

Optimising the network

Smart Technology in Traffic Management for
improved safety, reduced congestion and
pollution

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APSE National roads, street lighting and winter maintenance seminar 2016
Friday 4 March 2015

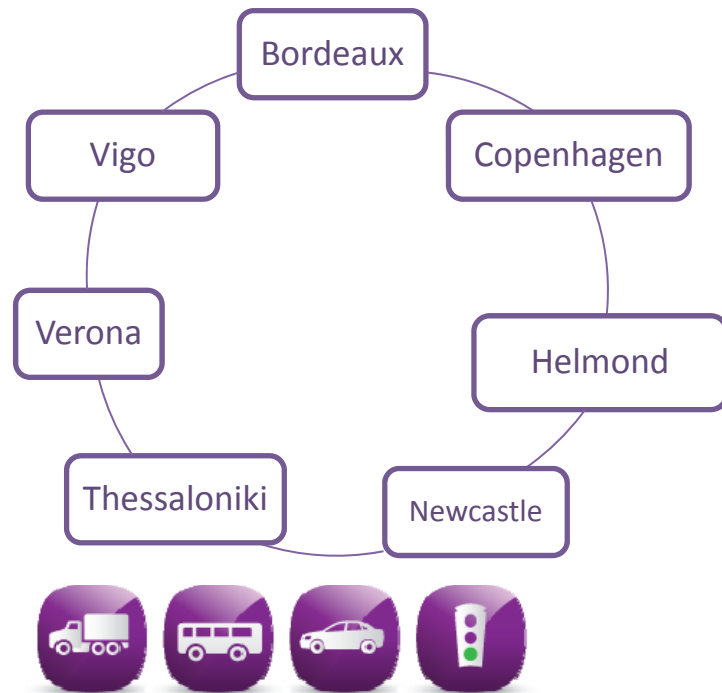
The Role of Traffic Management

- Securing the expeditious movement of traffic on the authority's road network, whilst having regard to their other obligations, policies and objectives.
- The role of the Traffic Manager in relation to new technology depends on overall objectives and policy context
 - Road Safety Improvements;
 - Improved accessibility;
 - Reduced congestion;
 - Reduced emissions/better Air Quality.



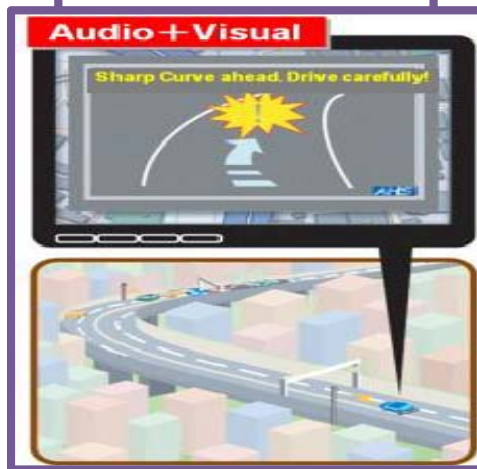
Overview of Compass4D

- Cooperative Mobility Pilot on Safety and Sustainability Services for Deployment
- EU match Funded in 7 Cities in Europe
- Vehicle to Infrastructure (802.11P 5.9GHz)



Current Use Cases/Services

- Road Hazard Warning (RHW)



- Red Light Violation Warning (RLVW)

