



Department
for Transport



M25 South-West Quadrant Strategic Study

Stakeholder Reference Group
26 February 2018





Time	Item
09:45 – 10:25	Welcome, Introduction and Study Evidence
10:25 – 12:00 (11:00 – Tea / Coffee)	Options Presentation and Roundtable – Part 1 - Demand management - Improve M25 efficiency - Improve public transport
12:00 – 1:20 (12:20 – Lunch)	Options Presentation and Roundtable – Part 2 - Improve local road network - Improve strategic road network
1:20 – 2:00	Summary, Q&A



Philip Andrews

Deputy Director RIS Futures and RIS2
Department for Transport

Trevor Pugh

Strategic Director, Environment and Infrastructure
Surrey County Council



Kevin Harvey

Project Manager, Strategic Road Network Improvements
Strategy

Highways England



RIS 1 Schemes

Projects started in RIS1 and are in the process of development including M25 J10 – 16 Smart Motorway and M25 Junction 10 Wisley.

Strategic Studies

Strategic studies looking in detail at large scale and transformational projects including the M25 South West Quadrant which reported interim findings in March 2017.



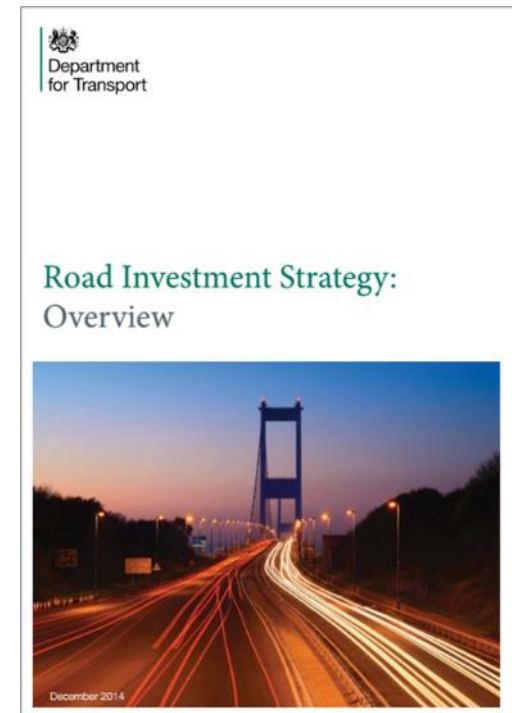
Route Strategies

Audit of pressures, needs and opportunities across the whole of the network. Main channel through which interested groups can put the case for or against particular improvements and actions.



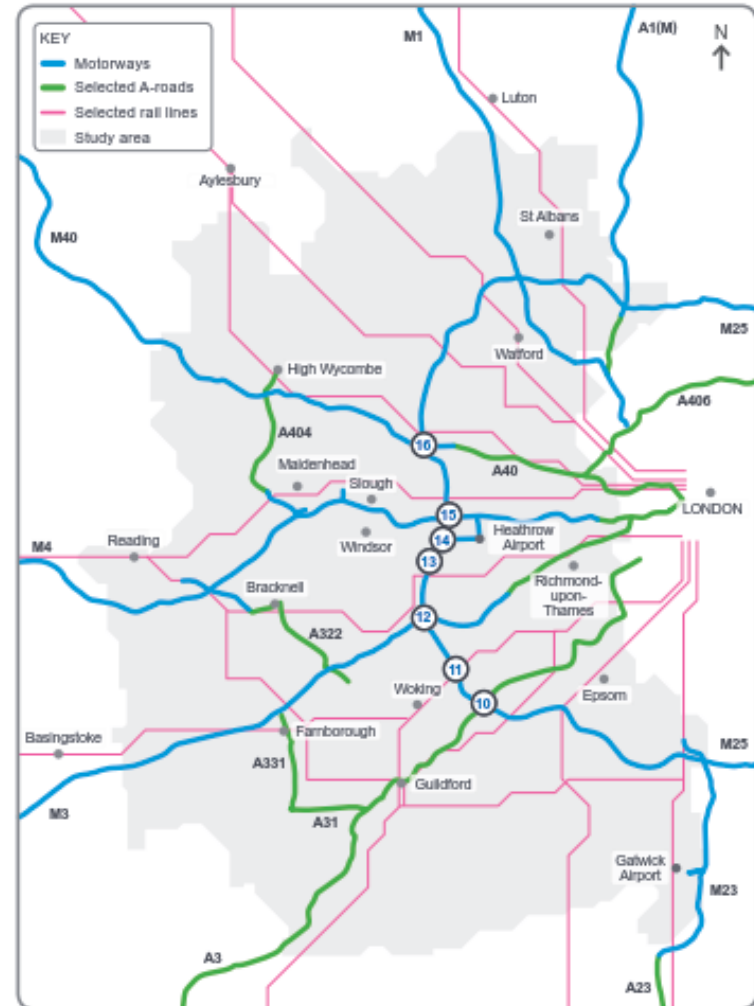
‘The M25 South-West Quadrant is the busiest part of the network. We are commissioning a study to plan for its future, supporting local people, strategic travellers and those using Heathrow.

It will need to look at all options, including different modes and extra capacity, to make sure the route is resilient for the generation to come’ (RIS Overview)





M25 South West Quadrant Strategic Study Stage 3 Report





Scheme objectives

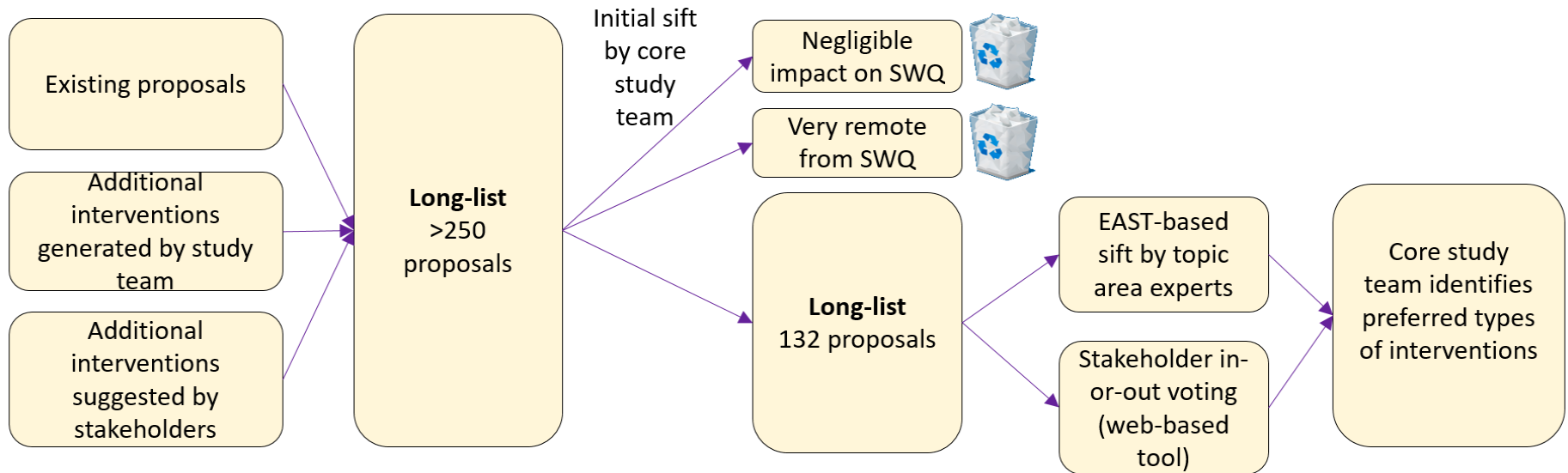


Boost economic growth and prosperity

Improve transport conditions



Improve environmental conditions





Conclusions of study to date:

- ▶ Directly adding capacity to the M25 SWQ not feasible
- ▶ Road pricing rejected due to lack of capacity away from the M25 to absorb diverted trips
- ▶ Conditions better where alternative capacity exists away from M25



Recommendation:

- ▶ Instead of widening the existing M25, attention should be given to reducing traffic demand and providing parallel capacity to relieve the pressure on the M25.



Tom Wilson

Project Manager, Reducing the need to travel, local roads and public transport

Department for Transport



Scope

- Two separate packages of work to understand, in detail, the viable options to reduce the need to travel and reduce the pressure on the M25SWQ.
- Package A - Strategic Road Network Improvement Options
 - Making best use of capacity on the M25SWQ
 - Improvements to the Strategic Road Network
- Package B - Reducing the need to travel, local road and public transport options



Guiding principles

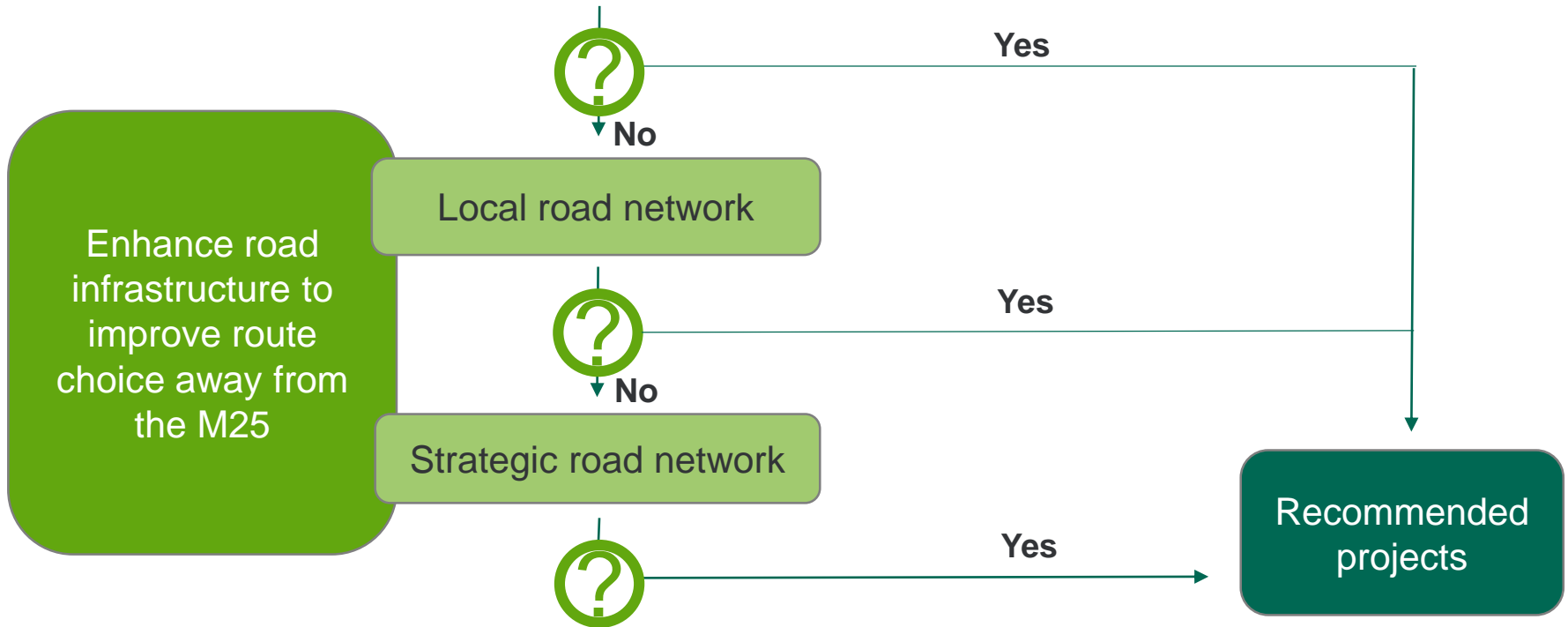
- Options that will have a lasting and meaningful impact on traffic conditions, which can **keep people and goods moving efficiently for a generation to come**
- The level of ambition should be consistent with Highways England's strategic vision to transform the SRN by 2040 – **mile a minute speeds**
- Must deliver a **step change** in the way in which people make their travel choices, and have due regard to innovation and technology developments



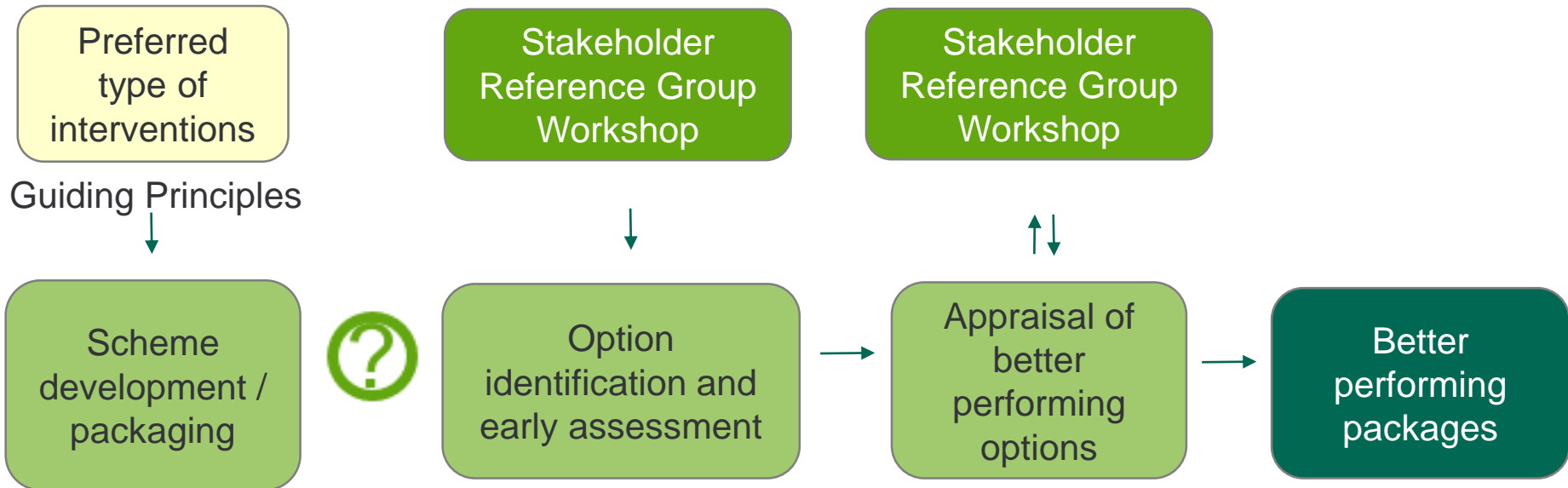
- Reducing the need to travel
- Making the most efficient use of the M25
- Enabling more journeys to be made by sustainable modes

Decision tree

Is this value for money and sufficient to meet the target?



