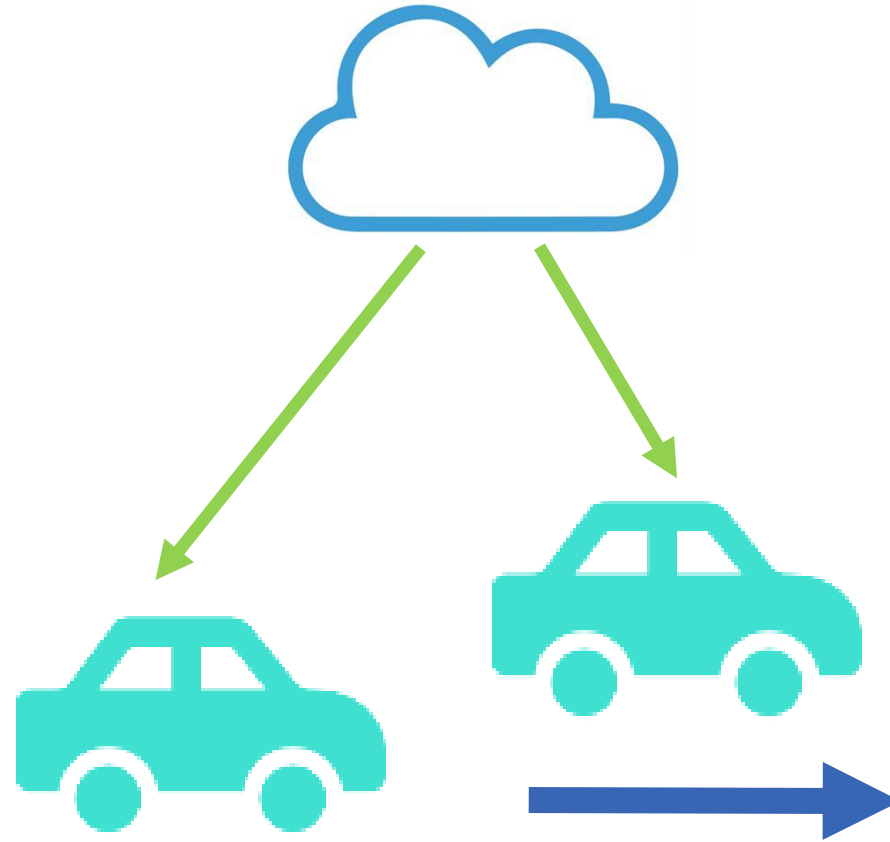


KLS Update Nov 2023



KL Systems

Connected car systems and technology

Portsmouth Test Bed

Developments since the last TTF include

VVMS Scheduling

Stopping in Box Junction

VVMS Diversion Plans

Plan Scheduling

Plan IOT activation

Slow-Moving Hazard Tracking and Warning Example

Gritters

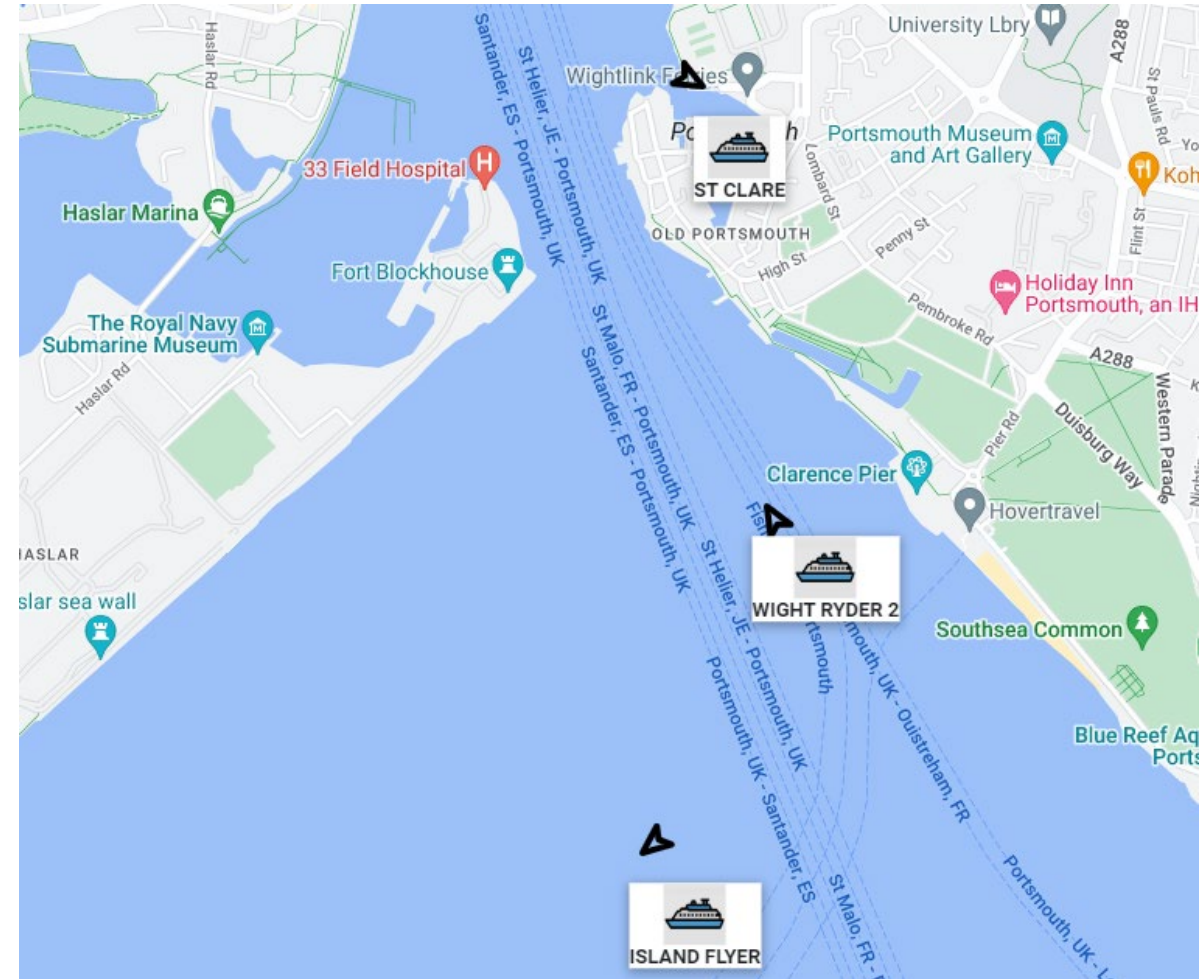
AIS Ferry Monitoring, tracking, and Alerting. Cancelled Ferries Impacting Traffic

Others in the pipeline

Fixed VMS integration and setting (physical and Virtual)

Portsmouth Motorway (physical and Virtual)

Traffic light integration



TfWMM VVMS project

KLS provided Cloud-based systems and iOS and Android apps to support the user trial for the TfWMM M6 Toll Virtual VMS project.

