



# THE WHITE ROSE GRID e-Science Centre

## FREEFLOW (Traffic Management)

### Introduction

FREEFLOW aims to fundamentally change how we use transport data, by using it to generate transport intelligence. Currently more and more detailed and timely data about transport networks is being collected, such as journey times and the location of buses. This is processed data different ways and then supplied to users or individual travellers and service suppliers as well as network operators and travel information providers. Present techniques for handling data are not good enough to help actively manage transport. Instead management is often reactive. Both the public and those responsible for networks want new intelligence to help them make better decisions - instead of being told about a queue, drivers want to know how to avoid it and network managers want to know why it is there and how to reduce it. This is a global problem, so has great potential for the UK to exploit. [1]

FREEFLOW fuses together transport policy requirements of better services with innovation from outside transport, to generate transport intelligence for urban areas to deliver services that users will really want to use and so dramatically improve how they travel. [2]

The aim is to research how to use “intelligent decision support” to deliver market ready products. These will deliver policy outcomes of improved

safety, reduced congestion and safeguarding the environment, and measure the changes made through demonstrations in York, Maidstone and London, making changes that will stimulate a global market and make life easier for travellers.

### Partners

University of York, Imperial College London, Loughborough University, Department for Transport, Kent County Council, Transport for London, City of York Council, Technology Strategy Board, EPSRC, ACIS, KiZOOM, Mindsheet, QinetiQ, trakm8, AECOM, IRC, White Willow.

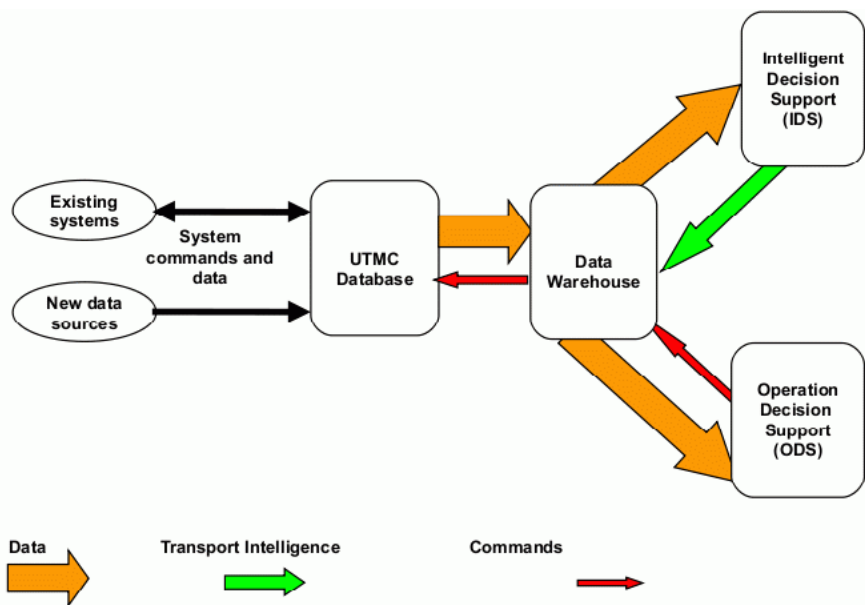
The intention is to provide a framework for data capture from traffic monitoring systems which are part of the Urban Traffic Management and Control (UTMC) system, tools to analyse this data, model and predict future flows, and then ultimately to modify traffic signalling to prevent jams or other adverse traffic events.

### FREEFLOW at York

Researchers at York are providing intelligent decision support via pattern matching of traffic network configurations.

Additionally, the City of York Council is providing real-time data feeds from key routes into York.





## Improving transport user decisions and performance by turning data into intelligence

### System Flow Diagram

(UTMC is Urban Traffic Management and Control)

### White Rose Grid Support

White Rose Grid is supporting the project, now in the initial phase, by providing a mechanism to capture the real-time data feeds and providing storage and archiving resources for this and compute for data analysis.

As the project progresses it will provide greater breadth of these facilities with high availability, along with support for testing systems in a virtualised infrastructure.

### References

[1] EPSRC project information page for FREEFLOW.

[2] Glover, P., Rooke A. and Graham, A., "Flow Diagram", Thinking Highways, 3(3), September 2008, pp.20-23.

### Further Information

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