Enhance road infrastructure to improve route choice away from the M25





Additional airport capacity in SE of England

In October 2015, Government announced its preference for the provision of additional airport capacity in the South East through a new Northwest runway at Heathrow Airport.

Following this, Government embarked on the development of an Airports National Policy Statement (NPS) on which it has conducted two public consultations and begun the necessary Parliamentary process for its designation. The most recent consultation closed in December 2017 and Government are currently considering all responses received.

The M25 SWQ is used for a range of journeys. Addressing issues on the M25 SWQ is important regardless of possible airport expansion at Heathrow Airport.

The study does not seek to address specific surface access transport impacts of potential airport expansion at Heathrow Airport expansion. However, sensitivity tests will be undertaken to ensure an understanding of the compatibility of options.



Revised Draft Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England

Presented to Parliament pursuant to Section 9(2) of the
Planning Act 2008

Moving Britain Ahead

October 2017



Richard Smith

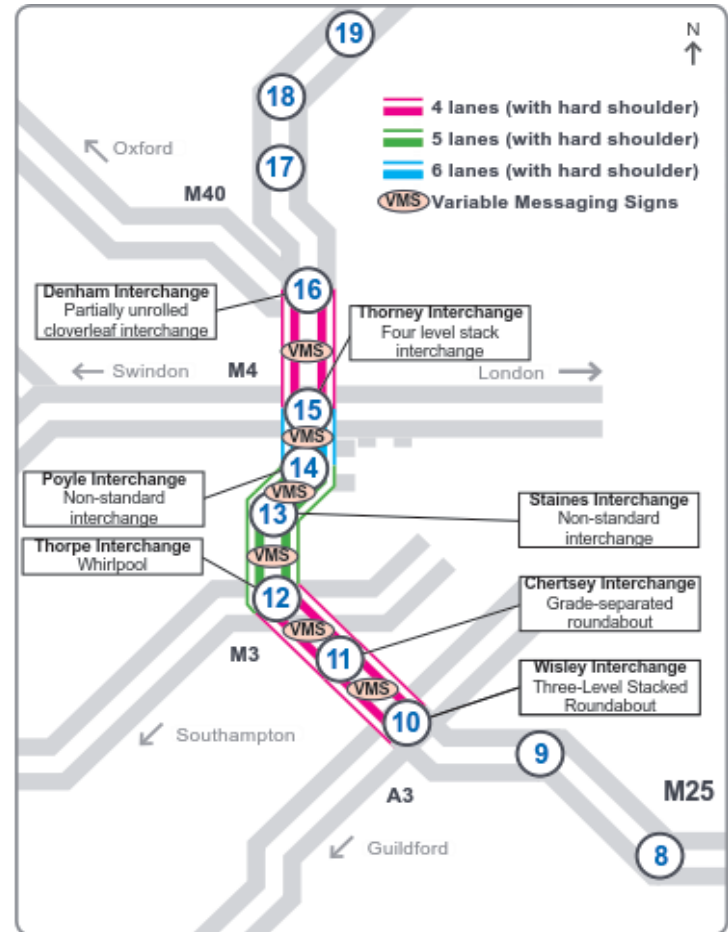
Strategic Road Network Improvements Strategy
WSP

Jane Robinson

Reducing the need to travel, local roads and public transport
Atkins



Problems, issues, opportunities

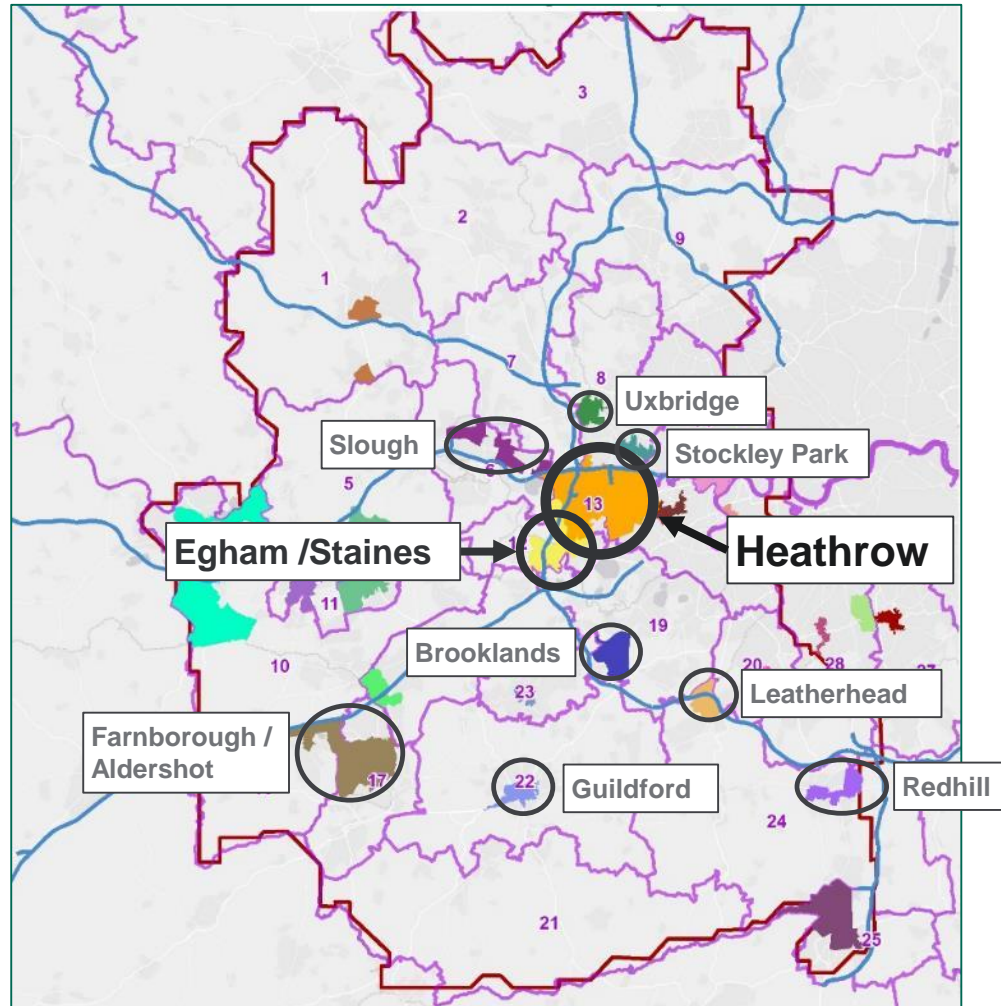




Economic context

Economic clusters (>10,000 employees; >1,000 in knowledge intensive or transport dependent sectors)

○ Use of M25SWQ by commuters

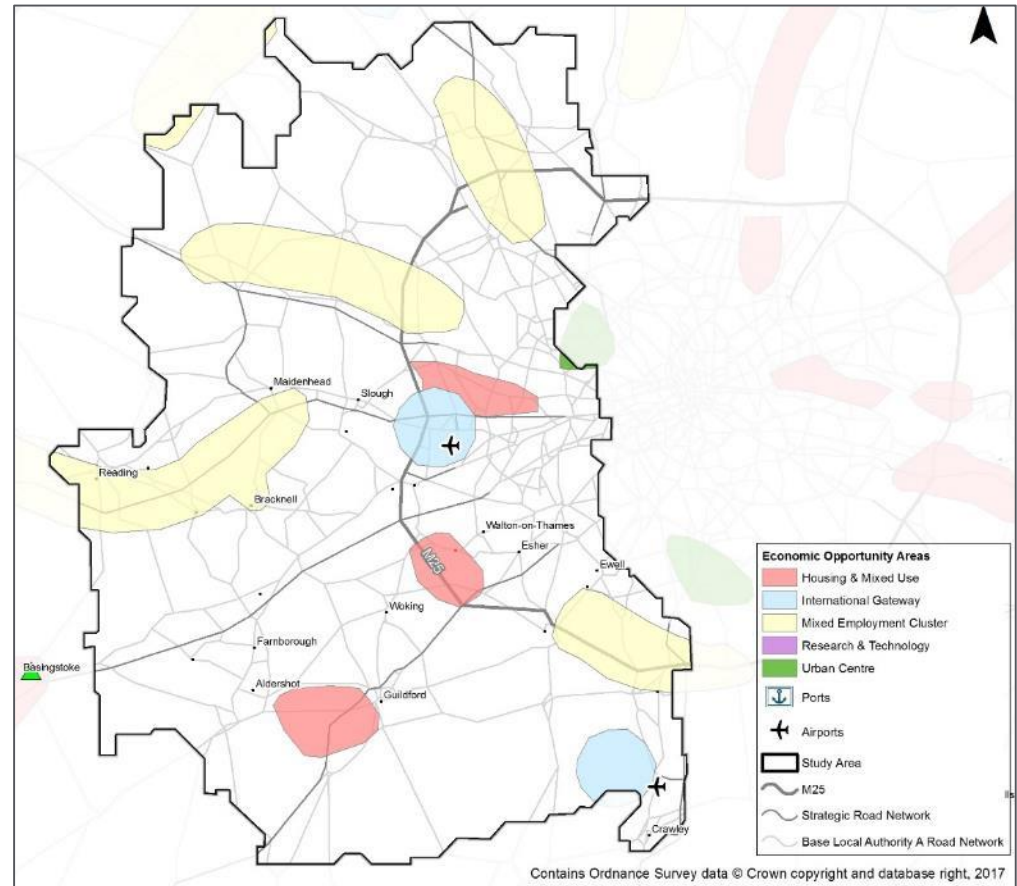




Economic context

- Significant housing and employment growth is proposed in the study area.
- This will place increasing pressure on the M25 and other transport networks.
- Growth will need to be supported by investment in transport infrastructure, and by the development of sufficient good quality and affordable housing in the right locations.

