

Sustainable Design and Innovative Solutions to Modern Day Traffic Problems

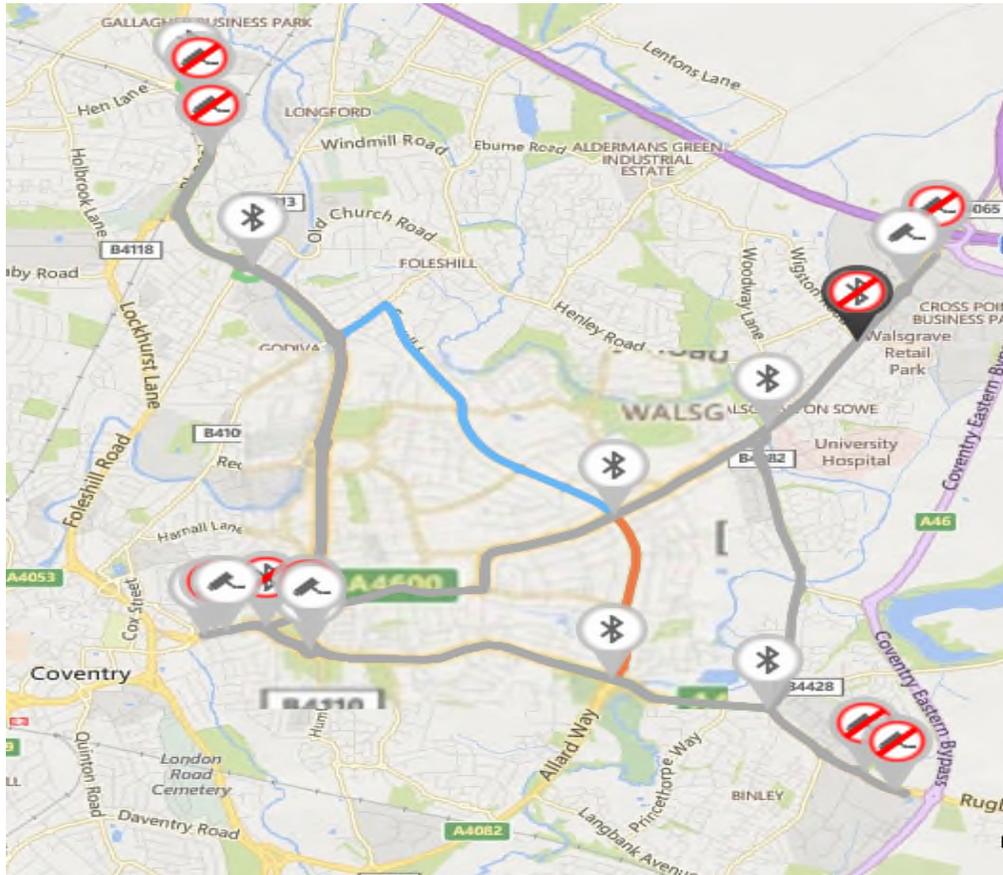
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JCT 2017

iVMS, Coventry



- What is iVMS?
- Project Requirements
- Challenges
- Solution
- Result Measurement & Future Development

What is iVMS?



Routes	Device Links	SCOOT Links	Static Links	External Links	HERE Links	Detectors	Devices					
Name	Device ID	Type	Description	Stat...	Last Connection	Capture Count	Profile Count	Calculated Time	Affected Links	Lane 1	Lane 2	Customer
A4600 Sky Blu...	1112	PIPS	A4600 Sky Blu...	G...		0		18/09/2017 14:05	3			Coventry
A428 Brand...	1113	PIPS	A428 Brand...	G...		0		18/09/2017 14:05	1			Coventry
A4600 Hindle...	1114	PIPS	A4600 Hindle...	G...		0		18/09/2017 14:05	1			Coventry
A4600 Sky Blu...	1115	PIPS	A4600 Sky Blu...	G...	18/09/2017 14:08	48	54	18/09/2017 14:05	3			Coventry
A444 Phoeni...	1116	PIPS	A444 Phoeni...	G...		0		18/09/2017 14:05	1			Coventry
A444 Phoeni...	1117	PIPS	A444 Phoeni...	G...		0		18/09/2017 14:05	1			Coventry
A444 Brigh...	1118	PIPS	A444 Brigh...	G...	18/09/2017 14:09	0	9	18/09/2017 14:05	2			Coventry
A428 Brand...	1119	PIPS	A428 Brand...	G...		0		18/09/2017 14:05	1			Coventry
A4600 Hindle...	1120	PIPS	A4600 Hindle...	G...	18/09/2017 14:09	58	53	18/09/2017 14:05	1			Coventry
Siemens Test...	8888	PIPS	Siemens Test...	G...	30/06/2017 13:28	0		18/09/2017 14:05	0			Coventry
Phoenix Way...	10507	Blueto...	Bluetooth Ph...	G...	16/08/2017 16:45	0		18/09/2017 14:00	4			Coventry

