



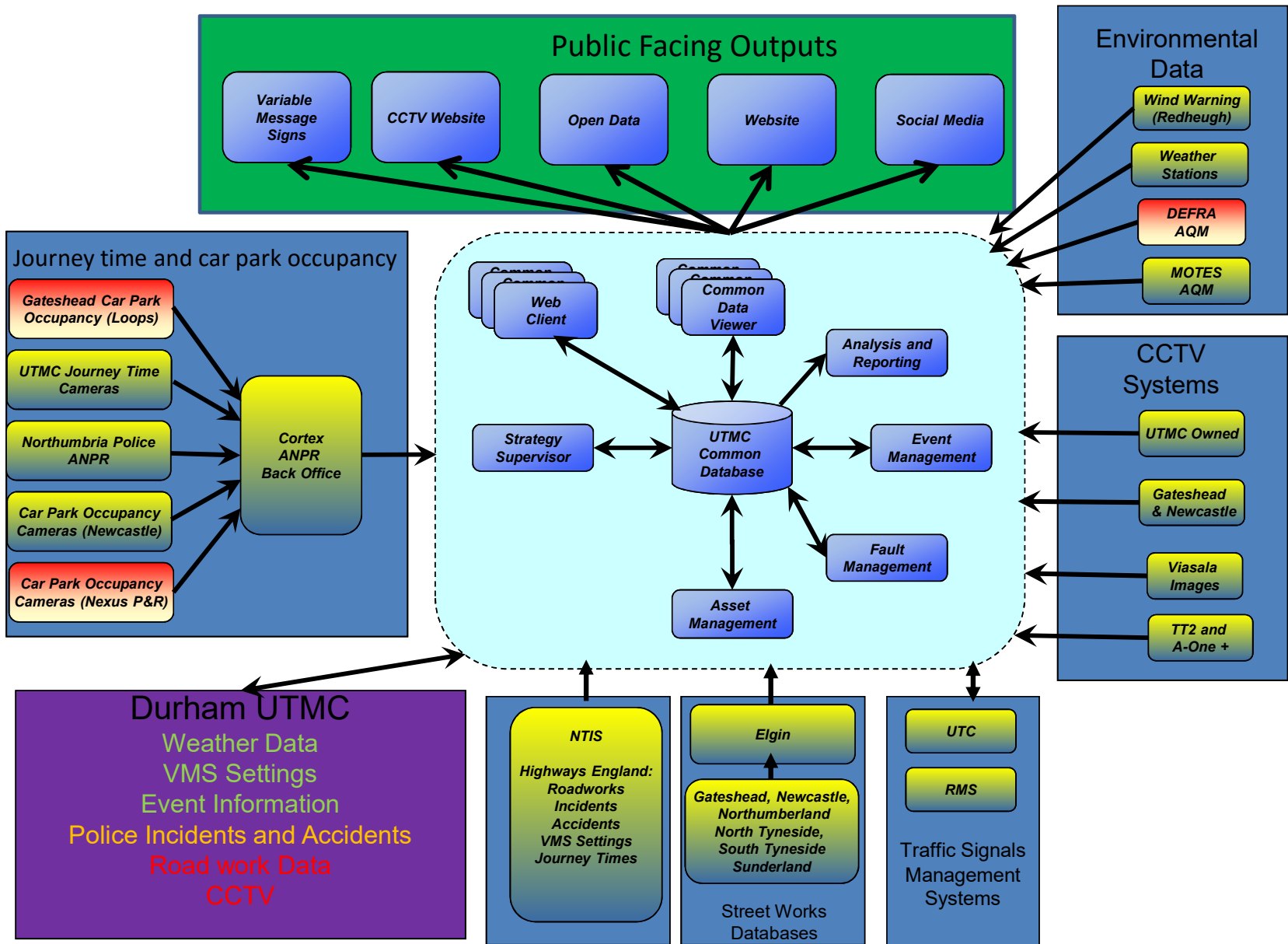
UTMC in the North East Combined Authority