Planned housing and employment growth



Highways England, MapInsight Mapping Tool. As published in Route Strategies (2017)



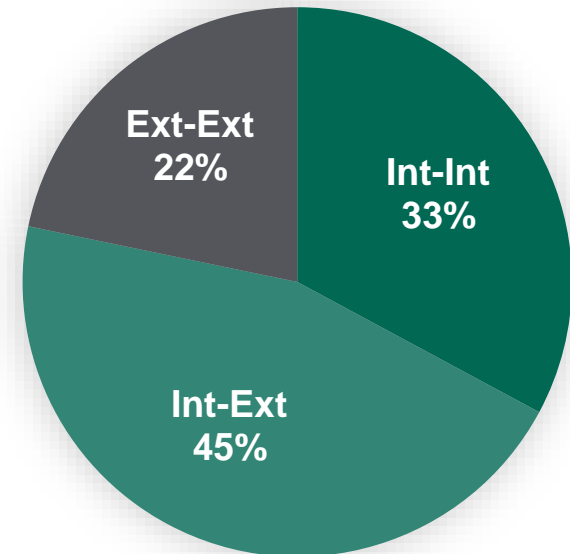
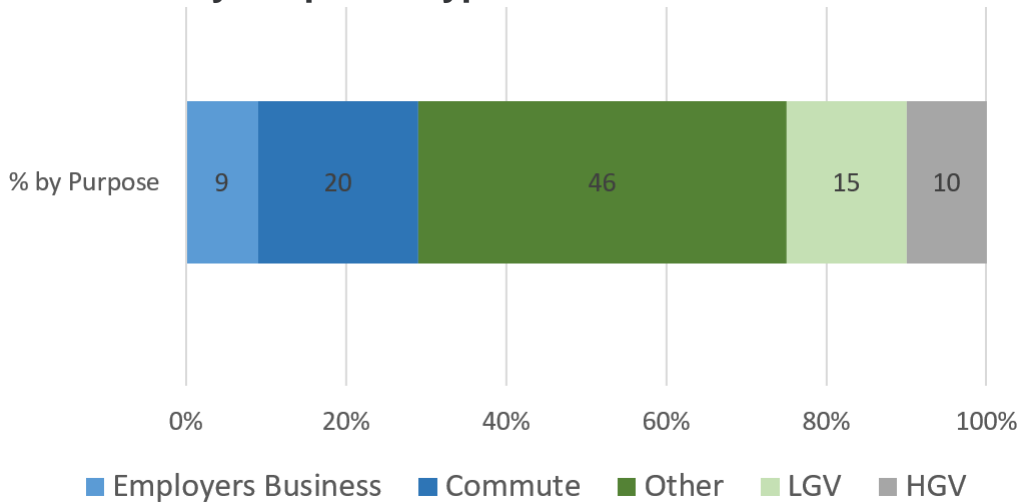
Travel patterns

Travel Distances

- ▶ 0 – 30 miles – 21%
- ▶ 30 – 60 miles – 36%
- ▶ 60+ miles – 43%

Proportion of trips on M25SWQ with an origin and / or destination within the study area

Journey Purpose / Type

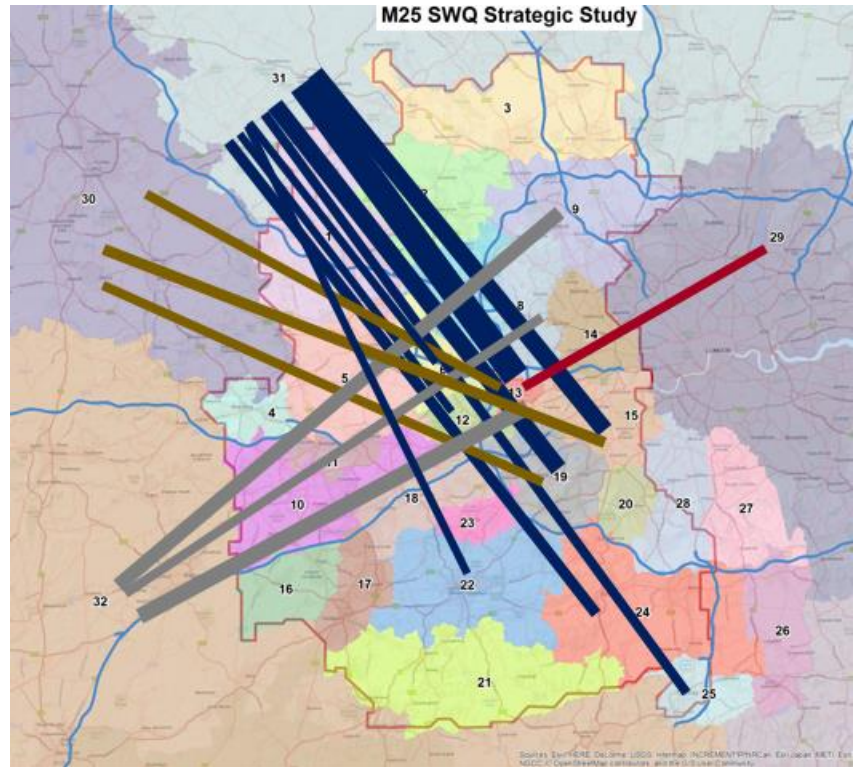
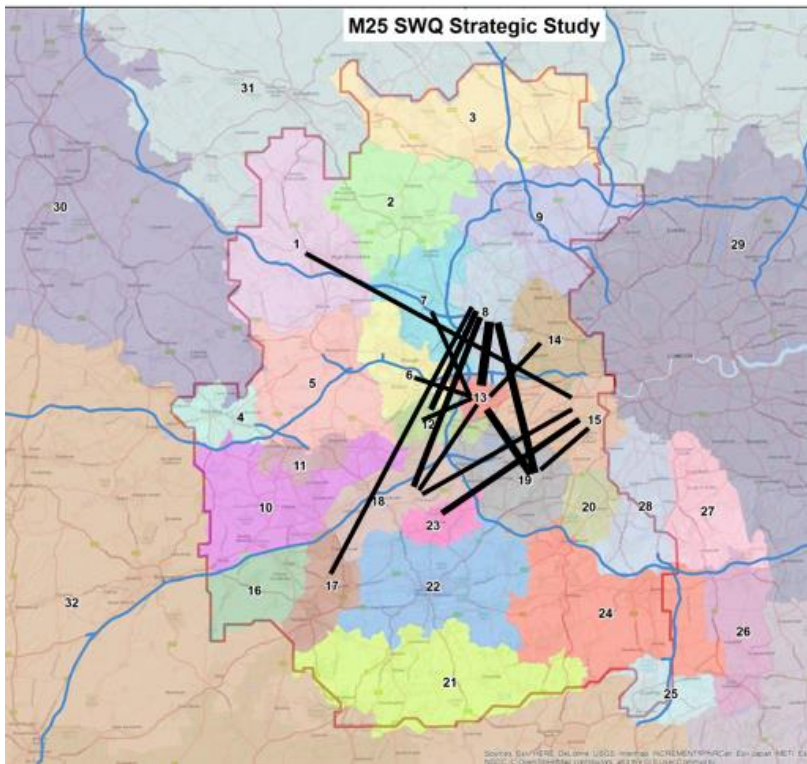




Travel patterns

Top M25SWQ movements within the study area

Top M25SWQ movements to / from the study area





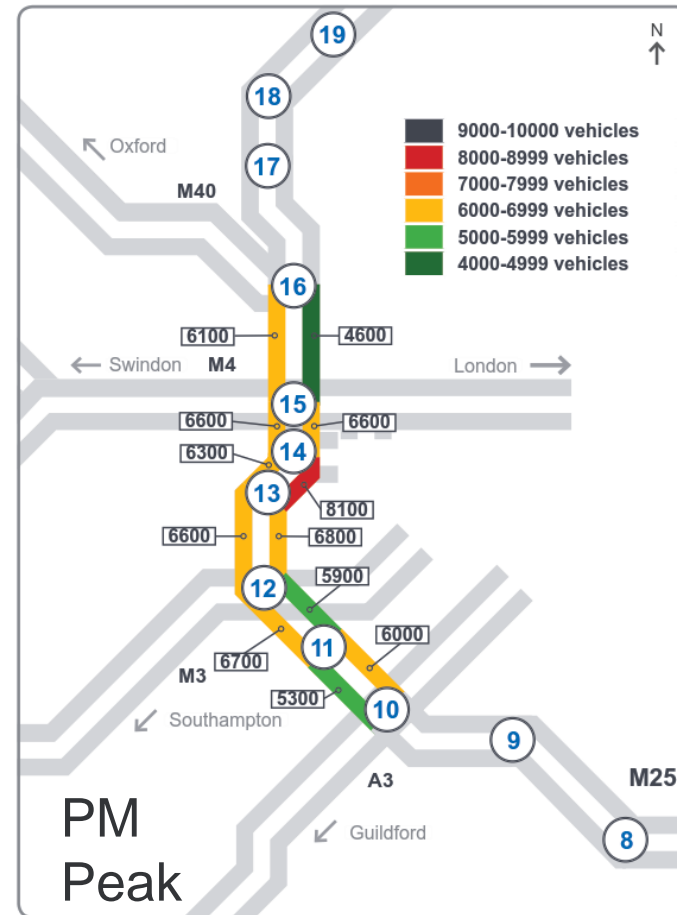
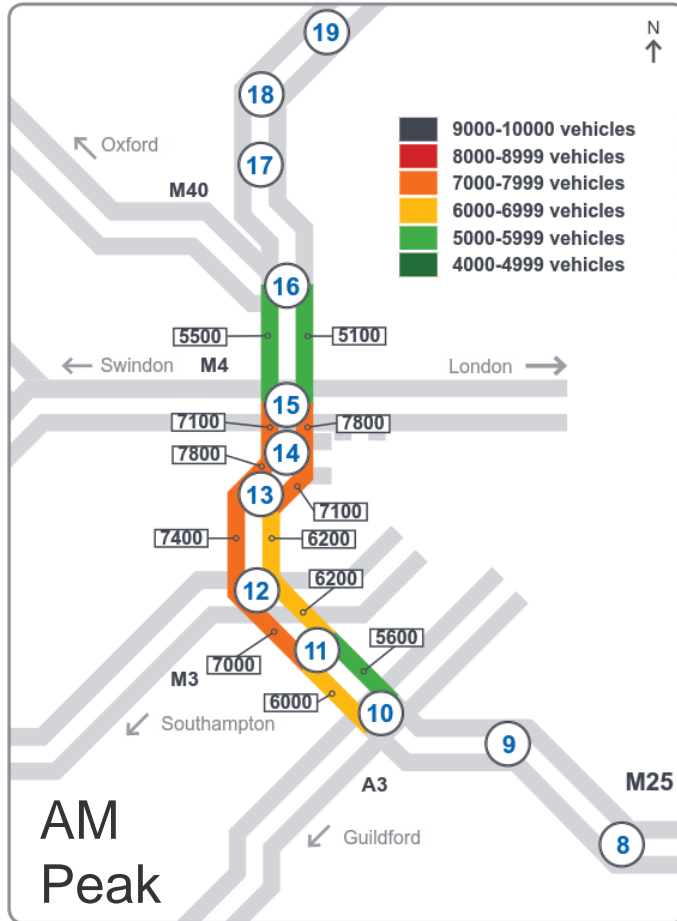
Strategic roads – movements

- Pattern of longer distance movements on the strategic road network
- A relatively high proportion of longer distance movements, including HGV
- Routes converge on the section between junction 12 and 15



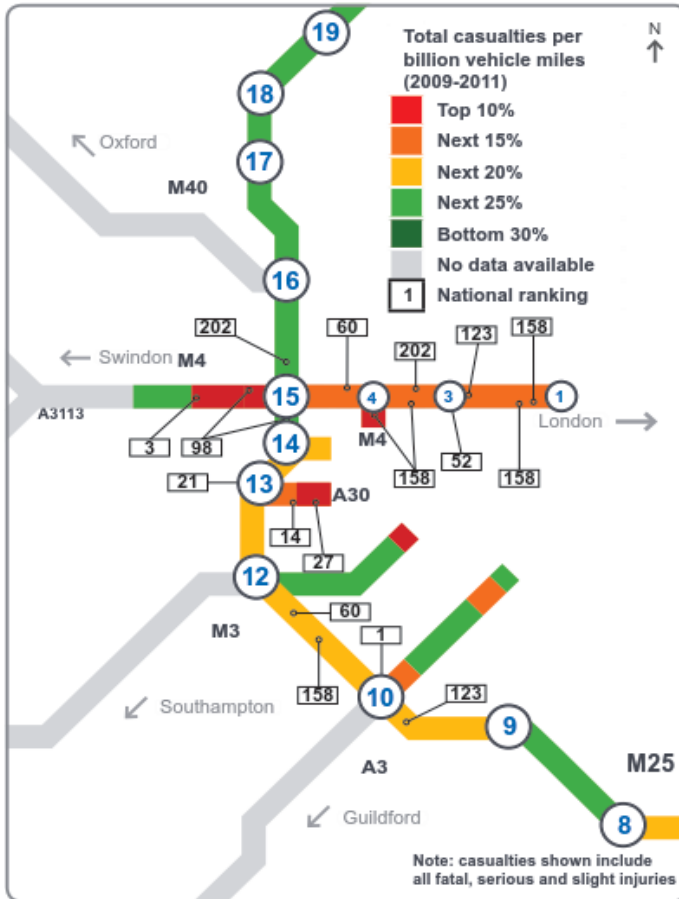


Strategic roads - flows





Strategic roads - performance





Strategic roads - resilience

	Clockwise		Anticlockwise	
	Hours	% of total time	Hours	% of total time
Below 40mph	1441	37%	734	19%
Below 50mph	1572	40%	839	21%
Below 60mph	1932	49%	1692	43%