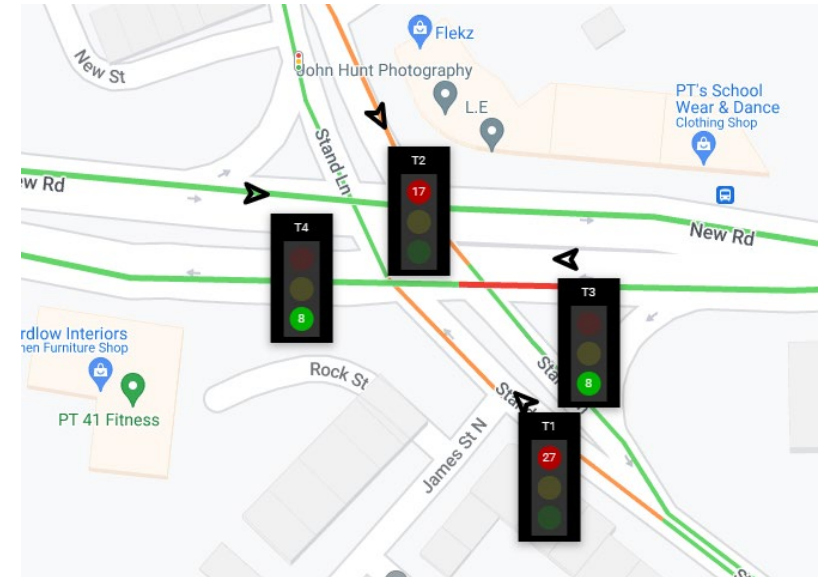


GLOSA in Manchester

The GLOSA corridor in Radcliffe is maintained live 24/7 and is now been used by at least 2 car manufacturers to live test GLOSA in vehicles

TfGM are significantly extending the use of TRL Scoot 7 (with GLOSA data output) in Manchester and as each intersection is brought on stream it is added to the KLS cloud extending the scope of GLOSA coverage in Manchester

As part of a Newcastle University doctoral research project 'Monitoring the impact of GLOSA on driver behaviour' the GLOSA corridor and KLS App has been used for testing over several days.



Supporting the TTF

KLS deployed technology and integrated with many parties to support both the TTF LCRIG test track event at Newark and the recent demo day at Millbrook

This included extensive demonstrations of technology developed on the Portsmouth Test Bed and Integrations with Navtech Radar (Pedestrian on Crossing, Stopped Vehicle, and Wrong Way Driving)



Other Initiatives

Westcotec have integrated their Pedestrian Detection Signage with the KLS Cloud, demonstrated at Highways UK

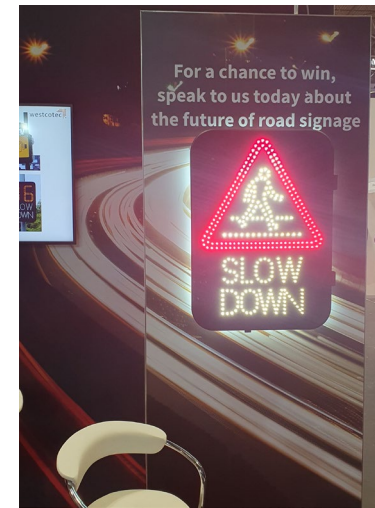
KLS have integrated live Strategic VMS in New Zealand and use is being demonstrated traffic authorities there

Full KLS Cloud integration with SRL Mobile VMS via Swarco Mycity is planned this month

