



EMB

# Usage-based Insurance CAS Annual Meeting

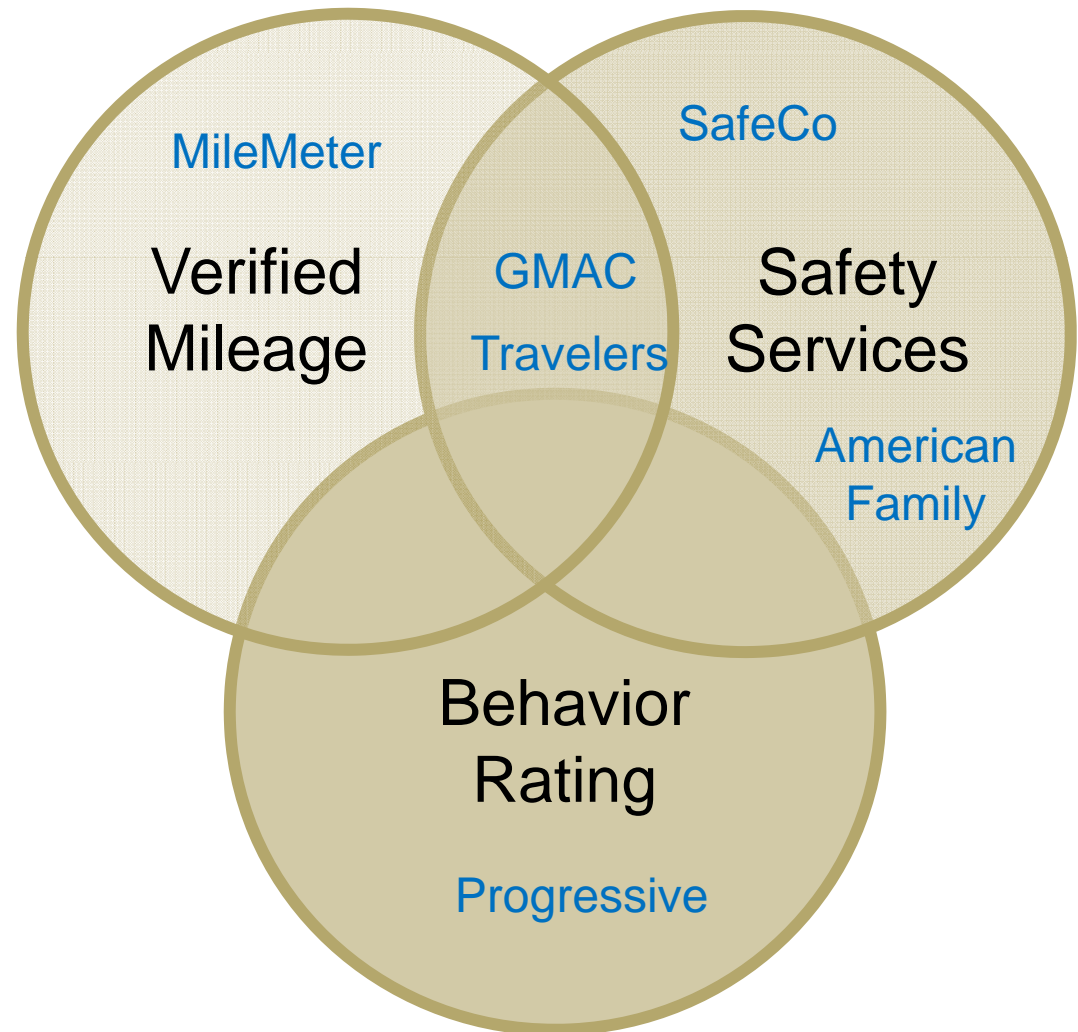
Robin Harbage, FCAS, MAAA

16 November 2009

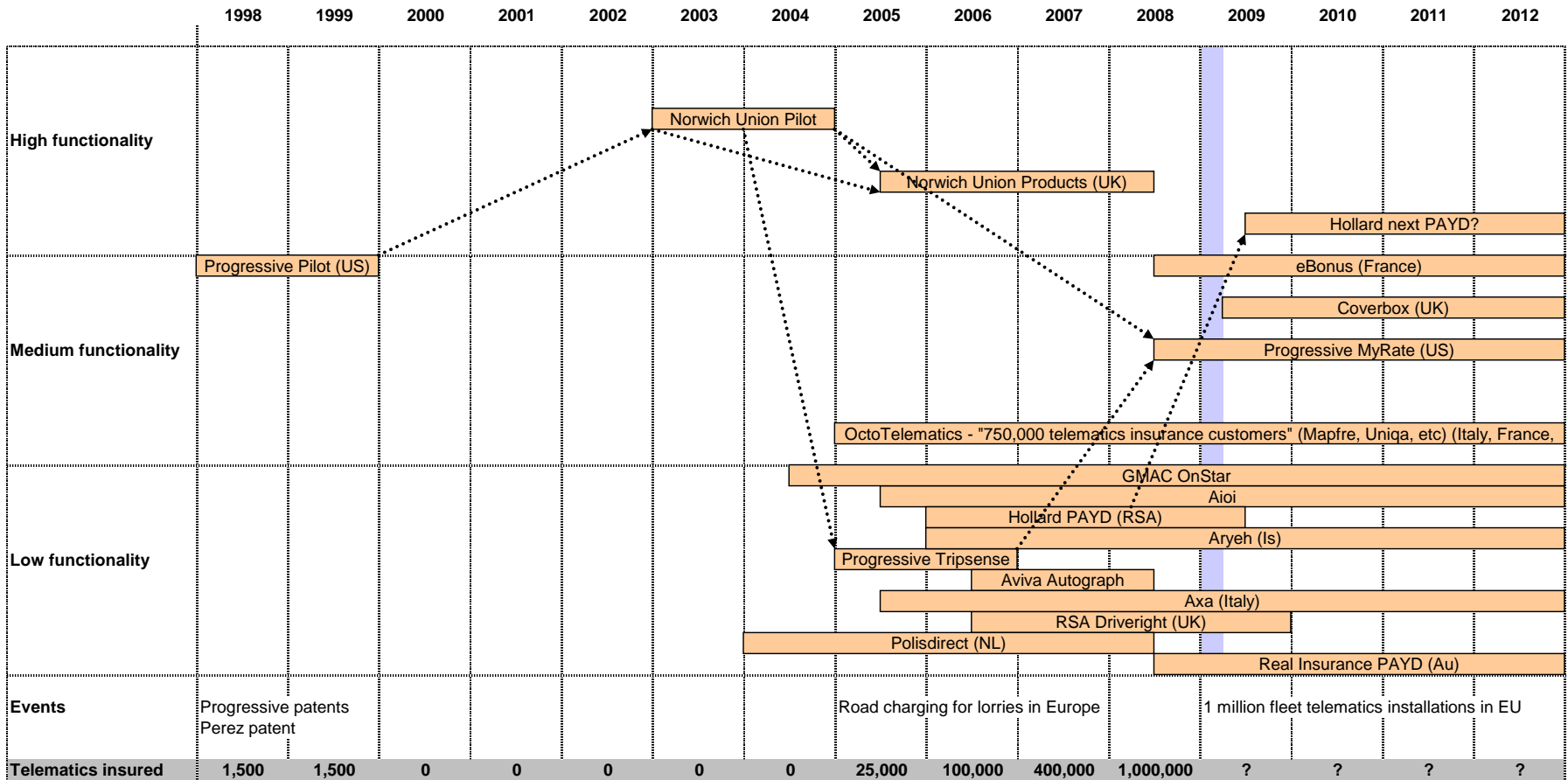
## What is usage-based insurance (UBI)?

- ▶ Use driving behavior from vehicles to modify insurance premiums or to provide useful feedback to policyholders, or both.
- ▶ Companies have UBI programs around the globe
- ▶ Many other companies are moving toward implementation