- Reduced speed – typical conditions
- Lack of resilience on M25 SWQ following congestion events and incidents





Issues and opportunities

Rail – Factors influencing choice of M25SWQ use over rail

Generic factors:

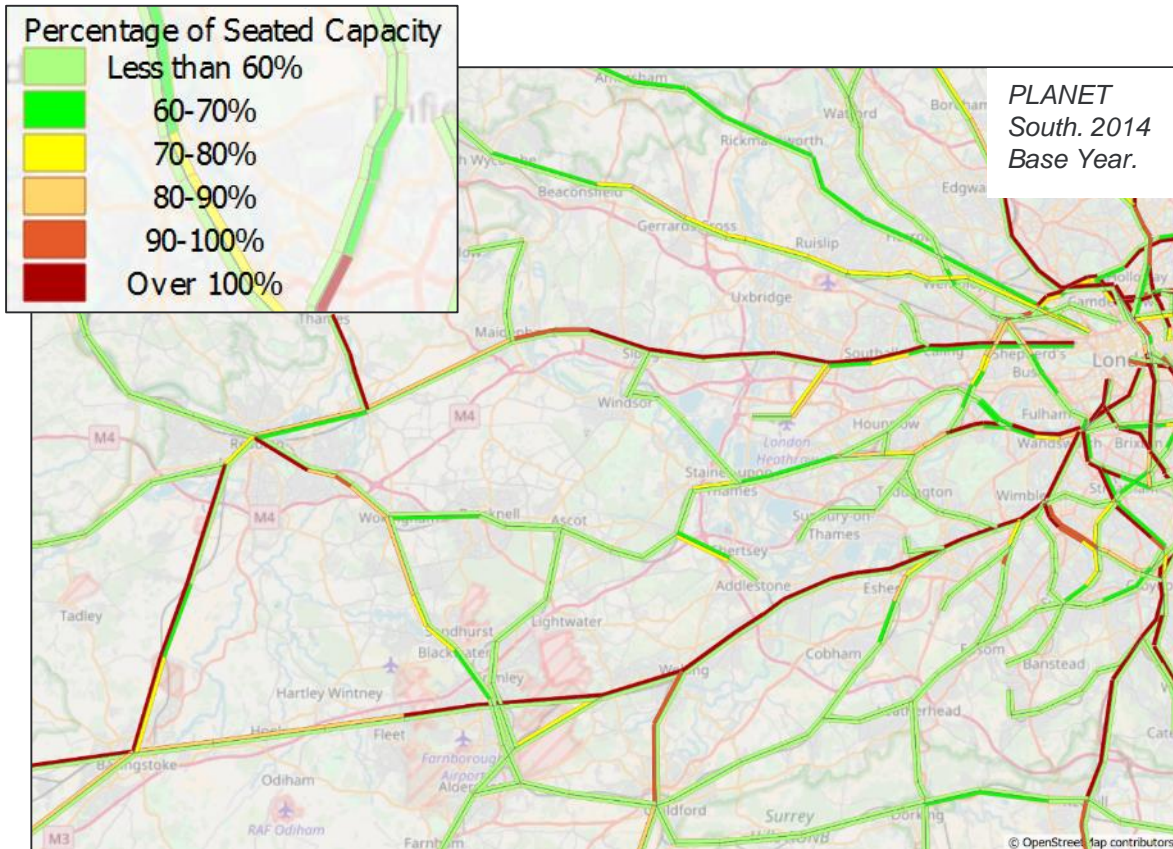
- Trip chaining, the need to carry heavy luggage, or personal preferences

Specific to study area:

- Predominantly radial network focused on trips to/from central London
- Orbital journey times by rail are not competitive, limited frequency, need to interchange in London or use bus for part of the journey.
- Peak period crowding on some routes, particularly those involving Central London interchange
- Some residential areas and some key destinations are remote from the rail network.



Rail - Existing crowding (AM Peak)



Demand exceeds capacity on parts of:

- South Western Main Line
- Brighton Main Line into Victoria
- Windsor Lines via Richmond into Waterloo
- Great Western Main Line into Paddington
- Some routes into Reading



Bus – Factors influencing choice of M25SWQ over bus

- High levels of car ownership and dense rail network in most of study area suppresses demand for bus travel.
- Congestion leads to low speeds and unreliability.
- As a result most bus routes focus on short-distance journeys.
- Exceptions focus on Heathrow:
 - National Express and Megabus coach networks
 - Express links to Reading, Oxford, Woking
 - Strategic bus links to Croydon and Harlow
- No cross-Heathrow movement



Local roads - Issues

- Extensive local road network, managed by relevant local authorities
- Up to 21% of trips on the M25SWQ are less than 30 miles in length, often involving use of 1-2 junctions ('short hop')
- Decisions to use the M25SWQ rather than the local road network for short trips are likely to be complex:
 - Lack of good quality routes
 - Longer journey times
 - Known pinch-point locations
 - Habitual behaviour or personal preference
- A significant proportion of the local and strategic network already operates at or near to capacity. Significant congestion spots both within and outside the M25SWQ.
- Significant growth in demand is forecast over the next few decades, which will increase levels of congestion on the local road network.



Jon Harris

TDM and freight, ITPP

Richard Smith

M25 efficiency, WSP

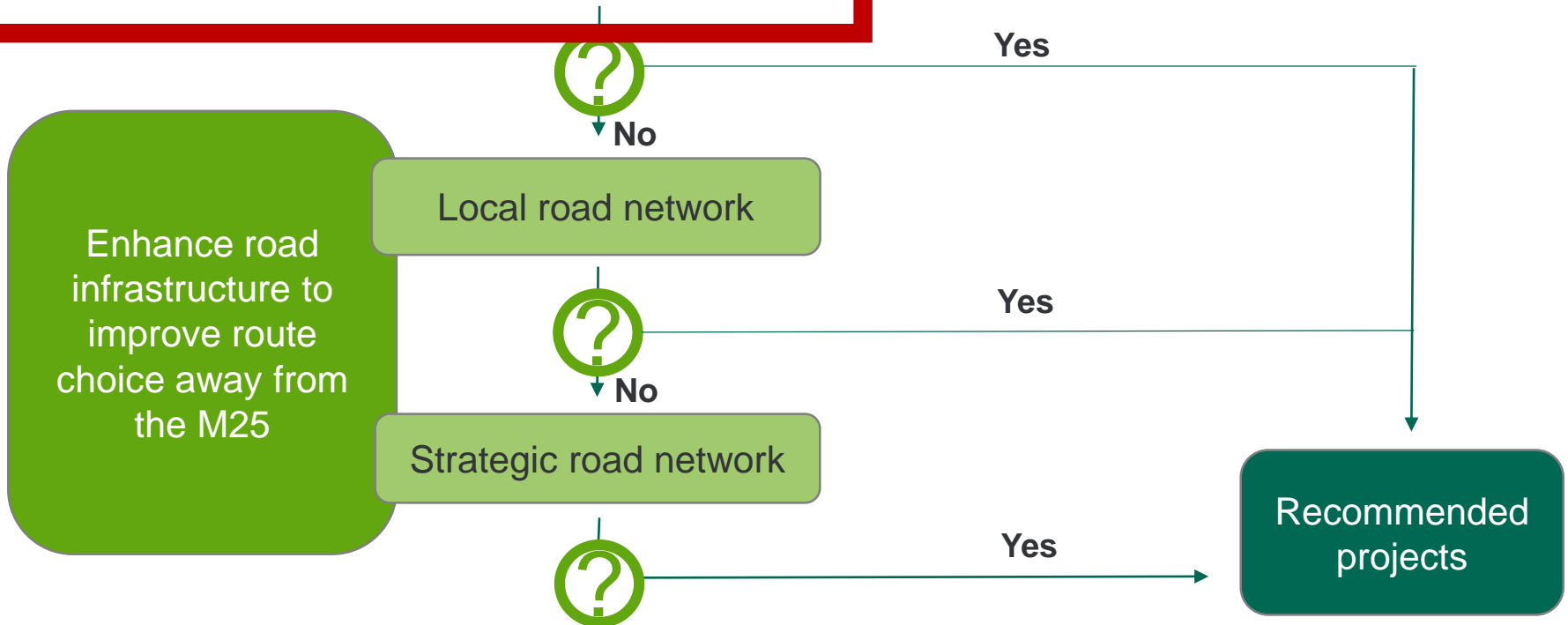
Graham James

Rail and Bus, Atkins CH2M JV



- Reducing the need to travel
- Making the most efficient use of the M25
- Enabling more journeys to be made by sustainable modes

Breakout Session 1





- High levels of car ownership leads to **'think car'** approach to travel – particularly for orbital movements.
- **'Relative' congestion** versus **'absolute' congestion** levels - driver tolerance.
- For public transport to work effectively, the **'last mile'** needs to also work – role of **active travel**.
- Generally consistent approach to conventional **workplace and school travel planning**. School travel plans have a role to play but generally **indirectly**.
- Securing travel plans within the **planning process** is variable and a missed opportunity (**residential**).
- **PTP programmes** with proven track record.
- Commuter behaviour has only one dimension – 'in work'. Business and 'freight-causing' decision making are critical.
- Any **TDM approach** needs to look at: **Reduce, Retime, Reroute, Remode**.



Strategic use of TDM - key success themes

Area wide travel planning

- Critical mass 'target' without relying on subsidy to make things happen
- Focus on missing zones
- Expand remit to cover freight behaviour including retail centres



Stronger integration with the planning process

- Residential Travel Plans
- Trip banking philosophy
- Personalised travel planning including .com behaviour
- 4Rs philosophy vital - reduce, retime, reroute, remode





Strategic use of TDM - key success themes



Stretching business / organisation travel planning

- Review the whole business and trip types
- Include supply chain and delivery approach
- Diversify to cover major event venues (Legoland, Ascot etc)



Station travel planning

- More aggressive use of the STP tool to manage growth
- Build on previous STP work - Woking, Basingstoke, Haslemere, Gatwick, Crawley
- Making the last mile easier and active travel the first choice - using the 'local' station



- **Congestion and journey time delay/unreliability** are the biggest issues.
- **‘White van’** movements are a key challenge across the area.
- Linkage between residential travel planning/TDM and freight isn’t evident - **freight strategy development**.
- Focus on key logistics parks as ‘easy wins’ but home delivery and ‘express’ order fulfilment are the biggest structural challenges.
- Abortive deliveries a key concern with spare capacity for smarter use of delivery points. Drivers instructed to stay ‘on line’ as default.
- SME / independent retail sector has generally been invisible in terms of freight education but a key target.
- **Business to business (B2B)** demand for goods growing but **business to customer (B2C)** demand is exponential - .com consumer patterns.
- To make an impact on ‘freight’ solutions have to cover the **whole family of freight types**.
- Challenges of **housing growth** and **construction management planning** across the SWQ – especially outside of Greater London.

