Urban Development Network
Sustainable Urban Development in Italy
Rome, 12-13 June 2018

Sunil Budhdeo
Transport Innovation Manager
Coventry City Council
ITS Lead
Transport for West Midlands
Background

- £16.6M package of public realm improvement schemes to Coventry City Centre in preparation for Olympics 2012
- Introduction of City Centre wide combined Restricted Parking Zone and 20mph Zone
- Holistic approach to improving the public realm to regenerate the City Centre
- Use of high quality and innovative schemes to design out speed rather than using traditional traffic calming techniques
- Supported by European Regional Development Fund
Age Friendly City

- Narrower road widths with slower vehicle speeds
- More controlled pedestrian crossing points with very short crossing distances
- Increased disabled on street parking provision
- Wider unobstructed footways
- Additional seating areas
- Removal of subways and steep footway gradients
- Introduction of raised kerbs at shared space schemes to form segregated footways
Decluttering

- Remove unnecessary signs, traffic signals, lines and street furniture
- Reduce delays – traffic lights can cause more delays and require on-going maintenance
- Reduce vehicle dominance
- Detailed focus on Corporation Street to Lidice Place and Spon Street
Results
Objectives

- Improve urban environment

- Increase the effectiveness of traffic management in Coventry, leading to reduced congestion, pollution and associated economic / social benefits

- Encourage behavioral change

- Improve experience for citizens and tourists (e.g. Wayfinding Totems)

- Provide an enhanced test bed environment for future development of vehicle technologies and transport systems
<table>
<thead>
<tr>
<th>Models for Optimising Dynamic Urban Mobility</th>
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<tbody>
<tr>
<td>Output: Data Repository</td>
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<tr>
<td>City Centre Accessibility Pilot – comprehensive assistance to people with disabilities.</td>
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<tr>
<td>Output: App</td>
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**Roadmap**

**Models for Optimising Dynamic Urban Mobility**

- **HoPE**
  - Holistic Personal Eco-Mobility
  - Journey planning App
  - Integration with Event Planner App.
  - Link to TfWM Swift card
  - Multi-Modal integrated ticketing

- **IVMS**
  - Intelligent Variable Messaging System
  - App that builds on HoPE / Modum
  - Gamification
  - Incentivisation
  - Load sharing / peak spreading of traffic
  - Overhaul of 3 urban corridors
  - Testbed

- **UKAutodrive**
  - Testing CAV in Coventry / Milton Keynes
  - Public reaction including pedestrian LSAT ‘pods’ in MK
  - Upgrades to Coventry signal infrastructure
  - Testbed

- **CITE**
  - Connected Intelligent Transport Environment
  - Testing CAV in Coventry and Smart Motorways using 4 technologies (WiFi LTE LTE-V DSRC)
  - In car entertainment
  - Testbed
  - Upgrades to Coventry signal infrastructure

**Overall Benefits**
- Roadside equipment
- Back office traffic management
- Inward investment
- Reduce congestion

1. RTA system for available parking bays inc EV / disabled bays.
2. Parking Platform to address Traffic Regulation Order process and digitisation

Output: App / sensors / dashboard

Link to UKAutodrive: Self Parking Car
Overview

Piloted and tested in three European cities (Coventry, Athens, Basque Country)
## Overview

<table>
<thead>
<tr>
<th>Trial 1</th>
<th>‘Real-Time Bay Sensor System’</th>
<th>‘Parking Platform’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>RTA Parking Pay &amp; Display</td>
<td>RTA Parking Sensors + EV / Disabled Bays</td>
</tr>
<tr>
<td><strong>Funder</strong></td>
<td>Appy Parking</td>
<td>DfT</td>
</tr>
<tr>
<td><strong>Objective</strong></td>
<td>Equip 72 bays</td>
<td>‘Connected Intelligent Transport Systems’</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>N/A</td>
<td>£158k</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>2016–17</td>
<td>2017–18</td>
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Outcomes

