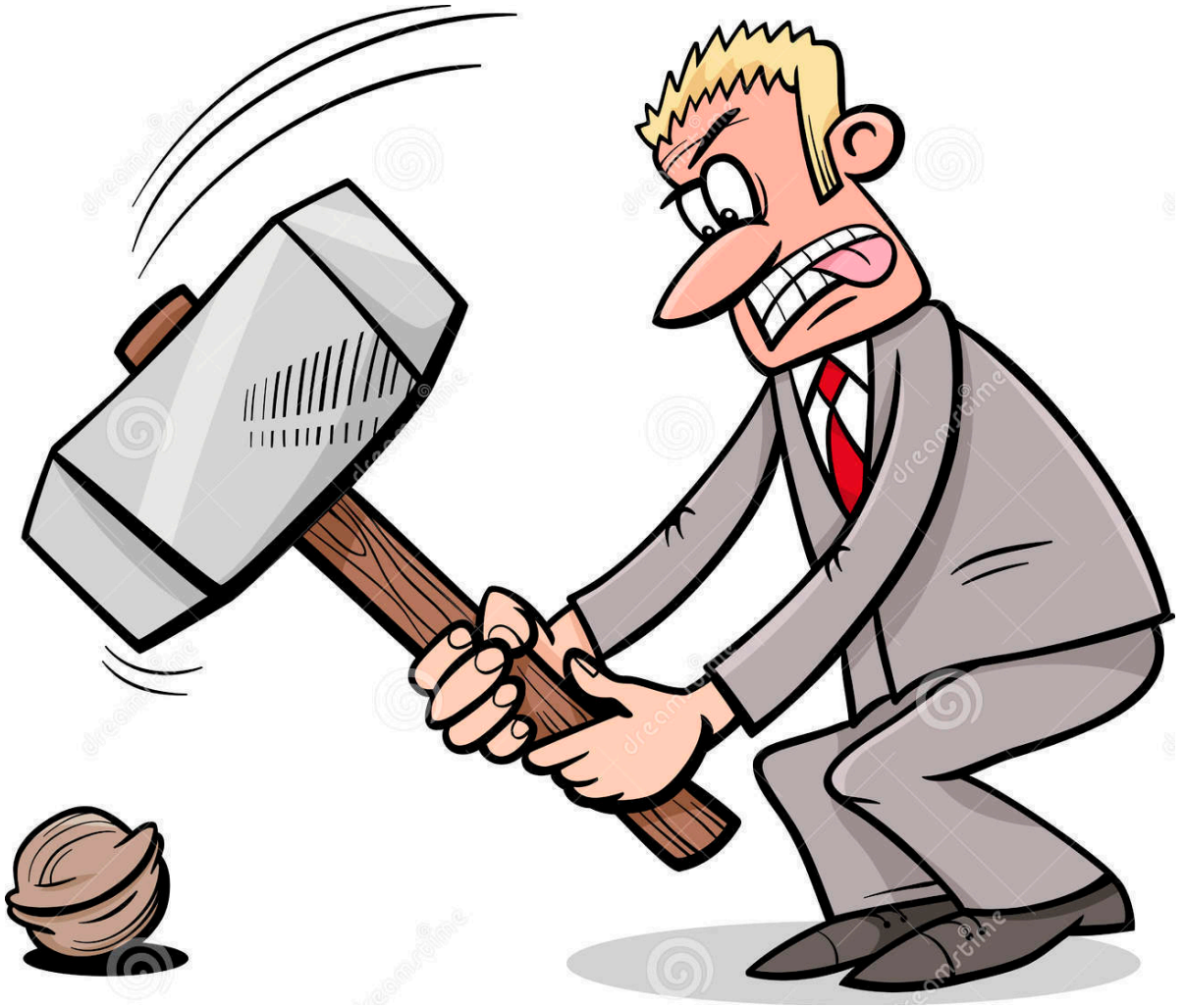
Option 6
The better Cambourne-Cambridge bus route

