



Welcome to the
A1 East of England
and
Oxford to Cambridge
Expressway
Strategic Study

Stakeholder Reference Group
1 March 2017

AGENDA

Item	Topic	Lead	Start Time
1	Networking Opportunity	All	09:30
2	Welcome Introductions Agenda	Philip Andrews	10:00
3	A1 East of England Strategic Study <ul style="list-style-type: none">• Study outcome• Q&A	Kieron Hyams	10:05
	Break		10:50
4	Oxford to Cambridge Expressway Strategic Study <ul style="list-style-type: none">• Study outcome• Q&A	Adrian Hames	11:00
5	Update on RIS1 A428 Black Cat to Caxton Gibbet and other schemes within the study vicinity	All	11:45
6	DfT's Summary <ul style="list-style-type: none">• Next steps• Q&A	Philip Andrews	12:00
7	Your views	All	12:15
8	Event Closure	All	12:45

Item 3: A1 East of England Strategic Study: Stakeholder Reference Group

Milton Keynes – Mercure Hotel Abbey Hill
Wednesday 1 March 2017

Kieron Hyams



Outline

- Background and Context
- Overview of Stage 3 Report
- Questions
- Study Contacts

Background and Context



Background

- The A1 East of England Study is sponsored by the Department for Transport (DfT).
- Requirements set out in the first Road Investment Strategy (RIS) 2014.
- The DfT has commissioned Arup, AECOM and David Simmonds Consultancy to produce a strategic business case for road improvement and connectivity.
- One of six strategic studies.

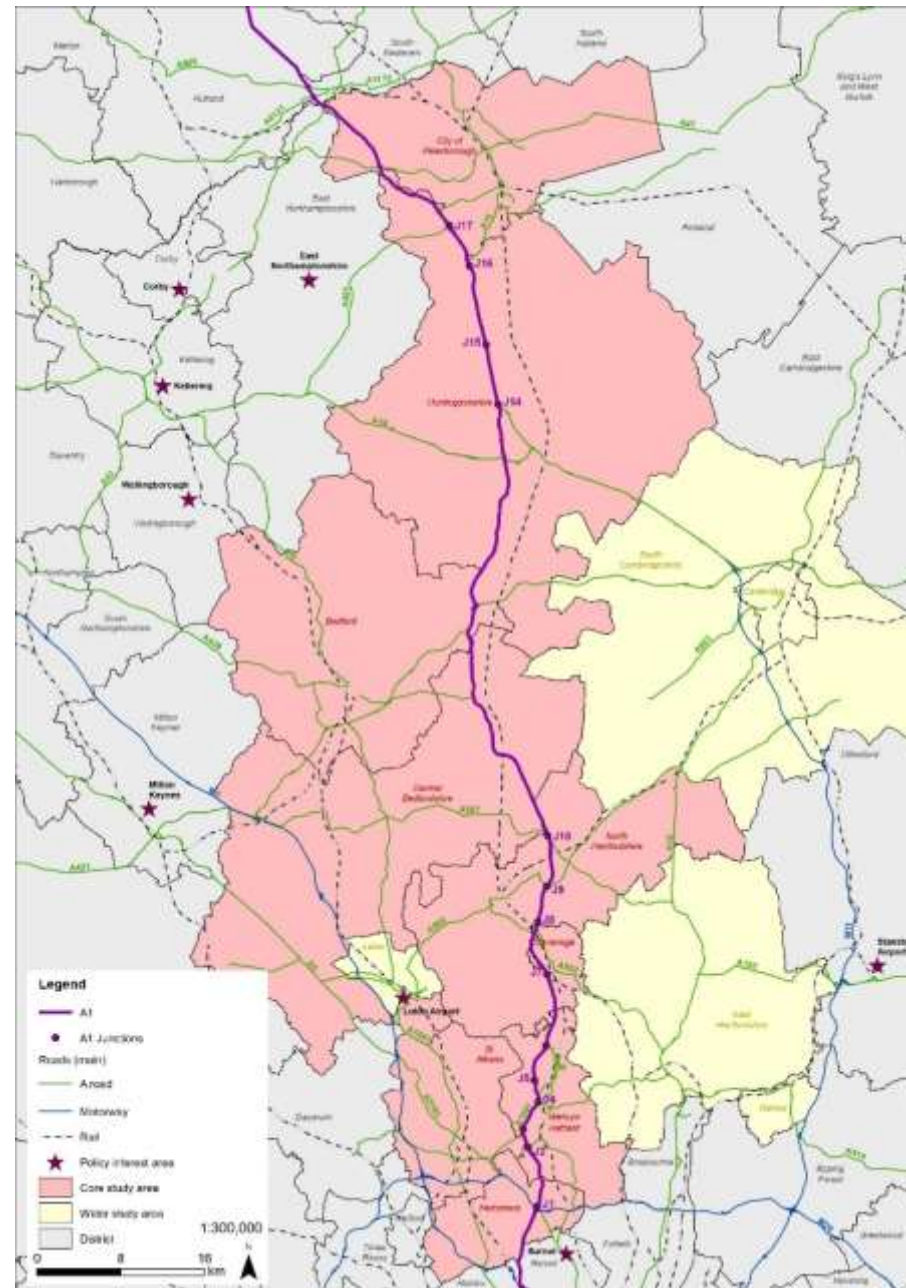


Road Investment Strategy: Investment Plan



Introduction

- The A1 runs for 410 miles from London to Edinburgh;
- It is the oldest trunk road in the country;
- It acts as a key strategic artery for commerce and communities;
- However it is one of the least consistent roads in terms of its form and standard.
- The brief for this study is between Junction 1 (M25) and Junction 17 (Peterborough).



Study Aims

- To bring consistency to the southern section of the route;
- To improve the non-motorway section linking the two parts of the A1 (M) to motorway standard;
- A case for change and intervention to minimise further congestion and capacity problems.



Context

- A route in ‘three parts’:
 - A1(M) to the north: greater number of lanes
 - A1 middle section: not motorway standard
 - A1(M) to the south: variable number of lanes

