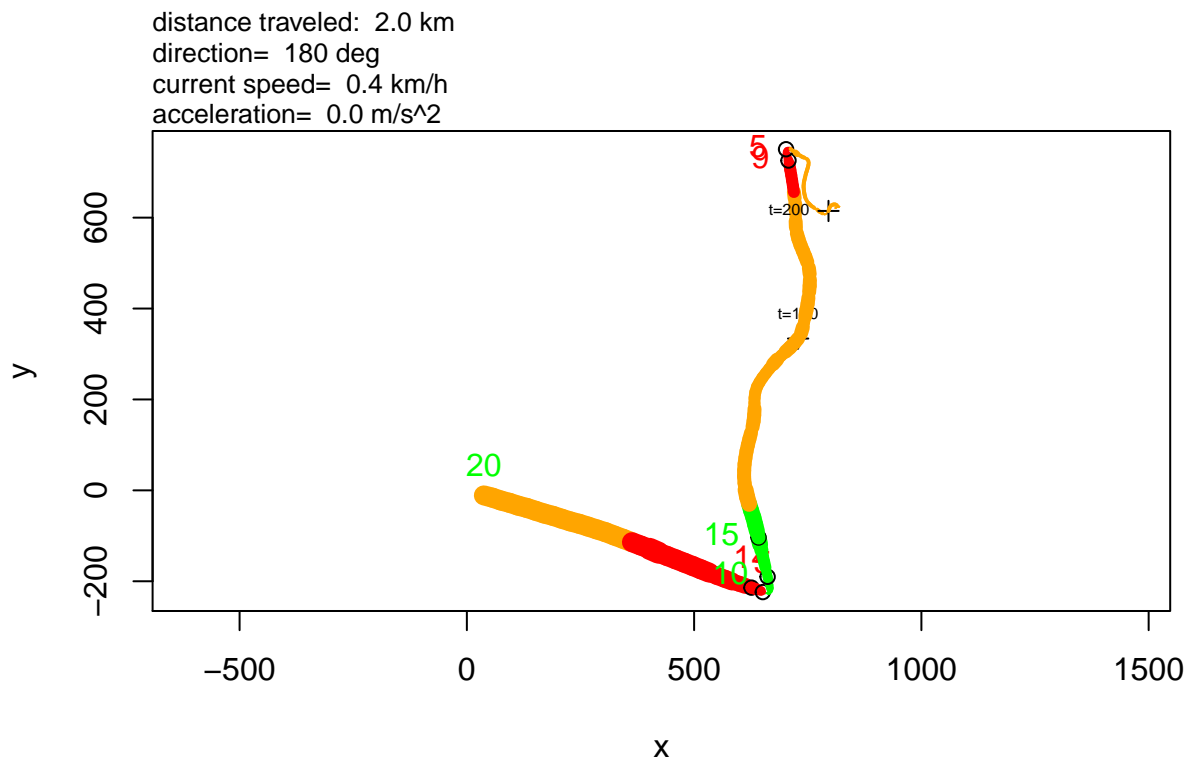direction= 90 deg
current speed= 0.4 km/h
acceleration= 0.1 m/s^2

driver 2591 trip 11

Plot of Route

distance traveled: 3.0 km
direction= 117 deg
current speed= 16.1 km/h
acceleration= 0.6 m/s^2

driver 2591 trip 16

Plot of Route

distance traveled: 2.0 km
direction= 180 deg
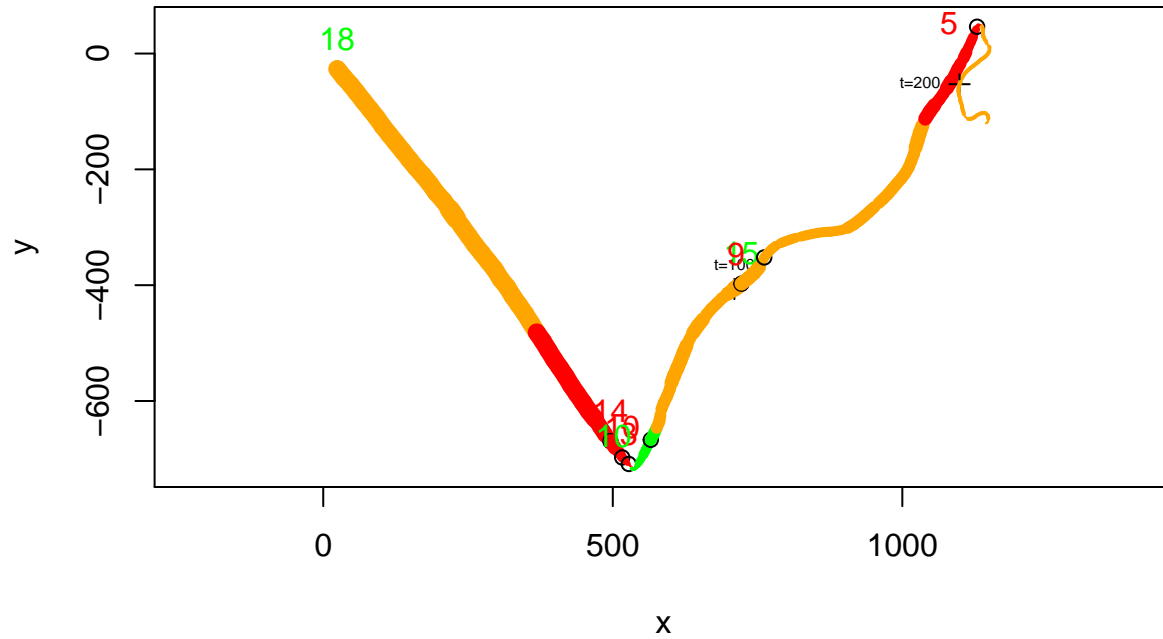current speed= 0.4 km/h
acceleration= 0.0 m/s^2
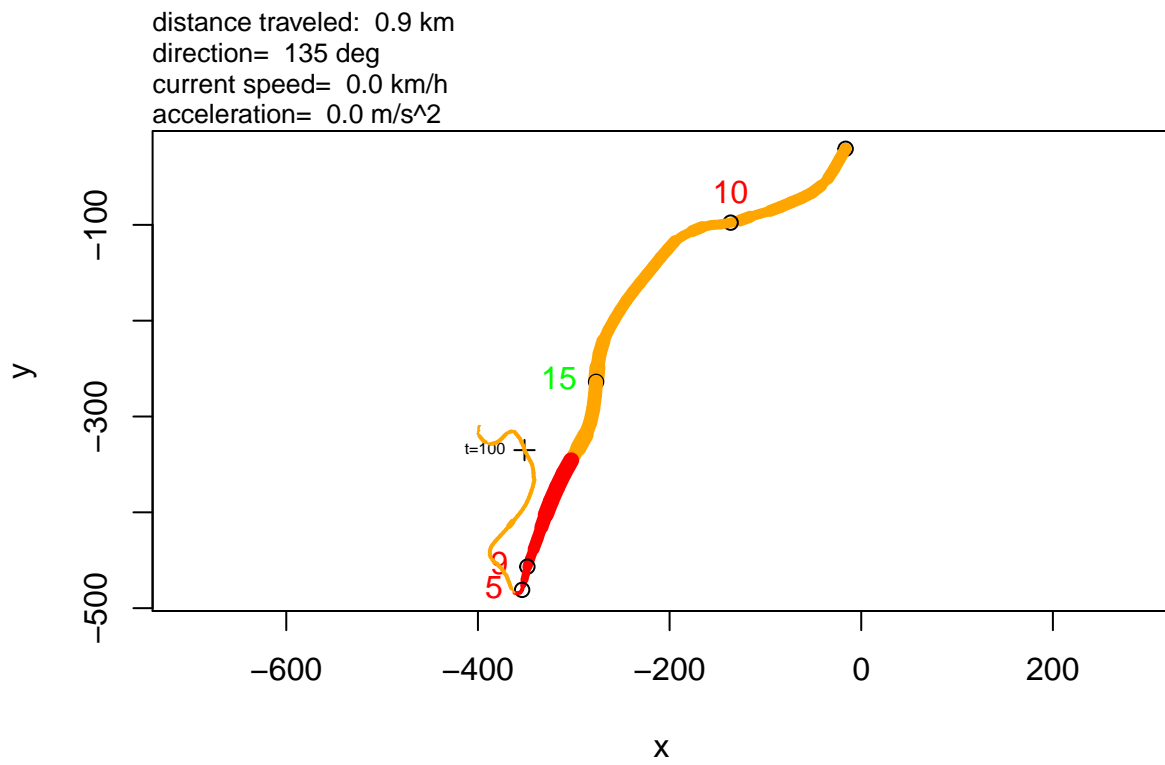

driver 2591 trip 37

Plot of Route

distance traveled: 2.1 km
direction= 141 deg
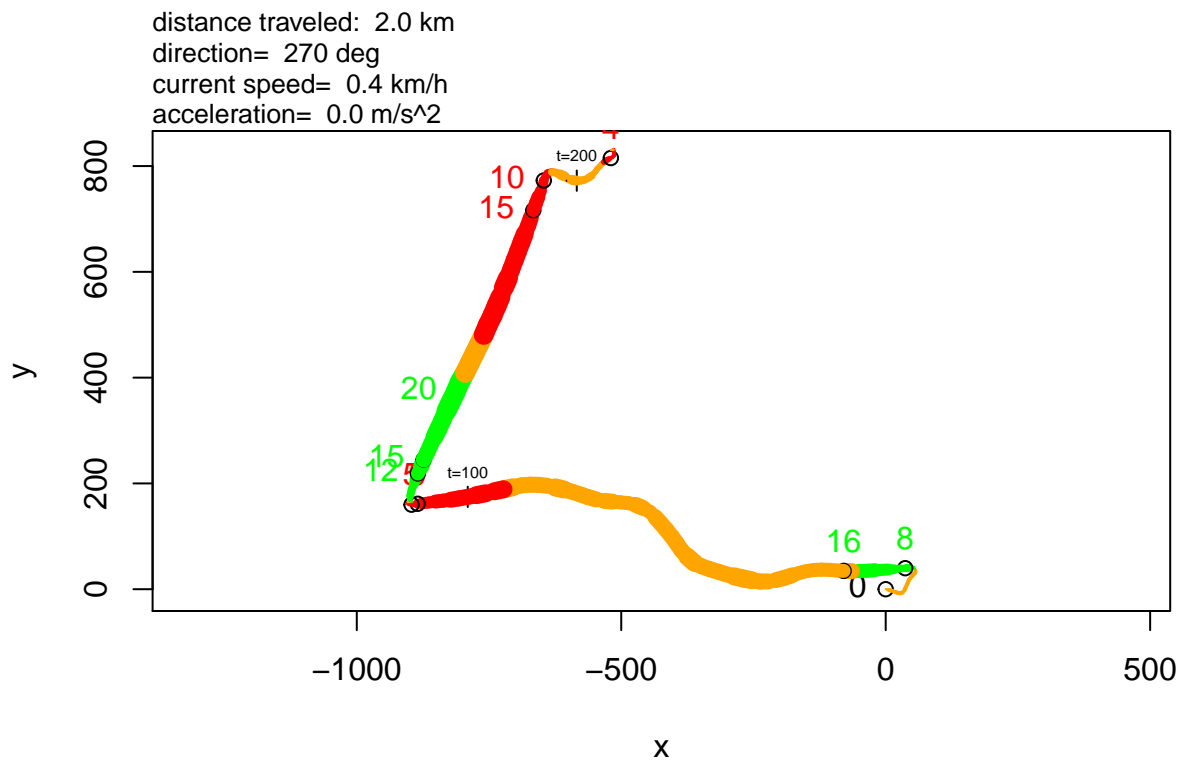current speed= 2.3 km/h
acceleration= −0.6 m/s^2


```
## driver 2591 trip 40
```
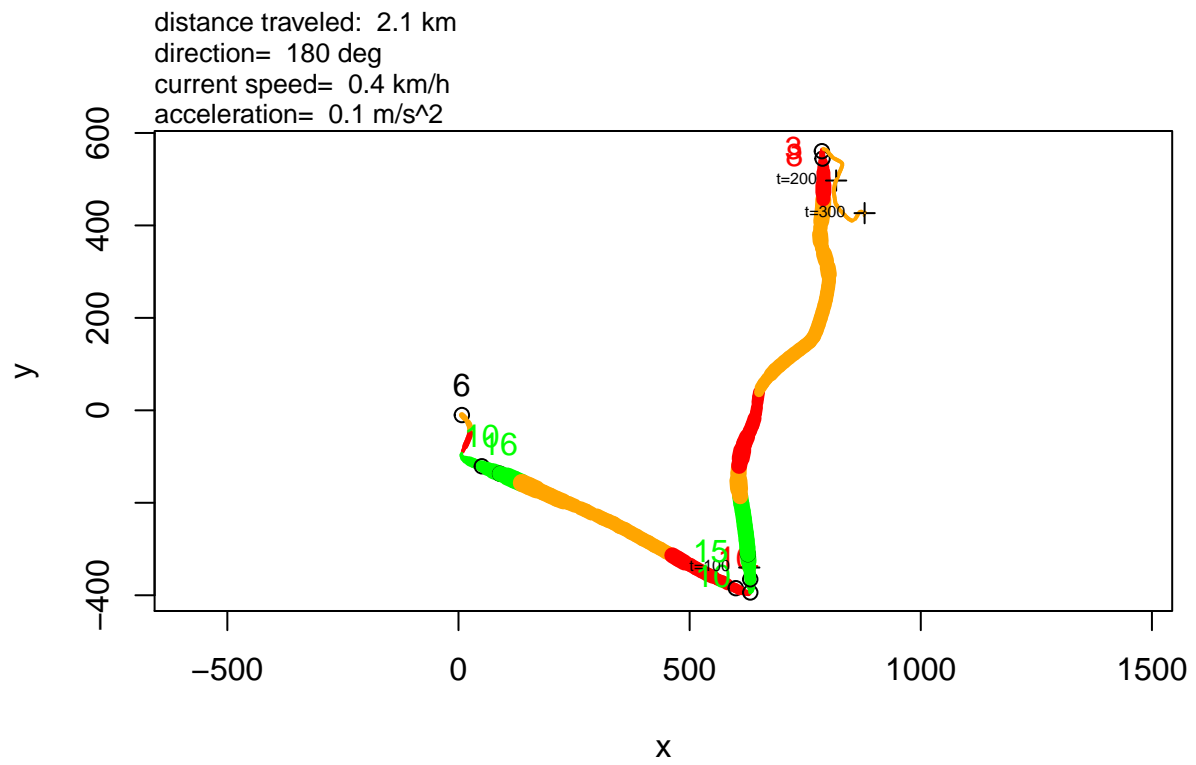
Plot of Route

distance traveled: 0.9 km
direction= 135 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2


```
## driver 2591 trip 43
```