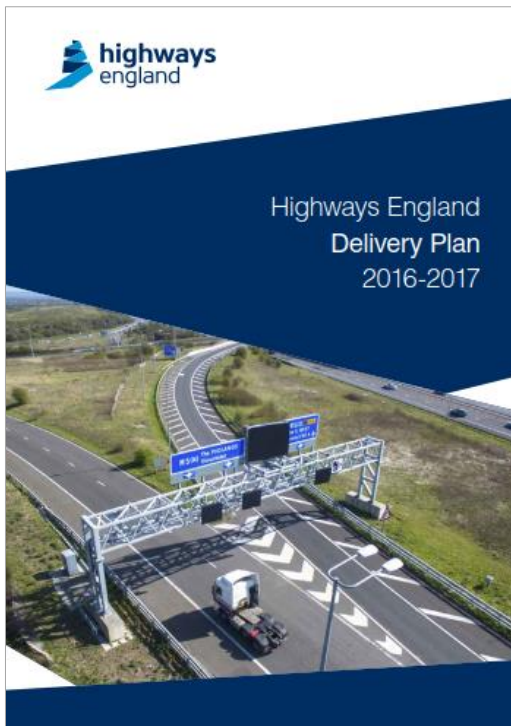


Freight and logistics - key success themes

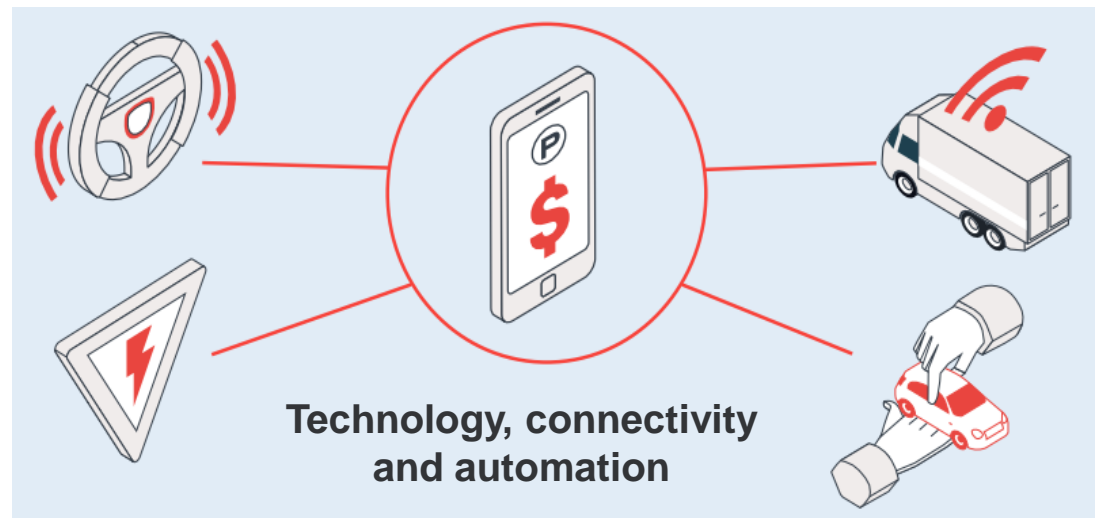
- Better **integration of 'freight'** into PTP and business travel planning and business support (LEPs role).
- Target **SME sector** for changes in procurement thinking and practice.
- Target **.com sector** and **consumer behaviour** (linked to station travel plans, development design and residential travel plans).
- Focus on **reduce and retime** – including more widespread use of Quiet Delivery Strategies.
- Appropriate use of **consolidation tools**.
- **Freight Advice Programme** and **Construction Management support**.
- Use of **technology** for last mile and smart delivery management to businesses and to homes (advance bay booking, secure drop devices etc).
- **Logistics industry and professional bodies** as key part of the solution (RHA, FTA, CILT, Chambers of Commerce).



M25 efficiency



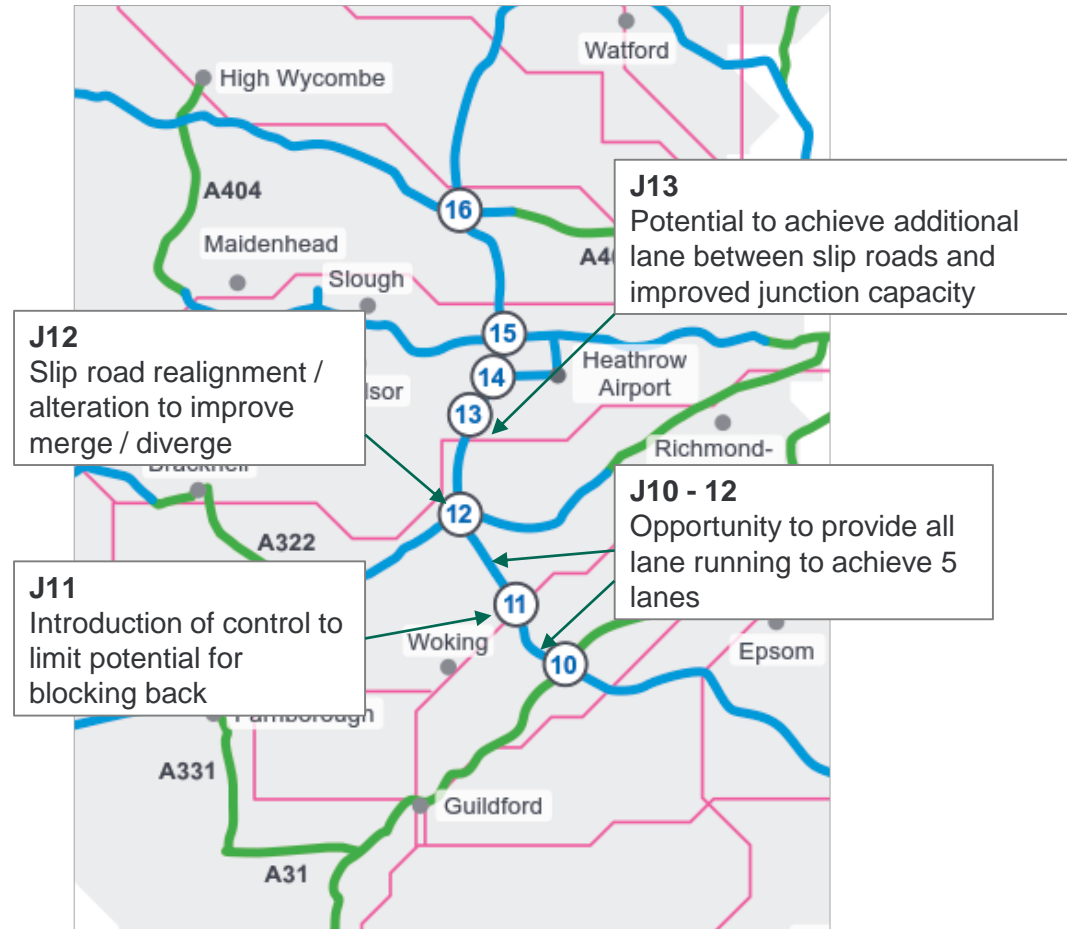
- Traffic Management Centre for cross-authority co-ordination of traffic lights, VMS advisory signs and slip road access
- New technology for communications between vehicles and road-side infrastructure

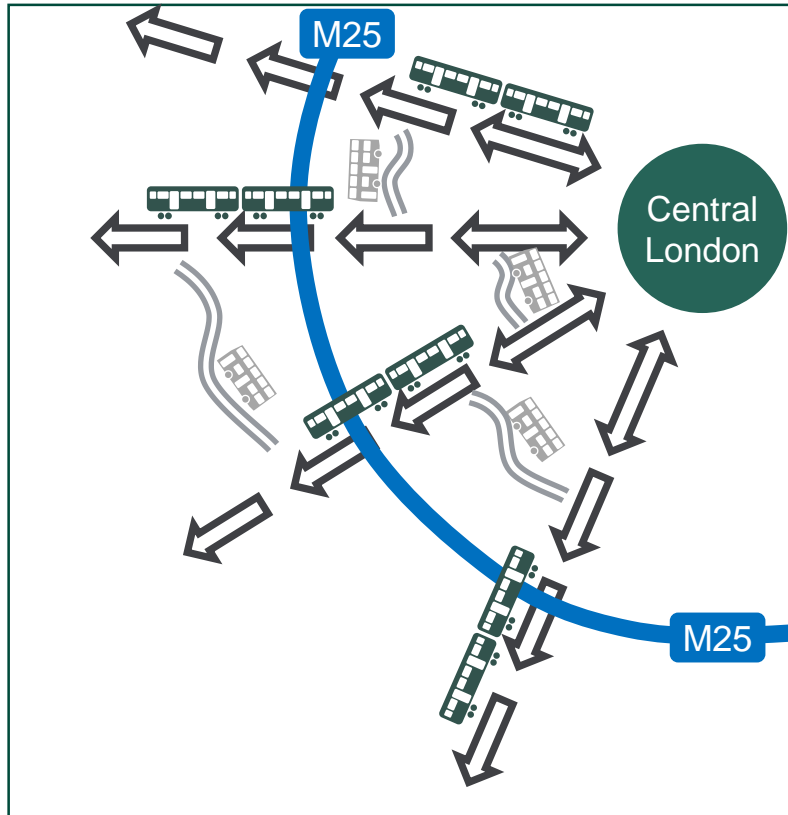




Smart Motorway

- Consistent with and building upon the form of provision proposed as part of the RIS1 proposals
- Further roll-out of all lane running on main carriageway and at junctions
- Key technological interventions – short, medium, longer term including area-wide co-ordination
- Strong evidence for reliability improvement



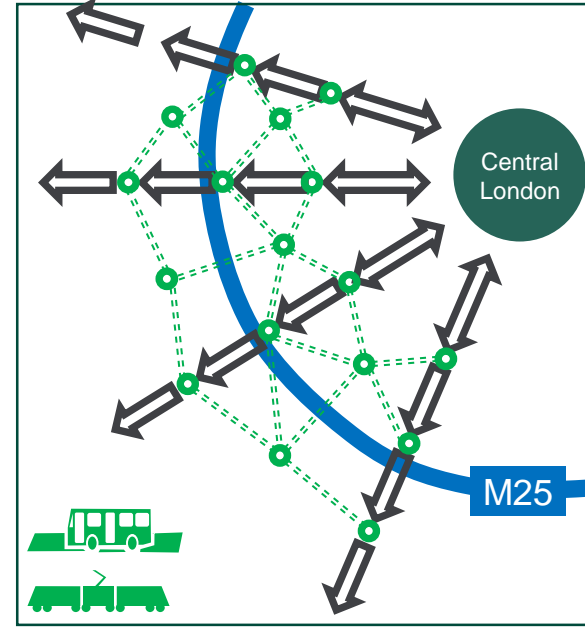
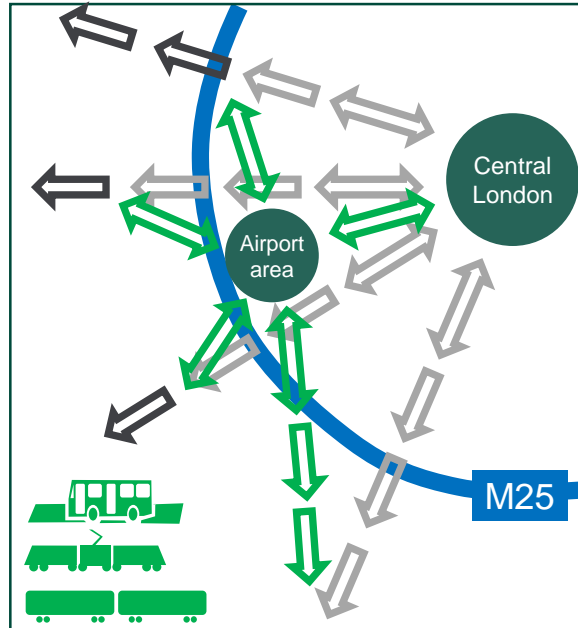
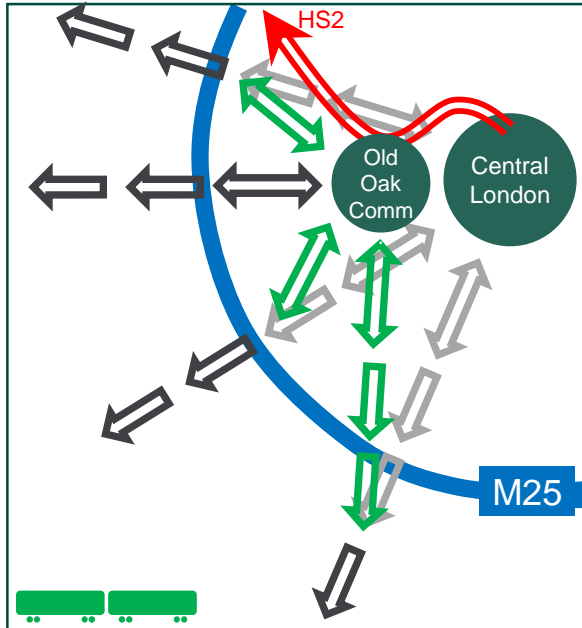


Existing situation

- Mainly radial network
- Limited orbital connections
- Complex orbital rail+bus trips...
- ...or travel via Central London
- Usually not time-competitive with car