Local Liaison Forum

2 February 2017

Not smart: using sledgehammer to crack nut



The nut…

We need better bus journeys between Cambourne and Cambridge

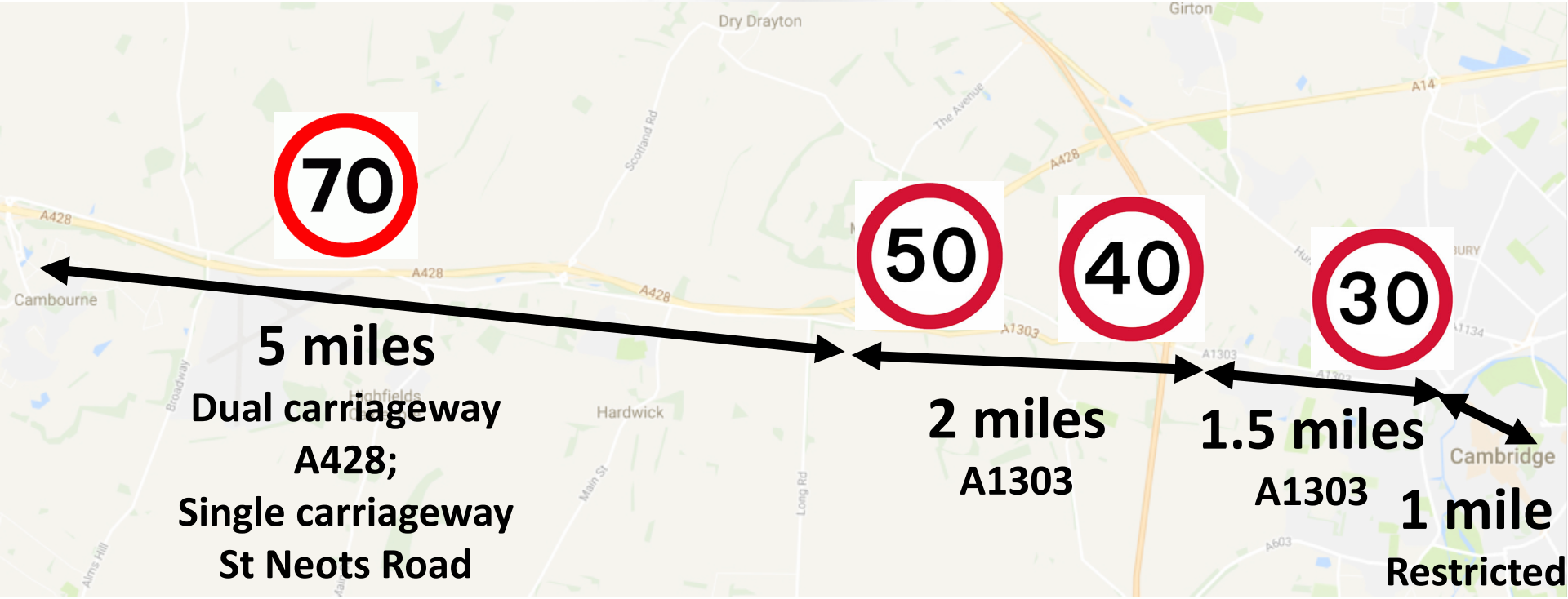
Within Cambourne:

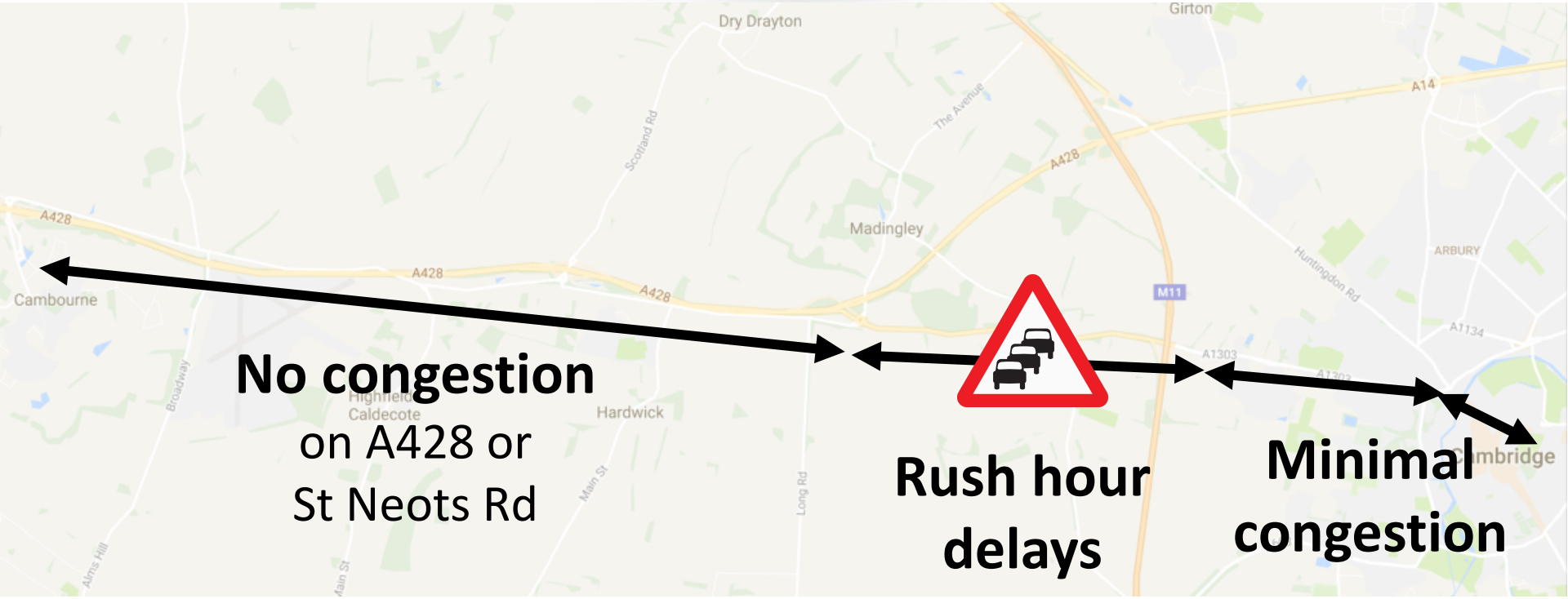
- 22 stops
- 31 minutes

Cambourne to Cambridge:

- 18 stops
- 32 minutes (peak)
- 22 minutes (off-peak)


Dry Drayton
Girton
A14
A428
Scotland Rd
The Avenue
Madingley
Huntingdon Rd
ARBURY
A1134
M11
Cambourne
Broadway
Highfields
Caldecote
Hardwick
A1303
Main St
Cambridge
A603
9.5 miles


70
50
40
30
5 miles
Dual carriageway
A428;
Single carriageway
St Neots Road
2 miles
A1303
1.5 miles
A1303
1 mile
Restricted
zone
Dry Drayton
Girton
Cambourne
Hardwick
Cambridge
A428
A14
A1303


Dry Drayton
Girton
A14
A428
Madingley
Cambourne
Caldecote
Hardwick
M11
A1303
ARBURY
A1134
Broadway
Main St
Long Rd
Huntingdon Rd
The Avenue
Scotland Rd
No congestion
on A428 or
St Neots Rd
Rush hour
delays
morning
in-bound only
Minimal
congestion


Peak hours congestion
Inbound A428
Wednesday 31 Jan 7.30am
there is a large amount of additional capacity on this duelled section to accommodate additional demand at this point in time.
Atkins, Economic Report 2016


Peak hours congestion
Inbound St Neots Rd
Wednesday 31 Jan 7.30am

Bridge Street to St Andrews Street mostly excludes cars

Figure 1: Predicted 2021 AM Peak Delays

Figure 2: Predicted 2021 PM Peak Delays

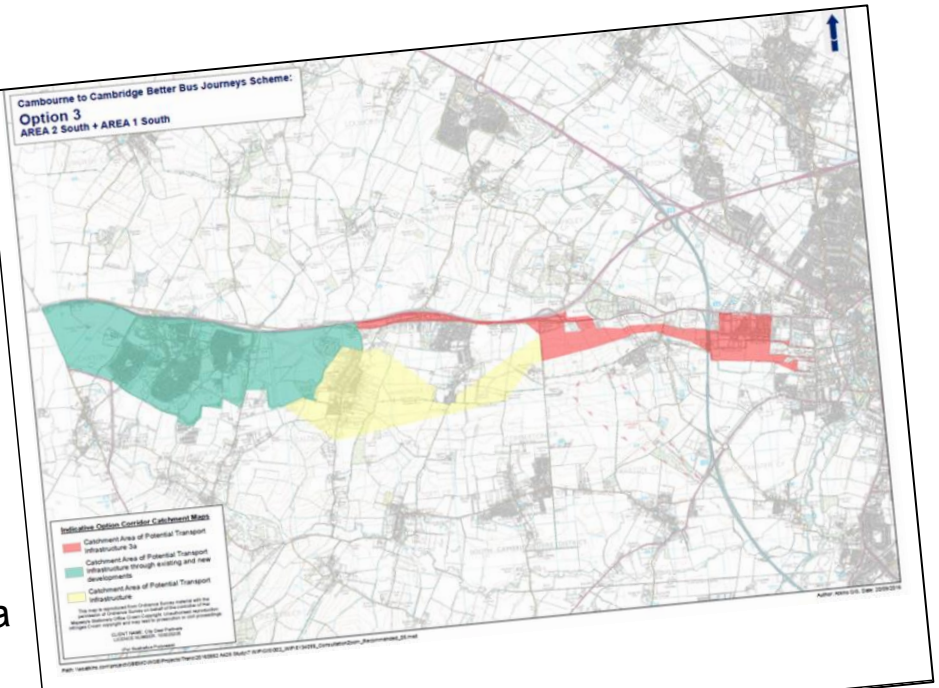
- 17 minutes (off-peak)
- 21-25 minutes (peak) – but unpredictable