A4600 Sky Blue Way WB A4600 Sky Blue Way WB

Calculation Time: 18/09/2017 14:05

Vehicle Count: 48

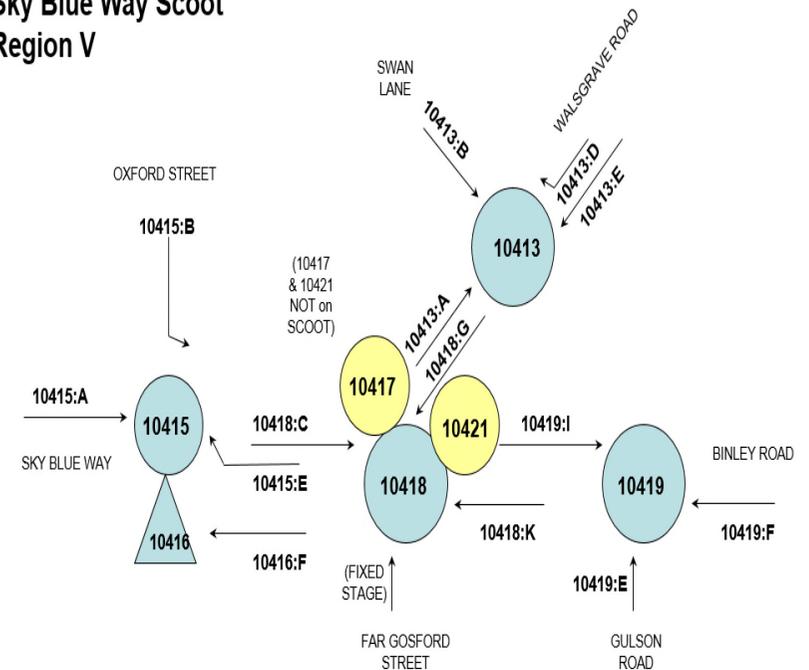
Profile Count: 54

Project Requirements



- **Minimise Impact on Journey Times**
 - Review and revalidate any existing adaptive control strategies
- **Congestion Prediction**
 - Develop and implement a method of predicting unusual flows and levels of congestion entering the network