Options – rail



OLD OAK COMMON LINKS

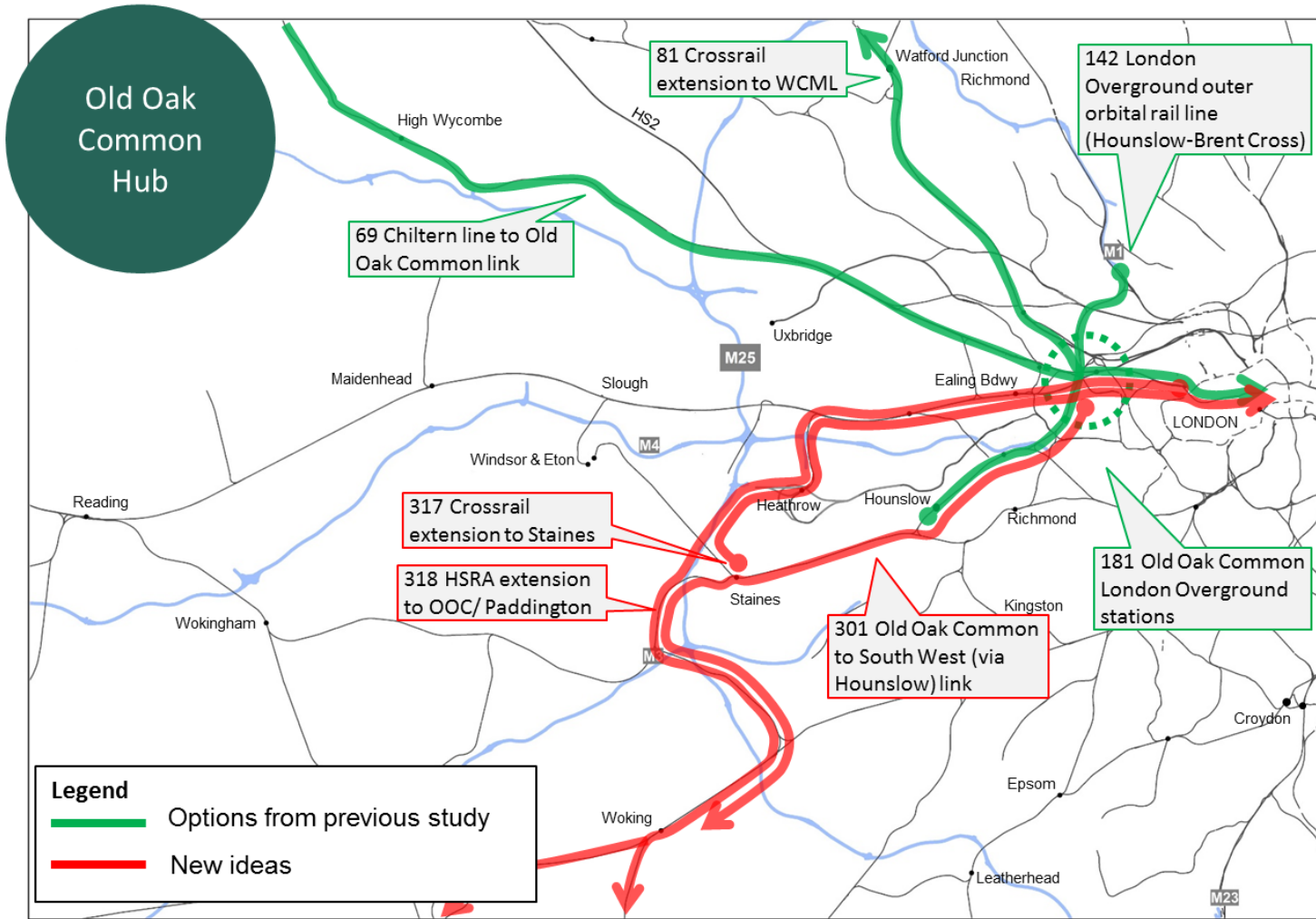
- Harness existing & potential rail schemes
- E.g. Chiltern Line to Old Oak Common
- Draws-in HS2 connections
- What else is possible?

AIRPORT AREA INTERCHANGE

- Harness existing & potential schemes
- E.g. Heathrow Western / Southern Access
- What else is possible?
- Rail + intermediate-modes?

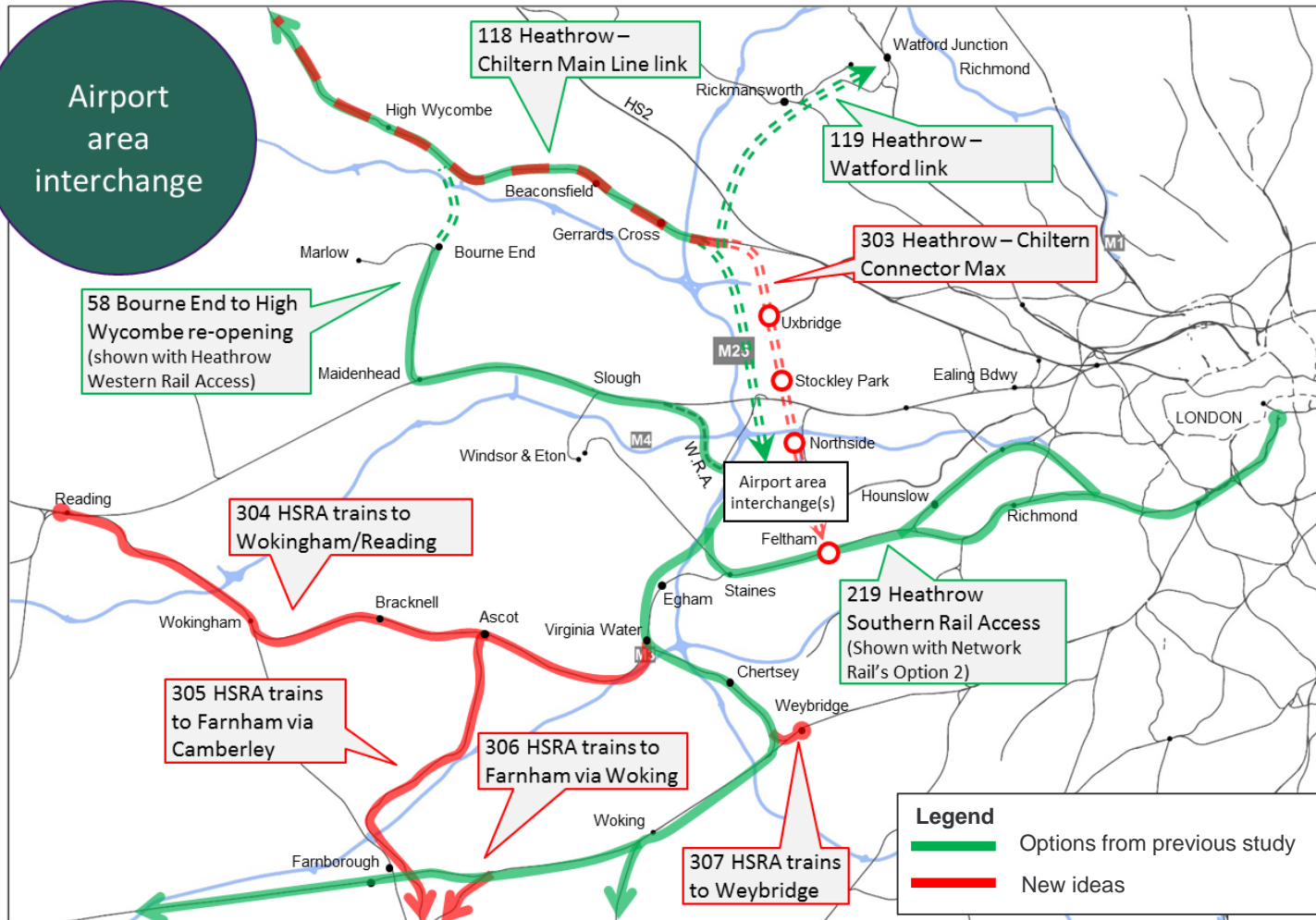
INTERMEDIATE-MODE LINKS

- For shorter orbital trips & local links
- Light rail, Bus Rapid Transit, etc
- Could help address other local transport needs



Early Draft – Work in progress

All options are shown indicatively. No specific alignment is implied, except where existing rail routes are used. No specific service/calling pattern is implied, unless inherent in the description.

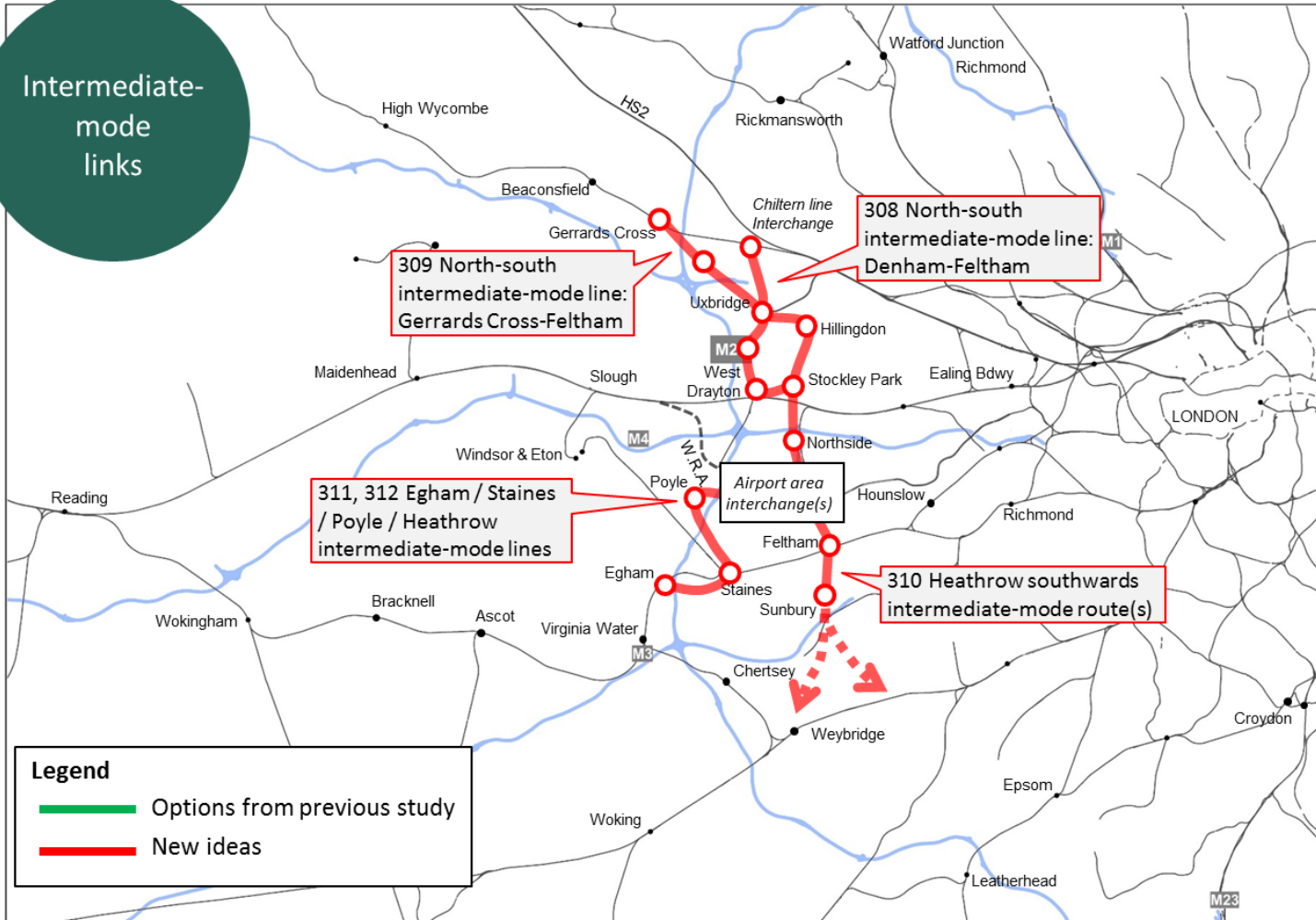


Early Draft – Work in progress

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Intermediate-mode links



Early Draft – Work in progress

All options are shown indicatively. No specific alignment is implied, except where existing rail routes are used. No specific service/calling pattern is implied, unless inherent in the description.



Issues

- High levels of car ownership and dense rail network in most of study area suppresses demand for bus travel.
- Congestion leads to low speeds and unreliability.
- Most bus routes focus on short-distance journeys. Exceptions focus on Heathrow.
- No cross-Heathrow movement.



Strategic choices

- **Upgrade existing bus and coach links**
 - Reduce journey times with bus priority, improve frequencies
 - Targeted at Heathrow

- **New strategic bus and coach links**
 - Introduce links between areas of high demand
 - Quality bus corridors / Bus Rapid Transit / High Occupancy Vehicle Lanes



First and last mile connections

- Complement rail and strategic bus links
- New technologies offer new opportunities – MAAS, on-demand services (e.g. Arriva Click)
- May help to provide an alternative to car where densities are lower or volumes on flows are low
- Opportunities exist at trip-end to convert private business shuttles to public bus services



Strategic Park & Ride sites

- Capture trips at point of entry to M25
- Services to key destinations



Breakout Session 1

(Following tea and coffee break)



Breakout Session 1

- ▶ What are the problems, issues, and opportunities associated with these approaches?
- ▶ How effective are these approaches likely to be in relieving pressure on the M25SWQ?
- ▶ Are there specific schemes in your area which would be effective at relieving pressure on the M25SWQ?