The nut – summarised

- 9.5 mile route, 80% uncongested
  - 5 miles of dual carriageway A428: no significant congestion now or forecast up to 2031
  - Parallel single carriageway St Neots Rd also uncongested
  - 2.5 miles from West Cambridge site to city centre: minimal or no congestion (about half on restricted streets)
- Peak hours congestion on Madingley Rise in-bound in the morning (ave 4 mins)
  - Negligible out-bound in the evening (20 seconds)
- Citi 4 service is not very good:
  - Half an hour picking up in Cambourne
  - Keeps stopping en route to Cambridge
  - Rather slow and unpredictable in-bound in the morning rush hour

The sledgehammer…

- A new offline segregated dedicated bus route connection between Cambourne and Bourn Airfield
- The segregated route then runs south of Hardwick to Madingley Mulch roundabout.
- From here direct access to a new segregated dedicated bus route running north of Coton and parallel to Madingley Road and Madingley Rise to new bridge over the M11
- Route continues to Grange Road, with a connection to the West Cambridge University site (the alignment could be south of, or within, West Cambridge)



summarised

- “Fully” segregated – well, as far as West Cambridge site/Grange Road
- Segregated
- Segregated
- Segregated
- Segregated
- Segregated
- Good strategic fit, because it’s segregated

Strategic modelling of the Cambourne to Cambridge Better Bus Journeys Scheme indicates that it has **only a modest impact on demand for public transport along the A428 corridor,** and the options are not forecast to realise significant monetised benefits.

Despite the journey time improvements that result from the options, commuting and business trips taken by car along the A428 corridor are much faster than those taken by public transport and as such there is minimal modelled mode shift to public transport, despite an allowance having been made in the modelling for improved attractiveness of HQPT provision. Demand management

Atkins, Economic Report 2016

re-summarised

- Segregated as far as West Cambridge site, whether needed or not
  - Not segregated between Grange Road and the city centre, where significant risk of congestion exists
- “Present value cost” of £207m
  - £10-20,000 per resident
- Environmentally damaging
- Overwhelming public opposition
- Long and difficult to implement (public enquiry, land take, construction risks)
- Oh, and it won’t actually work (i.e. drive modal shift)

A smart solution…

- A different, solution-oriented approach for the LLF
- People buy on **benefits** not technical attributes
- Segregation:
  - not a worthwhile end in itself
  - useful to by-pass significant congestion – not worth it where fast, uncongested roads already exist
  - on-line can be as effective overall as off-line (possible advantages on flexibility, connectivity, convenience, etc)

TARGET BENEFITS

- Fast, Frequent, Reliable
  - None of these likely to be materially better than car
- Ease, productivity (not so useful on short journey)
- **Cost-effective** (saving on petrol, parking)
- **Environmental benefits**