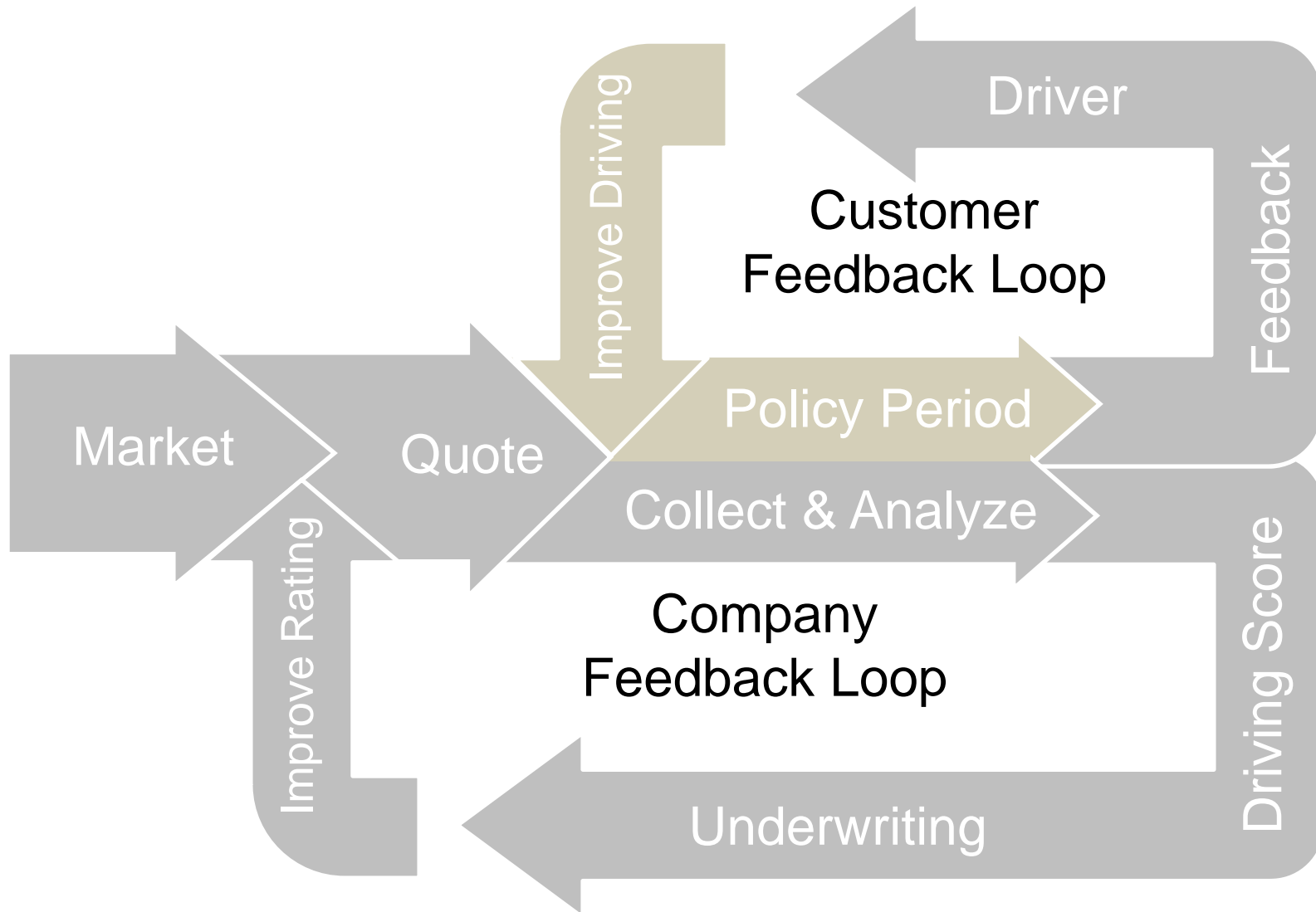
### Notable US Programs



# Telematics Timeline

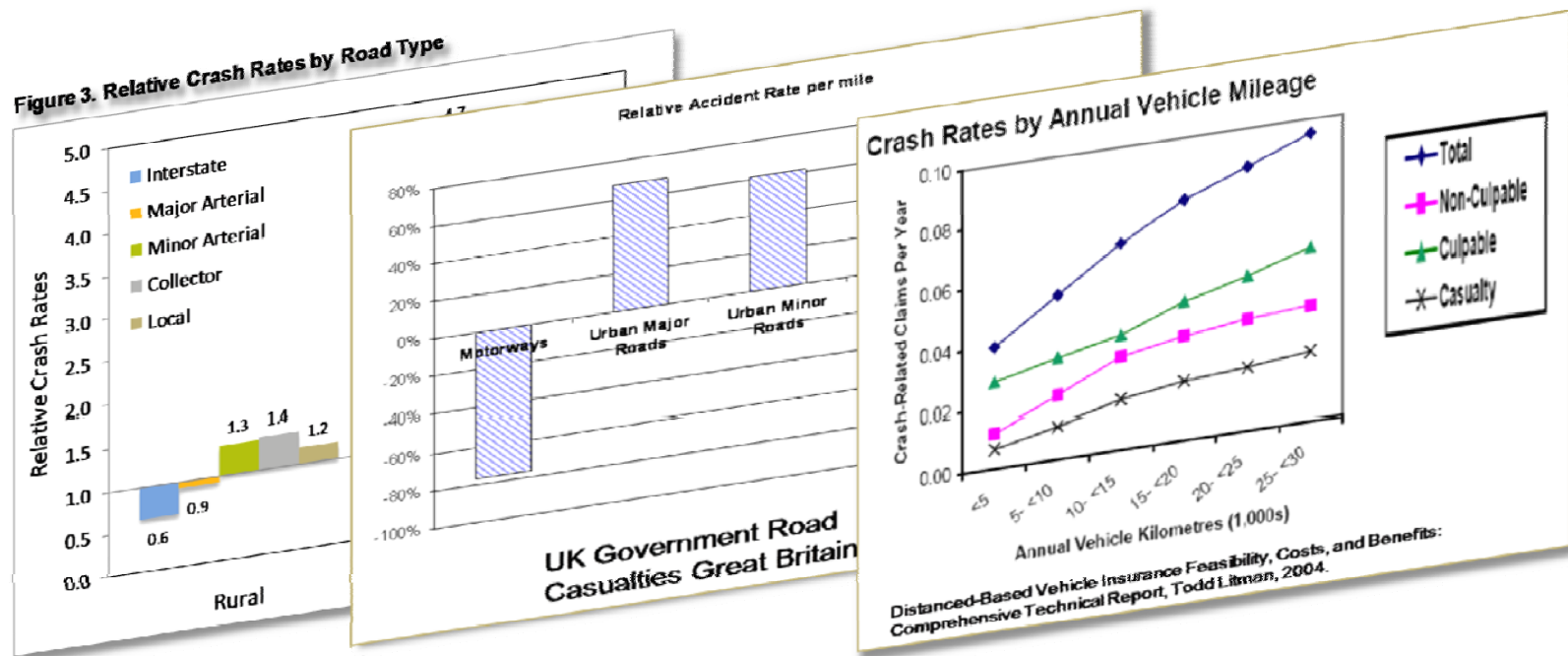


# How does UBI work?



# Significant Enhancement of Predictive Power

- Successive studies demonstrate