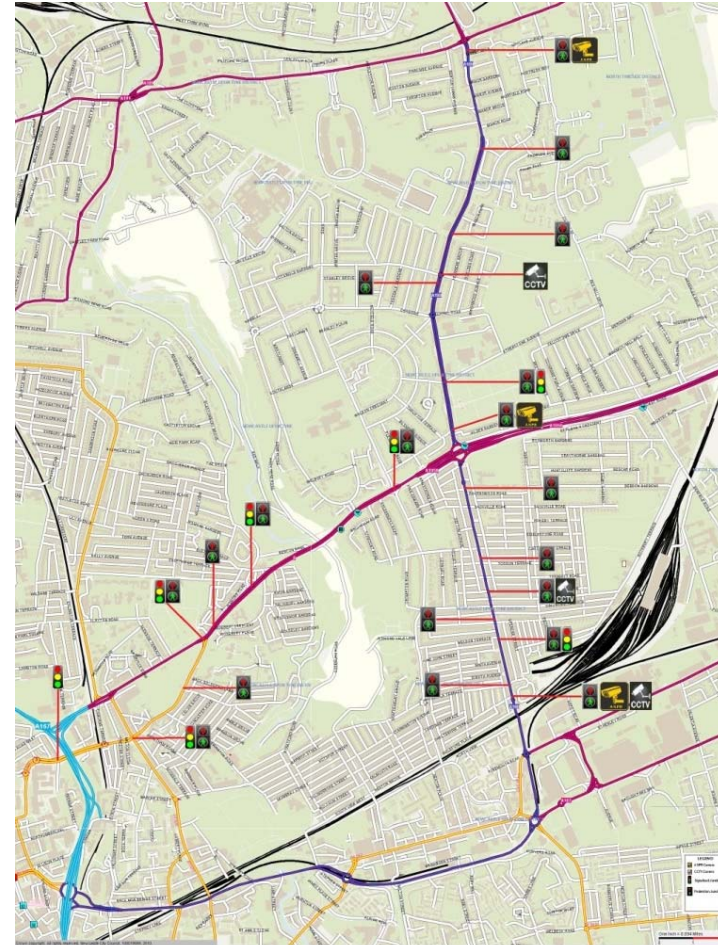


- Energy Efficient Intersection Service (EEIS)



Newcastle Pilot Site

- 20 signalised controls:
 - Benton Road
 - Chillingham Road
 - Corner House to Civic Centre via Sandyford Road
- Giving Equipped Vehs
 - Idling support;
 - Speed advice;
 - Priority at signals.



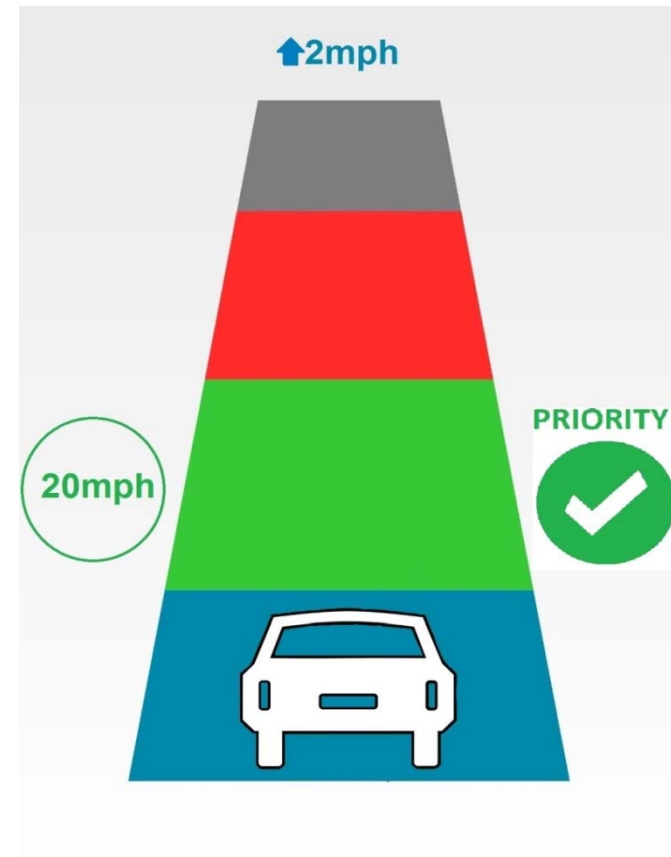
Priority at Lights

- Approaching Lights on Green: The Green time will be extended to allow vehicle to pass through (if possible).
- Approaching Lights on Red: The Green phase will be requested, remaining green phases (other approaches to the junction) will run for their minimum safe times.