Junction 2- 3

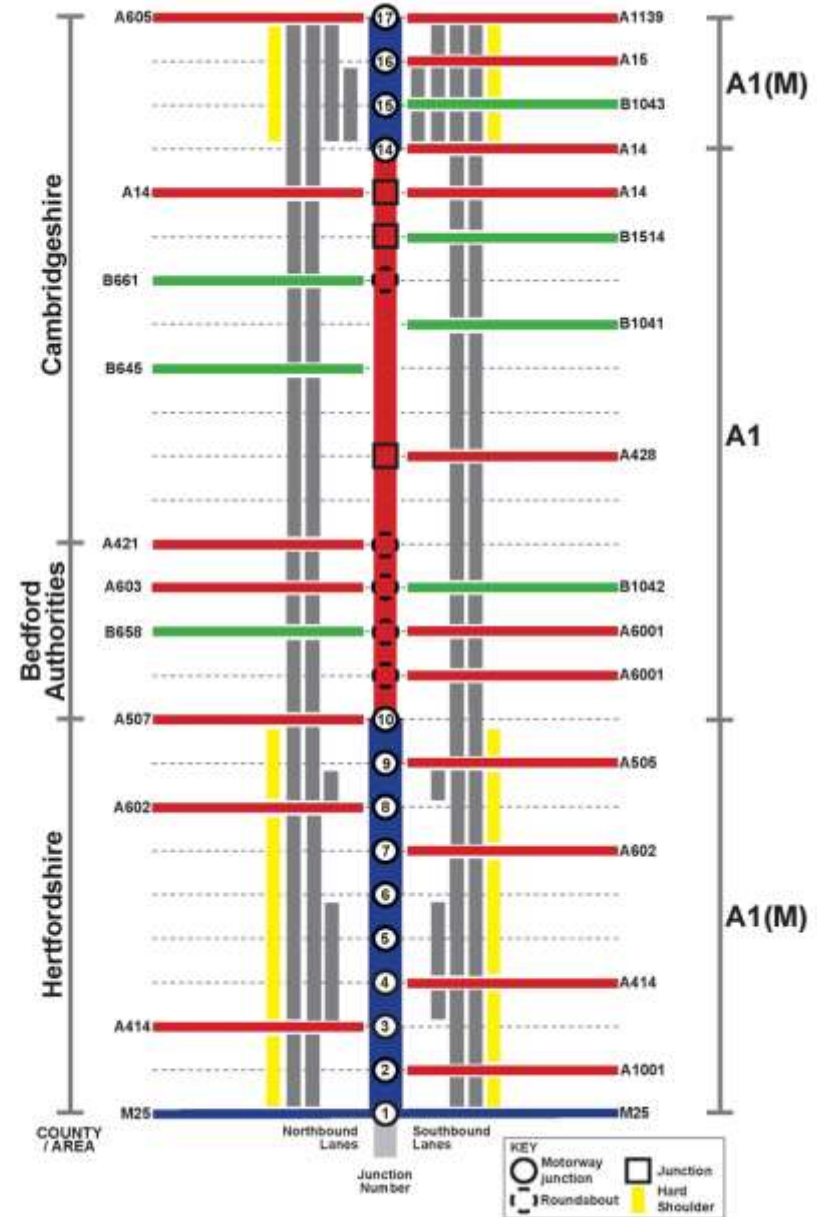
Biggleswade North-Sandy

Junction 16-17



Completed Stages

Task	Description
Task 1	Baseline conditions and a case for change
Task 2	Transport objectives and option generation
Task 3a	Option sifting to a shortlist
Task 3b	Assessment of better-performing options (set into packages)



Overview of Stage 3 Report



Stage 3 Report

- Report published on the DfT website - November 2016
- Report summarises the previous stages of the study and the assessment of the final option packages

A1 East of England Strategic Study Stage 3 Report



Key Problems on the Route

- Poor journey time reliability with variable speed and congestion;
- Long delays;
- Constrained road and restricted free traffic flow;
- Collisions;
- Capacity;
- Poor conditions for public transport;
- Noise and air quality;
- Impact on landscape and townscape;
- Impact on biodiversity;
- Contributing to undermining growth potential; and
- Anticipated pressure on existing road network as a result of estimated population growth.



Transport Objectives

1. To bring consistency to the route
2. To deliver better environmental outcomes for air quality, noise, biodiversity, CO2 / greenhouse gases, built heritage, water and landscape / townscape
3. To improve connectivity to benefit local communities, address severance, achieve a local / strategic balance, improve accessibility for all modes and improve safety*
4. To encourage growth, including economic and employment, population and housing, and freight
5. To improve the operation of the road network to improve journey time reliability, reduce delays and queues, promote resilience and improve safety*

* Safety is a cross-cutting issue relating to both road operation and local communities.

Options Refinement and Development Process

Options Long Long List



Options Long List and Shortlisting for Further Appraisal



Packages



Packages Assessed

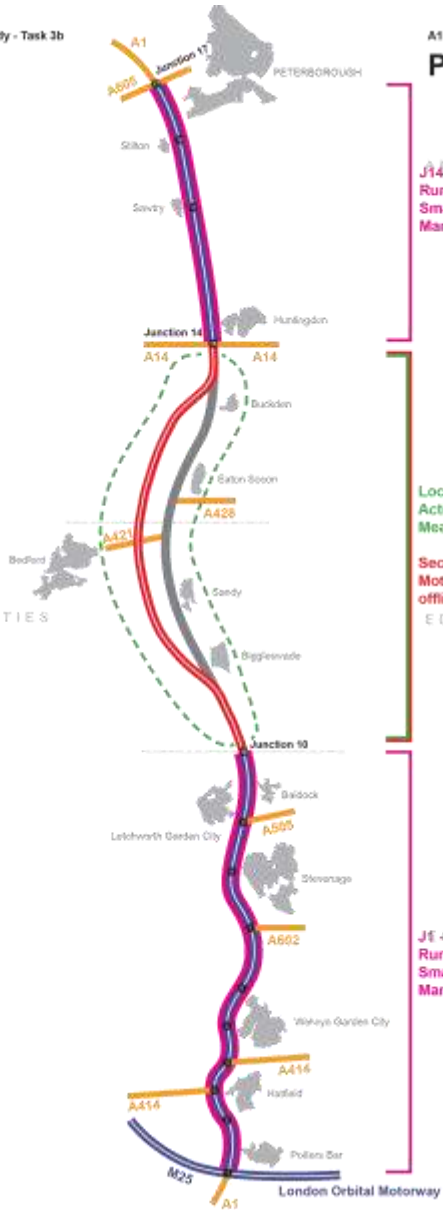
Package A	Package B	Package C
Section of new motorway between Junctions 10 and 14 (mostly offline)	Local improvements to A1 non-motorway section between Junctions 10 and 14	Upgrade non-motorway routes which link to the A1/ A1(M) at Junctions 3 and 4
Add capacity to A1(M) motorway sections through smart motorway management		
Local public and active transport improvements, including behavioural change measures between Junctions 10 and 14		
“Middle bypass”	“Improve existing junctions”	“Modest improvements”



AMBRIDGESHIRE

EDFORD AUTHORITIES

ERTFORDSHIRE



AMBRIDGESHIRE

Local Public and Active Transport Measures

Section of New Motorway (mostly offline)

EDFORD AUTHORITIES

ERTFORDSHIRE

J1-J10 All Lane Running and Smart Motorway Management



AMBRIDGESHIRE

Local Public and Active Transport Measures

Local Improvements including: grade separating junctions or creating new grade separated junctions

EDFORD AUTHORITIES

ERTFORDSHIRE

J1-J10 All Lane Running and Smart Motorway Management



J14 - J17 All Lane Running and Smart Motorway Management

Local Public and Active Transport Measures

J1 - J10 All Lane Running and Smart Motorway Management

A14 East West Connectivity Improvements



Package Benefits

Economic Case	Package A “Middle bypass”	Package B “Improve existing junctions”	Package C “Modest improvements”
Benefits	<ul style="list-style-type: none"> • Accidents (reduce accident rate) • Wider public finances • Economic efficiency for commuting • Economic efficiency for other users • Economic efficiency for business users and providers 	<ul style="list-style-type: none"> • Accidents (reduce accident rate) • Wider public finances • Economic efficiency for other users • Economic efficiency for business users and providers 	<ul style="list-style-type: none"> • Accidents (reduce accident rate) • Greenhouse gas emissions • Economic efficiency for commuting • Economic efficiency for other users
Scale of Benefits	High	Medium	Low



Estimated Package Costs

- For each of the packages the estimated cost comprises the core element of smart motorway and the individual package element
- Costs do not include ongoing operations and maintenance.