the potential improvement to claims' predictability through the analysis of fundamental risk data



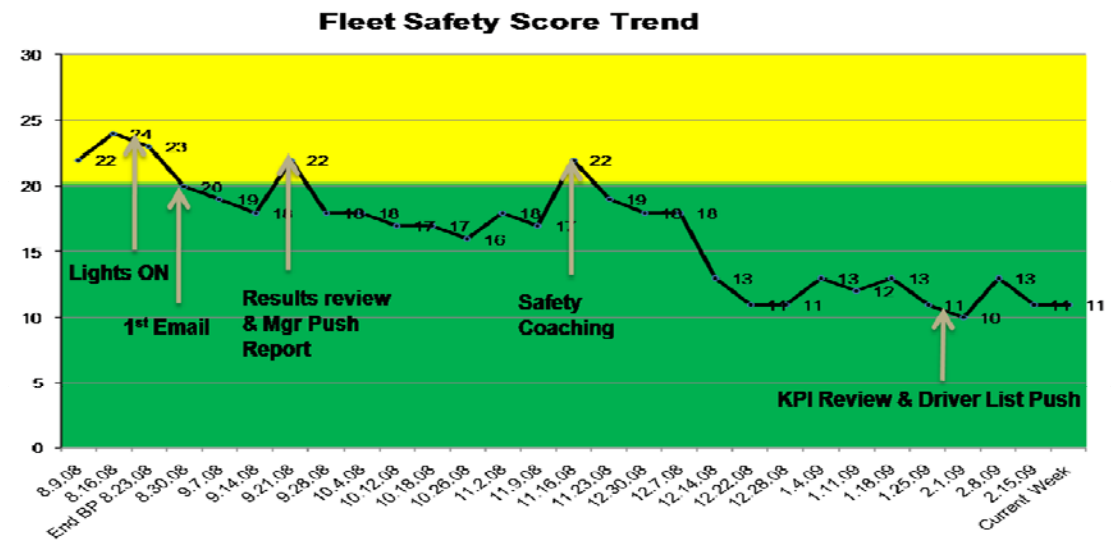
*Dramatic improvement in segmentation may reduce reliance on or replace other variables*