Plot of Route

distance traveled: 2.0 km
direction= 270 deg
current speed= 0.4 km/h
acceleration= 0.0 m/s^2


```
## driver 2591 trip 44
```

Plot of Route

distance traveled: 2.1 km
direction= 180 deg
current speed= 0.4 km/h
acceleration= 0.1 m/s^2

driver 2591 trip 45

Plot of Route

distance traveled: 1.8 km
direction=   0 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2
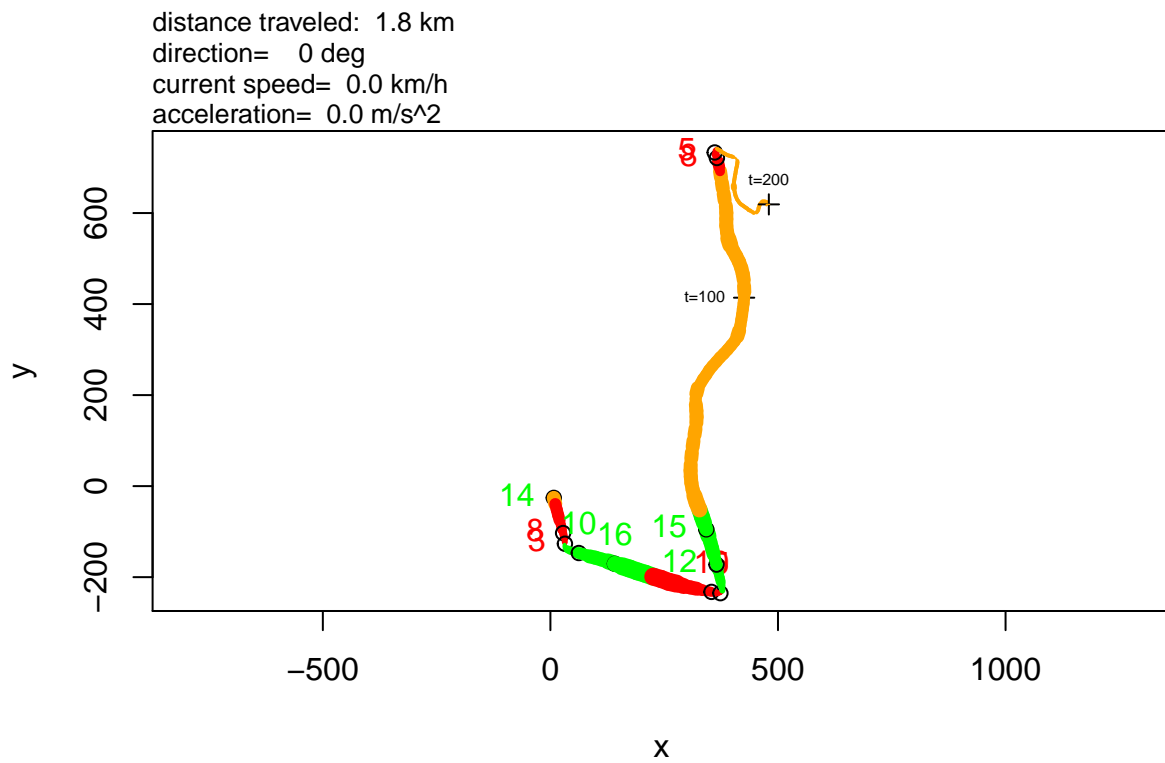
driver 2591 trip 47

Plot of Route

distance traveled: 4.5 km
direction= 180 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2
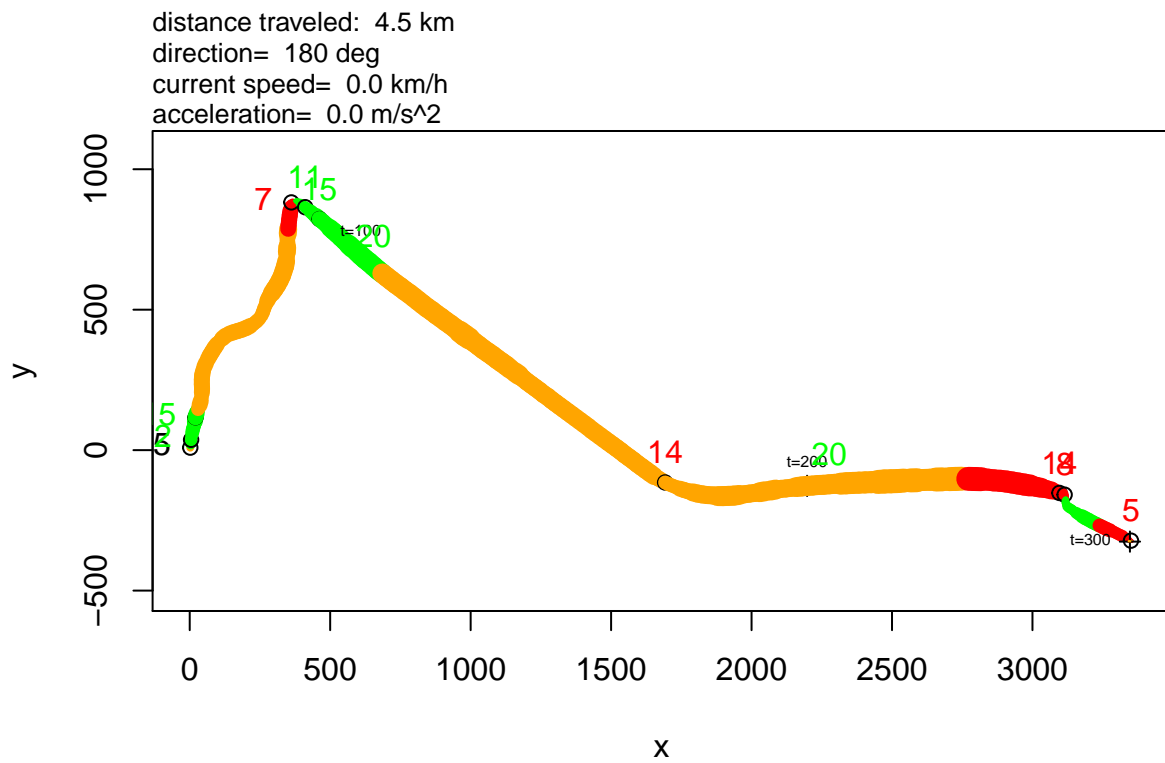
driver 2591 trip 49

Plot of Route

distance traveled: 4.2 km
direction= 270 deg
current speed= 0.7 km/h
acceleration= 0.1 m/s^2
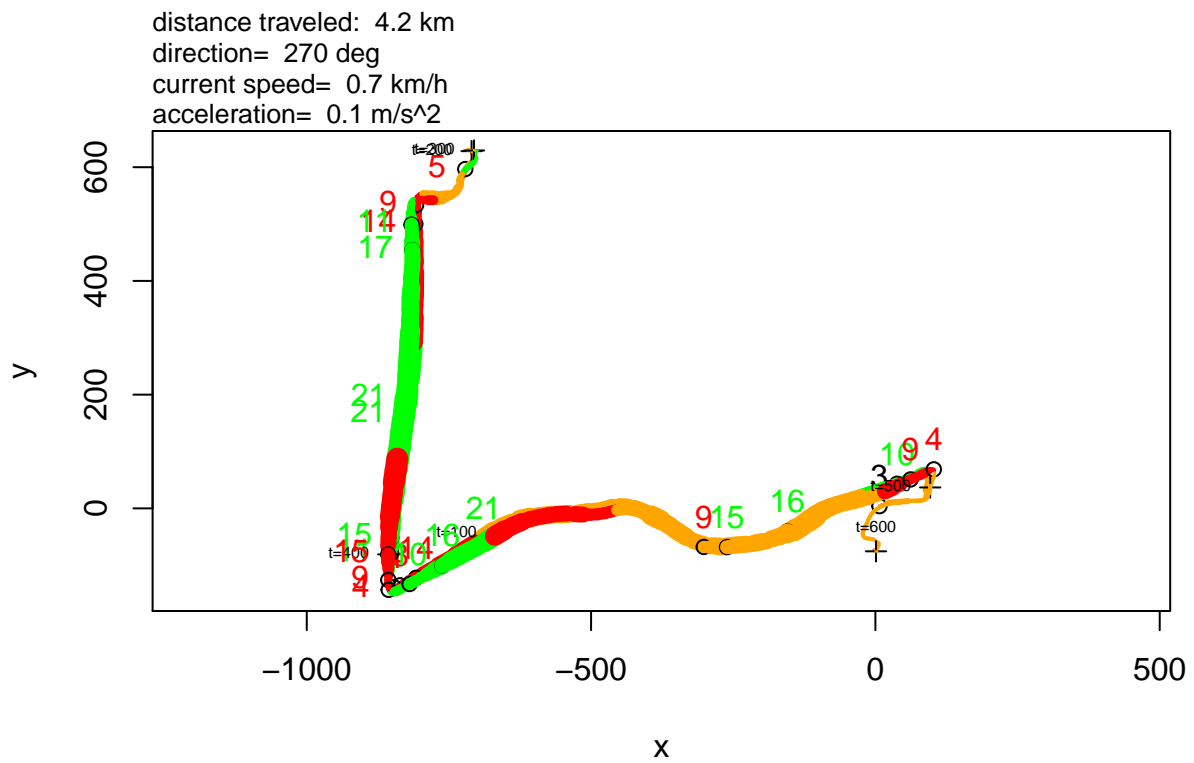
driver 2591 trip 53

Plot of Route

distance traveled: 2.0 km
direction=   27 deg
current speed= 0.8 km/h
acceleration= −0.9 m/s^2
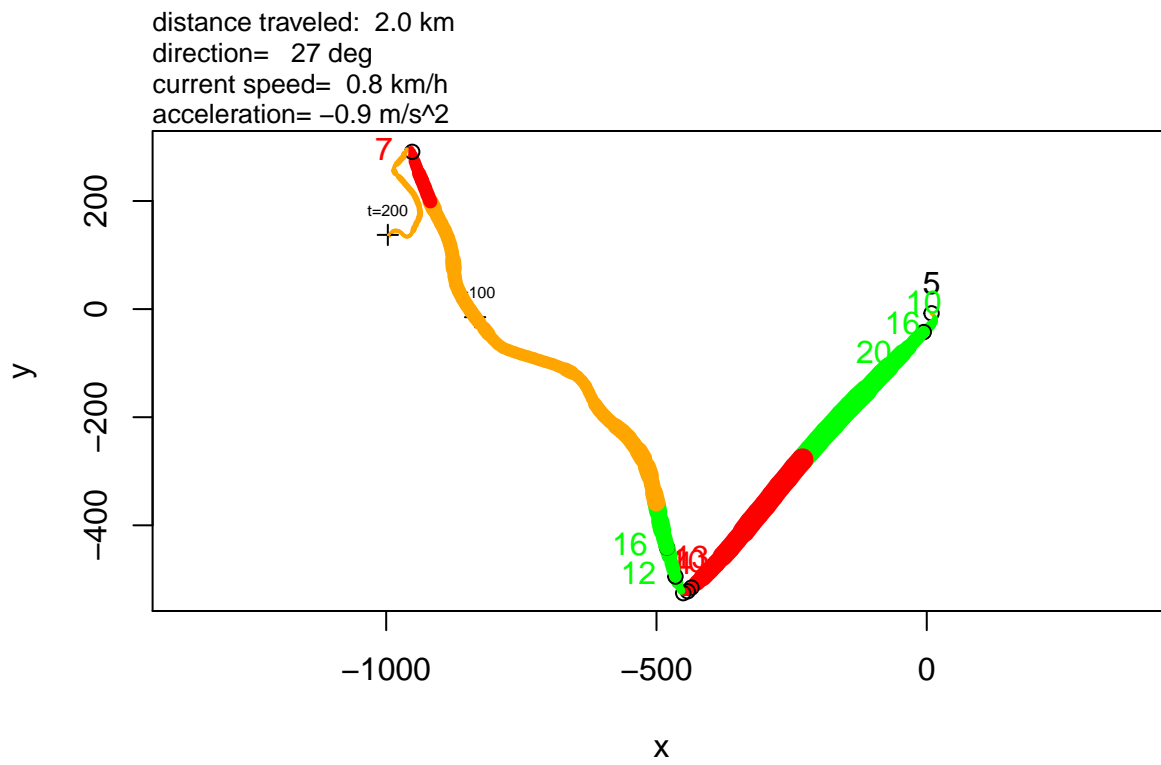
driver 2591 trip 54