	Package A “Middle bypass”	Package B “Improve existing junctions”	Package C “Modest improvements”
2014 base cost most likely	£1.69bn	£1.14bn	£0.63bn

- Local public and active transport improvements, including behavioural change measures between Junction 10 and 14, are proposed as part of all packages. The cost of these measures is in addition to costs in the table above.

Summary of Assessment

- Package A and B achieve significant levels of benefit, although those are notably lower than the costs
- Package A is of higher cost than package B
- Package C is lower cost than packages A and B and delivers lower levels of benefit, but could be considered as complementary to package A or B

Package A	Package B	Package C
“Middle bypass”	“Improve existing junctions”	“Modest improvements”



Changing Transport Context

- Planned transport schemes
 - A14 Cambridge to Huntingdon A1(M) upgrade
 - A1(M) Junction 6 to 8 Smart Motorway
 - A428 A1 to Caxton Gibbet scheme
- Potential transport schemes
 - The Oxford to Cambridge Expressway
 - East West rail

Next Steps

**To be discussed under agenda item 6:
DfT's Summary**



Questions?

ARUP

AECOM

DAVID SIMMONDS CONSULTANCY
URBAN, REGIONAL AND TRANSPORT PLANNING



Study Contacts

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Jameel Hayat	AECOM	jameel.hayat@aecom.com	020 7645 1598



Break

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Item 4: Oxford to Cambridge Expressway Strategic Study

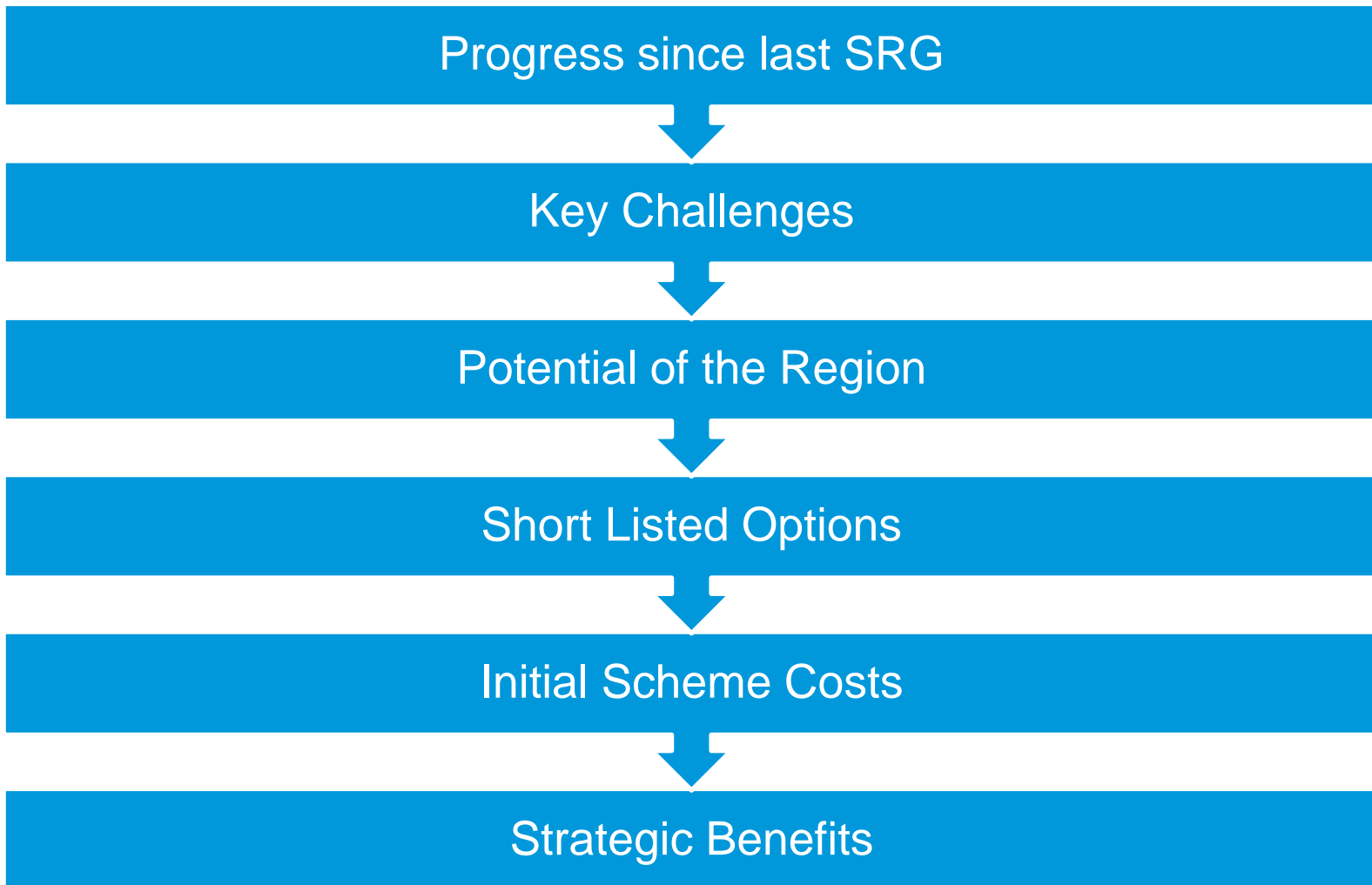
Stakeholder Reference Group

Adrian Hames

March 2017



INTRODUCTION



PROGRESS

- Shortlisted options presented in July 2016 at SRG
- Further assessment
- High Level Costing
- Likely beneficiaries
- Strategic case for intervention
- Transport case for intervention
- Development of options
- Strategy outline of economic Case
- Stage 3 Report Published

STUDY AIMS

The strategic objective of the Oxford to Cambridge Expressway study is to investigate the case for linking existing roads and creating an Oxford to Cambridge Expressway, which would provide a high quality strategic east-west road link between Oxford and Cambridge via Bedford and Milton Keynes, improving connectivity, building network resilience and supporting economic growth.

Review previous study work, relevant available data, and current investment plans to understand current performance and constraints of the existing road infrastructure, and confirm the strategic case for considering further investment.

Identify feasible options for improving and/or providing new road links within the study area that improve east-west connectivity to create an Expressway standard route between Oxford, Milton Keynes and Cambridge.

Understand the benefits and impacts resulting from the provision of a new strategic east-west corridor, to further inform the strategic and economic case for investment in new road infrastructure in the study area. The benefits assessment will consider congestion relief, reliability, safety, and environmental outcomes of constructing a new strategic east-west route. The study will consider a range of individual and combined investment proposals.

Understand the wider socio-economic benefits that result from the strategic transport options, including improved economic productivity, investment and employment benefits.

THE STRATEGIC STUDY

- The requirement for this strategic study is set out in the Road Investment Strategy: 2015 to 2020

“transport connections between cities such as Cambridge, Milton Keynes and Oxford are notably poor and create an artificial barrier between hubs of knowledge-based growth. With better links, the synergies between these cities would be stronger, and would do more to drive growth in nearby towns.”