Sky Blue Way Scoot Region V



We want the system to be aware of potential problems on the network before we do

Challenges



Close to capacity

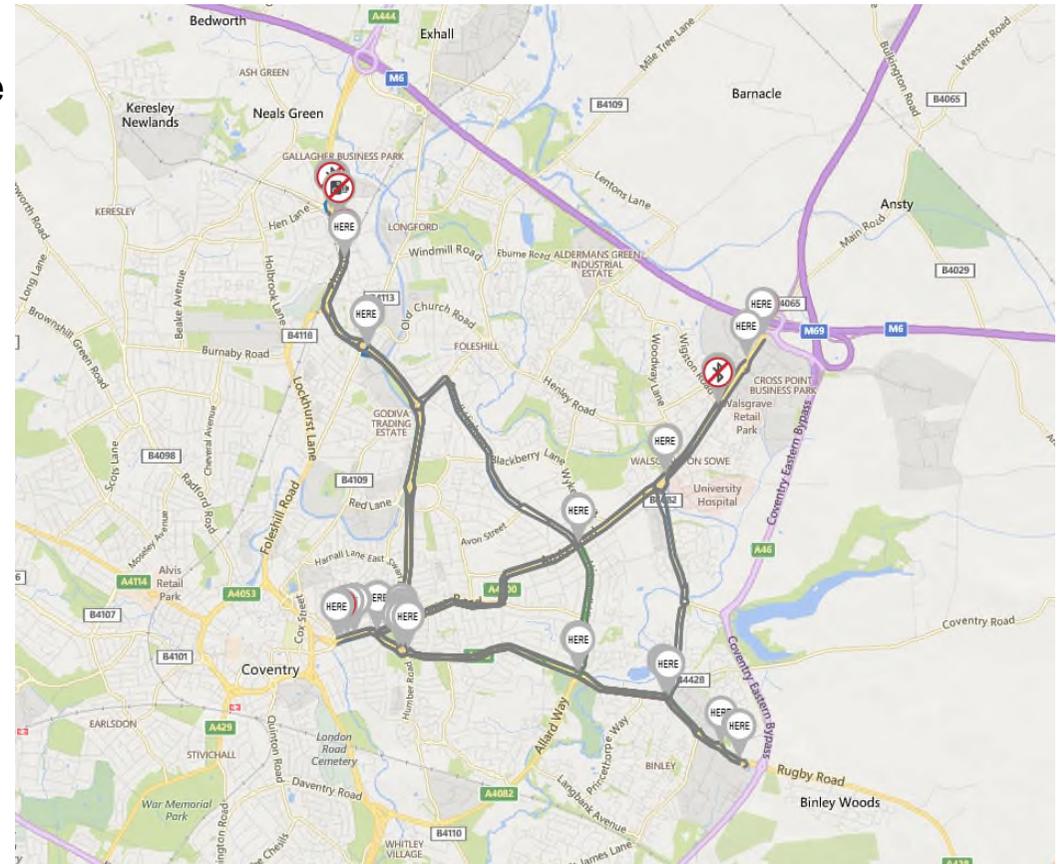
Many of the sites on the three critical routes are close to capacity, and become quickly congested during peak times

Limited adaptive control methods

Many of the sites on the critical routes use non-reactive control methods. Manual intervention is sometimes required during periods of very heavy congestion

Financial Constraints

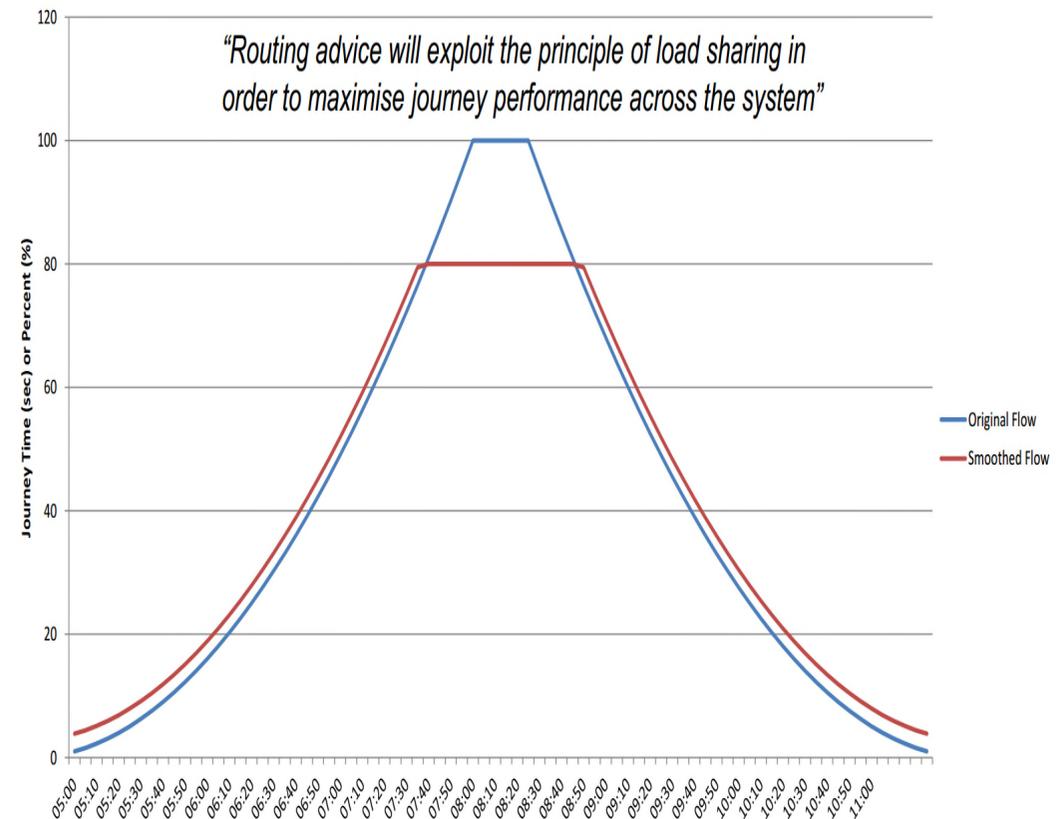
Limited project budget for upgrades / improvements of existing sites