Plot of Route

distance traveled: 2.0 km
direction= 180 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2
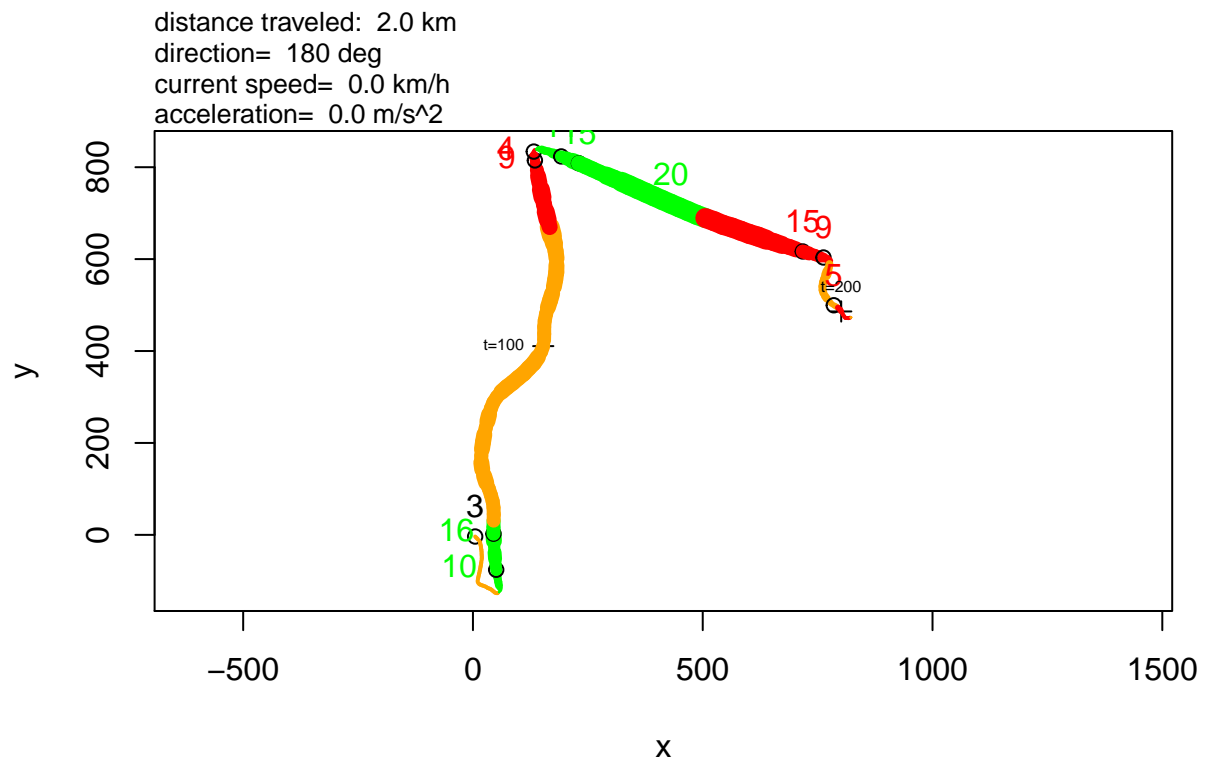
driver 2591 trip 63

Plot of Route

distance traveled: 2.5 km
direction= 270 deg
current speed= 1.1 km/h
acceleration= 0.3 m/s^2
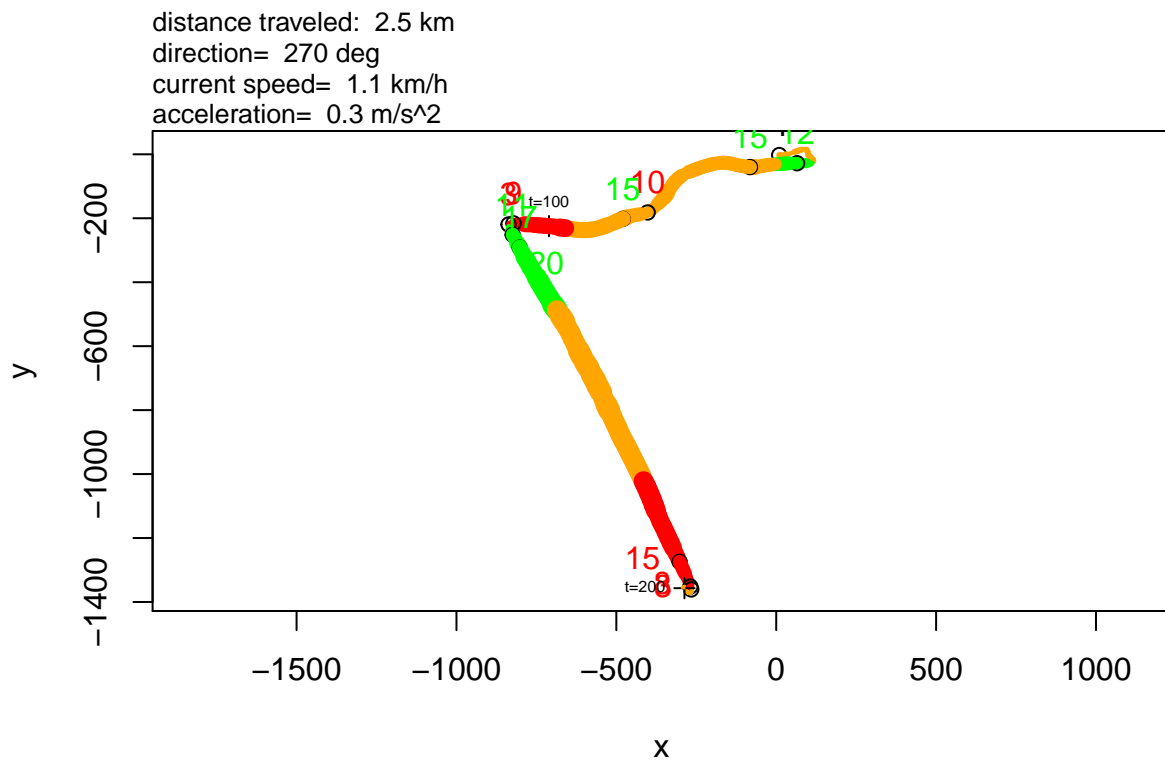
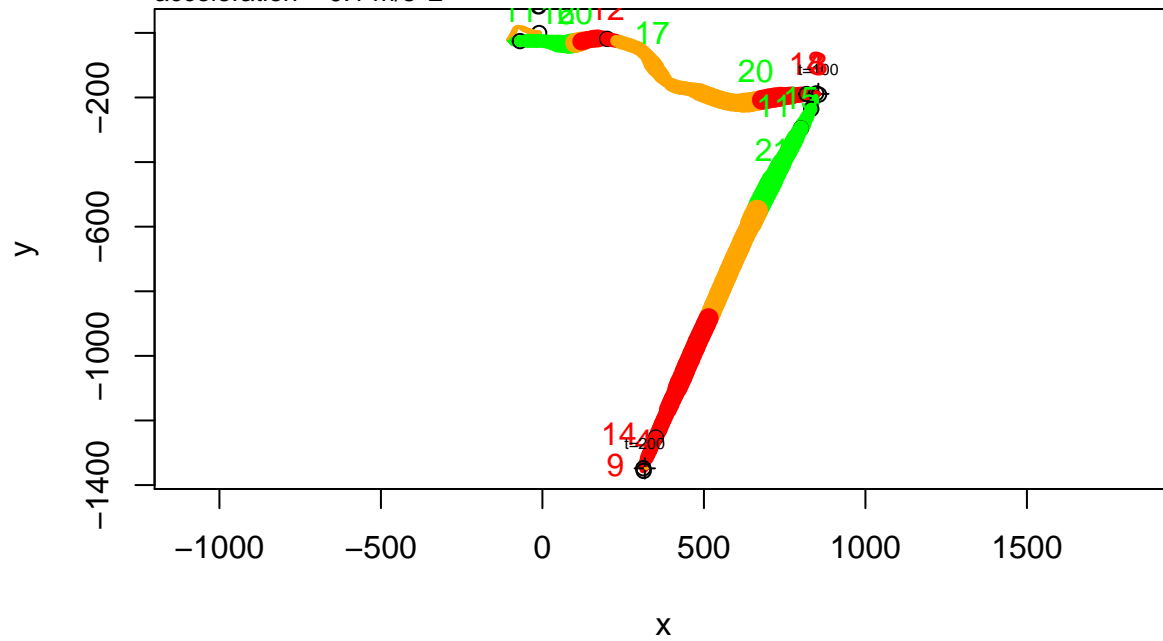## driver 2591 trip 70

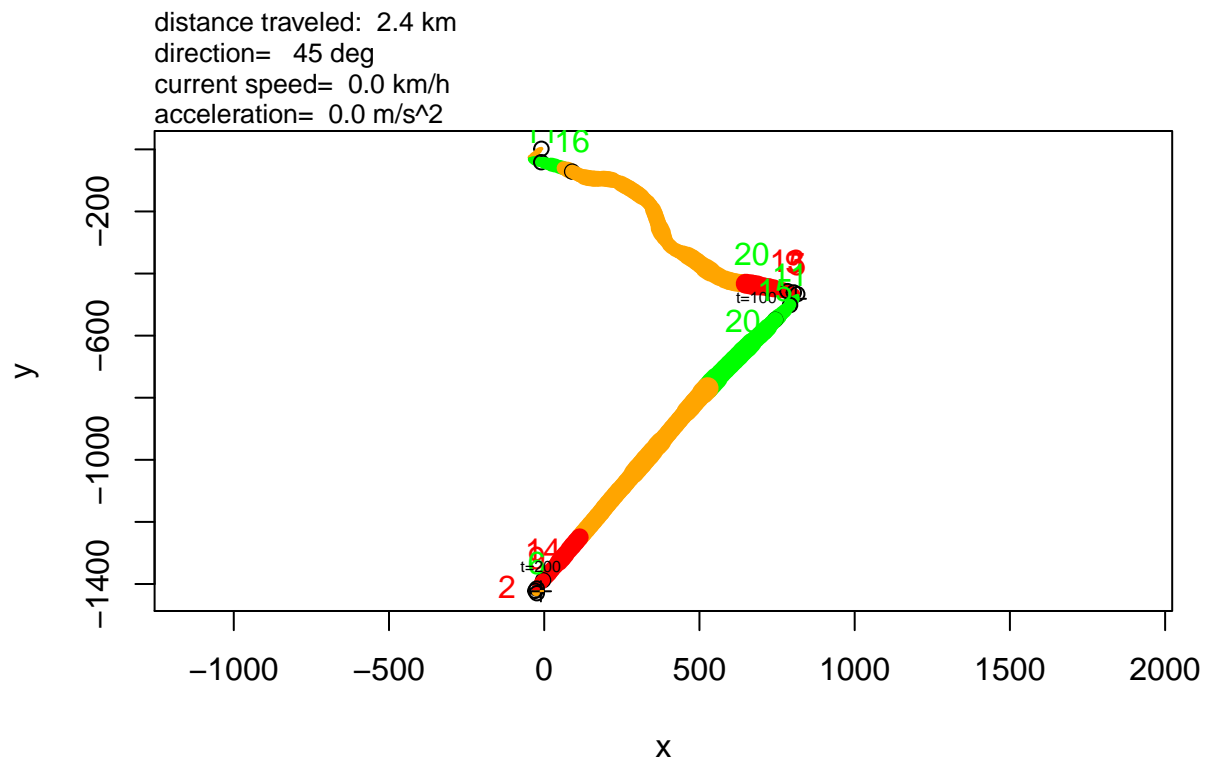## Plot of Route

distance traveled: 2.5 km
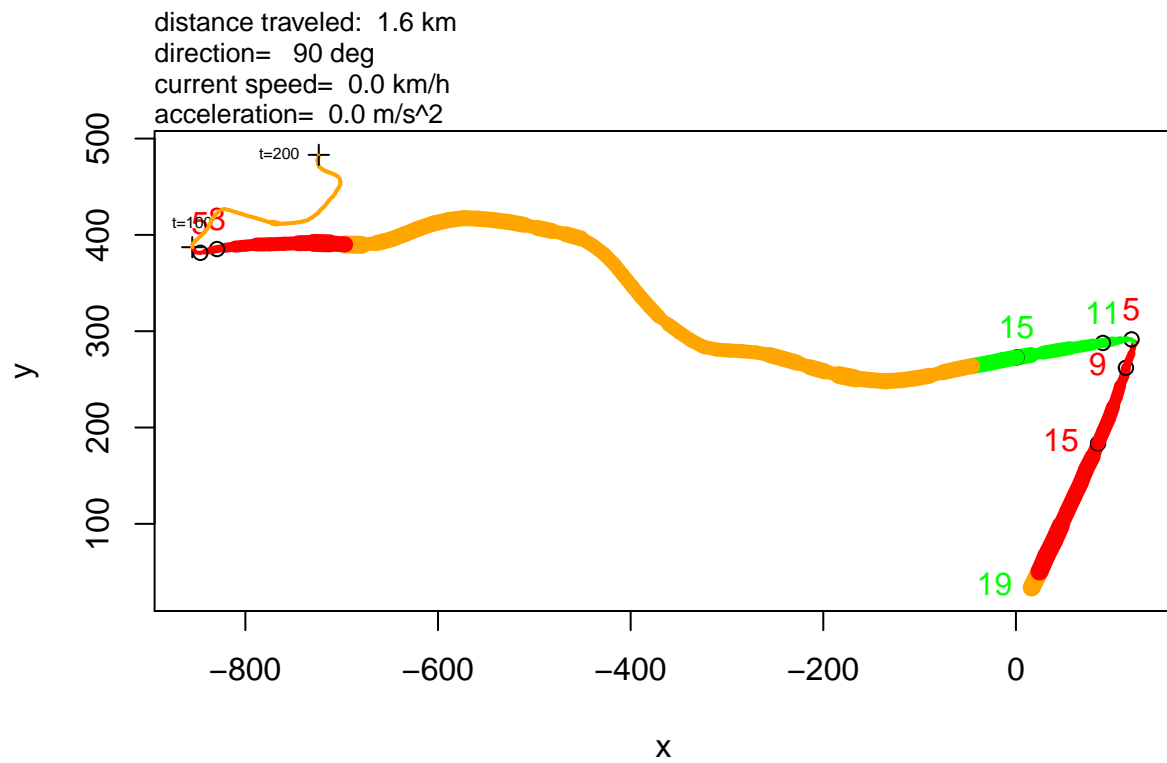direction=   90 deg
current speed= 0.4 km/h
acceleration= 0.1 m/s^2