Jane Robinson

Local roads

Atkins / CH2M JV

Richard Smith

Strategic roads

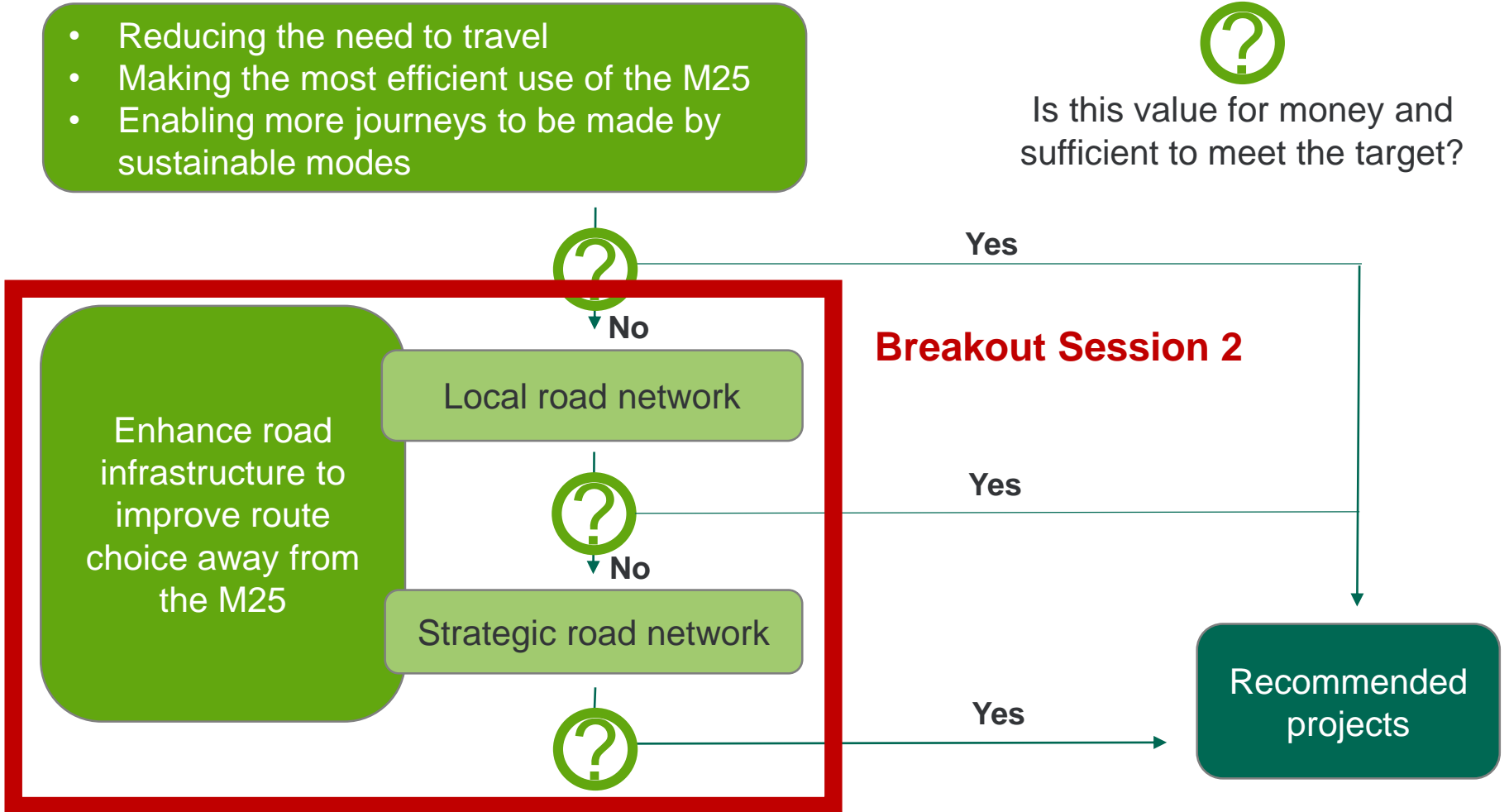
WSP



- Reducing the need to travel
- Making the most efficient use of the M25
- Enabling more journeys to be made by sustainable modes



Is this value for money and sufficient to meet the target?



Breakout Session 2



Potential role of local roads

- Potential to improve the quality of the local road network to cater for local trips, and to improve the resilience of the overall network.
- Local road options will need to be of sufficient quality and capacity to be attractive to drivers currently using the M25SWQ for short trips.
- Proposed Major Road Network likely to provide the most appropriate alternative local routes. Focused on the middle tier of the busiest and most economically important local A roads.
- Interventions which help unlock new housing and employment sites are likely to be more deliverable.



Strategic choices

- Natural hierarchy of interventions:
 - Junction improvements – signalisation of existing priority controlled junctions, ITS upgrades to existing junctions
 - Upgrades to existing highway network – largely dualling existing highways, although some upgrade of D2AP (dualled 2 lane) to D3AP (dualled 3 lane)
 - New highway links – to provide additional local linkage and to provide more direct routes whilst avoiding the M25, and potentially unlock new development sites

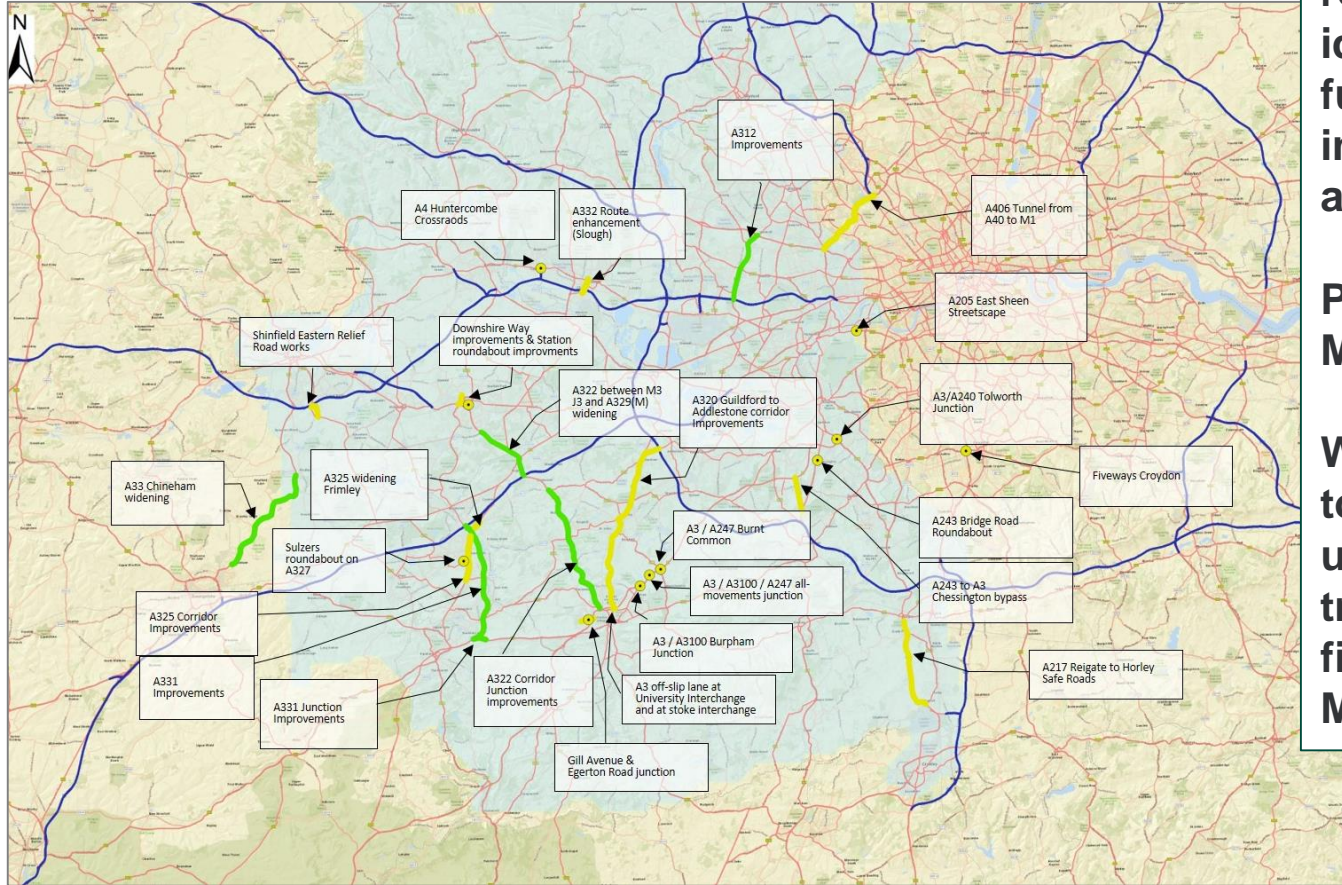


Deliverability challenge

- Need to avoid encouraging strategic traffic onto minor roads and avoid sensitive built-up areas.
- Large number of barriers and constraints:
 - Physical barrier and constraints – Heathrow, numerous town centres, historic properties (Hampton Court, Windsor Castle)
 - Natural and artificial water courses – River Thames and tributaries, reservoirs
 - Environmentally protected land – Green Belt, AONB
- Accident rates tend to be higher on local roads, but potential to address existing safety and resilience issues.
- Risk that creating better routes will simply attract more traffic to use the M25SWQ.



Potential role of local road schemes



Just under 30 local road schemes identified so far, for further review. From initial phase of work and other studies.

Predominantly outside M25.

What potential is there to encourage greater use of local roads for trips starting and / or finishing inside the M25?



Strategic roads

- Expressway standards
- Potential ‘outer’ and ‘inner’ corridors for improvement
- Identification of risks, issue and opportunities relating to major highway infrastructure
- Establish scope of schemes for option identification

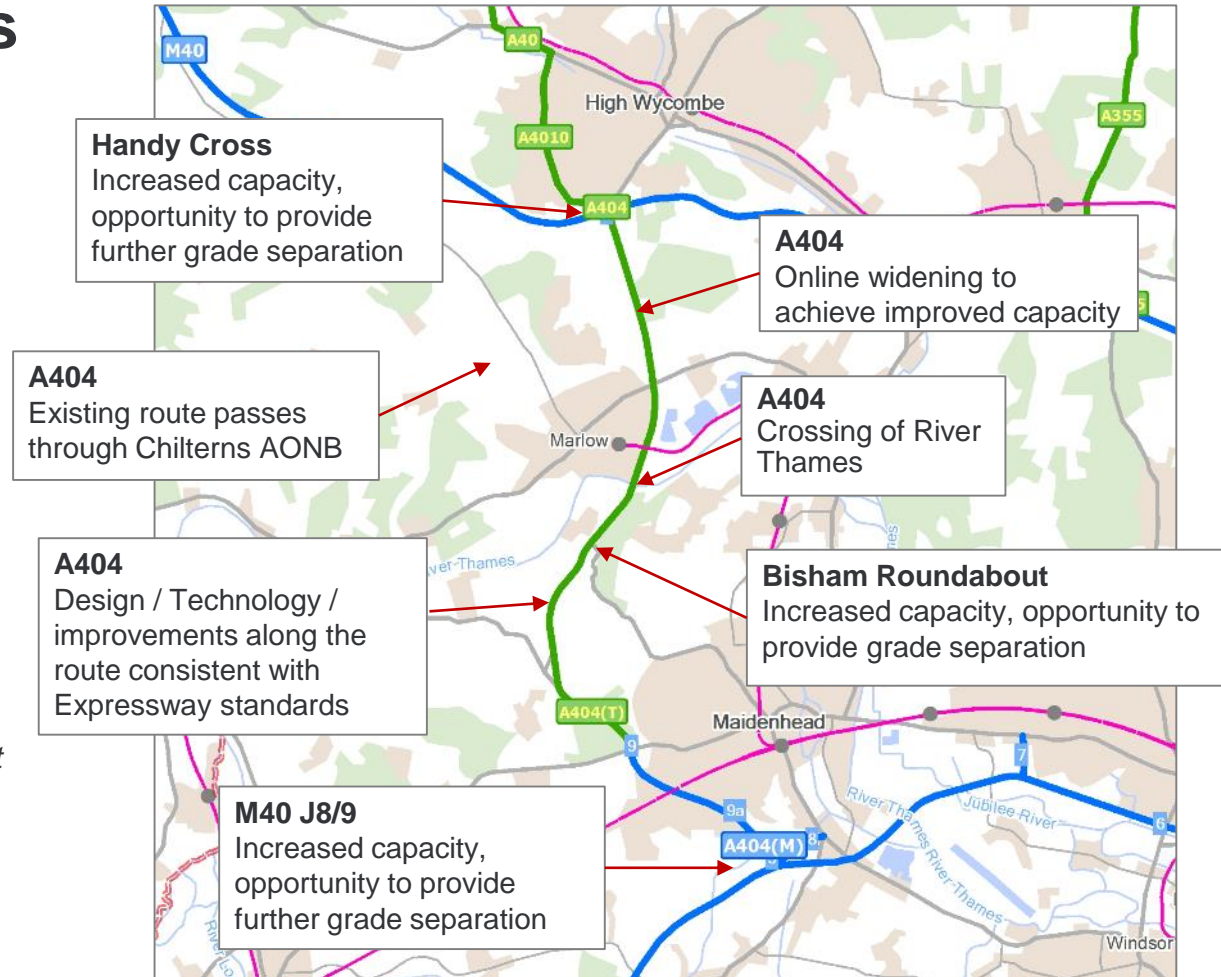




Strategic roads

- M40 (Handy Cross) to M4 (Junction 8 / 9)
- Online widening and junction improvements