CIHT

7 June 2016

Combining Data from

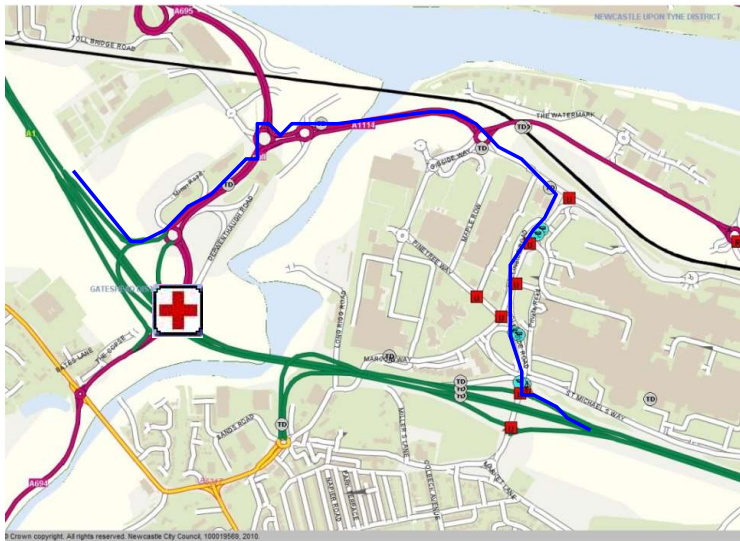
- 200+ CCTV Cameras
- 300 Traffic Signals
- 250 ANPR Cameras (over 1 Million reads per day)
- Weather and Air Quality Stations
- Street works Databases
- National and neighbouring systems



Operational Applications

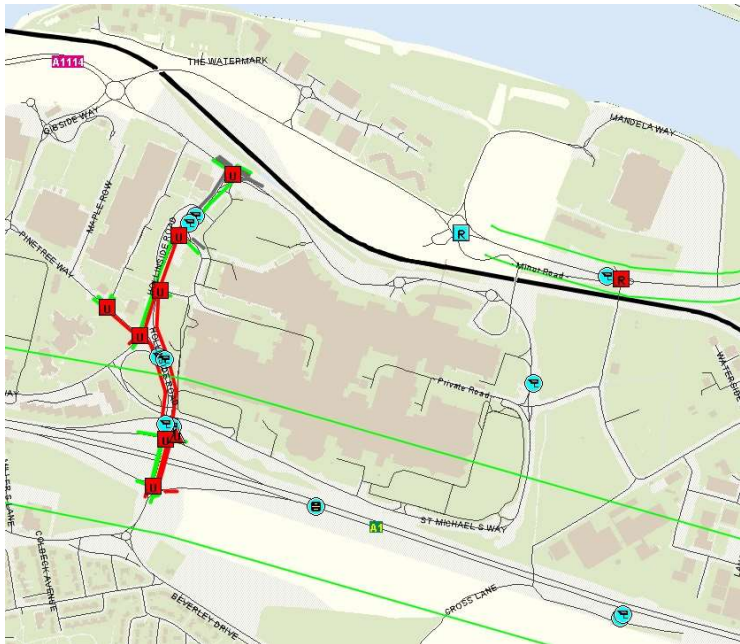
- Event Management
- Incident Management
- Reliable journey times
- Air quality management
- Modal prioritisation

Using Incidents to Trigger Strategies



- Alert operators to incident
- Automatically post to social media
- Run Signal Plans automatically on known diversion route

Using SCOOT Data to Trigger Strategies



- Alert operators to congestion
- Signal Control Strategies
- Alerts via social media
- VMS (if available)

Metrocentre Issues

Hayley F @flumpymcflump 4h
@intuMetrocentre 1 hour later I'm almost on the next level #redcarparkrage

Kelly Gleadow @kellygleadow 4h
Serious traffic problem @intuMetrocentre 1 hour wait and still on floor five. Any idea what the issue is?
pic.twitter.com/iY6G39Mxe8