driver 2591 trip 80

Plot of Route

distance traveled: 2.4 km
direction=   45 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2

driver 2591 trip 82

Plot of Route

distance traveled: 1.6 km
direction=   90 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2

t=200

t=150

5
3

15

11 5

9

15

19

driver 2591 trip 104

Plot of Route

distance traveled: 0.9 km
direction= 180 deg
current speed= 0.4 km/h
acceleration= 0.1 m/s^2

driver 2591 trip 105

Plot of Route
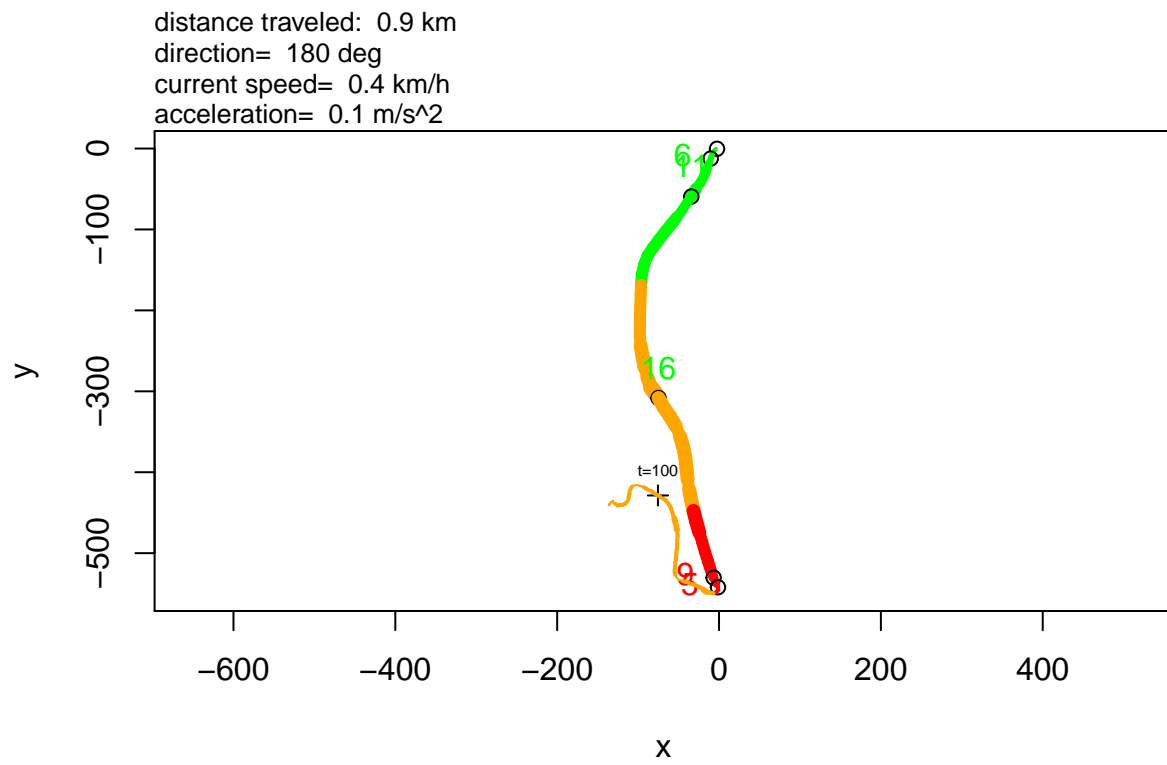
distance traveled: 1.5 km
direction= 180 deg
current speed= 0.7 km/h
acceleration= −0.1 m/s^2
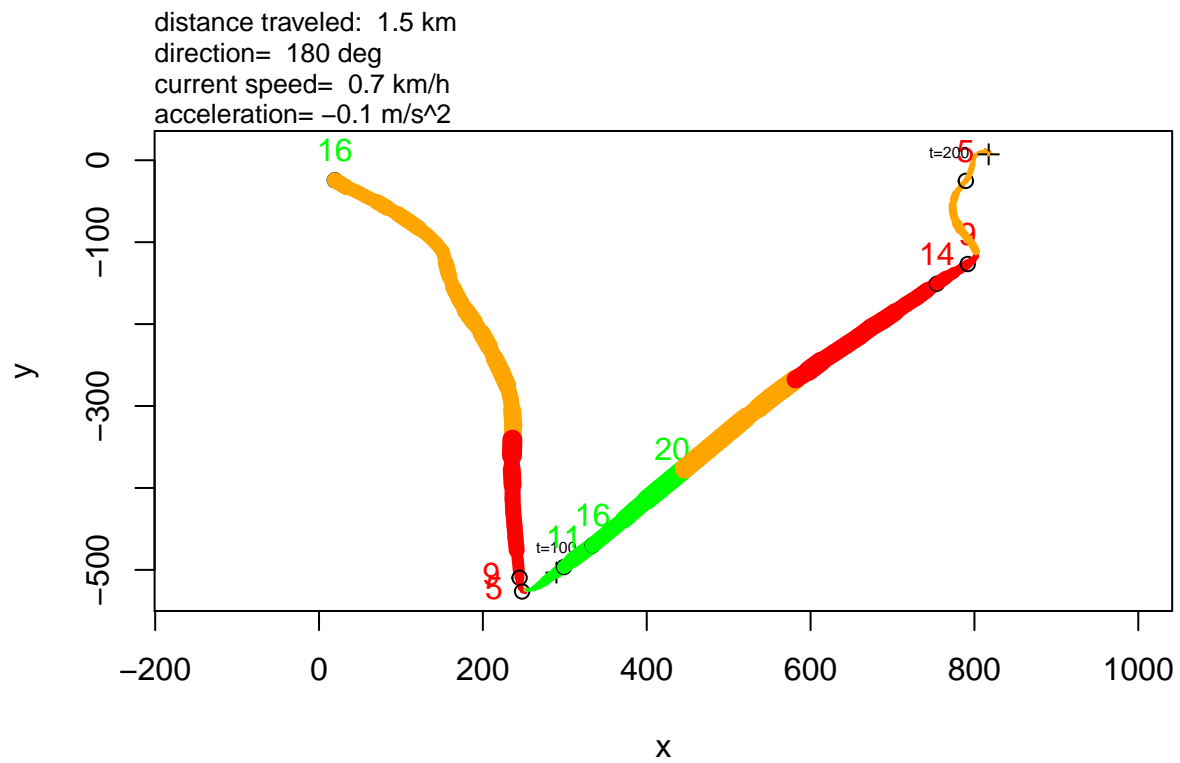
driver 2591 trip 107

Plot of Route

distance traveled: 2.0 km
direction=   0 deg
current speed= 0.0 km/h
acceleration= −0.1 m/s^2
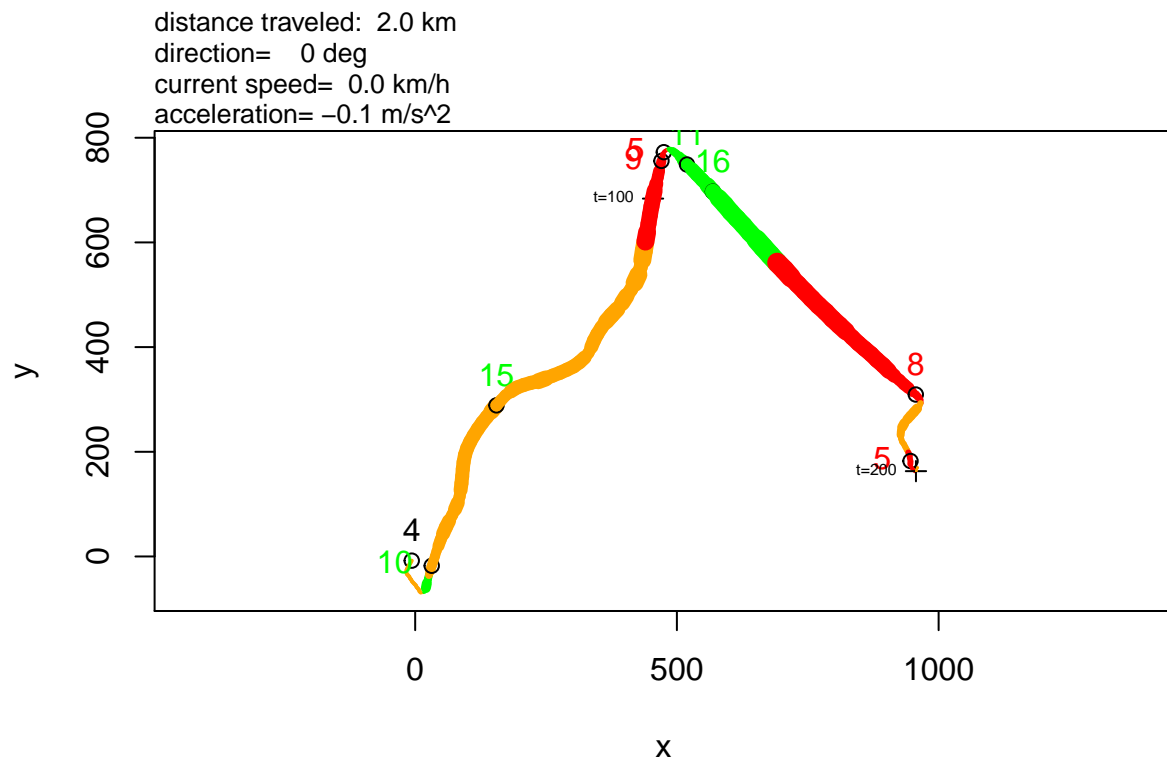
```
## driver 2591 trip 111
```

Plot of Route

distance traveled: 2.6 km
direction=   0 deg
current speed= 0.0 km/h
acceleration= −0.1 m/s^2
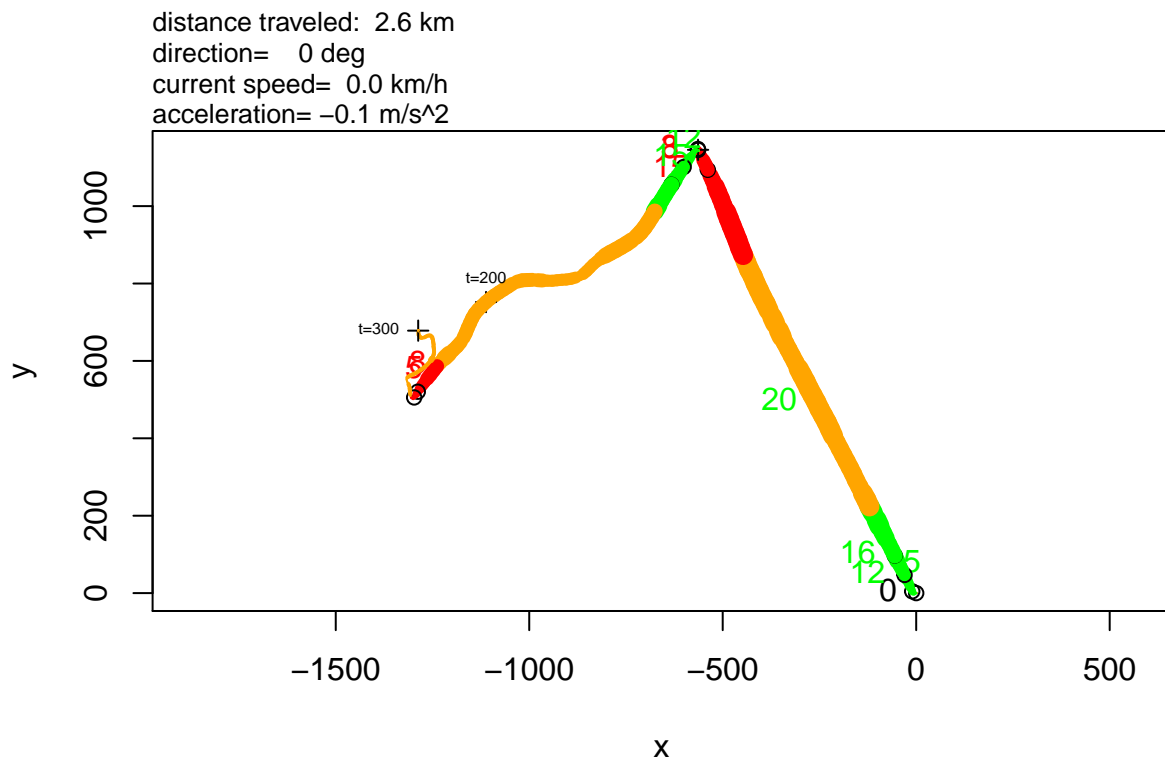
driver 2591 trip 115