# Improves driving and reduces accidents

- ▶ UBI experience significantly better

- ▶ Norwich Union: 30% frequency reduction

- ▶ GreenRoad's consistent improvement in fleet performance



- ▶ Early adopters will have increased profits and a competitive advantage

## Benefits

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- Predictive power significantly enhances accuracy of prices
- Accident frequency reduced
- Participating consumers love it
  - Control, Safety
- Retention dramatically increased
- Politically accepted
  - Fairer, Reduce emissions



## Added Value Services

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- Safe Driver Coaching
  - In vehicle feedback
  - Web site reports
- Emergency Call
  - Detect significant impacts
  - Send text alerts (“Where am I” message)
  - Real-time service to dispatch help
- Theft Service
  - Detect motion without ignition
  - Tracking and call for help
- Geo-fence Service
  - Detect location outside boundary zone
  - Trigger notification



*Subscription services could help subsidize the costs*

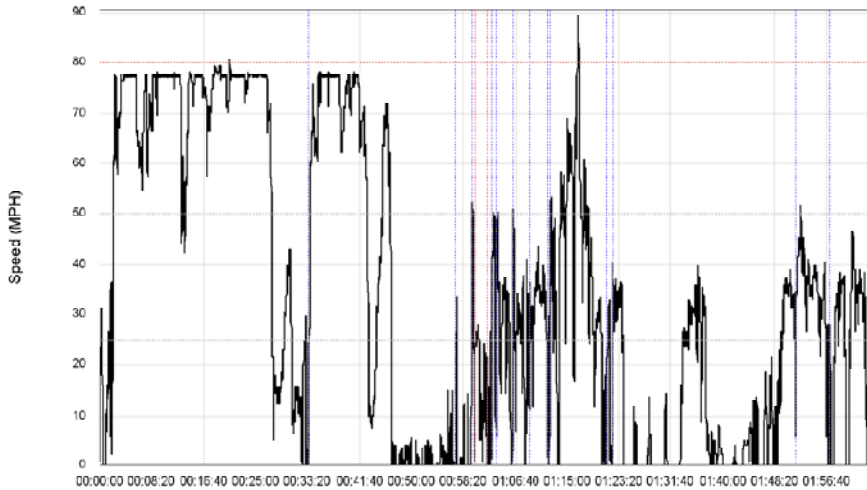
## The Timing Right

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- Technology costs are plummeting:
  - Self install “cheap devices” are on the market
  - IT infrastructure, risk analysis, data compression, data transfer and data-hosting solutions are now available at economic levels
- There is a significant early adopter advantage
- Customer desire for equitable charging receiving greater prominence
- Market activity is promoting the concept
- Insurer profitability pressures forcing innovation
- Highly desirable to customers who participate

*Business case is now economically viable for average premiums and the mass market*