- RIS 1 commits to widening the A428 from Caxton Gibbet to Black Cat Roundabout which will create an Expressway from Cambridge to Milton Keynes;
- A gap in the Strategic Road Network will remain between the M1 at Milton Keynes and the M40 near Oxford.
- The study is taking into account work already planned to improve the rail network in this area



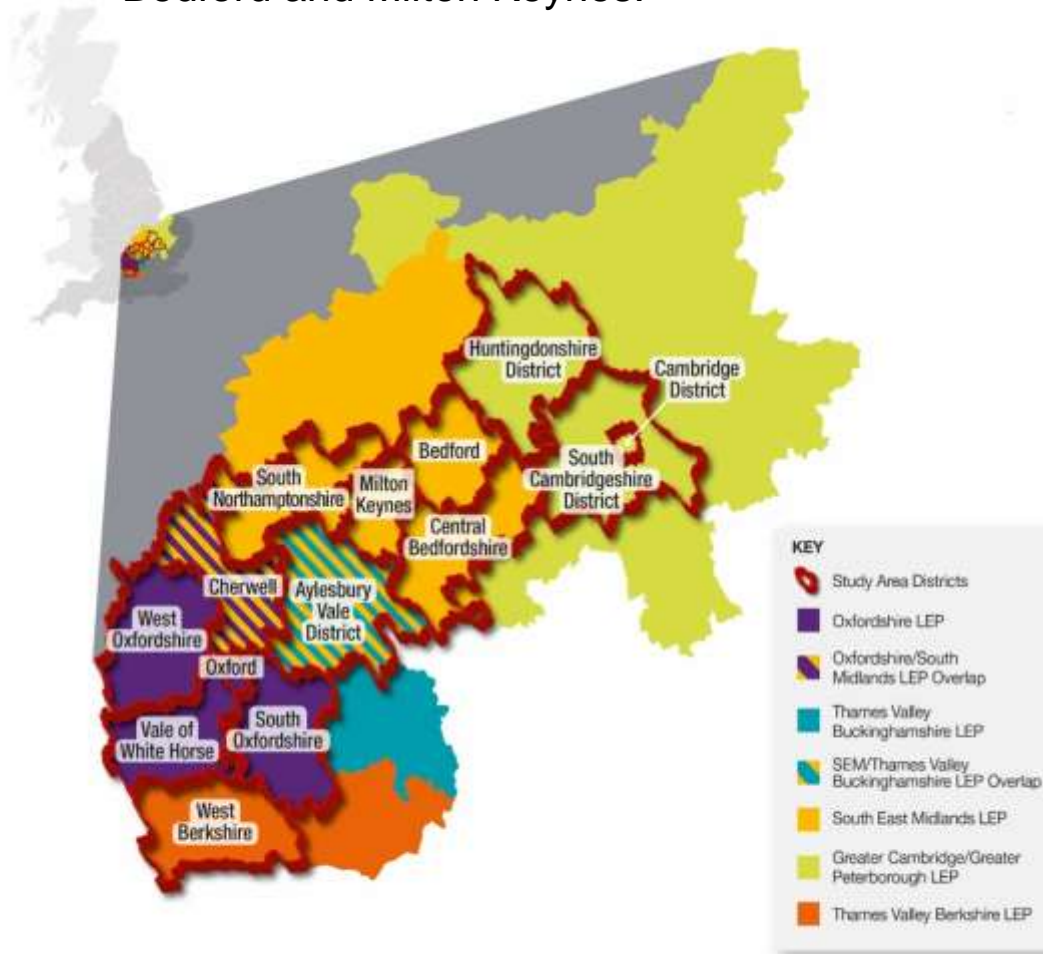
Road Investment Strategy:
for the 2015/16 – 2019/20
Road Period



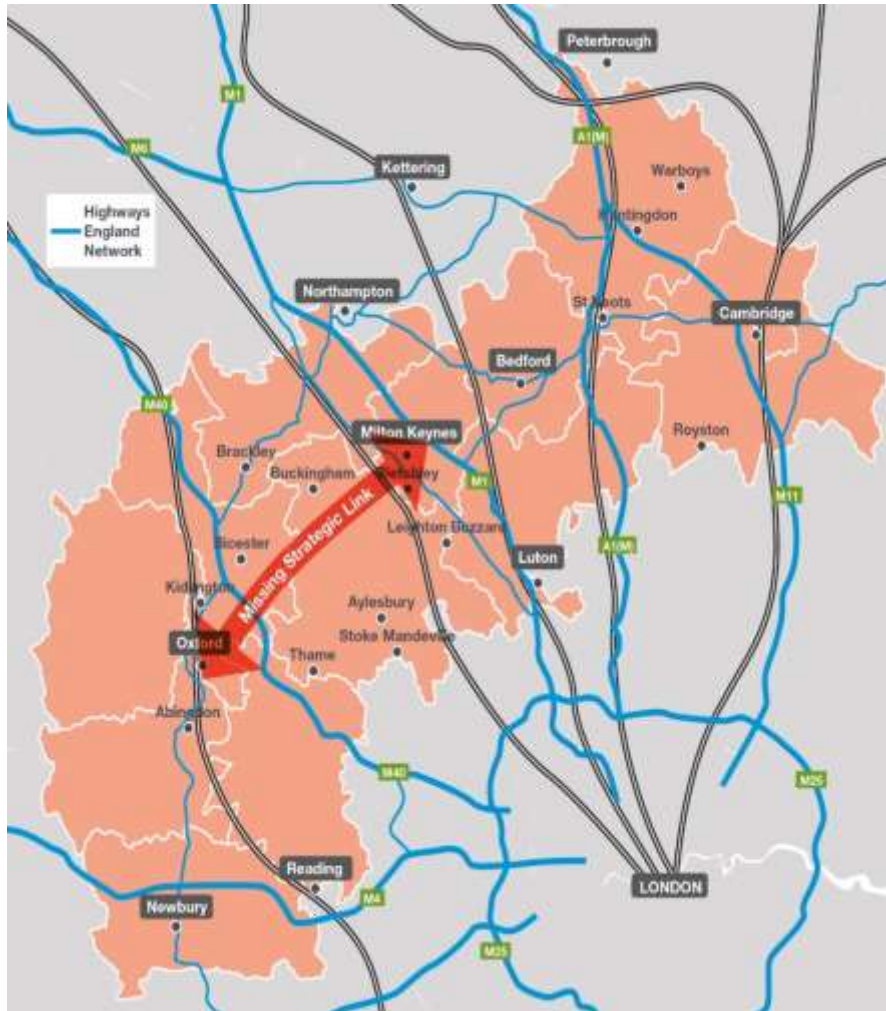
STUDY AREA

- The **strategic aim** of our study was to investigate the case for linking existing roads and creating an Oxford to Cambridge Expressway, which would create a high-quality strategic east-west link between Oxford and Cambridge, via Bedford and Milton Keynes.