Plot of Route

distance traveled: 0.9 km
direction=   0 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2

t=100

15

9
3
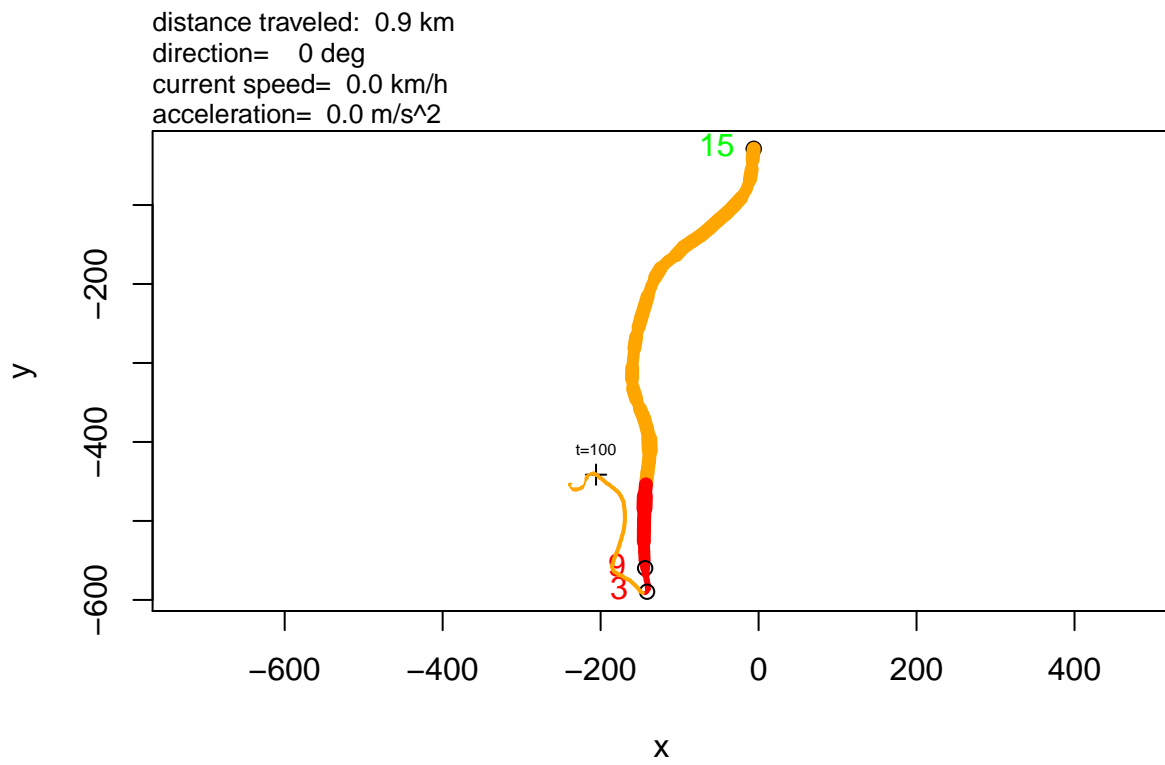
driver 2591 trip 117

Plot of Route

distance traveled: 2.3 km
direction=   66 deg
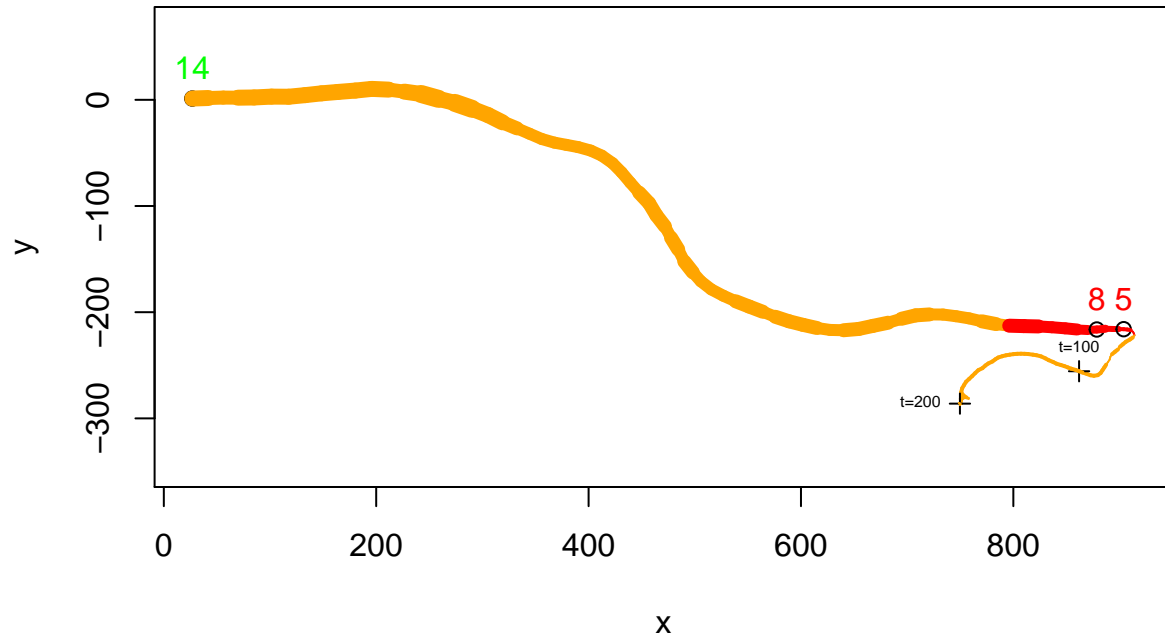current speed= 4.3 km/h
acceleration= 0.0 m/s^2
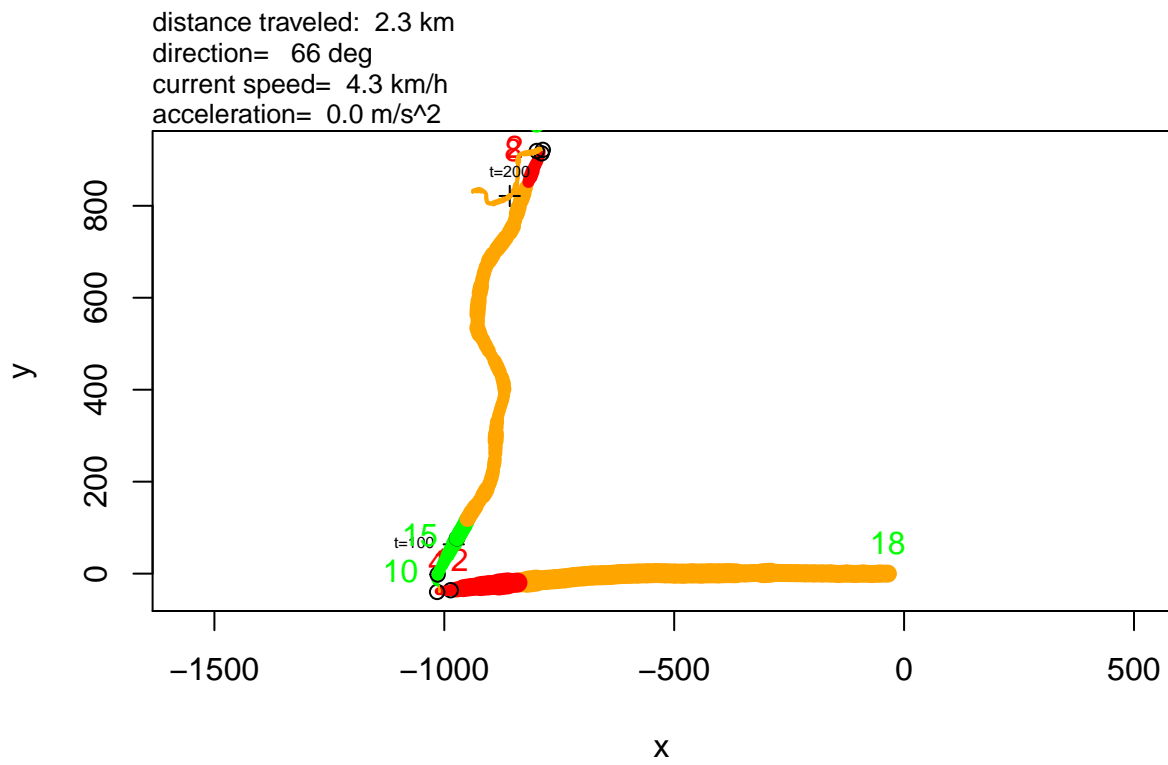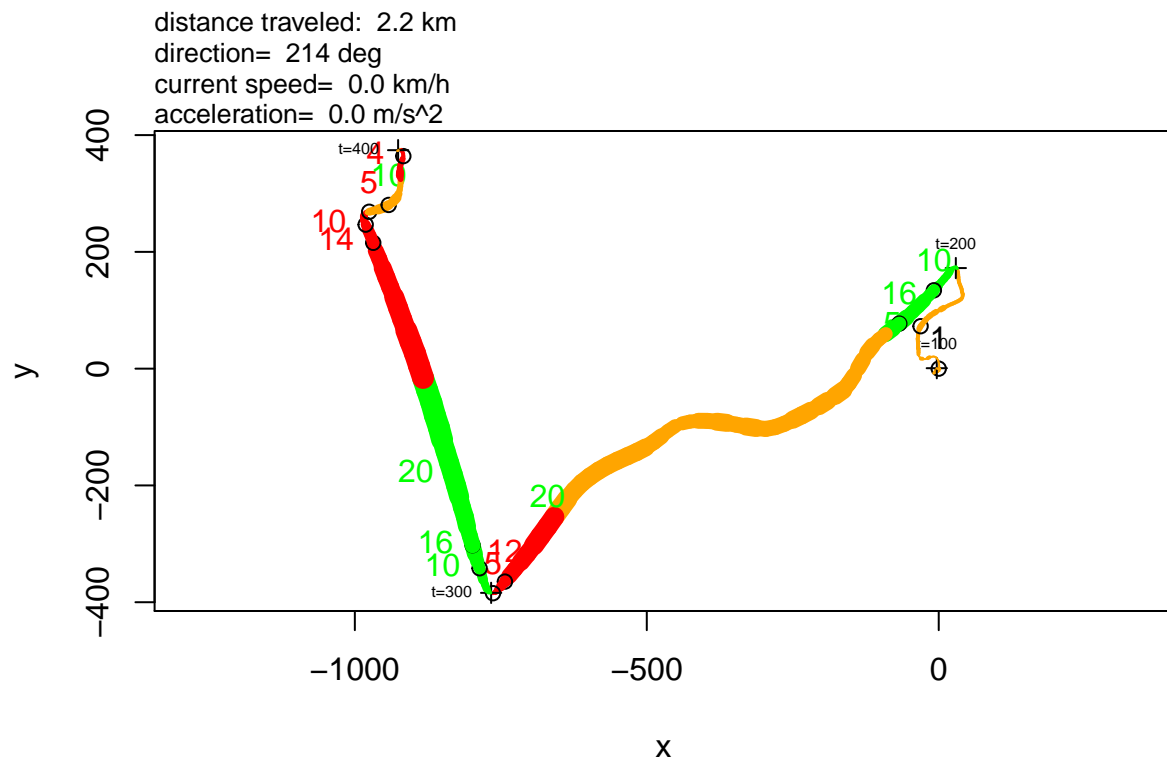

driver 2591 trip 123

Plot of Route

distance traveled: 1.2 km
direction= 270 deg
current speed= 0.0 km/h
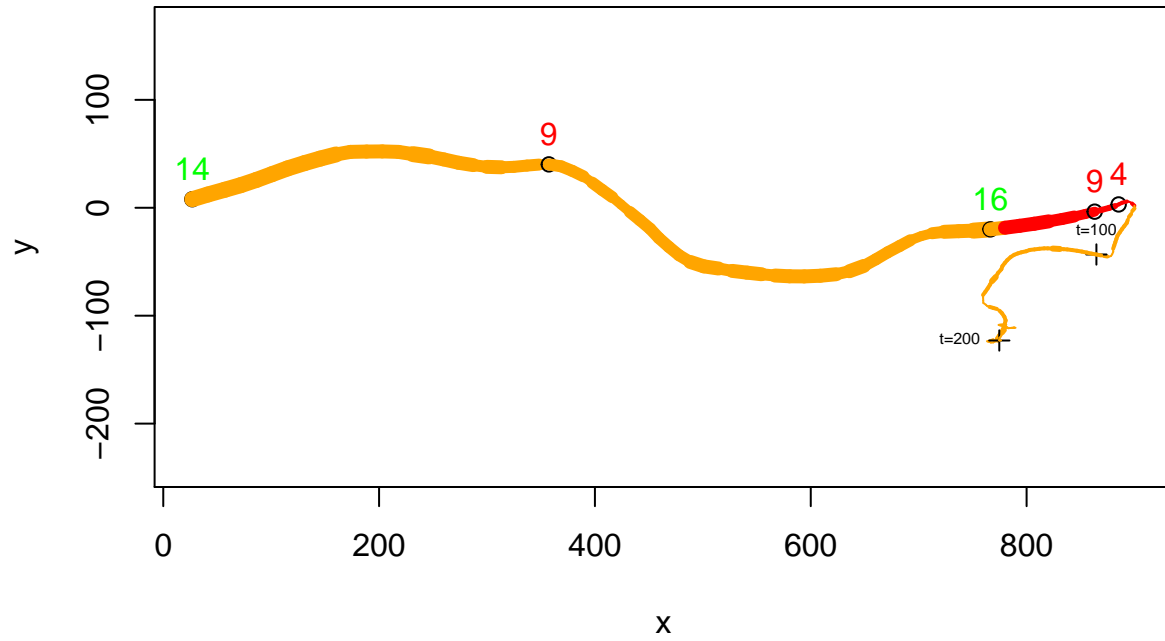acceleration= −0.2 m/s^2