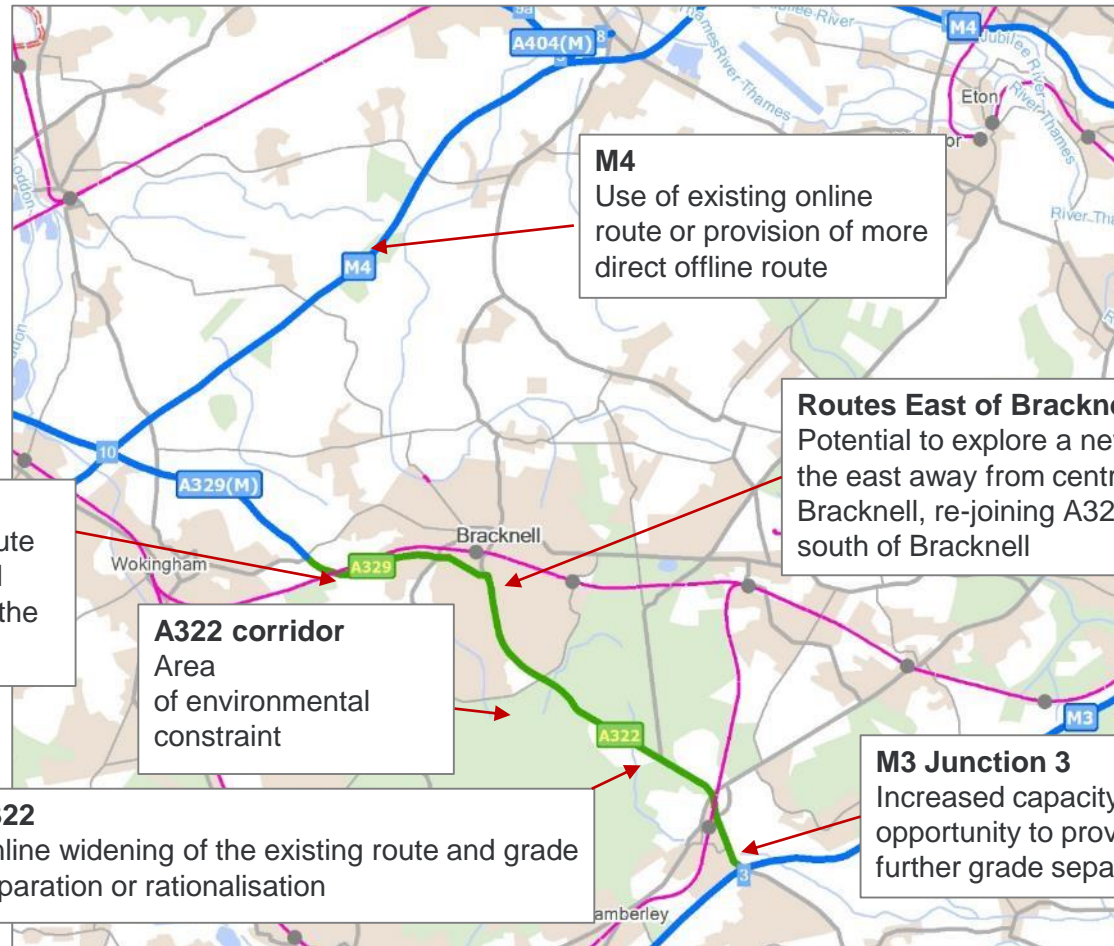
No specific scheme or alignment is defined; the information is provided to articulate the type of infrastructure that may be considered within broad corridors only





Strategic roads

- M4 (Junction 8 / 9) to M3
- Potential for online and offline routes

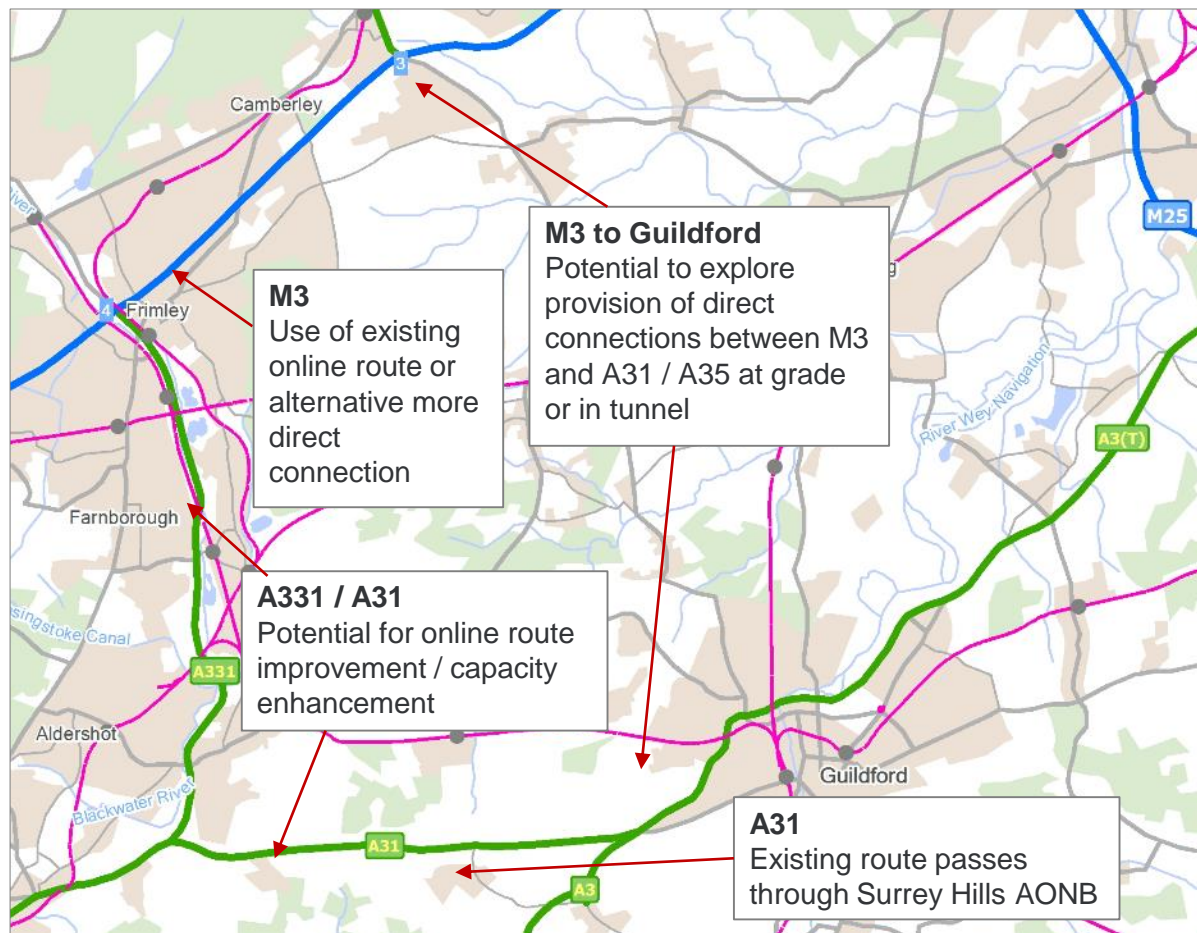


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Strategic roads

- M3 (Junction 3) to Guildford
- Online or offline route improvements and potential tunnel

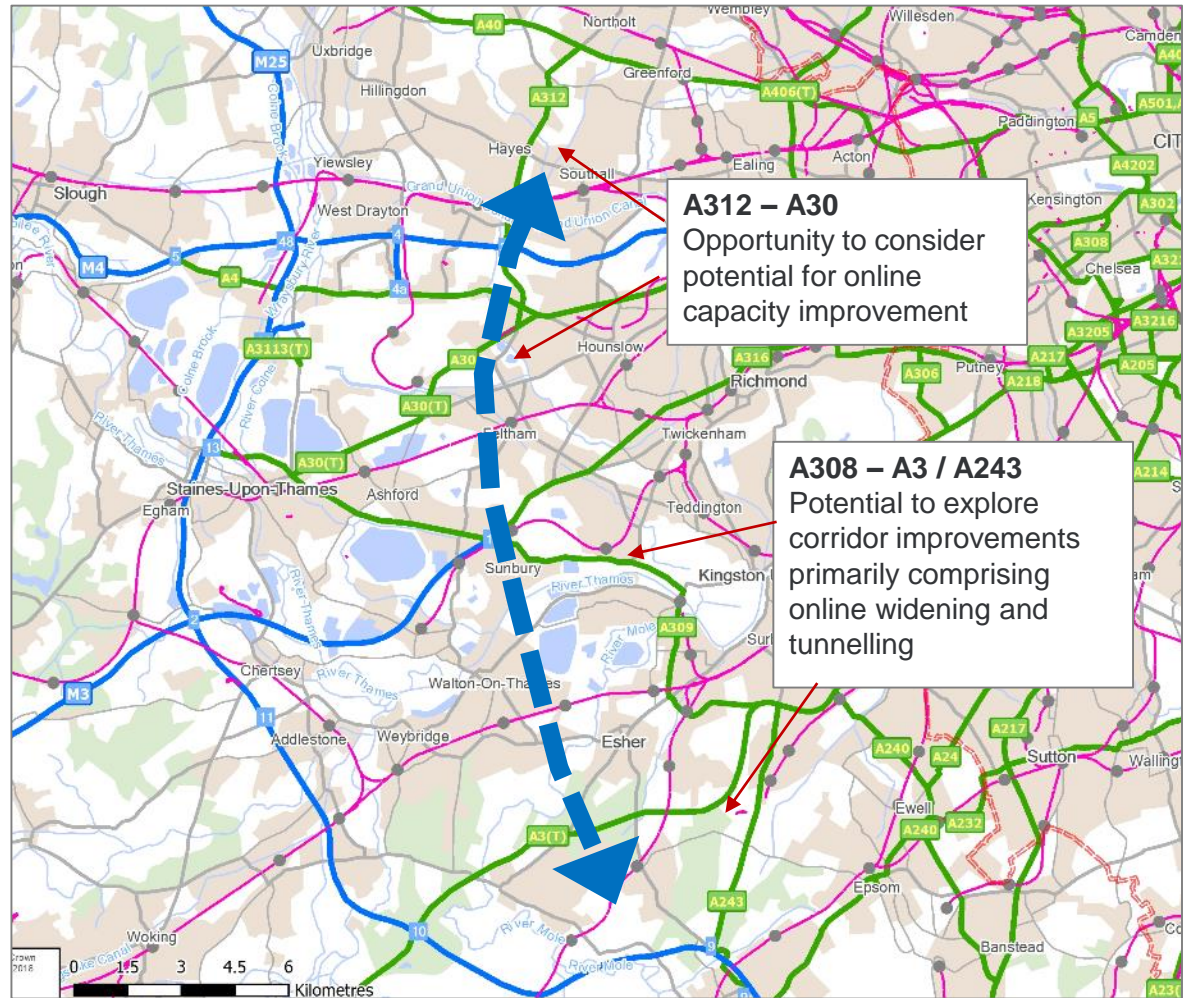


No specific scheme or alignment is defined; the information is provided to articulate the type of infrastructure that may be considered within broad corridors only



Strategic roads

- Inner route - A40 to M25
- Online or offline route improvements and tunnelling



No specific scheme or alignment is defined; the information is provided to articulate the type of infrastructure that may be considered within broad corridors only



Breakout Session 2

(Following lunch)



Breakout Session 2

- ▶ What are the problems, issues, and opportunities associated with these approaches?
- ▶ How effective are these approaches likely to be in relieving pressure on the M25SWQ?
- ▶ Are there specific schemes in your area which would be effective at relieving pressure on the M25SWQ?



Jeremy Bloom

Network Planning Director

Highways England



Philip Andrews

Deputy Director RIS Futures and RIS2

Department for Transport

Jeremy Bloom

Network Planning Director

Highways England

Trevor Pugh

Strategic Director, Environment and Infrastructure

Surrey County Council



Department
for Transport



Thankyou

M25SWQuadrant@highwaysengland.co.uk

Deadline for comments:
16 March 2018