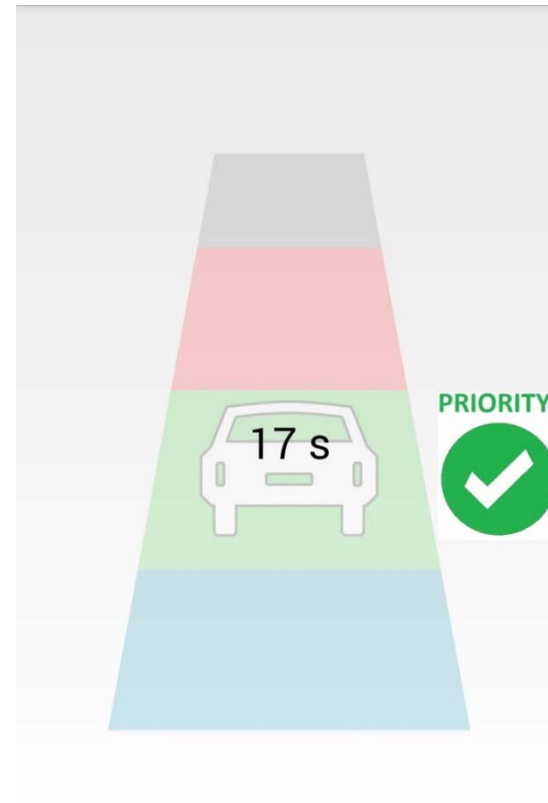
Speed Advice

- Optimum speed to ensure passage through the signals on green.
- Confirmation that priority has been requested