driver 2591 trip 130

Plot of Route

distance traveled: 2.2 km
direction= 214 deg
current speed= 0.0 km/h
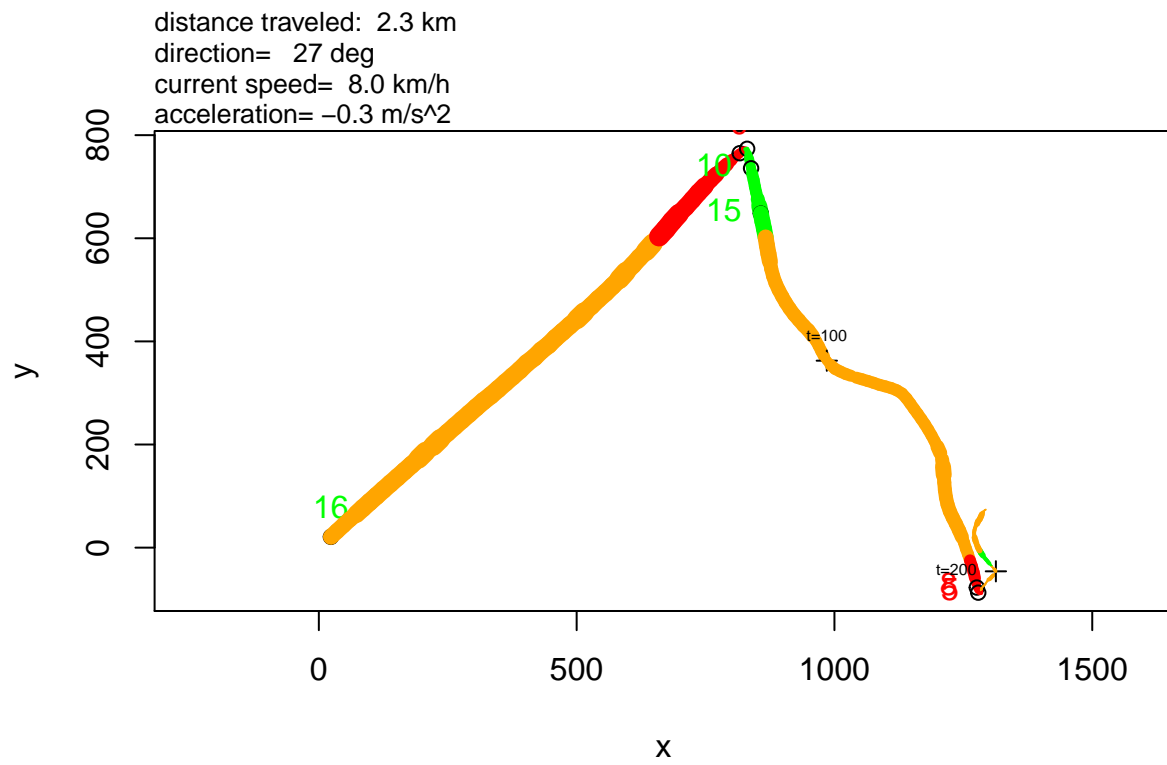acceleration= 0.0 m/s^2

driver 2591 trip 131

Plot of Route

distance traveled: 1.3 km
direction= 355 deg
current speed= 4.0 km/h
acceleration= 1.1 m/s^2
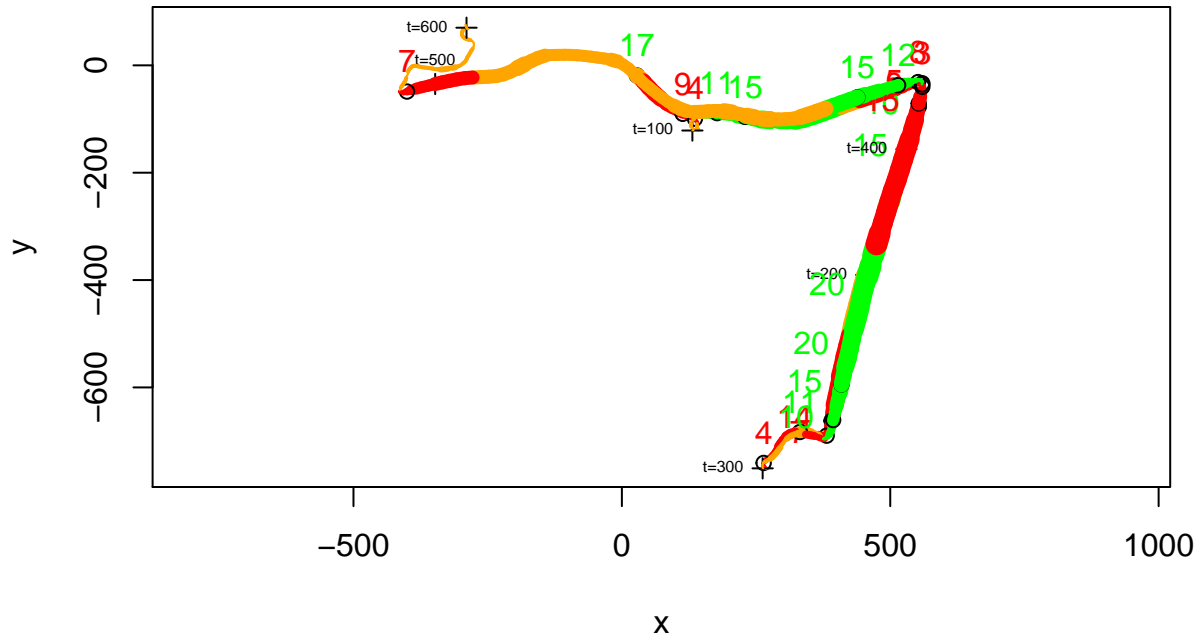

driver 2591 trip 138

Plot of Route

distance traveled: 2.3 km
direction= 27 deg
current speed= 8.0 km/h
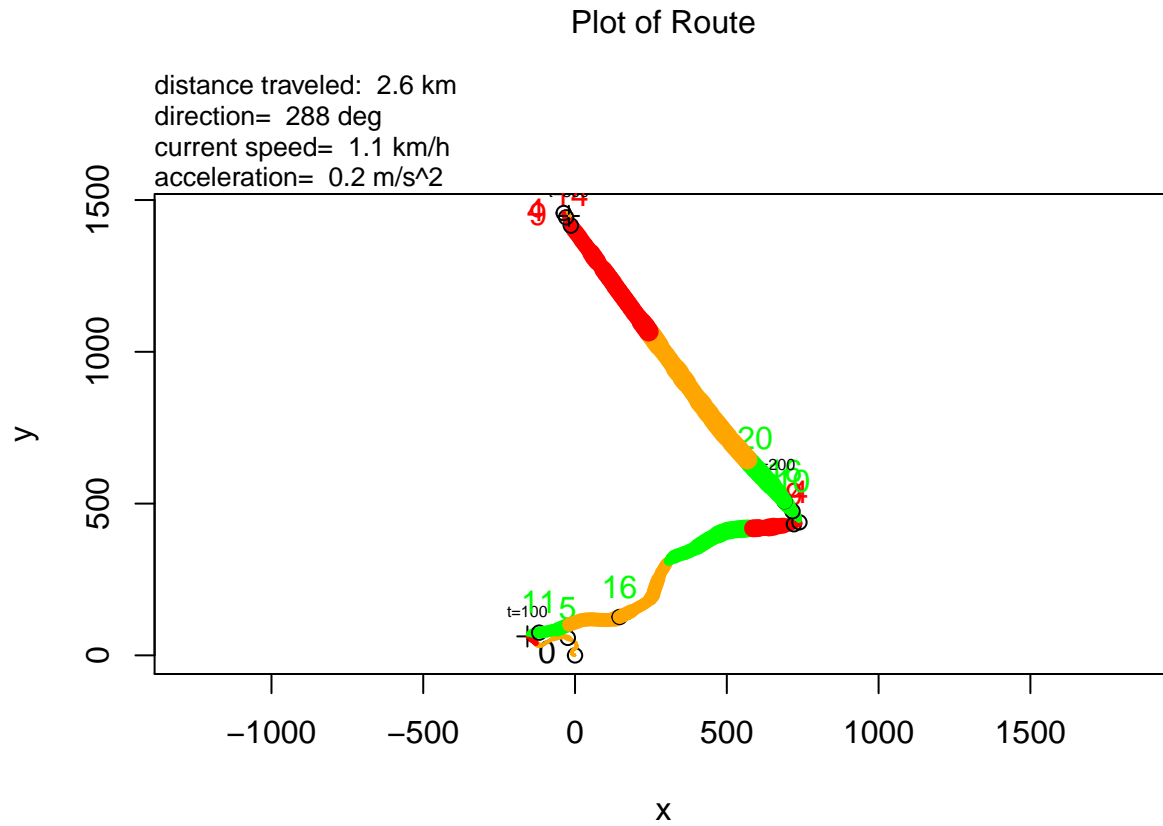acceleration= −0.3 m/s^2

driver 2591 trip 140

Plot of Route

distance traveled: 3.7 km
direction=   90 deg
current speed= 0.7 km/h
acceleration= −0.9 m/s^2

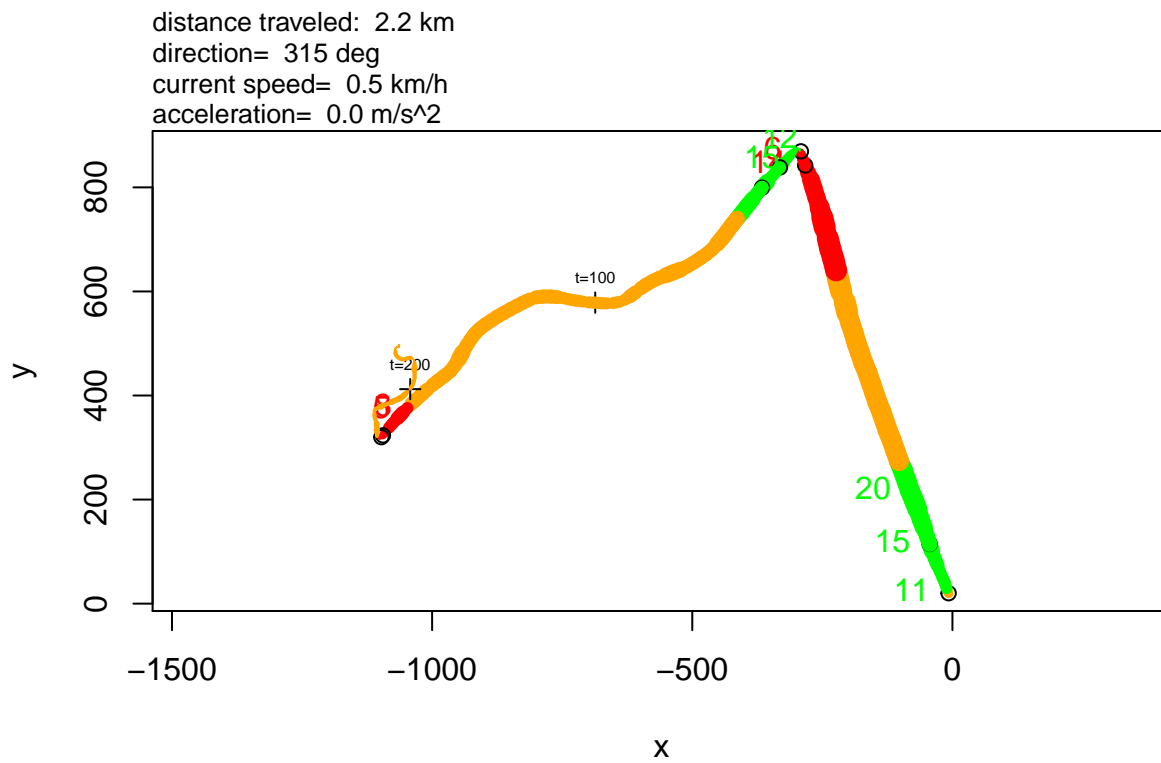## driver 2591 trip 142

Plot of Route

distance traveled: 2.6 km
direction= 288 deg
current speed= 1.1 km/h
acceleration= 0.2 m/s^2


```
## driver 2591 trip 146
```

Plot of Route

distance traveled: 2.2 km
direction= 315 deg
current speed= 0.5 km/h
acceleration= 0.0 m/s^2

t=100

t=200

15

20

15

11

driver 2591 trip 154

Plot of Route

distance traveled: 1.0 km
direction= 270 deg
current speed= 0.4 km/h
acceleration= 0.0 m/s^2

driver 2591 trip 155

Plot of Route

distance traveled: 1.4 km
direction=   45 deg
current speed= 4.6 km/h
acceleration= 0.8 m/s^2