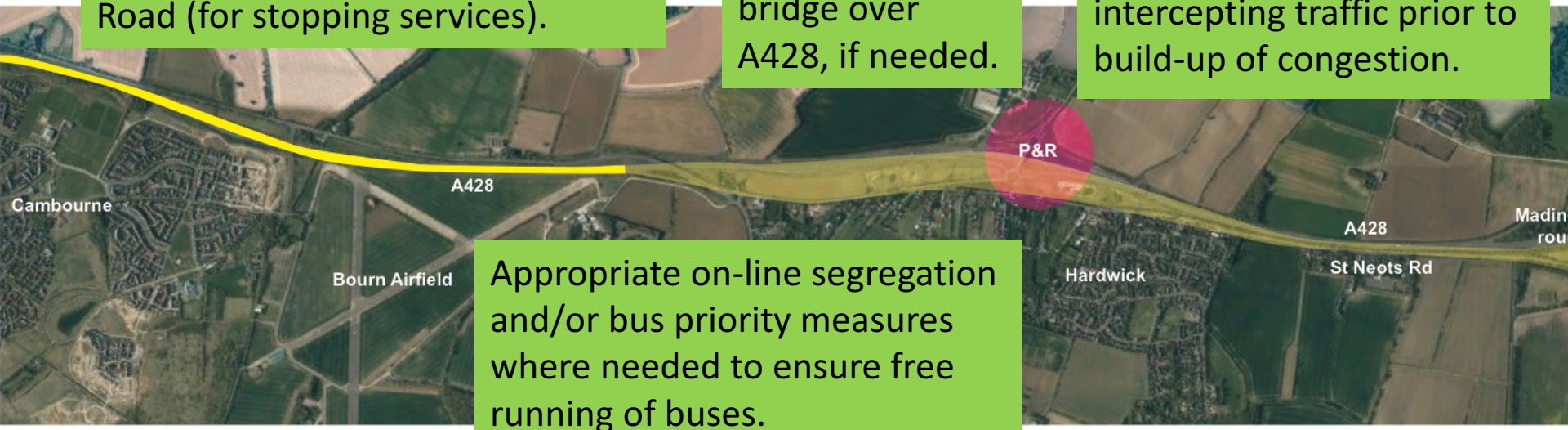
- A smart solution tailored to the actual need
- Segregation where it’s actually needed and where it will deliver benefit
- Fit for purpose: adequately fast, frequent and reliable journeys
- Proportionate investment
- Environmentally sensitive
- Community support

Cambourne to Madingley Mulch

High-speed, on-line service from Cambourne to Madingley Mulch, using existing, uncongested A428 (for express services) and St Neots Road (for stopping services).

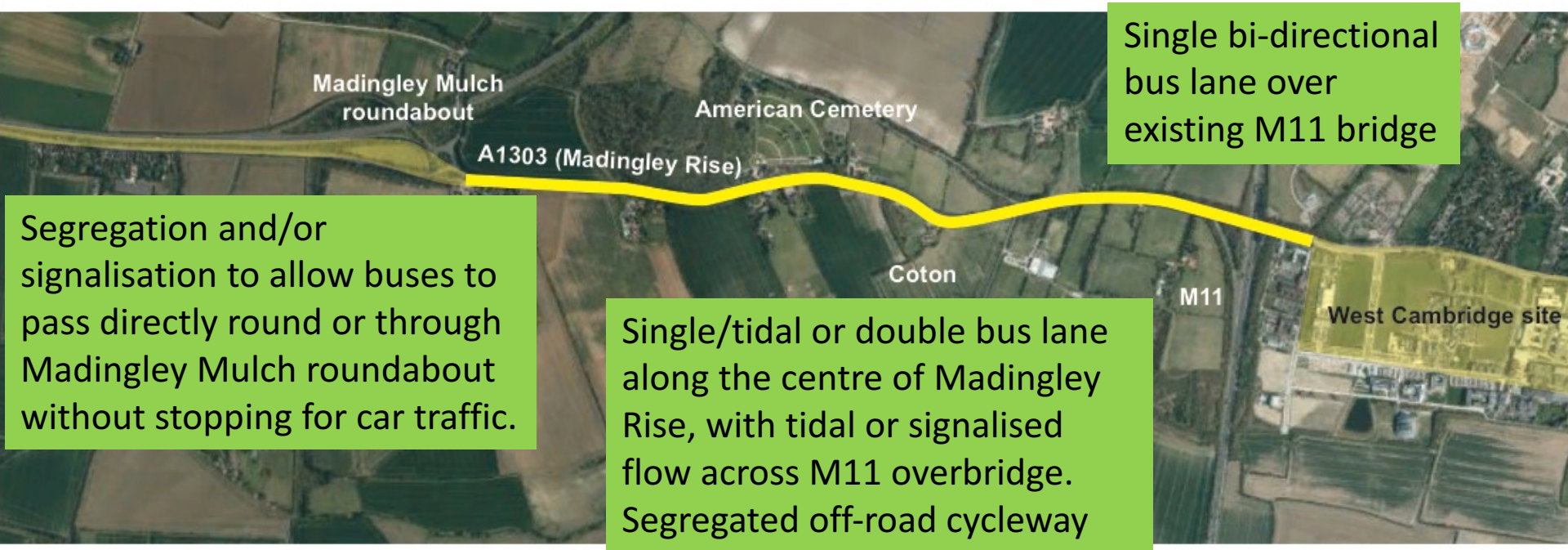
Easy access to P&R via existing bridge over A428, if needed.