• DfT Funded Project
• Information for On-street Parking Availability
• Innovative parking App using sensors
• Guiding the user to available parking spaces
• Successful trials in Coventry City Centre
• Extended Trials For CAV projects
Overview
Outcomes

- **Duration** April 16 – March 18
- Binley Rd, Walsgrave / Ansty Rd and A444
- Links roadside signalling equipment and live UTC data
- Improved reliability of journey
- Reduction in Congestion / Pollution
- Change Driver behaviour by gamification
- Provide Real time information (VMS/Applications)
- Develop use of Common Database interchange
- **Funding** £2.5m
Overview Outcomes

- ‘UK Connected Intelligent Transport Environment’
- **Funding** Innovate UK
- **Duration** 1\textsuperscript{st} June 2016 – 30\textsuperscript{th} November 2018
- **Value** £7.1m
- Reduce congestion, improve air quality and improve customer journey to Coventry
- To create the most advanced testing environment for future development
- UK CITE will also develop an in-vehicle App to replicate variable road messages signs
- V2V technologies tested: Wi-Fi, DSRC, LTE, LTE-V
Cross boundary test track covering Coventry (Coventry City Council controlled) and Warwickshire (Highways England controlled)

The route allows testing on five different road types:
1. Smart Motorway (M42)
2. Motorway (M40)
3. Expressway (A46)
4. A-road (A45)
5. Urban

The 3 V2I technologies are installed in overlapping sections of the route. Backhaul is provided by the Coventry City Council Mesh Network and Highways England’s NRTS fibre network. *Feasibility of LTE-V will be tested for potential future installation on the route.*
• Innovate UK
• Introducing Driverless Cars to UK Roads
• 1st November 2015 – 31st October 2018
• £19.4m

• Project aims are to test CAV in a live environment, various conditions
• Initial off road track testing
• Transmitting relevant information to vehicles from various sources
• Using information transmitted from infrastructure - the vehicle will then determine how to proceed
• First road trials have taken place on live highway of Coventry
• Links to Traffic Control to improve flows and reduce congestion / pollution
- Demonstrations increased in complexity over 3 year period from closed track (Horiba MIRA, Nuneaton) to live mixed traffic conditions
- Large media presence and coverage
- Coventry and Milton Keynes trials

<table>
<thead>
<tr>
<th>Autumn 2016</th>
<th>Spring 2017</th>
<th>Autumn 2017</th>
<th>Summer 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected Car Demonstration x2 Features</td>
<td>Connected Car Demonstration x4 Features</td>
<td>Connected Car Demonstration x4 Features</td>
<td>Connected Car Demonstration x6 Features</td>
</tr>
<tr>
<td>Orphan Car Cruise Assist</td>
<td>Orphan Car Cruise Assist - Demonstration Valet Parking</td>
<td>Orphan Car Demonstration All Features</td>
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</tr>
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CAV Testbed

- Absorbing infrastructure upgraded on iVMS, UK Cite, UK Autodrive, further upgrades
- Cluster of testbeds running from Midlands heartland, down to innovation centres in Oxford / Milton Keynes, to London, and established corridors e.g. A2/M2 Connected Corridor
LIVING LAB & FUTURE PARTNERSHIPS

Coventry & the West Midlands is now a **LIVING LAB**, open for business and innovative R&D

- An established heritage and pioneer in the automotive industry, extensive portfolio of intelligent mobility schemes
- Network of industry contacts and partners, incubator for SME’s and start ups, world leading companies on our doorstep including JLR & Horiba MIRA
- Cluster of top UK universities attracting international talent in advanced manufacturing, engineering, science and tech

- Collaborative and forward thinking culture, open for enquiries and further information
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Further Reading Topics on UK Government Strategy
• CCAV – Centre for Connected and Autonomous Vehicles
• Industrial Strategy: building a Britain fit for the future
• OLEV – Office for Low Emission Vehicles
Thank you
Any questions?

Sunil.Budhdeo@Coventry.gov.uk
Ranbir.Jabanda@Coventry.gov.uk