driver 2591 trip 157

Plot of Route

distance traveled: 0.5 km
direction=   90 deg
current speed= 0.0 km/h
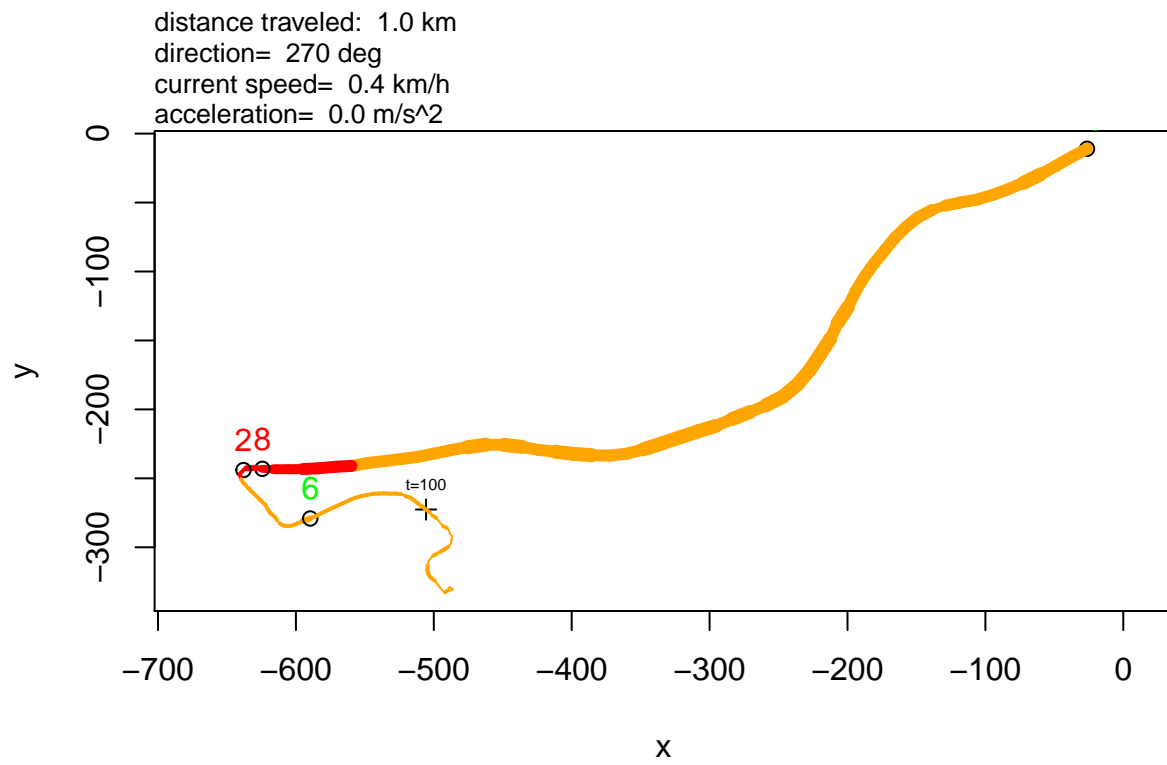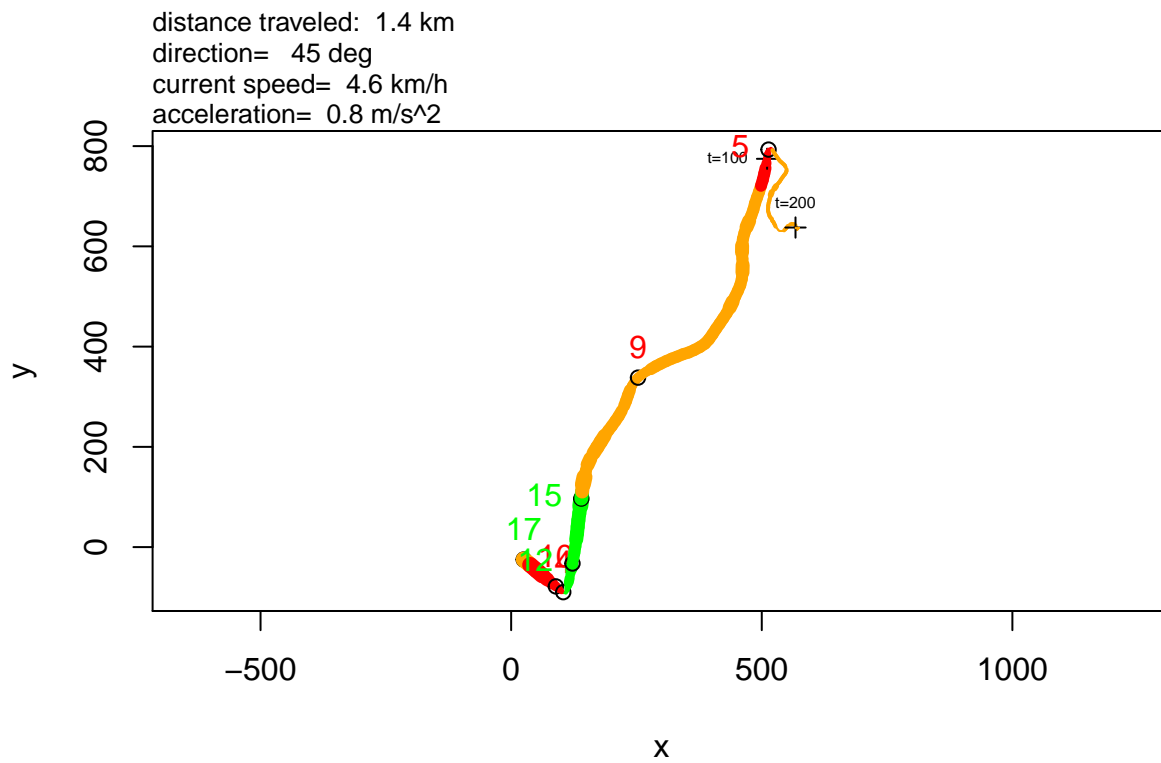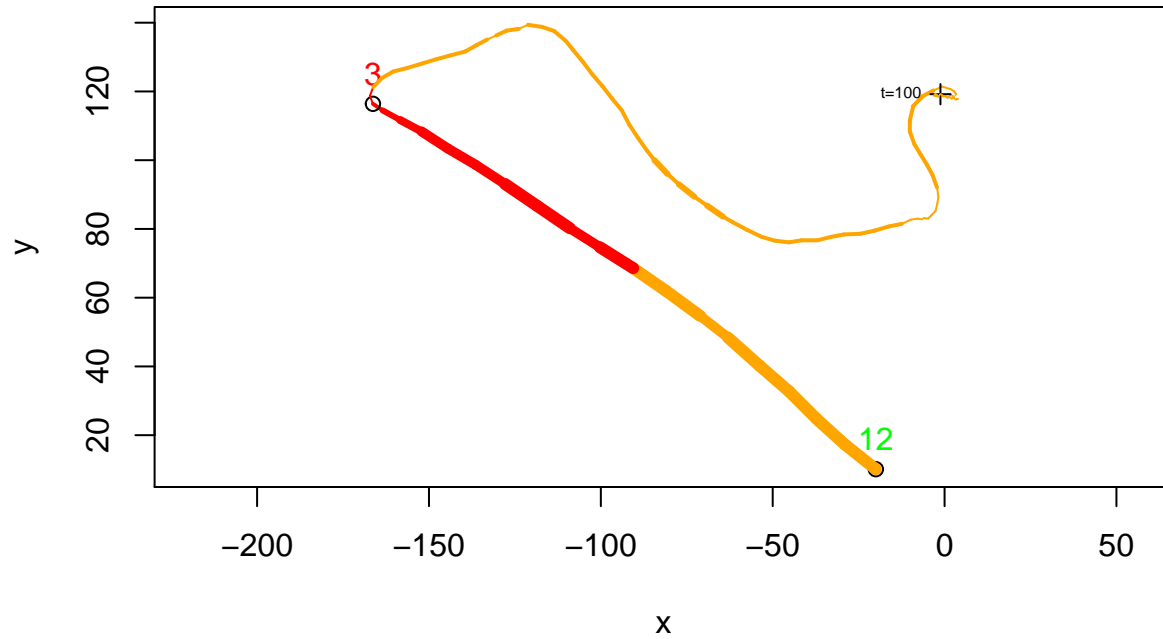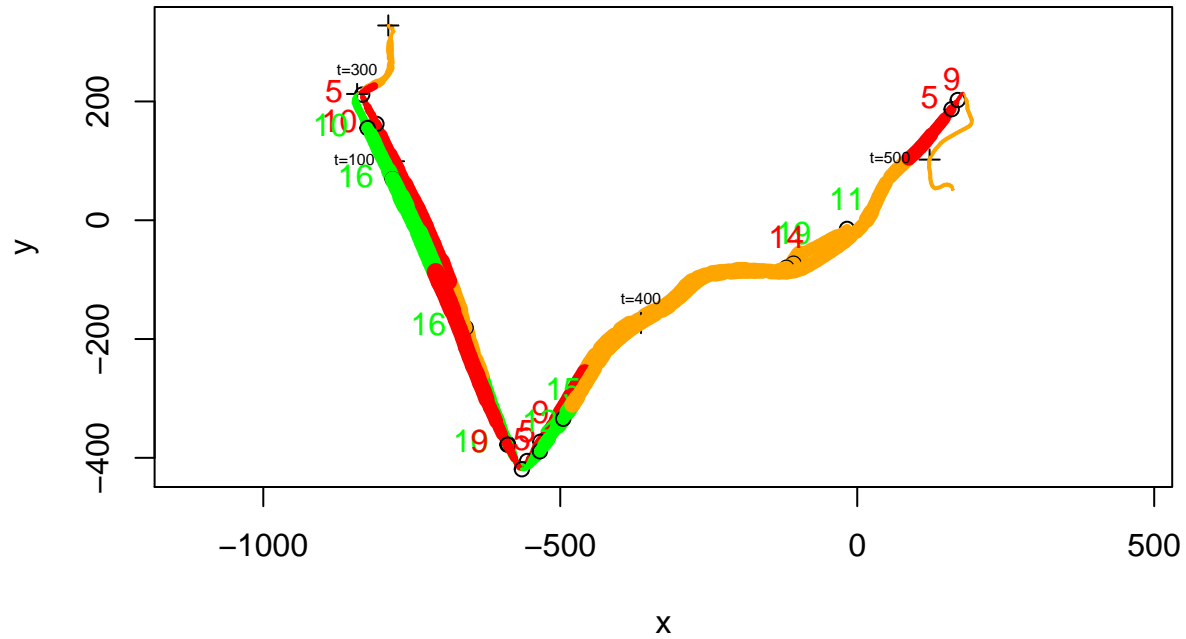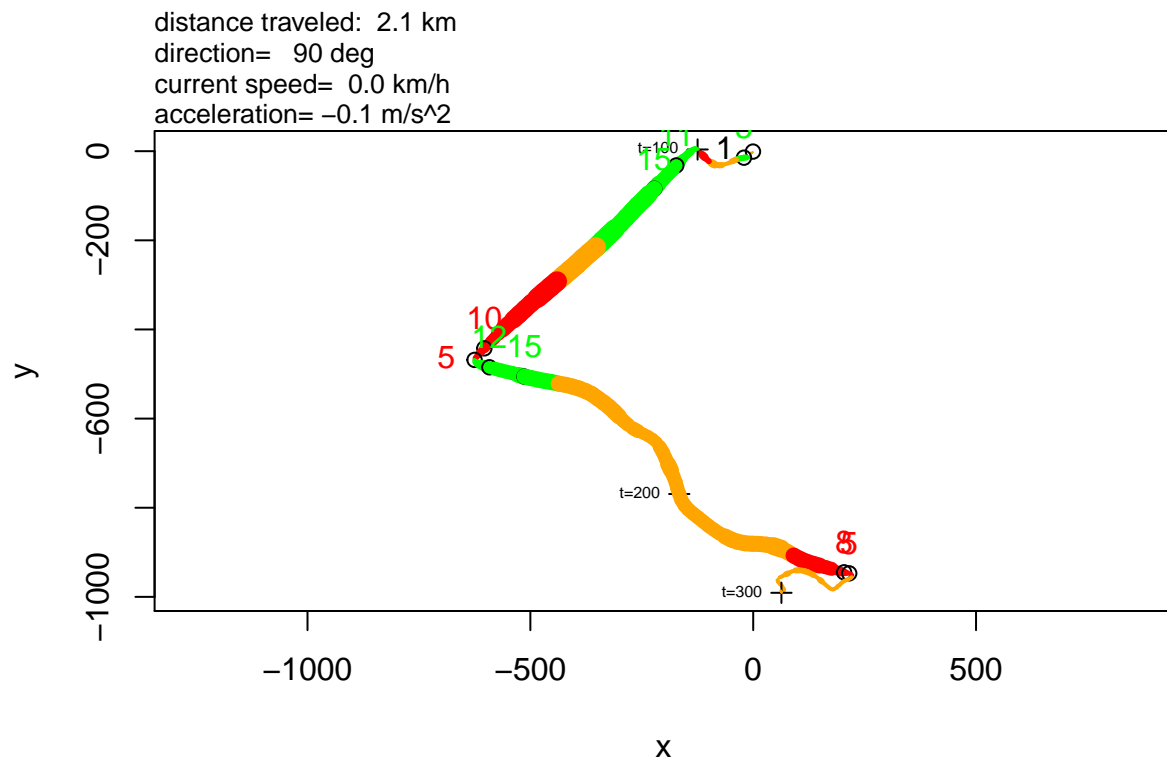acceleration= 0.0 m/s^2

driver 2591 trip 162

Plot of Route

distance traveled: 3.7 km
direction= 315 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2

driver 2591 trip 178

Plot of Route

distance traveled: 2.1 km
direction=   90 deg
current speed= 0.0 km/h
acceleration= −0.1 m/s^2

driver 2591 trip 180

Plot of Route

distance traveled: 2.5 km
direction= 232 deg
current speed= 4.1 km/h
acceleration= 1.1 m/s^2

driver 2591 trip 184

Plot of Route

distance traveled: 1.5 km
direction= 180 deg
current speed= 0.4 km/h
acceleration= 0.1 m/s^2