Cloud based KLS integration with Rennicks Mobile VMS is planned

KLS has proposed a National Strategy for IVS, See separate presentation

KLS has a new Android Auto Nav App based on the latest Mapbox code

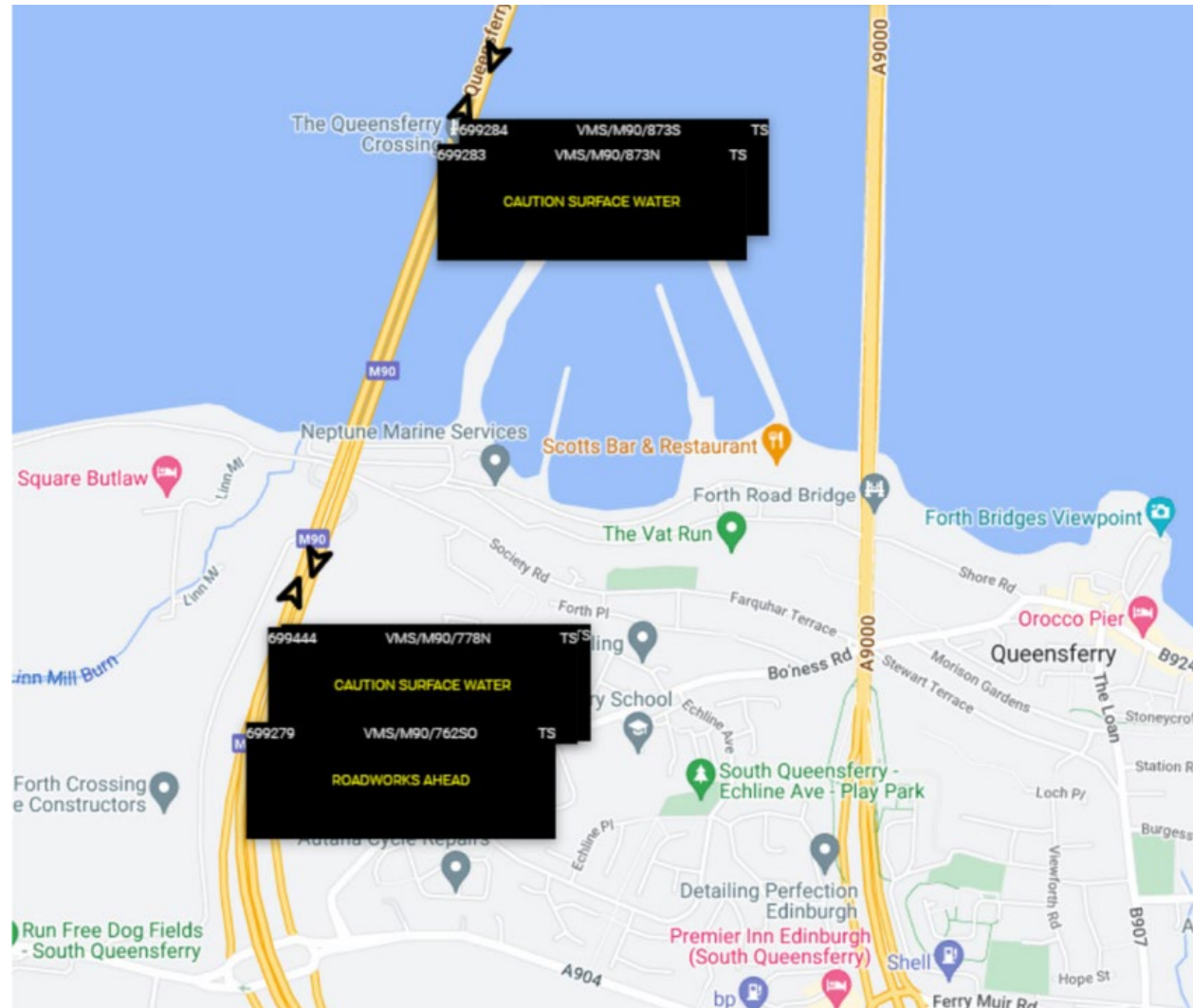


Building the provision of IVS across the UK

Each authority maintains and publishes an IVS Model



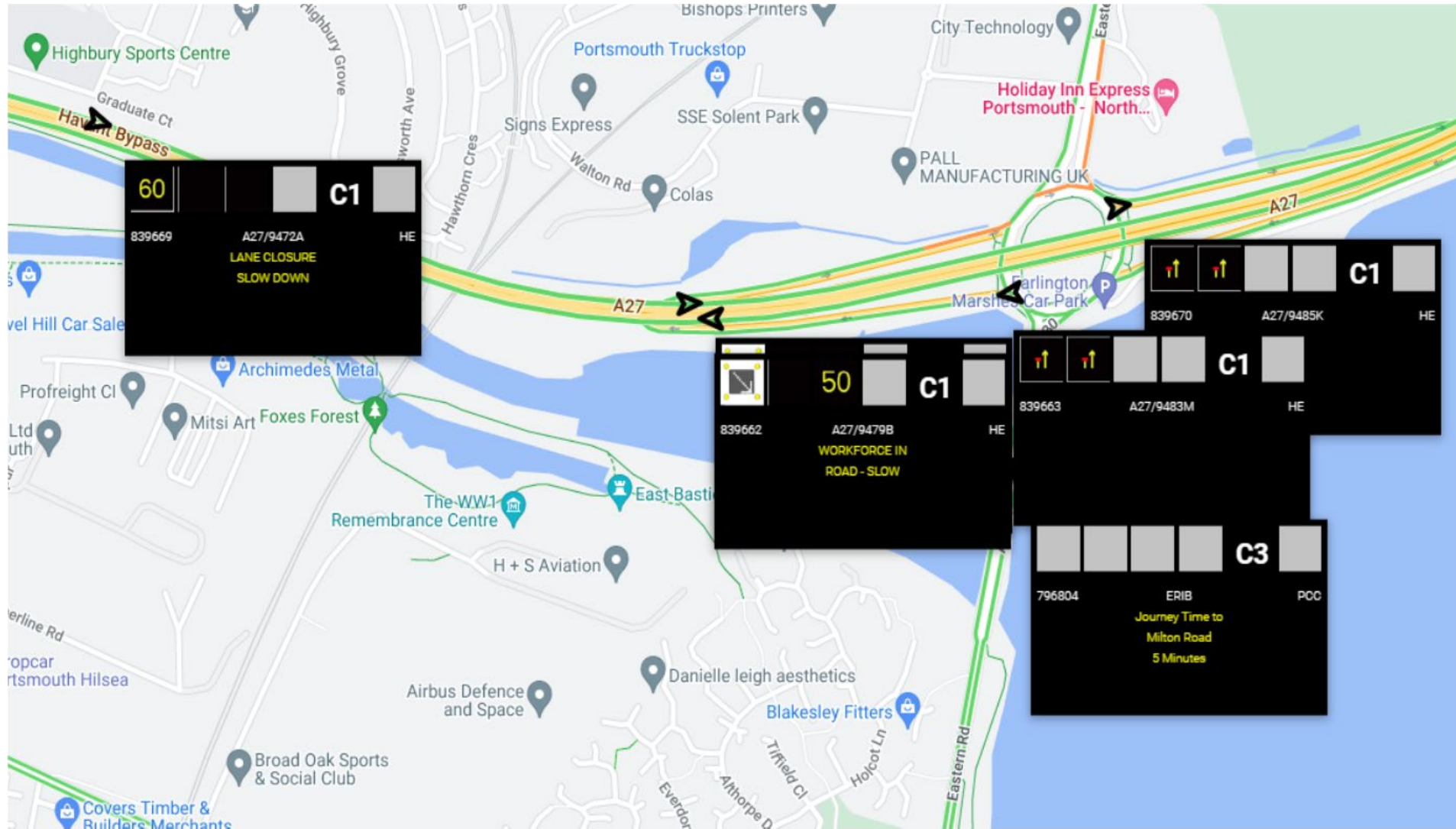
Extract from KL Systems cleansed Traffic Scotland model