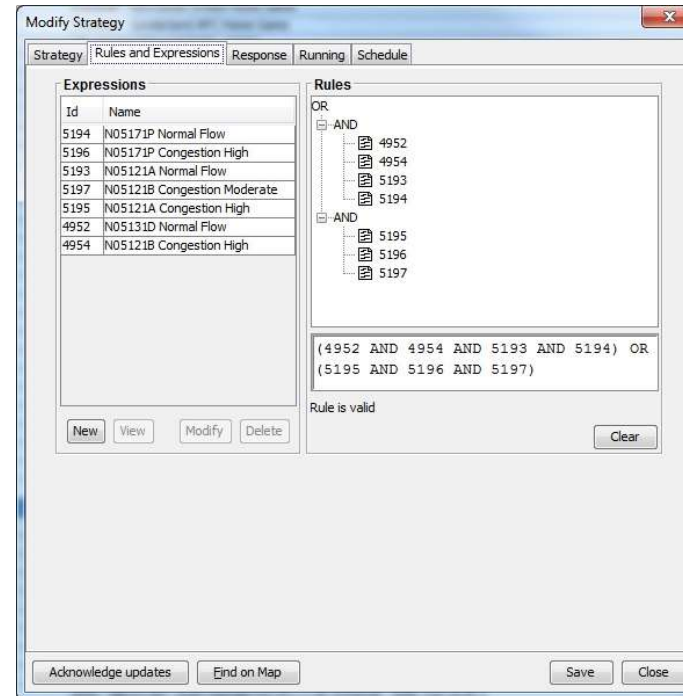
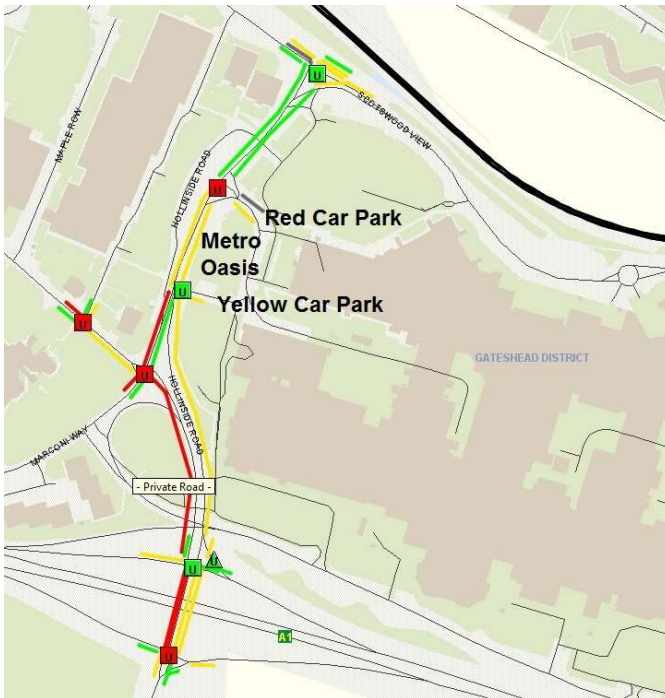


Hayley F @flumpymcflump 5h
@intuMetrocentre your red car park is ridiculous!! I haven't moved in 15 minutes!!!

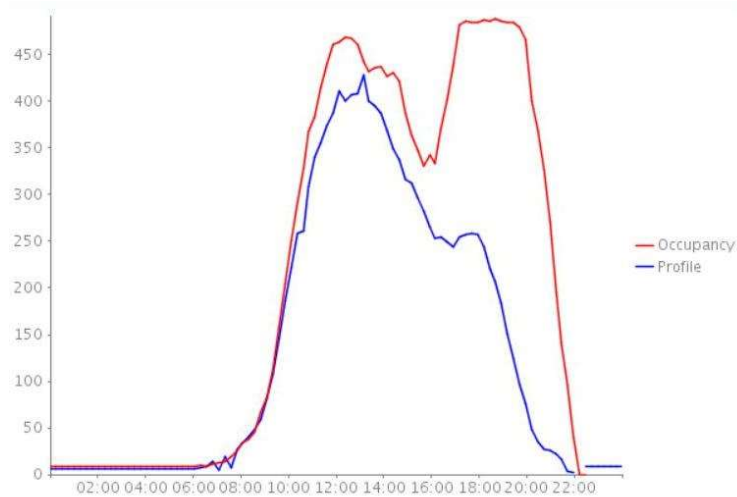
Stephanie Bramwell @steffiebrammers 6h
@intuMetrocentre STILL STUCK 45mins later moved one floor #joke #shite
#NEVERCOMETOMETROCENTRE #crapparkingfacilities