driver 2591 trip 192

Plot of Route

distance traveled: 2.4 km
direction=   18 deg
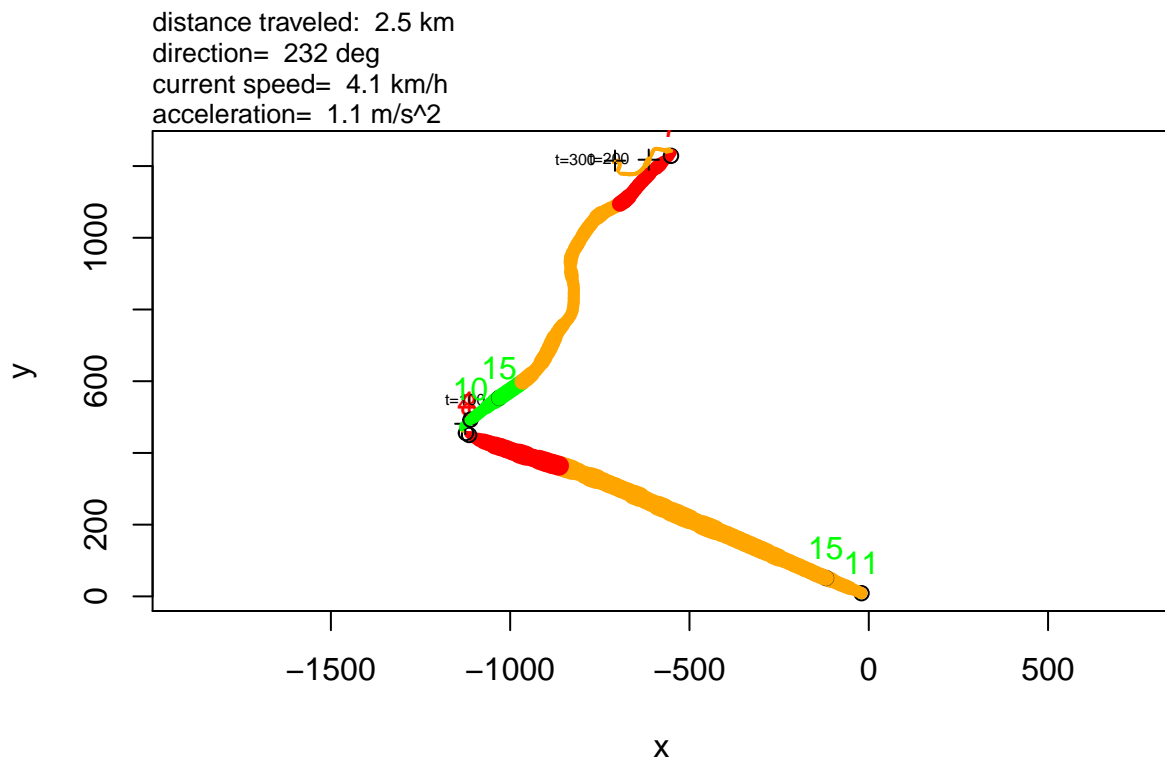current speed= 0.0 km/h
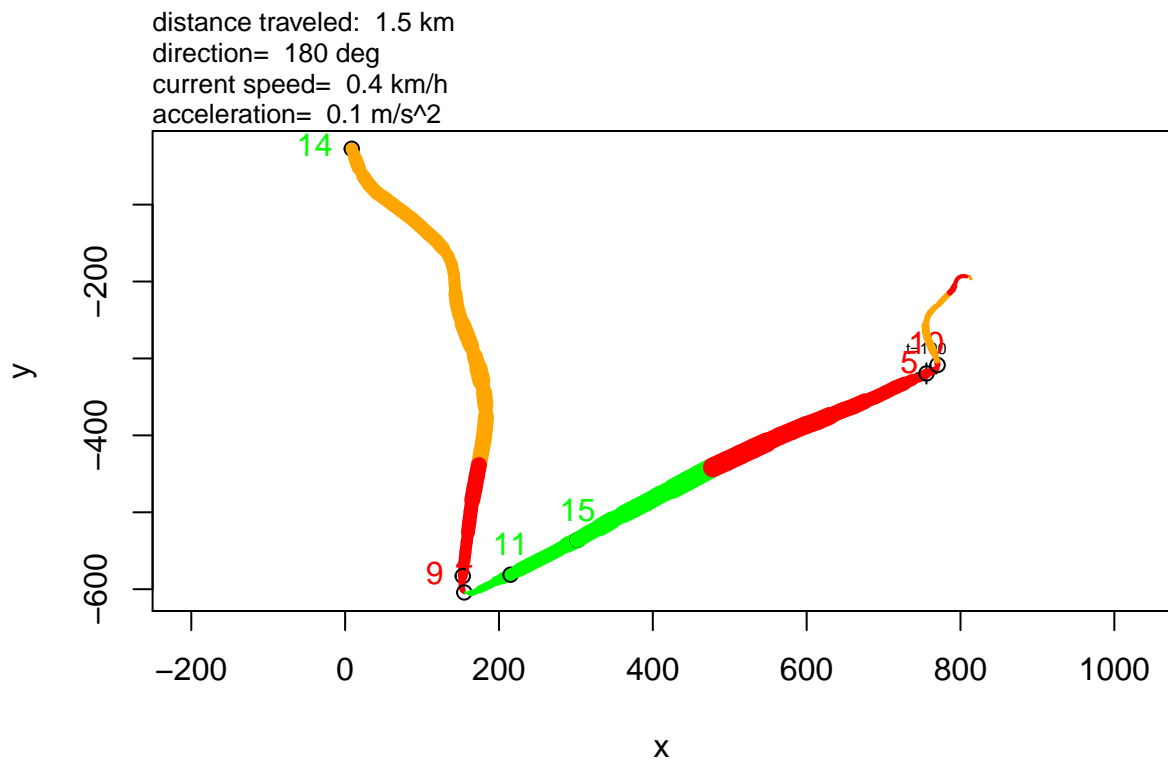acceleration= 0.0 m/s^2
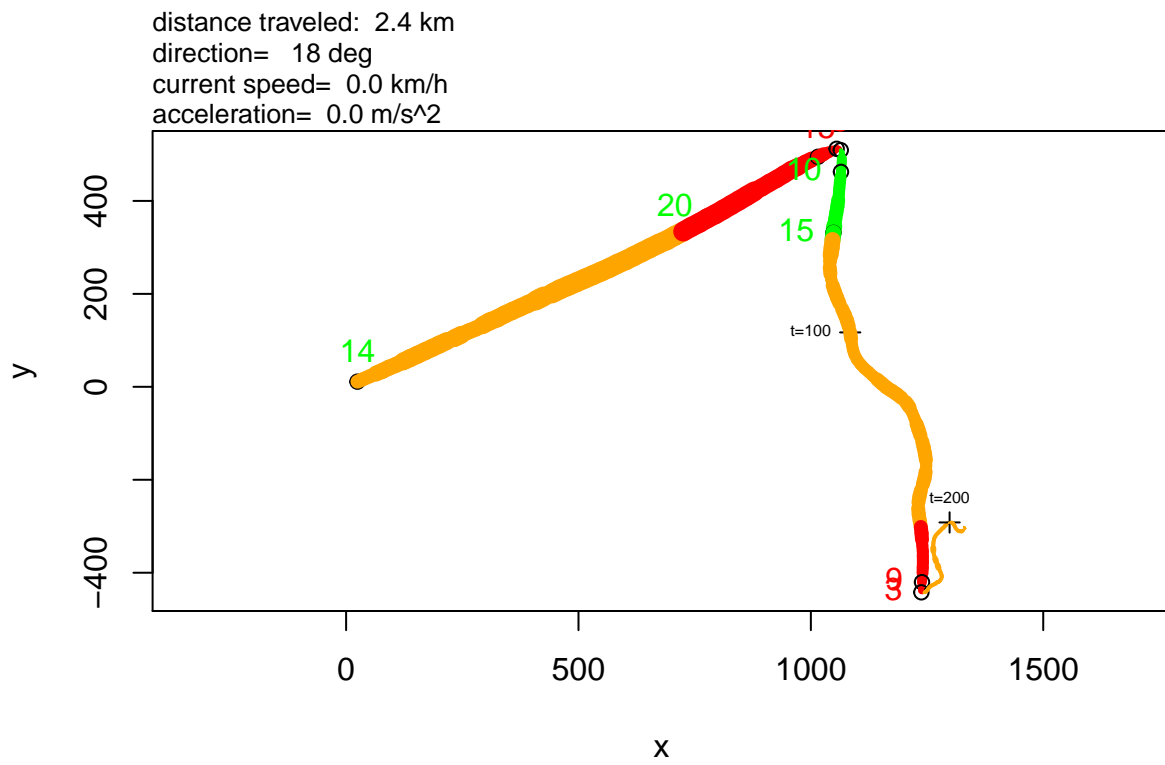
driver 2591 trip 198

Plot of Route

distance traveled: 1.7 km
direction= 135 deg
current speed= 0.0 km/h
acceleration= 0.0 m/s^2

driver 2591 trip 200

Plot of Route

distance traveled: 2.0 km
direction= 337 deg
current speed= 24.7 km/h
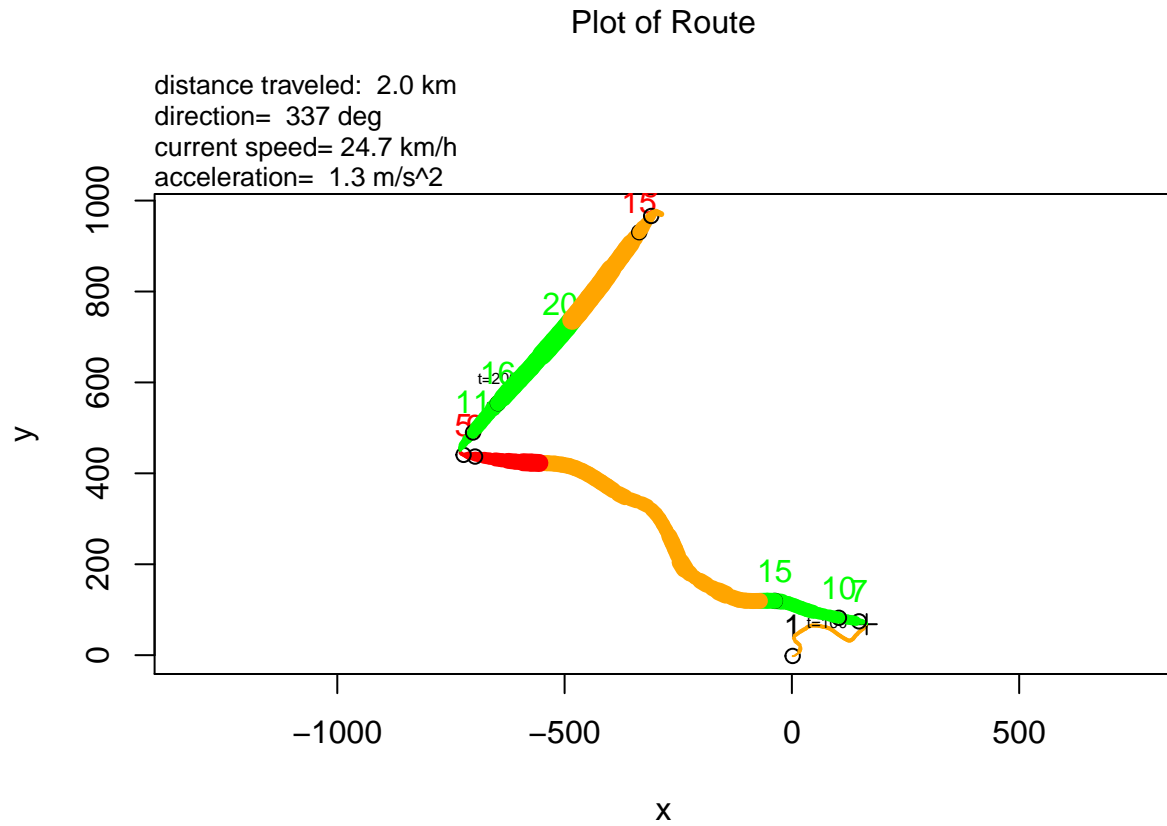acceleration= 1.3 m/s^2
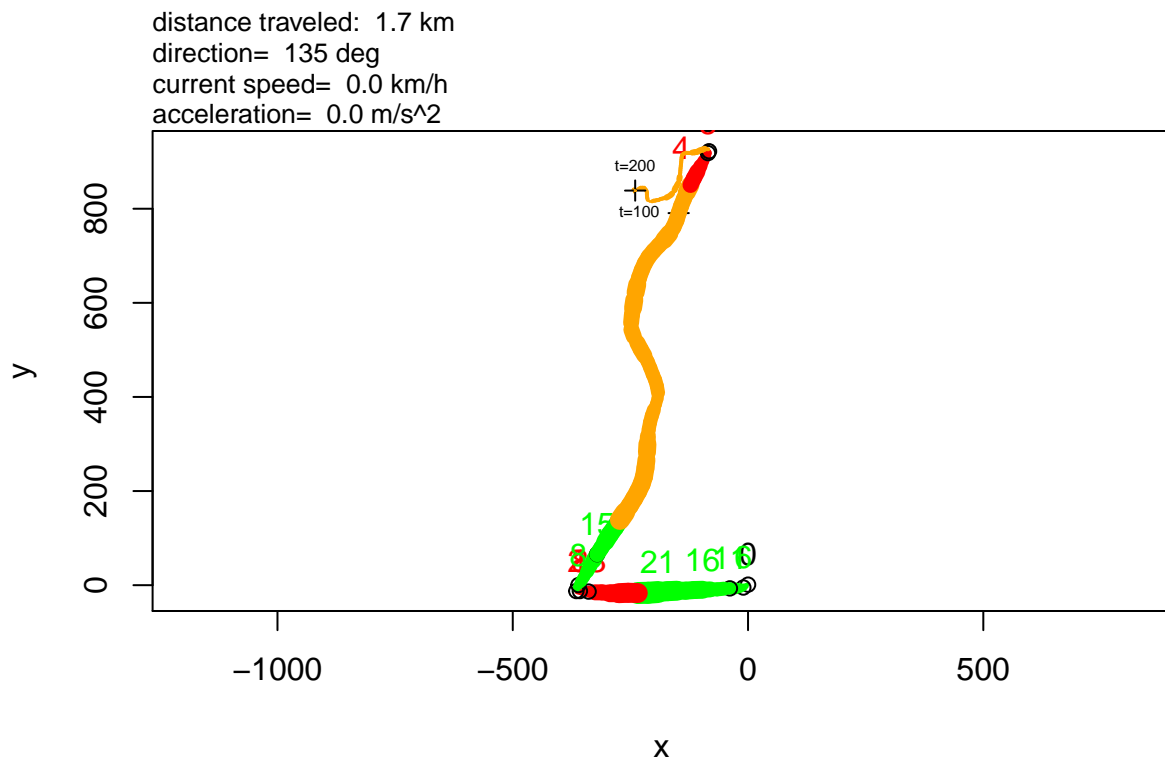
Next step . . . can we parameterize the routes to find these segments automagically?