- Broad Arc from Oxford, Milton Keynes and Cambridge
- Includes 5 Local Enterprise Partnerships;
- England's Economic Heartland; and
- 14 Local Authorities



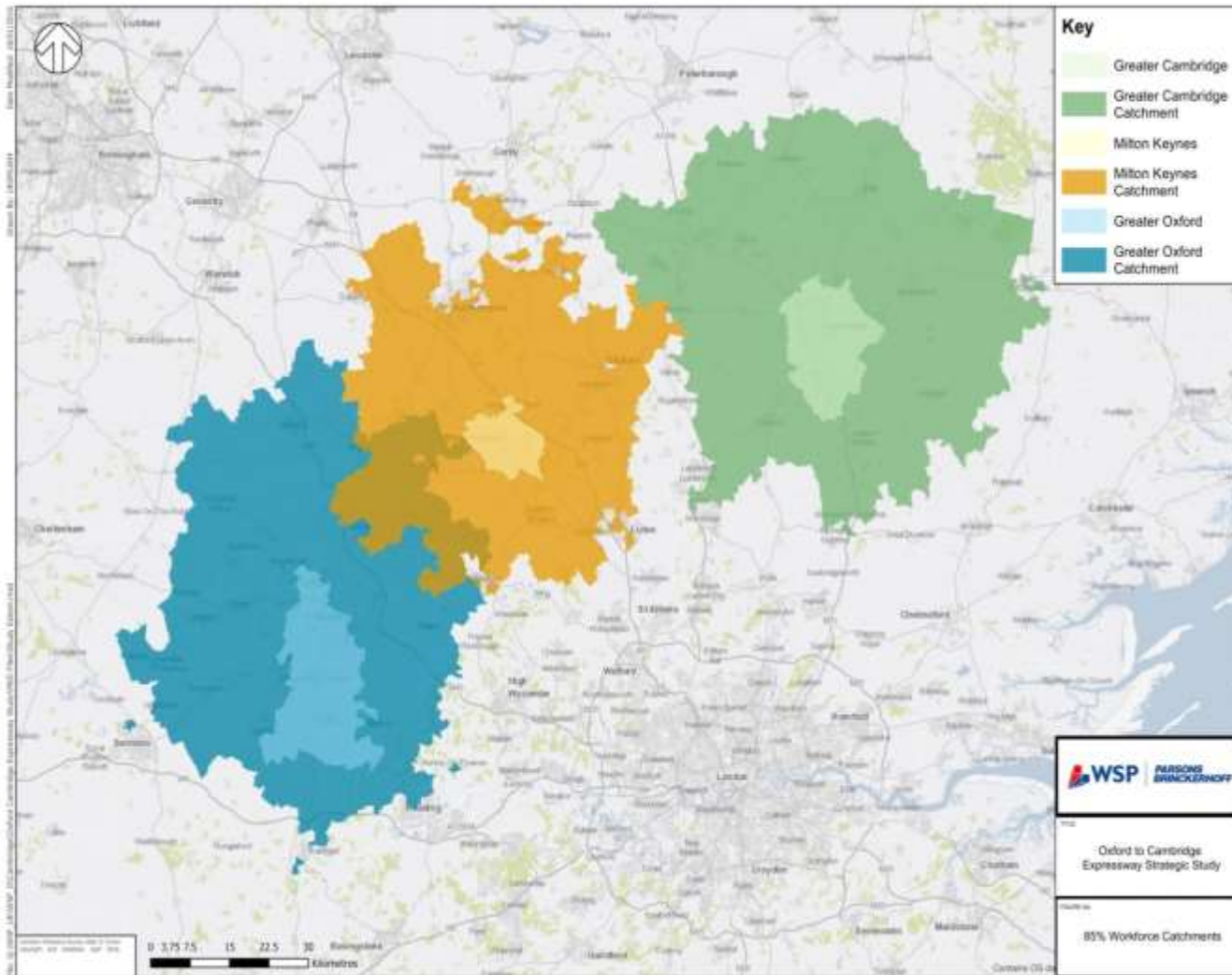
KEY CHALLENGES: LIMITED STRATEGIC FUNCTION 33



The lack of east-west rail and road connectivity results in:

- Strategic movements being routed via London (M25 orbital route) or the Midlands (M5-M42-M6-A14);
- Results in pressure on the M25 and M42 corridors for east-west journeys reducing the resilience of the SRN;
- Congestion on local routes restricting the delivery of strategic planned growth;
- The lack of east-west rail connectivity and resultant long and unattractive journey times via London discourage strategic east-west journeys to be made by public transport.

KEY CHALLENGES: REGIONAL FUNCTION



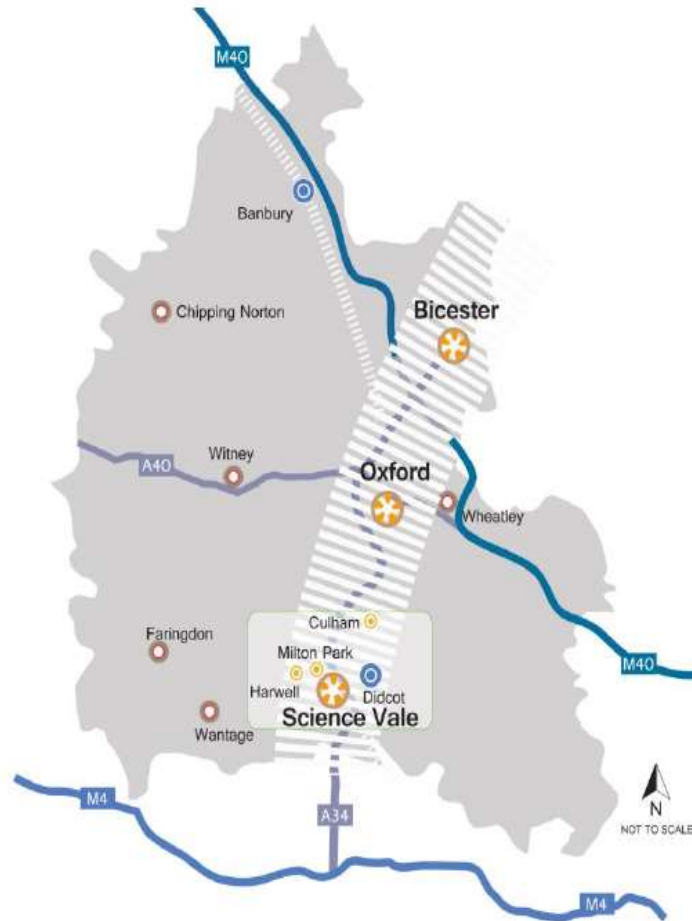
Lack of east-west regional transport connectivity limits the interaction between:

- Oxfordshire;
- Buckinghamshire;
- Milton Keynes;
- Bedfordshire; and
- Cambridgeshire

→ Restricting labour catchment areas/economic interaction across the regions.

KEY CHALLENGES: LOCAL ACCESS FUNCTION³⁵

The Knowledge Spine



Map provided by kind permission of Oxfordshire County Council



Sections of the route perform important local functions:

- A34 – Knowledge Spine Growth Area
- A421 – Aylesbury Vale-Milton Keynes
- A428 St Neots - Cambridge

KEY CHALLENGES: ROUTE STANDARD



- **A34: Botley**
- Has direct access points on to the A34 from local housing areas;
- Residential properties in close proximity to the A34 (Botley); and
- A 50 mph speed limit and is an Air Quality Action Area.