Reactive Strategy



Using Car Park Data to Trigger Strategies

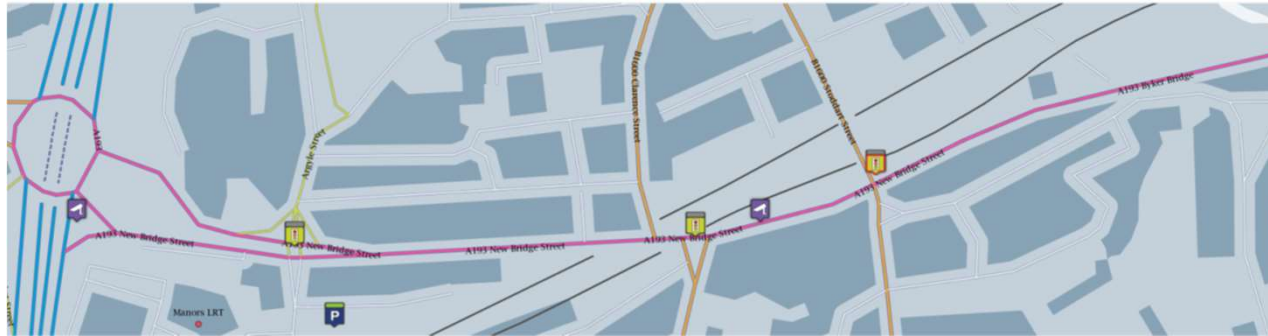


- Alert operator to abnormal usage
- Set VMS (when available)
- Social media
- Traffic Signal Control when emptying