Solutions



- **Strategy based plan and dataset triggering**
- **Minimise Impact on Journey Times**
 - Specific SCOOT / UTC plans and MOVA datasets written for high congestion levels
- **Congestion Prediction**
 - Upstream detection
 - Installed at strategic locations
 - Overhead detectors used
 - Reduced installation and maintenance costs
 - Minimal disruption during installation and maintenance
 - Retrofitted with limited works to most sites
 - Mobile



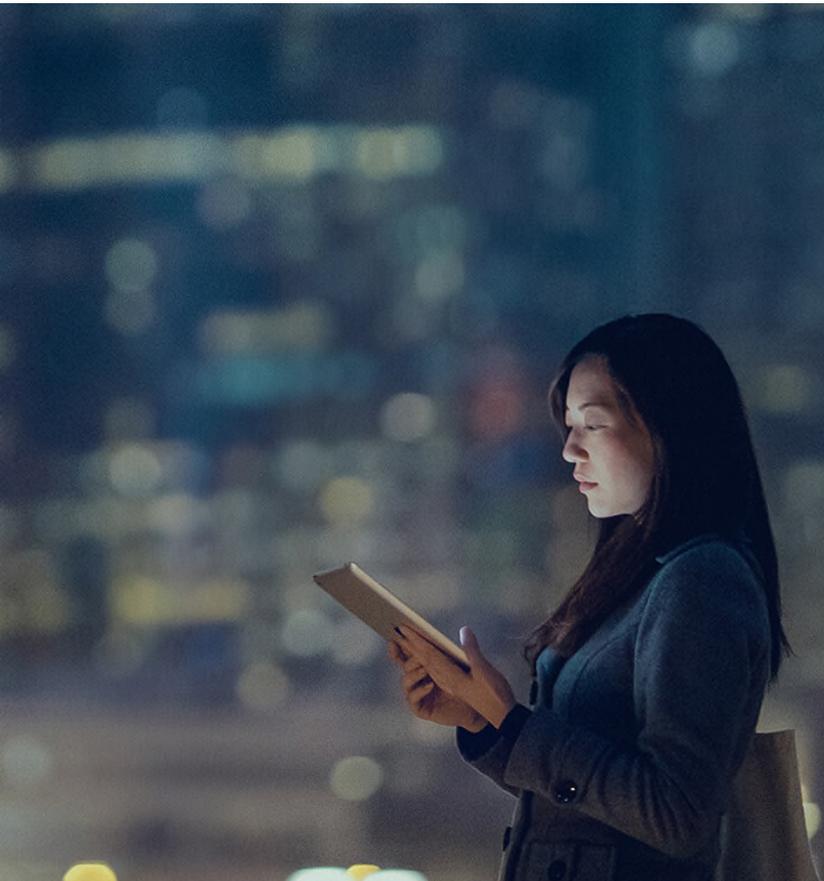
Project Status and Result Measurement



- **Installation**
 - Street works complete
- **Control and Strategy**
 - Collecting baseline data
 - Strategies currently in development
- **Result Measurement**
 - Innovation project – no direct comparisons
 - Testing difficult, short of using real world scenarios
 - ANPR and Bluetooth data used for JTM
- **Future developments**

The results are (almost) in.

Questions



SIEMENS
Ingenuity for life

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