- **A43: M40 to A421**
- Local at-grade access junctions.



- **A41/A4421 Bicester**
- Direct accesses at multiple points along the route; and
- A4421 is a single carriageway with eight roundabouts.

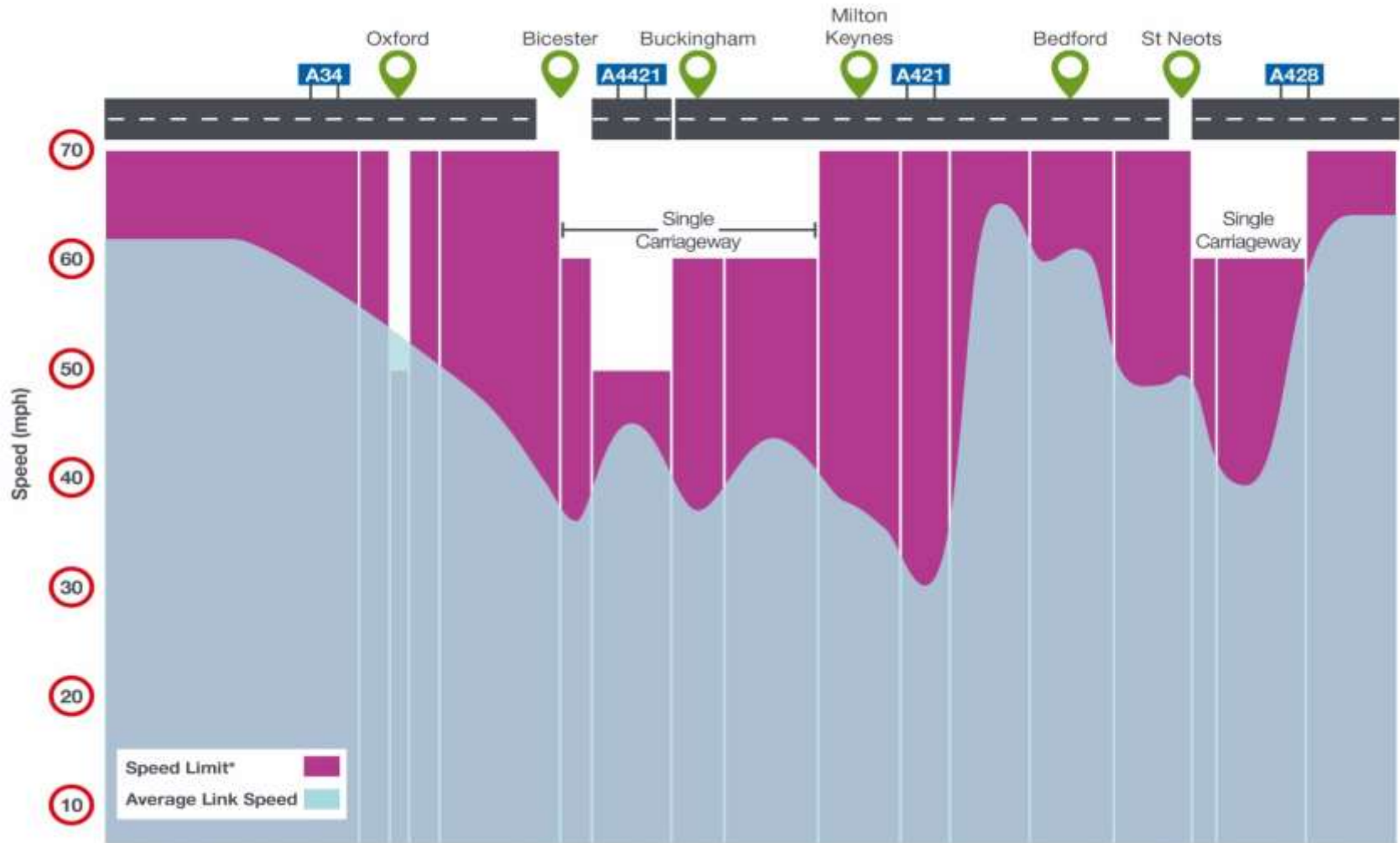


- **A421 Buckingham and Milton Keynes**
- A421 single carriageway section has regular at-grade junctions;
- Milton Keynes- urban dual carriageway road with multiple local at-grade access junctions including:
- Including 14 roundabouts from Snelshall Street to the Kingston Roundabout.



- **A428: A1 to Caxton Gibbet**
- Single carriageway road with regular at-grade access junctions.

KEY CHALLENGES: JOURNEY TIME RELIABILITY



*speed limit for the majority of the link

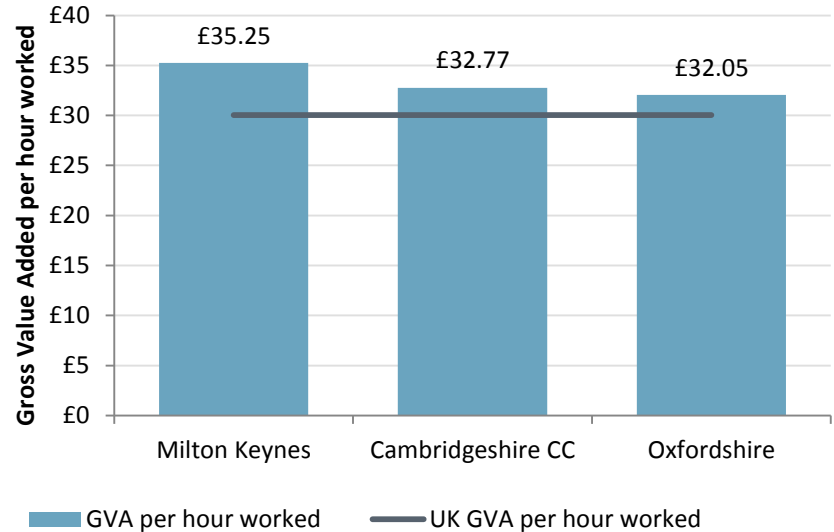
KEY CHALLENGES: FAST GROWTH CITIES

Oxford, Milton Keynes and Cambridge – forming a ‘brain belt’ north-east of London – are:

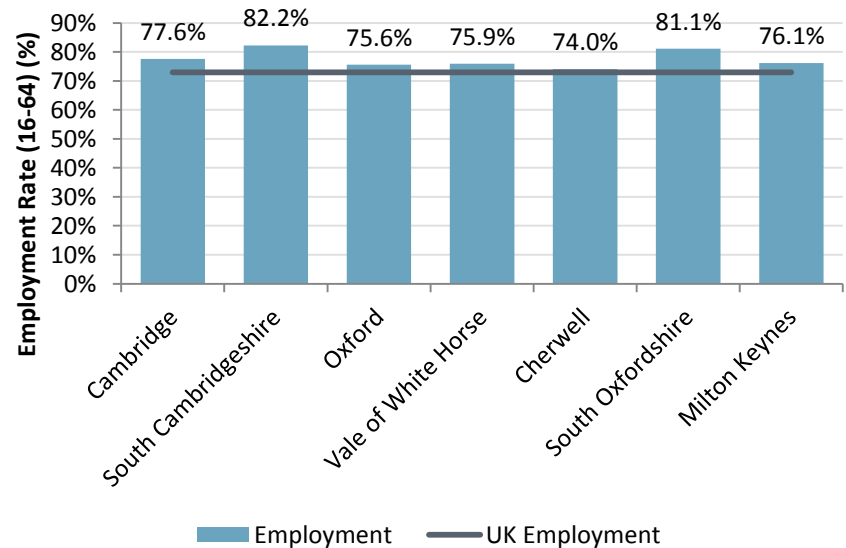
- Economically strong, resilient, dynamic
- Centres of the ‘knowledge economy’ focusing on high-value, high-skilled jobs in life sciences, advanced manufacturing and scientific research
- Gateways for Foreign Direct Investment