Using Journey Time Data to Trigger Strategies

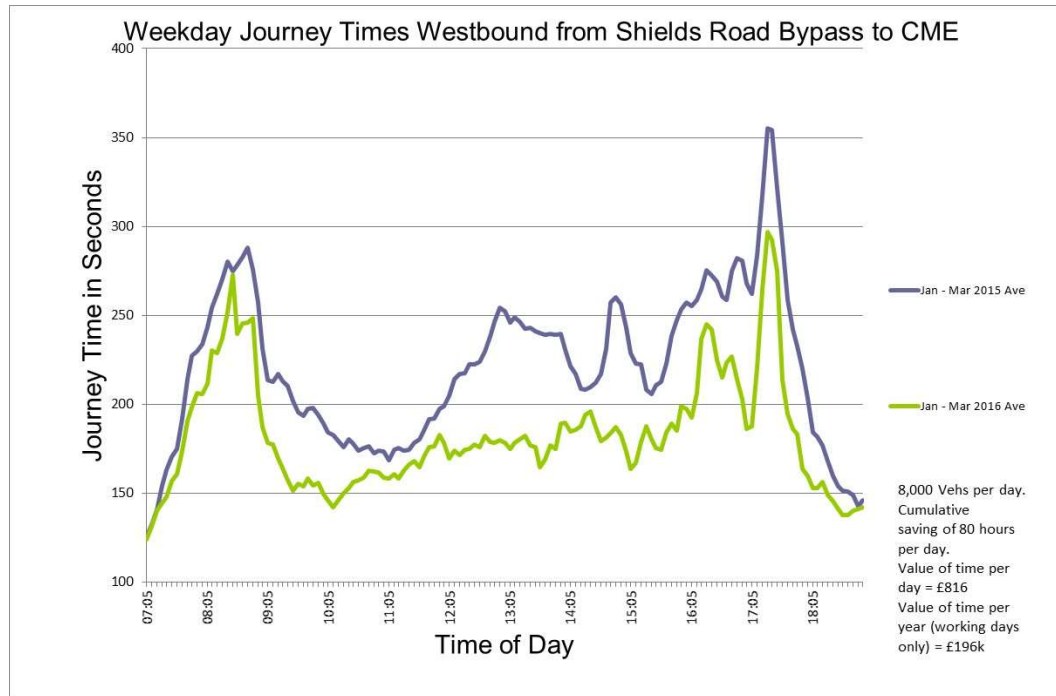


New Bridge Street

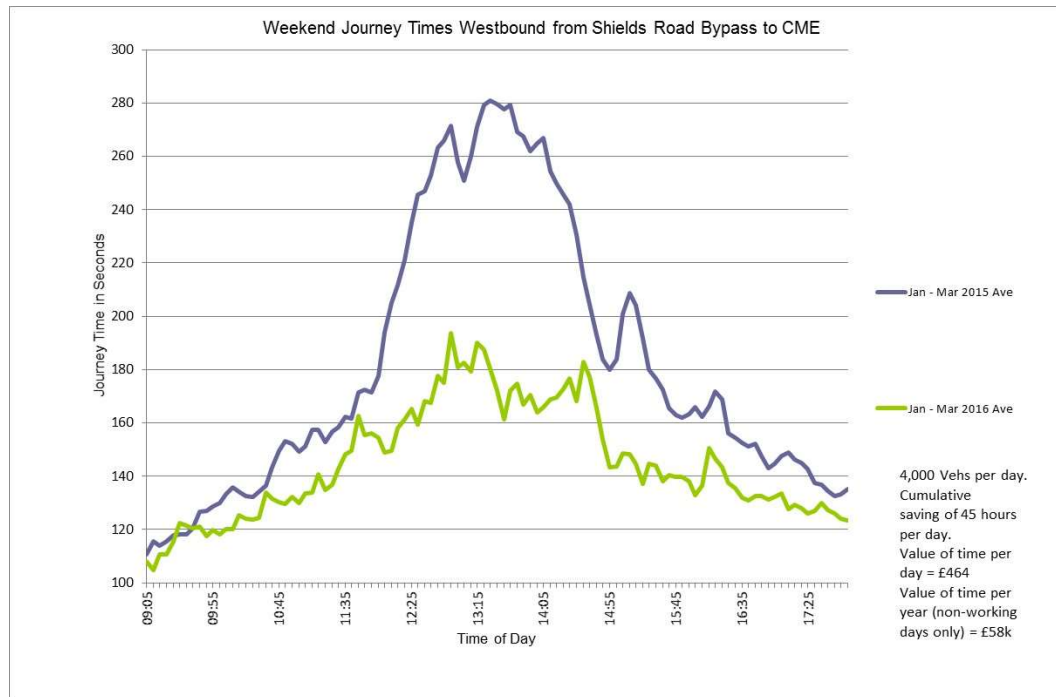


- 3 Traffic signals within 450 Metres
- Very busy route
- Normally no coordination
- ANPR on route to provide live journey times

Results (Weekdays)



Results



Ongoing Developments

- Air Quality
- Parking Data
- Open Data
- Cordon Count Data
- Redheugh Bridge Wind Warning system
- Expansion of ANPR and CCTV networks
- Journey time for public transport

Air Quality

- Measure in real time
- Predict likely Air Quality outcomes based on weather and SCOOT data
- Traffic Signal interventions to mitigate against poor air quality

Parking Data

- Newcastle currently only 3 Sites
- Park and Ride Currently being Installed
- Gateshead new system?
- Sunderland Data needed



Open Data

- Relatively low take up;
- Main users: GCap Media; Trinity Mirror; and research organisations.
- Open data competition:
 - Travel Compare
 - Parking Space Alert
 - Student Saver
- RTPI is needed!

Communications

- [Main Website](#)
- [CCTV Video Wall Website](#)
- [Social Media](#)
- [Open Data](#)

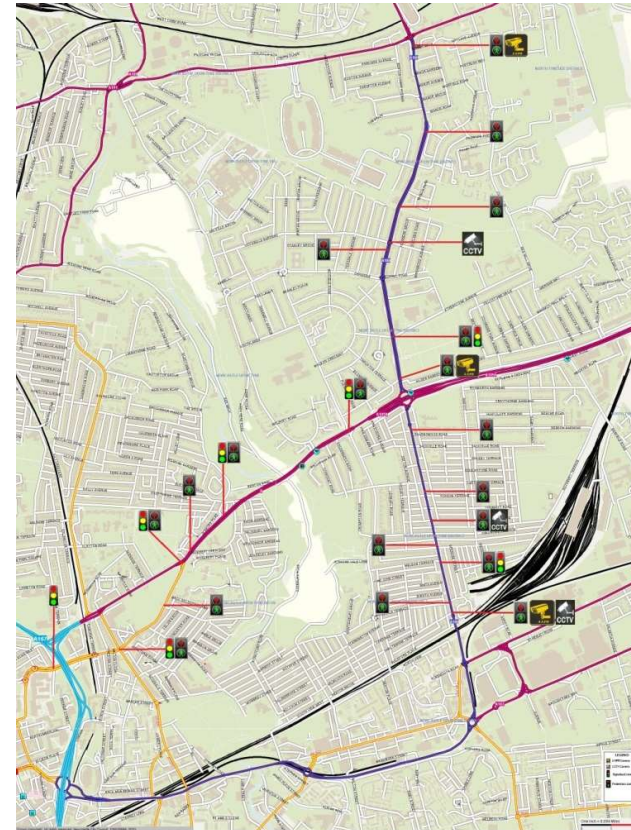
Overview of Compass4D

- Cooperative Mobility Pilot on Safety and Sustainability Services for Deployment
- EU match Funded in 7 Cities in Europe
- Services:
 - Road Hazard Warning;
 - Red Light Violation Warning;
 - Energy Efficient Intersections.
- Focus for Newcastle is Energy Efficient Intersection Services