Park & Cycle/Ride in vicinity of A428 junction at Scotland Farm, serving local communities along and beyond corridor and intercepting traffic prior to build-up of congestion.



Appropriate on-line segregation and/or bus priority measures where needed to ensure free running of buses.

Madingley Mulch to M11

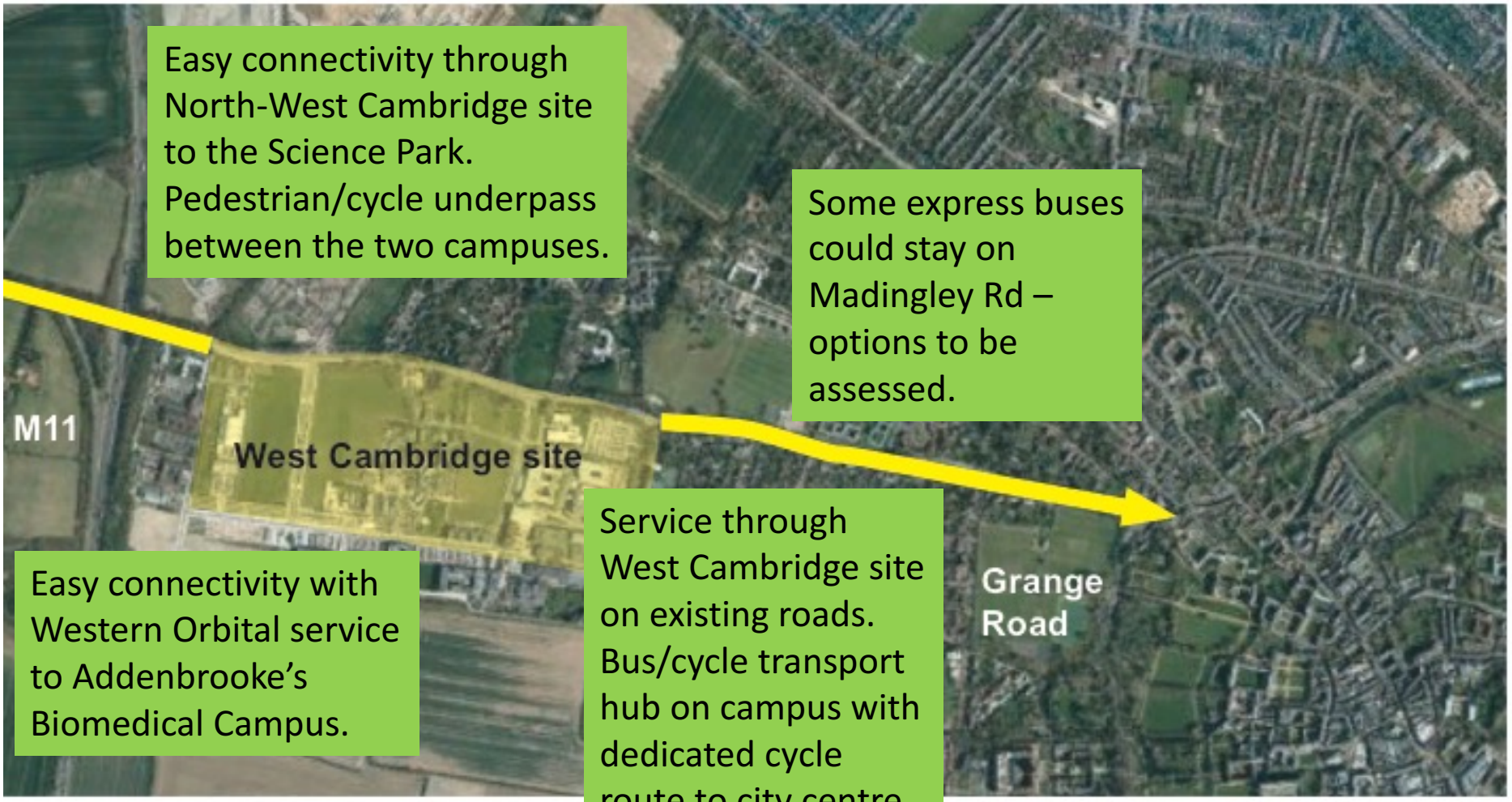