# Data



## View / Trip Log / Summary

Trip	Start Time	Duration	Distance Miles	Maximum Speed MPH	Time in Top Speed Band	Brakes		Accelerations	
						Hard	Extreme	Hard	Extreme
Trip 1	27/02/2009 11:20	00:11:16	7.7	77	00:03:03	1	1	6	0
Trip 2	27/02/2009 19:24	00:12:43	7.7	77	00:00:00	4	0	0	0
Trip 3	27/02/2009 19:43	00:11:00	7.7	83	00:00:05	3	0	3	0
Trip 4	28/02/2009 08:32	00:14:53	5.7	63	00:00:00	3	0	0	0
Trip 5	28/02/2009 08:48	00:04:17	0.6	29	00:00:00	0	0	0	0
Trip 6	28/02/2009 09:33	00:07:06	2.1	45	00:00:00	4	0	1	0
Trip 7	28/02/2009 11:49	00:10:31	5.1	76	00:00:00	4	0	1	0
Trip 8	28/02/2009 12:35	00:26:24	26.9	78	00:00:00	5	0	0	0
Trip 9	28/02/2009 15:15	00:34:21	29.1	78	00:00:00	6	0	1	0
Trip 10	28/02/2009 18:57	00:14:22	6.0	77	00:00:00	0	0	1	0
Trip 11	28/02/2009 19:11	00:06:29	2.1	35	00:00:00	0	0	0	0
Trip 12	28/02/2009 19:23	00:14:27	6.3	75	00:00:00	1	0	2	0
Trip 13	28/02/2009 22:29	00:10:45	6.8	76	00:00:00	0	2	0	0
Trip 14	01/03/2009 12:38	00:20:12	10.7	66	00:00:00	0	0	4	0
Trip 15	01/03/2009 14:08	00:11:54	6.1	75	00:00:00	1	0	0	0
Trip 16	01/03/2009 14:22	00:07:22	2.4	43	00:00:00	0	0	0	0
Trip 17	01/03/2009 14:32	00:11:22	5.3	76	00:00:00	0	0	0	0
Trip 18	01/03/2009 15:07	00:06:29	3.9	77	00:00:00	0	0	1	0
Trip 19	01/03/2009 15:26	00:11:37	5.6	73	00:00:00	0	0	2	0
Trip 20	01/03/2009 16:09	00:13:20	6.7	72	00:00:00	0	0	0	0

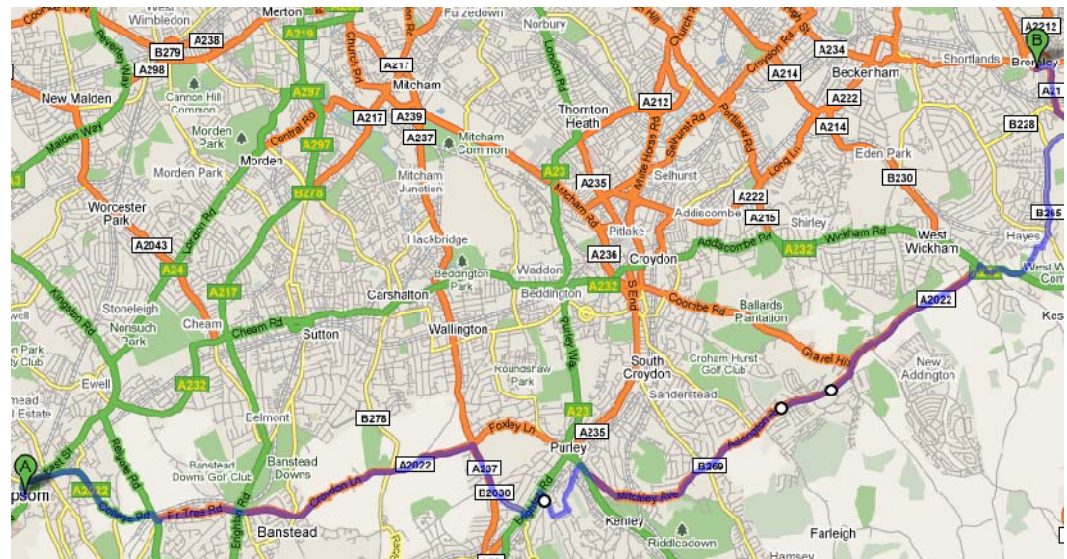
Start Time ..... 16/03/2009 07:40  
 End Time ..... 16/03/2009 09:45  
 Duration ..... 02:04:07  
 Idle ..... 00:23:33  
 0 to 25 MPH ..... 00:30:29  
 26 to 50 MPH ..... 00:31:08  
 51 to 80 MPH ..... 00:38:35  
 Over 81 MPH ..... 00:00:19

Distance ..... 70.2 Miles  
 Average Speed ..... 34 MPH  
 Maximum Speed ..... 89 MPH

Hard Brakes ..... 2 (Between 0.59 G and 0.79 G)  
 Extreme Brakes ..... 0 (Over 0.79 G)

Hard Accelerations ..... 16 (Between 0.31 G and 0.45 G)  
 Extreme Accelerations ..... 0 (Over 0.45 G)

Parameters  
 Parameter 1 ..... Vehicle Speed Every 1 Seconds  
 Parameter 2 ..... Engine Speed Every 5 Seconds



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