Newcastle Pilot Site

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



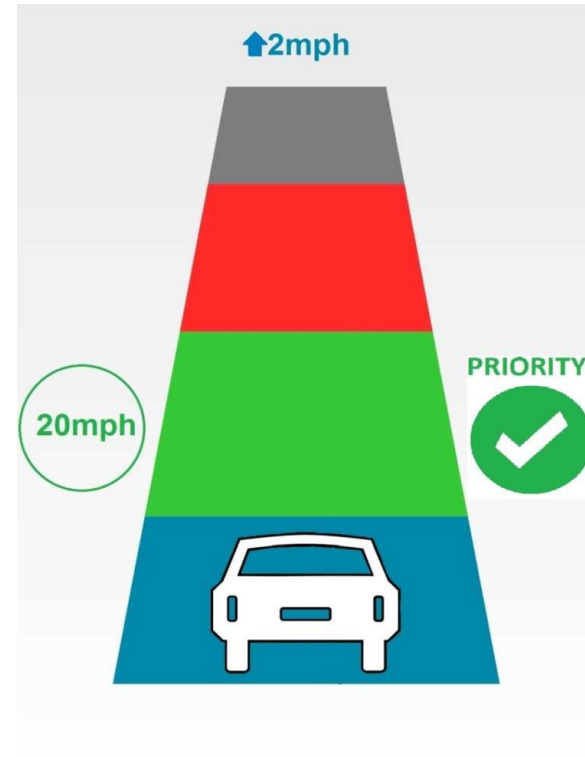
Priority at Lights

- 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.