Single bi-directional bus lane over existing M11 bridge

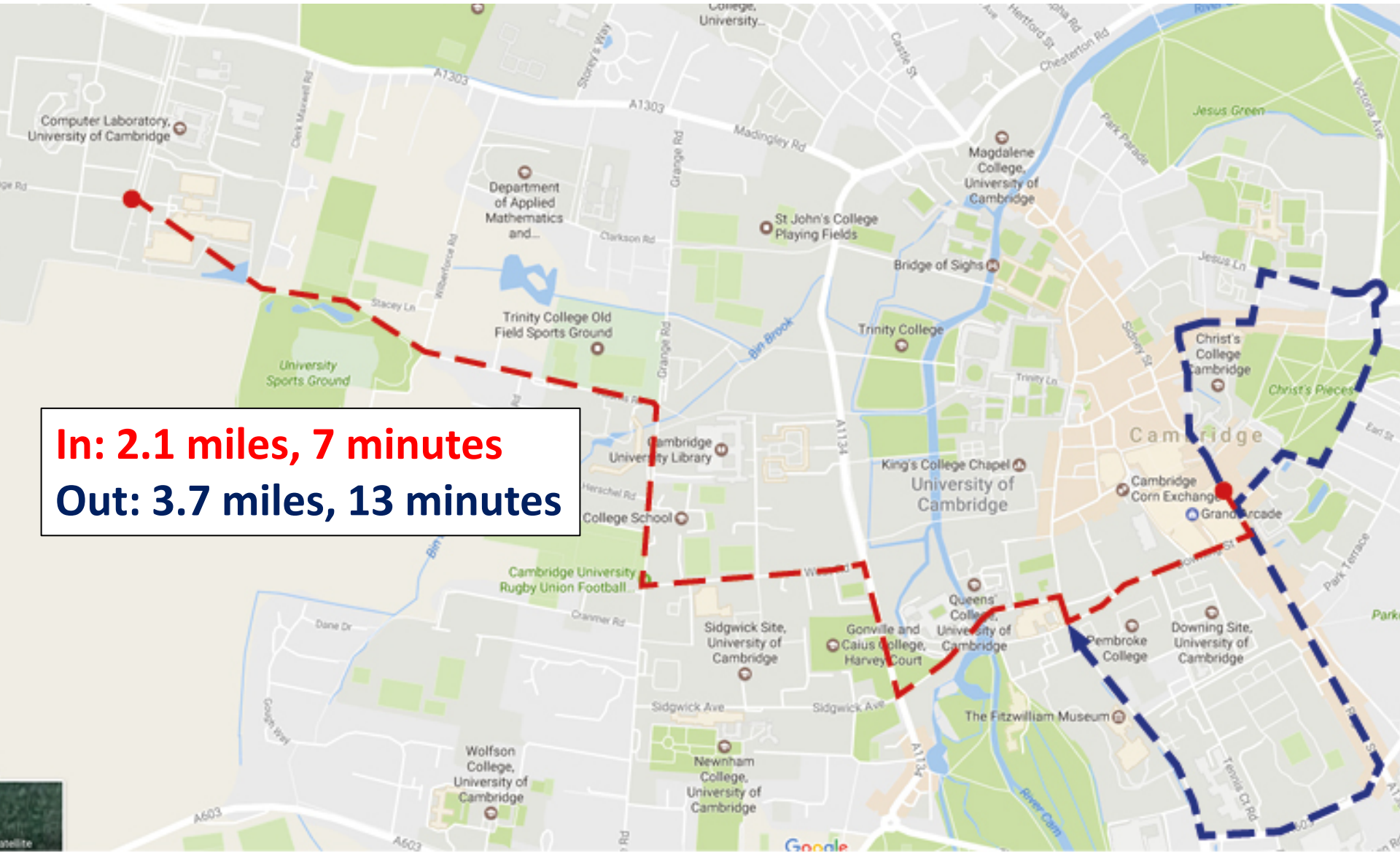
Segregation and/or signalisation to allow buses to pass directly round or through Madingley Mulch roundabout without stopping for car traffic.

Single/tidal or double bus lane along the centre of Madingley Rise, with tidal or signalised flow across M11 overbridge. Segregated off-road cycleway via Coton.