But suffer from constraints on economic growth – transport, housing and skills

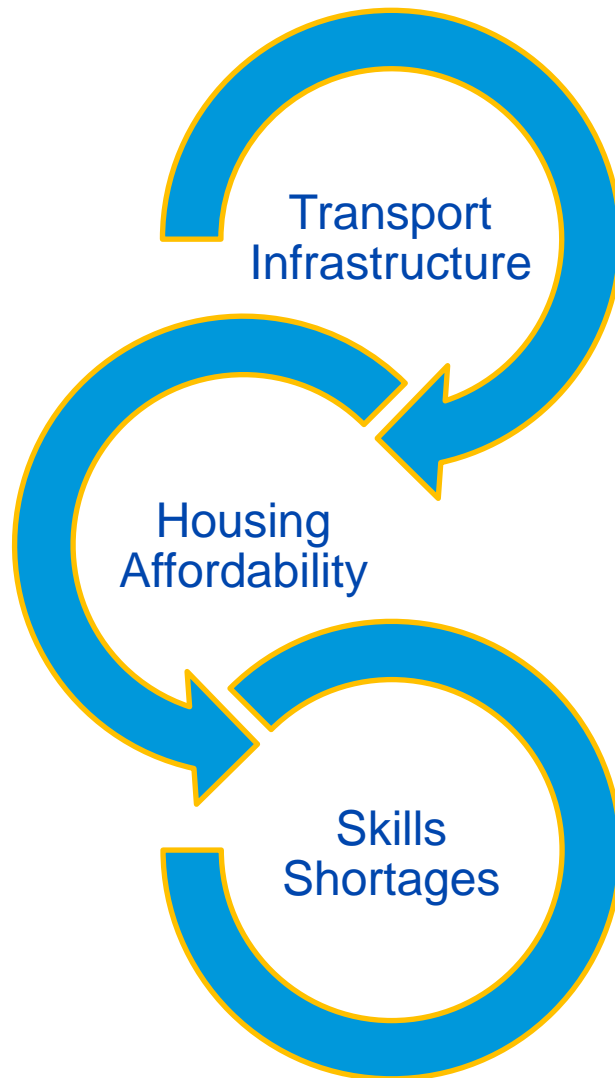
GVA per hour worked by NUTS 3 sub-region 38



Employment Rate by Local Authority District

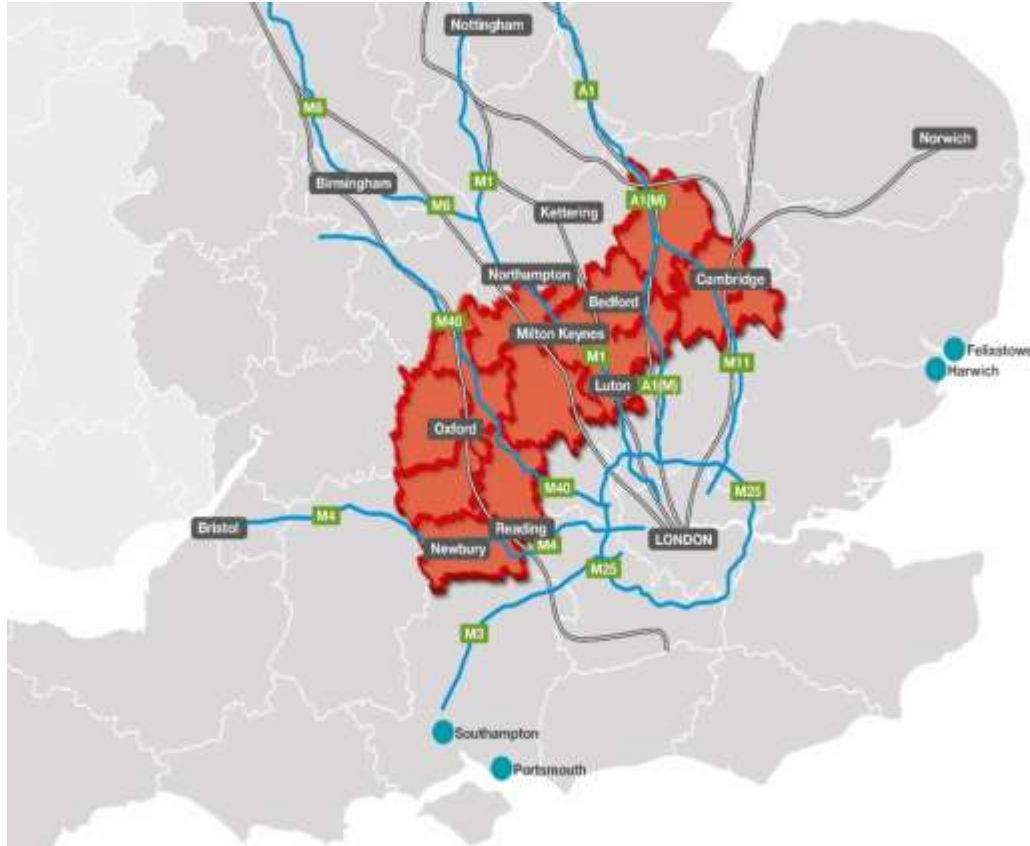


KEY THREATS



- Increasing congestion and delays
 - Reduced Journey time Reliability
 - Reduces quality of life
-
- Attracting/Retaining staff
 - Oxford/Cambridge average house prices 16 times the average wage
 - Milton Keynes strong delivery record
 - Strategic housing delivery
-
- Attracting highly skilled workforce
 - Competing on the international stage