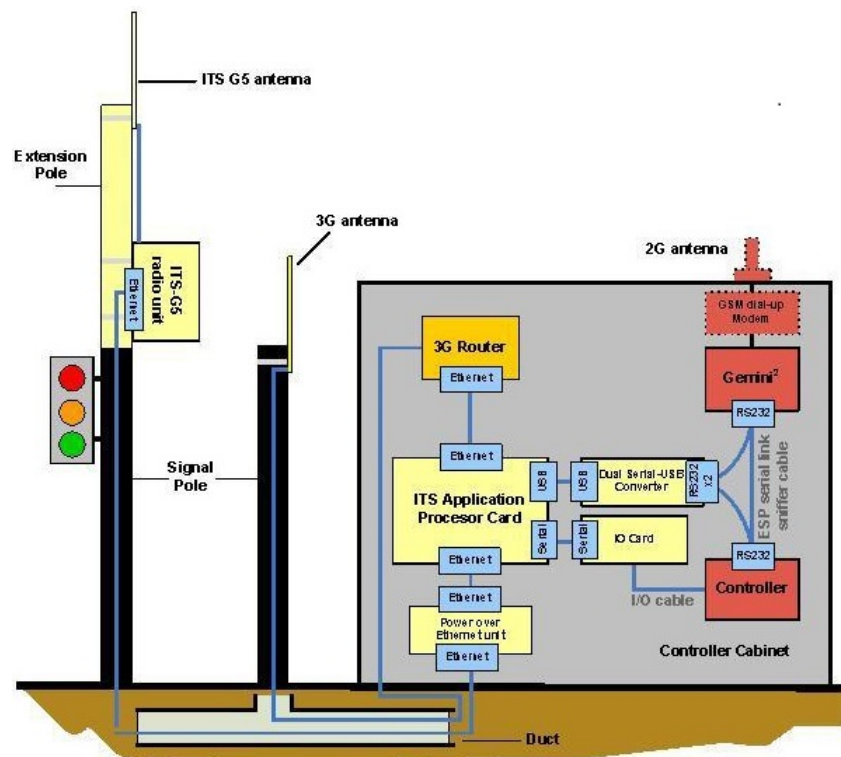
Idling Support

- If time at Red is known, an estimate of time remaining at red will be given

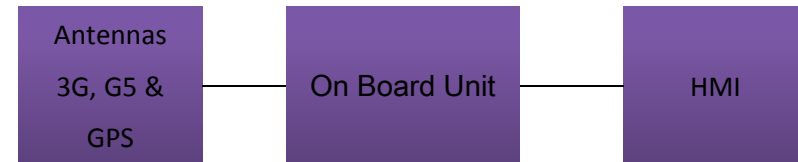


System Architecture

On Street



In Vehicle



Deployed System

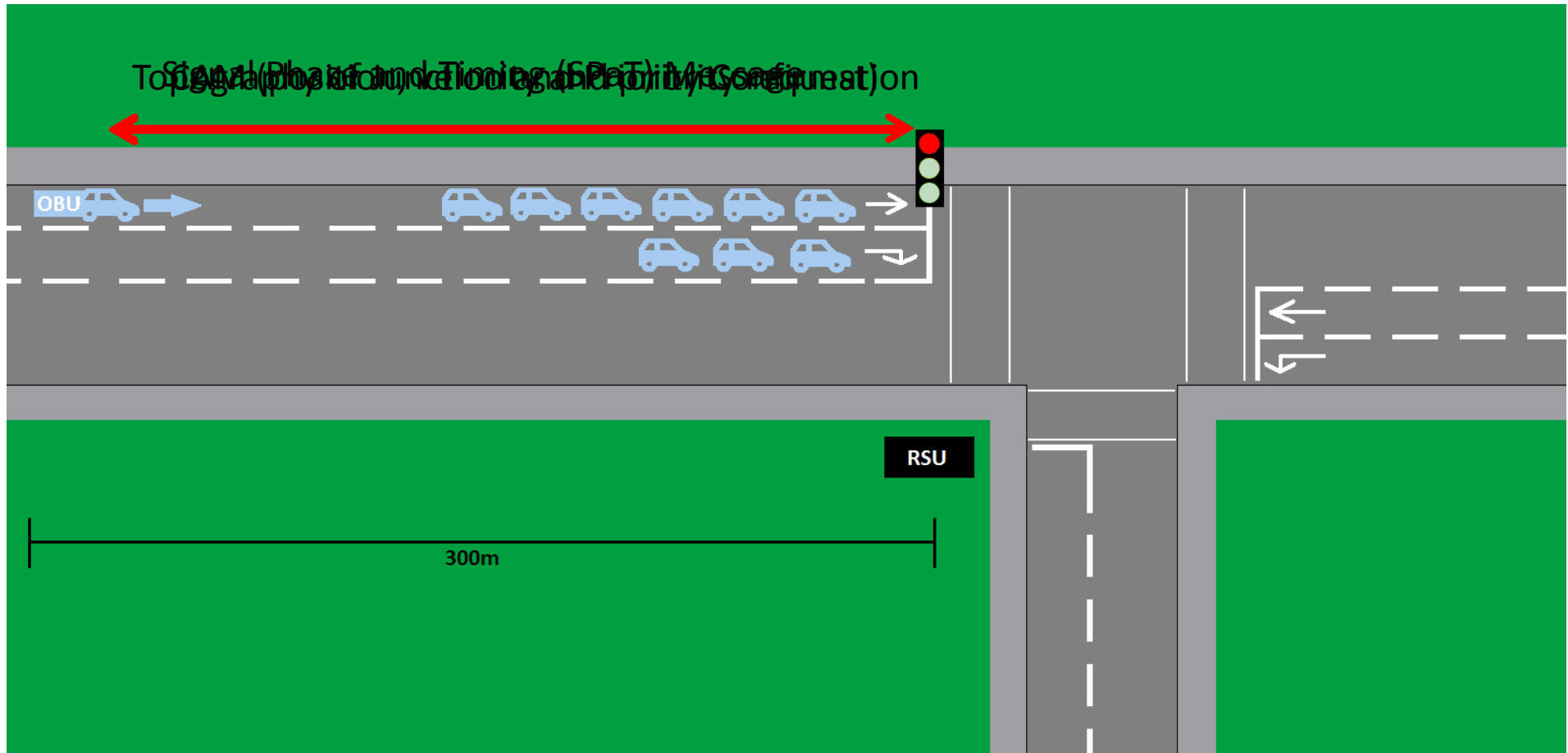
- On Street



- In Vehicle

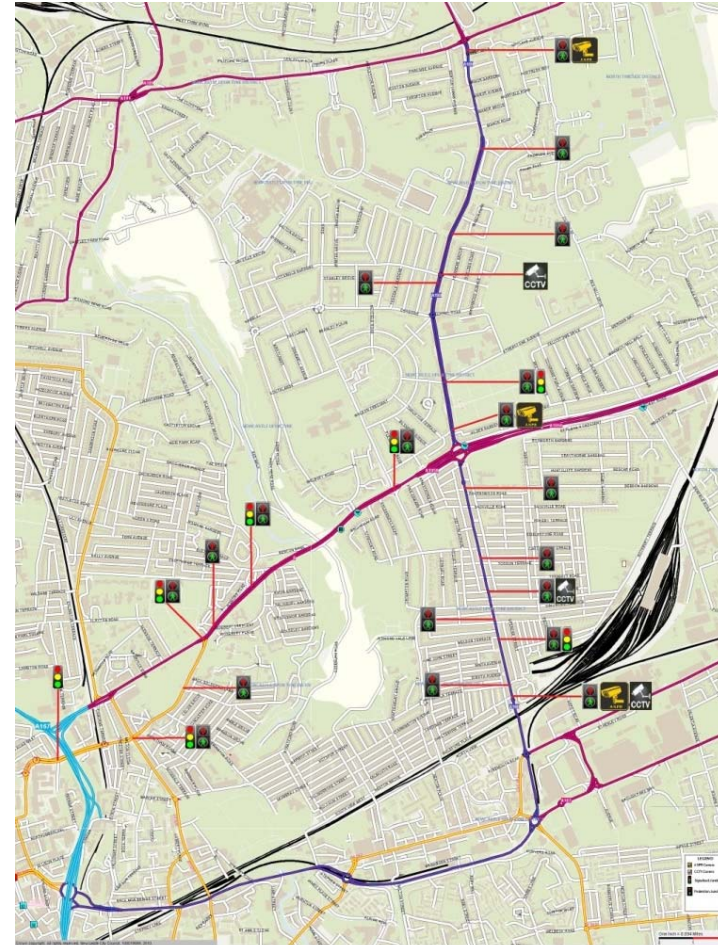


Operation of System



