The future of transport and mobility in Reading

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Context & Overview

Reading 2050

Themes
• Place and Environment
• People and Lifestyle
• Economy and Employment

City of:
• Rivers and Parks
• Green Tech
• Culture and Diversity
Access & Movement

Reading 2050

• Smart and Sustainable
• Deliver Economic Plan
• Informs location and land use concepts
• Inclusive
• Accessible for All
• Resilient
• Flexible
Strategy Considerations

- Manage and facilitate people movement
- Environmental Impacts
  - Eg Noise, Air Quality, Habitat, Ecology, Flooding, Carbon, Equality, Health
- Safety
- Land
- Cost
- Planning
- Legal
- Political
Recent History

- Reading is where it is because of the connectivity
- Its recent growth has been driven almost entirely by connectivity and access to jobs and skilled workforce
- Access to London and Heathrow
- Agglomeration effects of technology and service industries
- Surrounding environment also a key attraction
Reading

Area Population of 480,000

17% economic growth 2009-2013

£16 Billion GVA (most productive UK city)
Challenges

- Success → Growth
- Need for more housing, education, employment, leisure, retail, healthcare, social care etc
- Historic Transport Infrastructure designed to improve accessibility across the country
- Led to hub growth and increased demand for movement
- Increased mobility and access to cars in particular
- Car dominant and car led development plans
- Growth regularly outstrips infrastructure capacity
- Congestion
- Pollution
"We calculate the total cumulative cost of congestion in the UK to be £307 billion from 2013 to 2030. Of this, total direct costs are £191 billion, and indirect costs equal £115 billion. By 2030, we estimate the total cost of congestion per household will be £2,057. From 2013 to 2030, the annual cost of road congestion will have risen 63%.

Source: Cebr (Centre for Economics and Business Research), Feb 2017
Car dependent Growth Failure
Car Dependence

Source: On the Move 2, Dec 2016, Peter Headicar & Gordon Stokes on behalf of ITC
Reading’s Transport Agenda c2000

Excellent strategic transport links

Cap on central parking

Investment in bus priority, bus fleet, park and ride, walking and cycling measures

Major rail capacity upgrade

Focus on passenger transport reliability, quality, information and connectivity
Growth Challenge back in 2000

1. Shinfield Residential 1,967 Residential Dwellings
2. Shinfield Science Park 55,000sqm office use
3. Green Park 1 & 2 5,900 Jobs
4. 42 Kenavon Drive 535 Residential Dwellings (Fully Occupied)
5. Winnersh Residential 433 Residential Dwellings (Fully Occupied)
6. Worton Grange 8,000sqm office use (Fully Occupied)
7. Dee Park Regeneration 387 Residential Dwellings (Fully Occupied)
8. Green Park Phase 3 16,000sqm office use, 737 Residential Dwellings (Fully Occupied)
9. Reading Gateway (west) 96,766sqm mixed use, 700 Residential Dwellings (Fully Occupied)

10. 42 Kenavon Drive 66,000sqm mixed use, 682 Residential Dwellings
11. Station Hill 33,006sqm mixed use, 3,446 Residential Dwellings (Fully Occupied)
12. Royal Mail Site 17,000sqm office use, 1,300 Residential Dwellings (100% Occupied)
13. Central Reading
14. Reading Gateway (west)
15. Green Park Phase 3
16. Station Hill
17. Central Reading
18. Reading Gateway (west)

NOW
1. Shinfield Residential 833 Residential Dwellings
2. Green Park 1 & 2 2,500 Jobs
3. Plot 17 22,297sqm office use
4. Reading International Business Park 23,000sqm office use
5. Battle Hospital 1,549sqm mixed used, 435 Residential Dwellings
6. Chatham Street Development 36,862sqm mixed use, 1,433 Residential Dwellings, 700 Bed Hotel
7. Reading Gateway (East) 17,694sqm mixed use, 1,418 Residential Dwellings, 210 Bed Hotel
8. Reading Gateway (East) 535 Residential Dwellings (50% Occupied)
9. Worton Grange 433 Residential Dwellings (50% Occupied)
10. 42 Kenavon Drive 8,000sqm office use (50% Occupied)
11. Winnersh Residential 387 Residential Dwellings (60% Occupied)
12. Dee Park Regeneration 16,000sqm office use, 737 Residential Dwellings (50% Occupied)
13. Green Park Phase 3 96,766sqm mixed use, 700 Residential Dwellings (20% Occupied)
14. Station Hill 33,006sqm mixed use, 3,446 Residential Dwellings (20% Occupied)
15. Central Reading 1300 Residential Dwellings (25% Occupied)
16. Reading Gateway (west)
Access Challenges
Framework for Growth
Function ?
Place, Environment, People
Station Area Regeneration
New Station Square South
Step free access through to North and River Thames
Station Area Development – 1st Building
Station Area - Next Phase
Christchurch Bridge, Reading
Cycle Hire
Reading Green Park Station opening 2020
Outcomes
Travel monitoring and Prediction
Mass Rapid Transit (MRT) Network
Mass Rapid Transit (MRT) Network
Environmental Enhancements
‘Managed Car Access’ Development
2050 Consultation