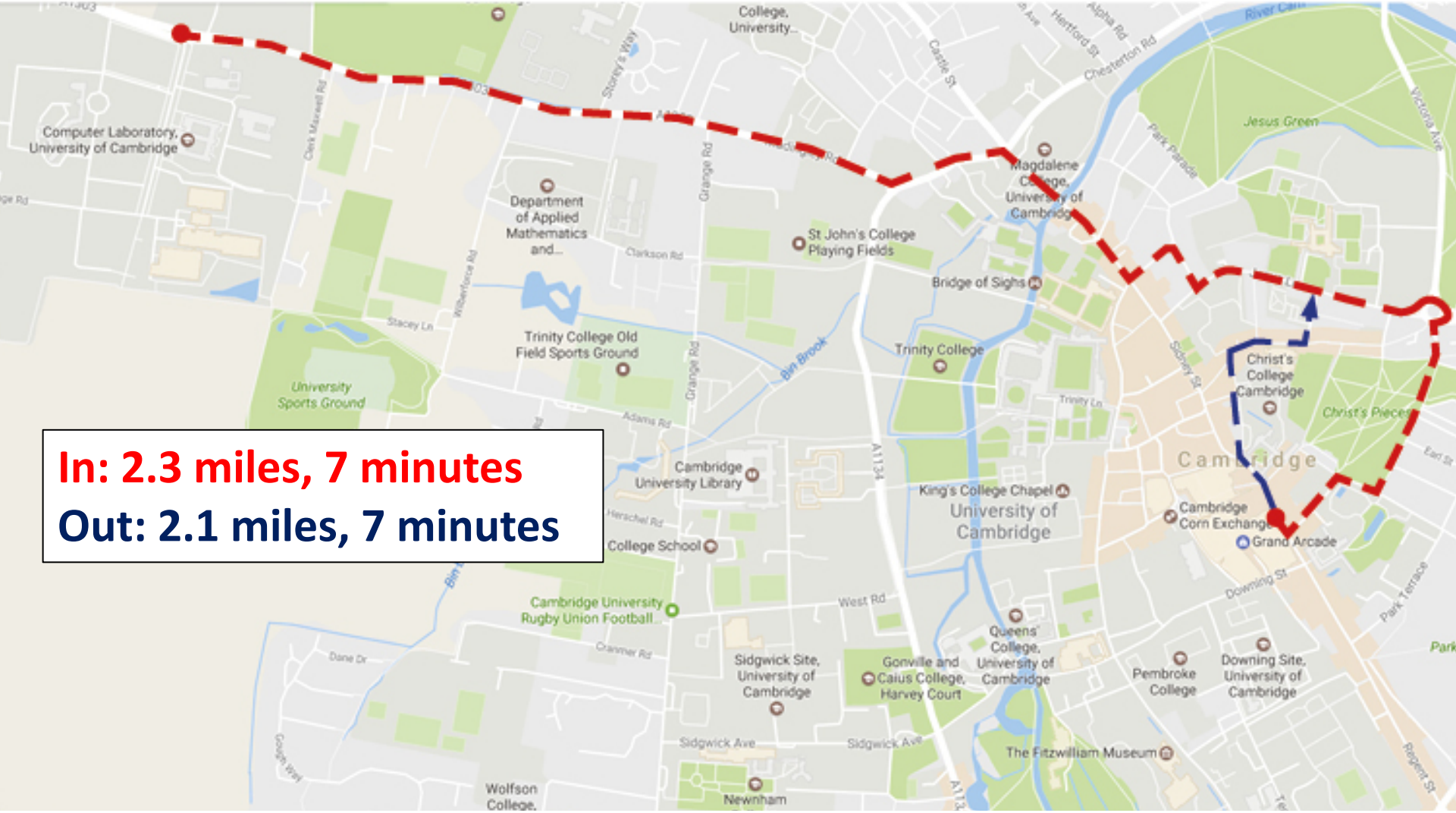
West Cambridge site to city centre



Grange Rd/Queens Rd to city centre



Northampton St/Bridge St to city centre



In: 2.3 miles, 7 minutes

Out: 2.1 miles, 7 minutes

- **Fit for purpose:** all the benefits of an off-line segregated scheme at a fraction of the cost
- **Attractive journey times:** 20 mins to city centre, < 30 mins to Addenbrooke's, Science Pk (at peak)
- **Financially responsible:** appropriate investment for A428 corridor (£32m)
- **Value for money:** benefit-cost ratio > 1
- **Minimal environmental impact**
- **Community support**

- **Strategic fit:** greatly outscores other options
- **Supports HQPT:** fast, frequent reliable journeys
- **Convenient & flexible:** route and P&R accessible to more communities west of Cambridge
- **Connectivity to Western Orbital scheme**
- **Future-proof:** either segregated or uses roads not at risk of future congestion
- **Satisfies the Local Plan**
- **Coherent with City Deal vision and local policy objectives**