The Newcastle Experience

- 12 – 15% Fuel reduction
- 66% reduction in time spent below 5mph
- Increase to mean speed of 4mph

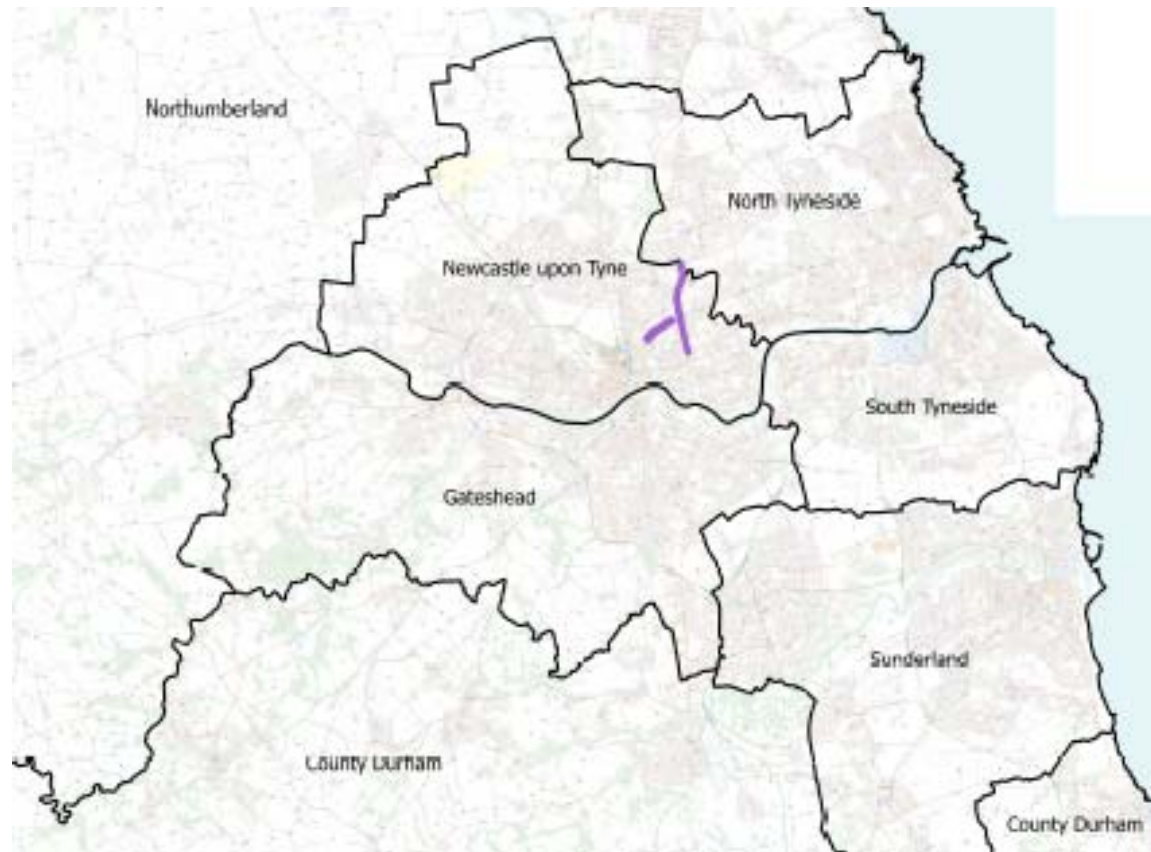


Use Case Development

- Vulnerable Road Users
- Selective Priority
 - Freight on certain routes at certain times
 - Low Emission Vehicle
 - Express Bus Services (Park and Ride)
- Platooning vehicles