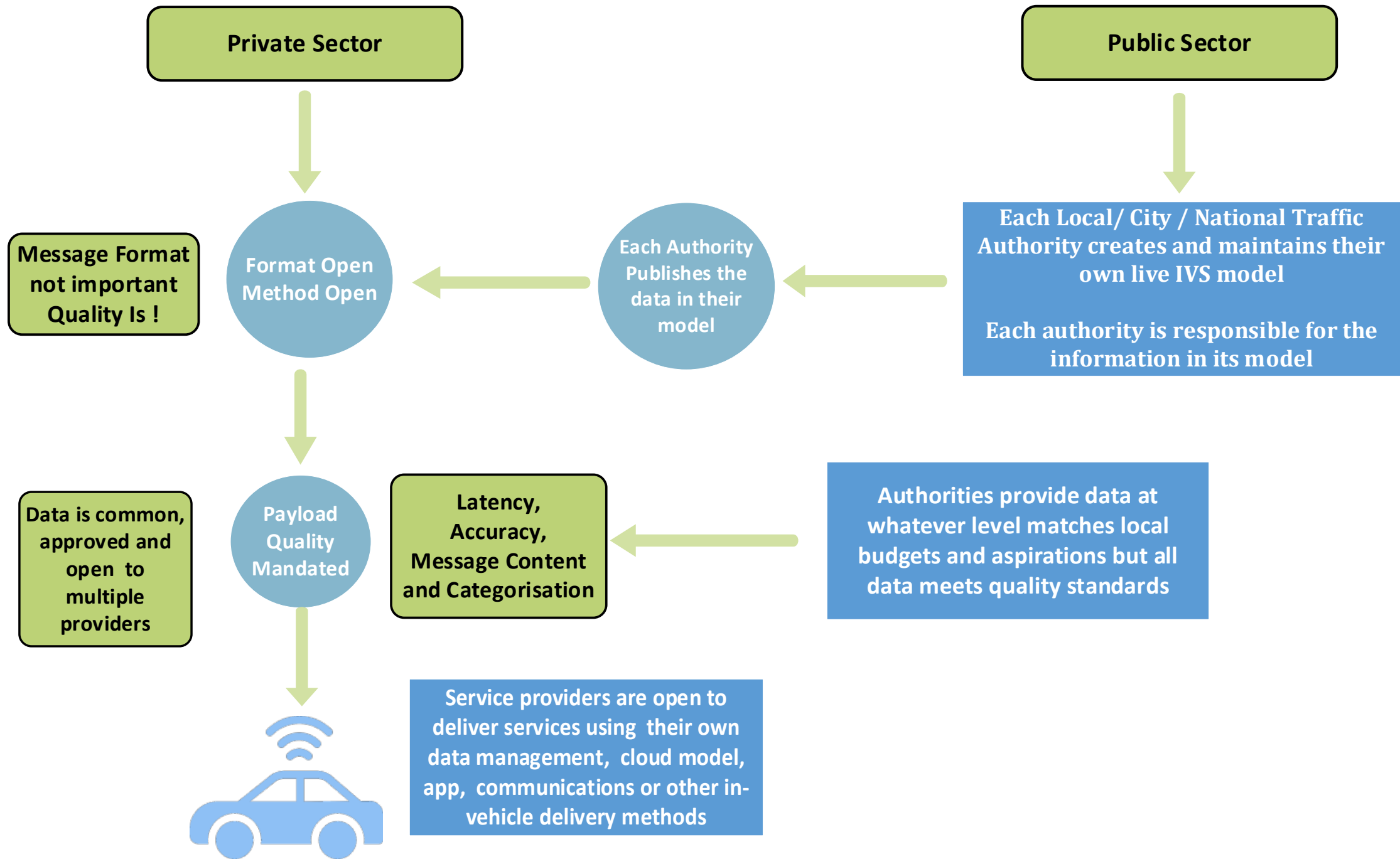


Extract from KL Systems cleansed NH SRN model



Extract from KL Systems Portsmouth model





In Vehicle display integrated with Navigation



Role for Government

Set and enforce Data Quality Standards

Promote authorities to sign up and Publish Data

Maintain register/ index of data publishers

Maintain register of service providers

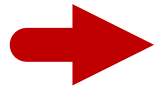
Sponsor demonstration service provision

**On register before data
can be provided**

**Data Quality assessed
before approval for use**



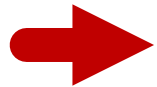
This approach has the potential to create an effective IVS service in UK using decentralised provision of services delegated to local, regional and national authorities with Government coordinating and putting in place overarching quality standards



Each Authority decides the level of service and the types of services that are relevant to its area or road network



Potential service providers have a level playing field with data to a common mandated standard across the whole county which they can use to create services.



Service providers can apply innovative techniques to seamlessly merge data from multiple authorities into one national service in-vehicle for example cloud hosted data models and in-vehicle apps.

There are likely to be many providers and many types of services with different technical approaches.

KL Systems already supports this, It ingests data from many authorities into its own Cloud deployed geospatial Hub architecture. The channel into the car is formed by smartphone apps which move connection from Hub to Hub as a vehicle drives across the county so the driver gets a seamless provision wherever they are.

This architecture is supporting IVS research in Portsmouth, powered the TFWM M6 Toll IVS project, supported demonstrations at Millbrook and Newark for the TTF and many other projects including a openly available IVS app for the National Highways SRN