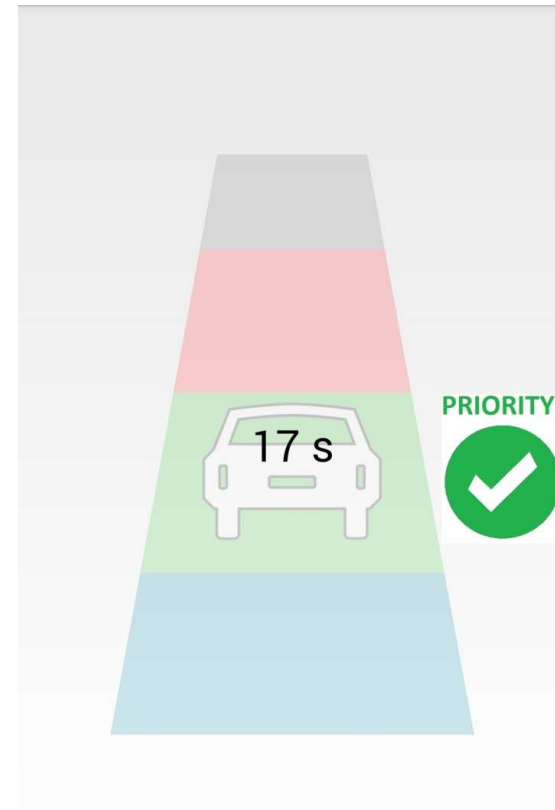
Speed Advice

- 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



The Newcastle Experience

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

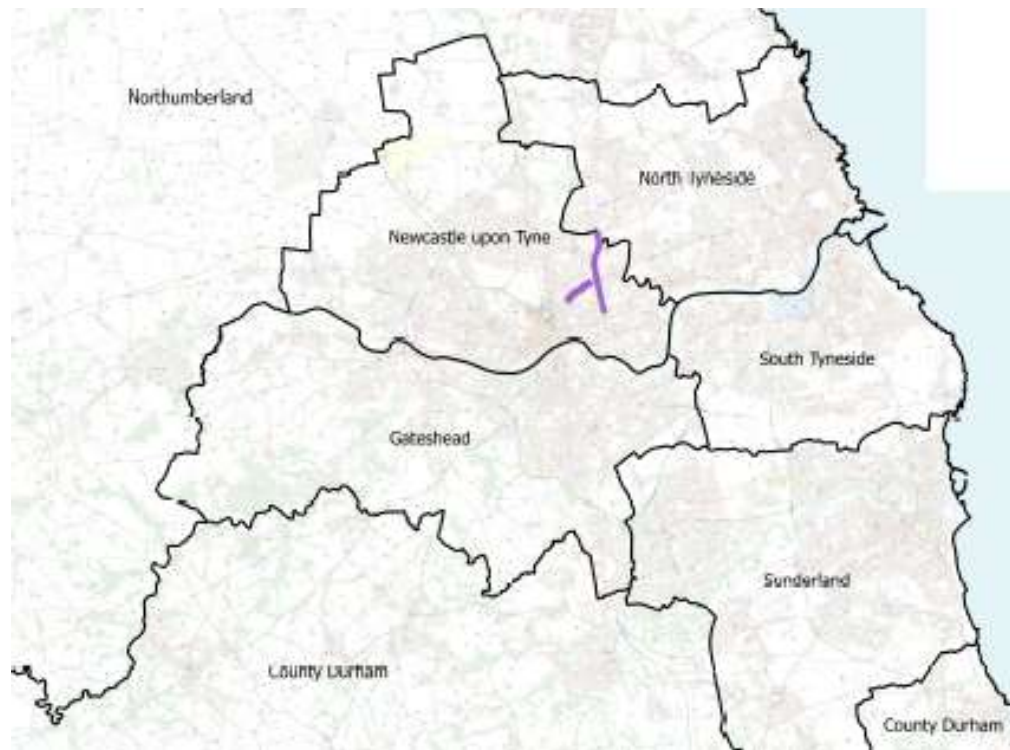


Use Case Development

- 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

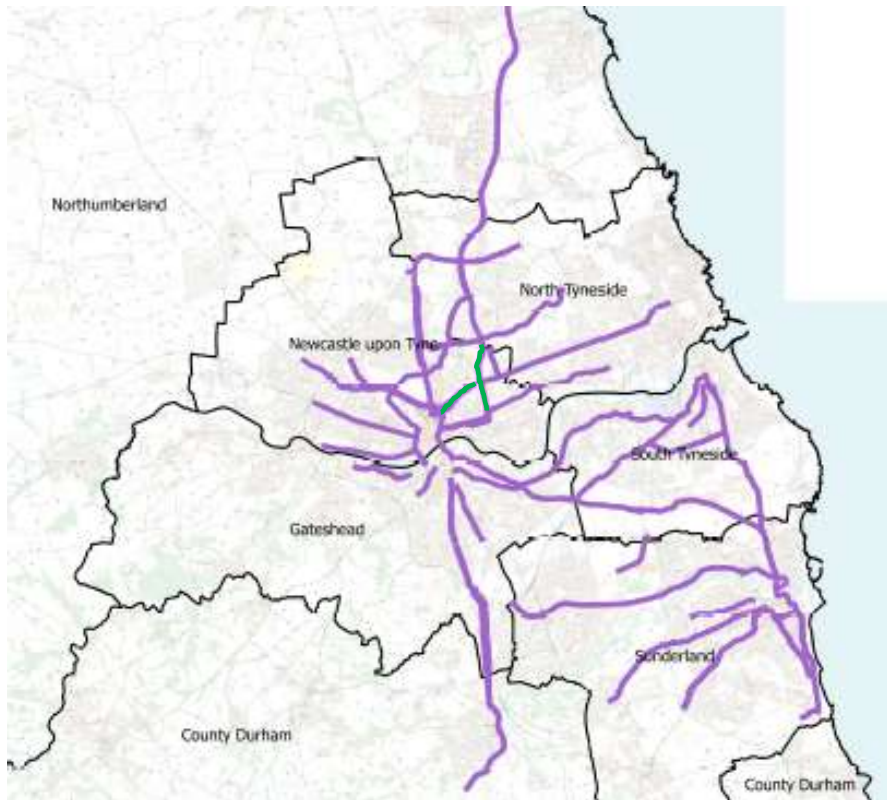


Future Deployments

- 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)



Any Questions?

Thank you for your time



Follow us @NECATraffic

For further information please see:

www.transportnortheast.com

www.netrafficcams.co.uk (CCTV) and

www.netraveldata.co.uk (Open Data)

www.compass4d.eu

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