[Image of infographic with text:
- Award winning Reading Buses: carry 55,000 passengers a day
- 30 mins from Heathrow Airport
- Direct access to three M4 motorway junctions
- 26 million+ passengers pass through Reading station per annum
- An iconic new station lies at the heart of the city, opened in 2015 by Queen Elizabeth II
- Has the most westerly station on the TfL transport map when the Elizabeth Line (Crossrail) opens in 2019
- 200+ trains a day provide a direct link to London in 25 mins
- Direct rail access to 182 UK locations
- Reading's city-wide bike hire scheme serves 30 locations]

Impressive Connectivity

[Logo: pba peterbrett]
Reading Area Smart City Cluster

- A smart city platform across Reading, Bracknell, Wokingham and West Berkshire
- Communications and Data platform
- Enables the Internet of Things to be applied in Reading
  - Eg low cost smart sensors such as parking bay use
- Funds for transport, energy, environment, assisted living
Parking Management
Reading Area Smart City Cluster

FIGURE 1
EXAMPLES OF APPLICATIONS ENABLED BY A LOW POWERED WIDE AREA NETWORK (Lpwan)
(These are not specific proposals to be procured under this project)
Space & Place

**space required to transport 60 people**

**car**

**uber**

**autonomous car**
We still need to change how we travel

Amount of space required to transport the same number of passengers by car, bus or bicycle.

Car?  Bus?  Bicycle?
Electric Vehicles

AutoExpress
Electric vehicle charging points?
Electric vehicle charging points?
Combining Technologies

- Electric Vehicles
- Connected Vehicles
- Autonomous Vehicles
2020 to 2040 – Autonomous Vehicles

**Autonomous Taxis** in our urban areas – **yes** and established having been introduced in the early 2020’s

**Autonomous shuttle bus services and Autonomous bus rapid transit** – **yes** – cost savings enable more convenient, efficient and cost effective services within major developments and urban centres

**Fully Automated ‘go anywhere’ vehicles** – **possible** - with varying degrees of market penetration
Maybe not cars or buses as we know them

Source: The Guardian Online
Mobility as a Service

- Lease car + road user charges
- Unlimited use of public transport for the whole family in their home town or city
- Commuter transport service up to a total of 2,500 km
- 6,500 minutes talk time, ultra high-speed Internet connection
- Taxi sharing for the whole family, taxi arrives in 15 minutes

PACKAGE PRICE
1200 €/month
2020 to 2040 – Mobility Services

MaaS in our large urban areas – Yes
MaaS nationally – possible but certainly easily accessible ‘sharing economy’ services across towns, cities and rural areas
Impact on car ownership and car use – Yes

Outcomes
Reduced Congestion / Pollution / Improved Safety
Inclusion

Combined with AV / clean vehicles
Lower cost / improved viability (Driverless)
Further Improved Road Safety
Further reduced pollution
Greater Inclusion
Impact on Urban Design

<table>
<thead>
<tr>
<th>2017</th>
<th>2049</th>
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<tbody>
<tr>
<td>Traffic signals required at junctions</td>
<td>Traffic signals no longer required in certain areas</td>
</tr>
<tr>
<td>Large road footprint required for amount of vehicles on road</td>
<td>Vehicles can travel closer together, communicate with each other reducing safety distance between them. Smaller road footprint. More room to integrate cycle lanes and infrastructure within road footprint</td>
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<tr>
<td>Car parks required</td>
<td>Car parks no longer required – developable land available for investment which could be used to fund road infrastructure</td>
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<tr>
<td>Pedestrian crossing at set places</td>
<td>Narrower road width allows pedestrians to cross at more locations.</td>
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Summary and Challenges

Reading 2050

• Adoption of the right Technology and Innovation in movement are key
• A move towards a sharing economy is fundamental to the success
• Widespread behaviour change and attitude toward car ownership and use will need to change amongst population
• Political pressure around air quality and improving our environments is gathering pace
• Acceptance and desire throughout Vision consultation that car dominant places should be replaced with better environments
• This has to be driven by realisation of benefits for everybody
Summary Position

Reading 2050

- MRT will become an early adopter for autonomous passenger transport
- Total autonomous and V2V communications network by 2050
- Communication platforms will have been developed to offer extensive up to date, reliable travel choice information
- Mobility Service Packages will be the norm
- Transport visions from 2020 will have been adopted and adapted to meet the 2050 requirements
- Most of you will wonder why we ever bothered to drive cars
Thank you. Arial size 28.