Very low equipment penetration

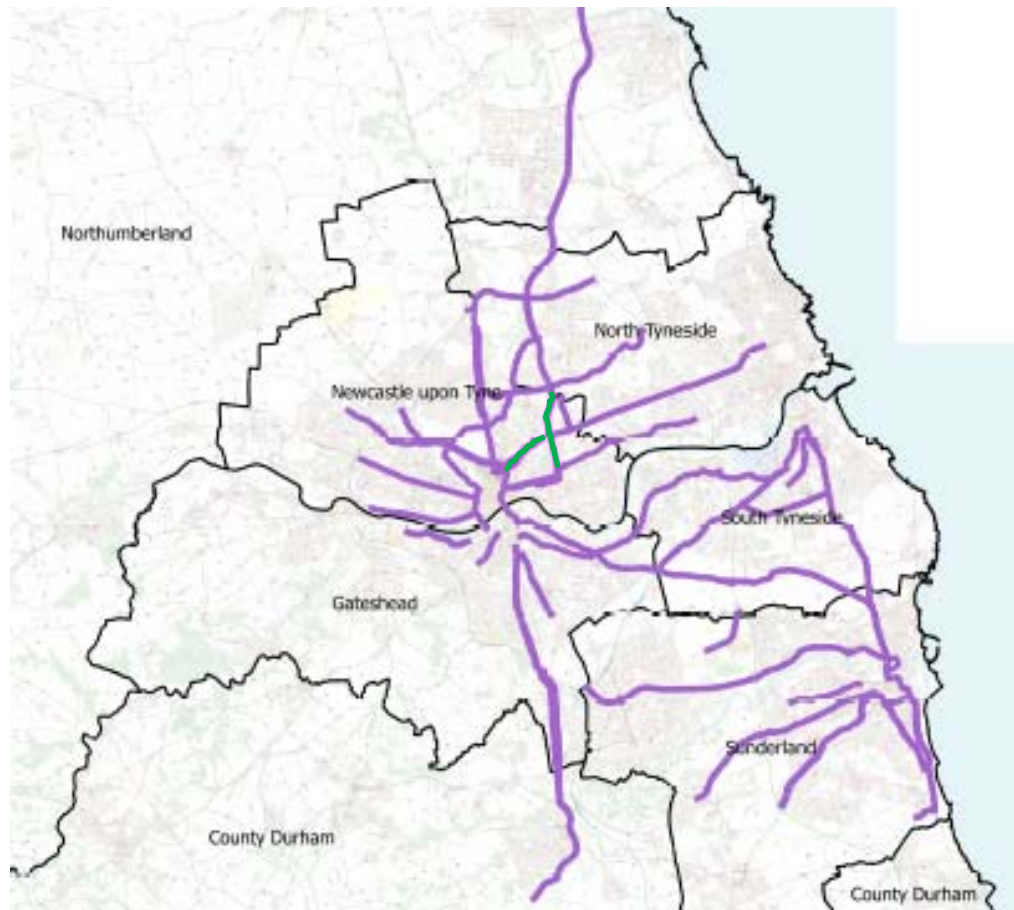


Future Deployments

- Gosforth Corridor Project (17 Signalised controls)
- UKCRIC (Smart Cities Project – 15 Signalised controls)
- *Nissan to the Port of Tyne (HE, Sunderland and South Tyneside)*
- *NECA Aspiration (100+ Signalised Controls)*



Greater level of equipment penetration



Limitations

- Cost of equipping old infrastructure
- 2019 the earliest that new cars will all be equipped 802.11p capabilities
- 3G network can provide data but:
 - 14,554 miles of road have no 3G coverage
 - 29,000 miles have only partial coverage

(Source RAC Foundation Report 30/11/15)



Provision of Data via the Internet

Open Data Service
North East Combined Authority

HOME BLOG API **DATA** LICENCE FAQ

Data Search

The Open Data Service provides access to the following travel data:

- [Air Quality](#)
- [Car Park](#)
- [CCTV](#)
- [Journey Time](#)
- [SCOOT](#)
- [Traffic](#)
- [Weather Station](#)

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- Single Source?
- Standards?
- Quality
- Currency
- Context



Any Questions?

Thank you for your time

For further information on Compass4D please see www.compass4d.eu

For information on NECA Open Data (Traffic) please see www.netraveldata.co.uk

For NECA travel information please see www.transportnortheast.com/

Or follow us on Facebook or Twitter [@NECATraffic](https://twitter.com/NECATraffic)

Or for further information email: ray.king@newcastle.gov.uk