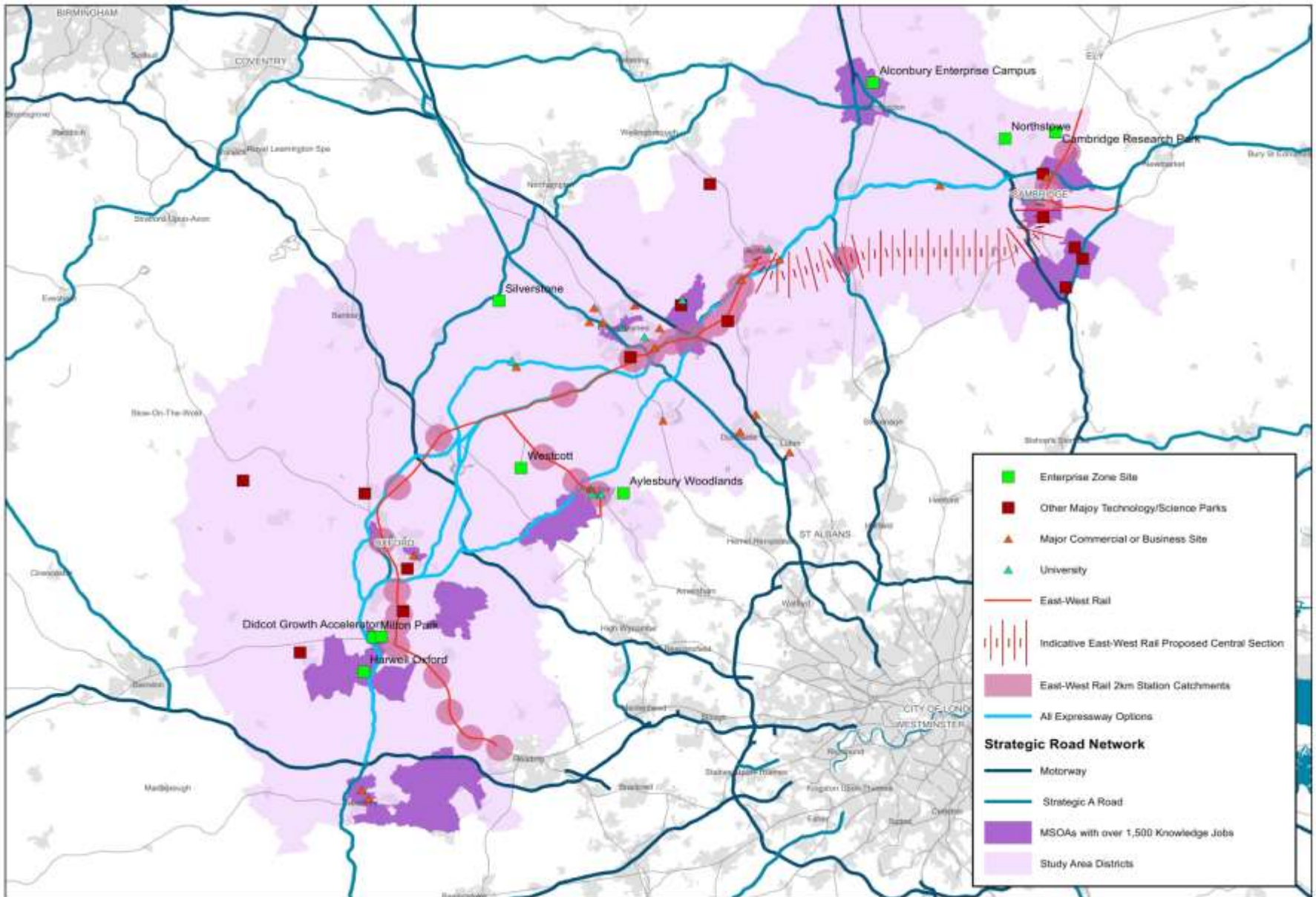
ENHANCING STRATEGIC EAST-WEST CONNECTIVITY ⁴⁰



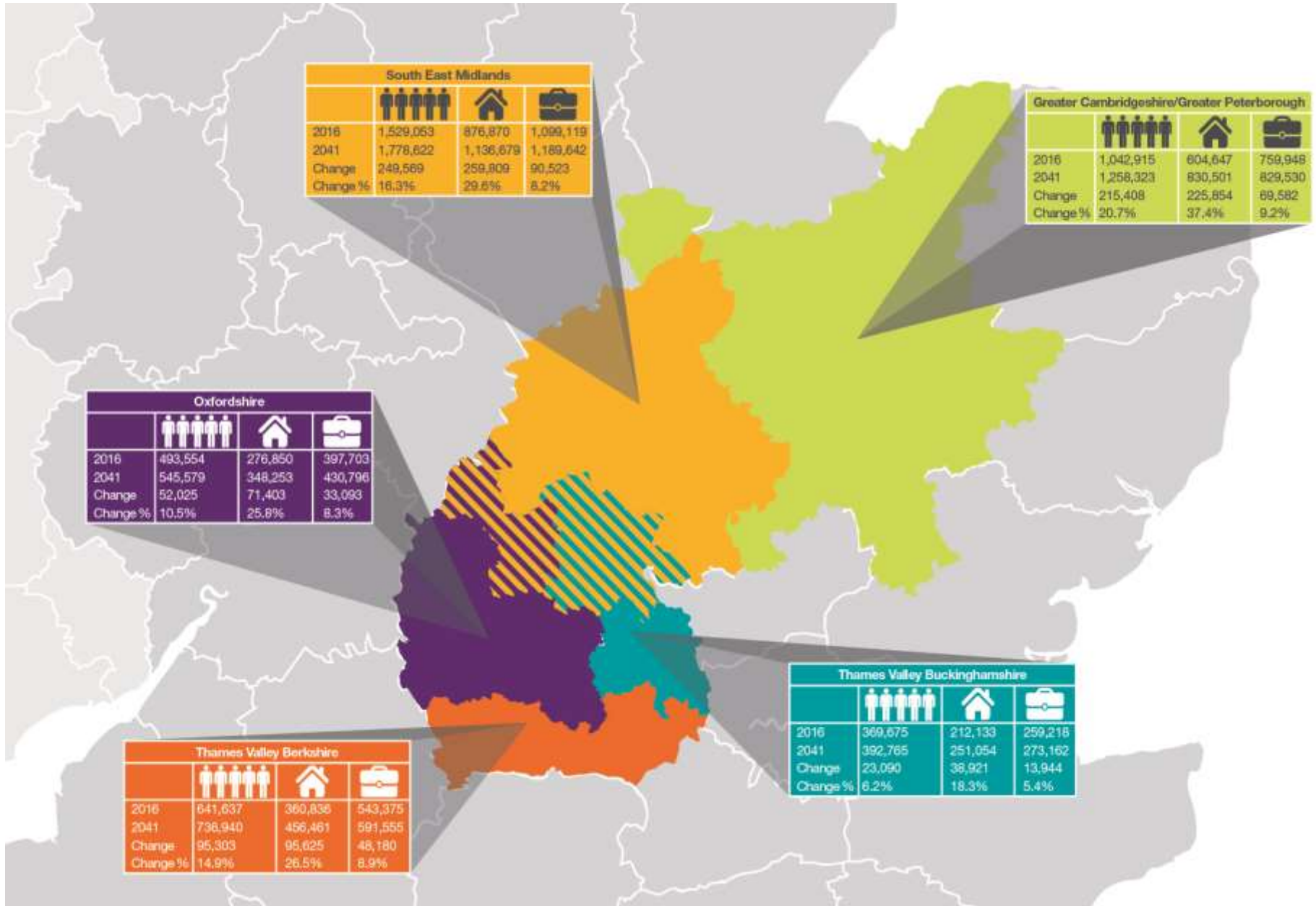
What more **could be achieved** if east-west connectivity was significantly improved:

- Releasing road and rail capacity on the M25, M42 corridors and existing rail routes, supporting the growth of London and the southeast.
- Address the missing strategic east-west links and create a more resilient, reliable, accessible and integrated national road and rail network
- Supporting strategic housing and employment growth across the study area.

ENHANCING REGIONAL EAST-WEST CONNECTIVITY ⁴¹



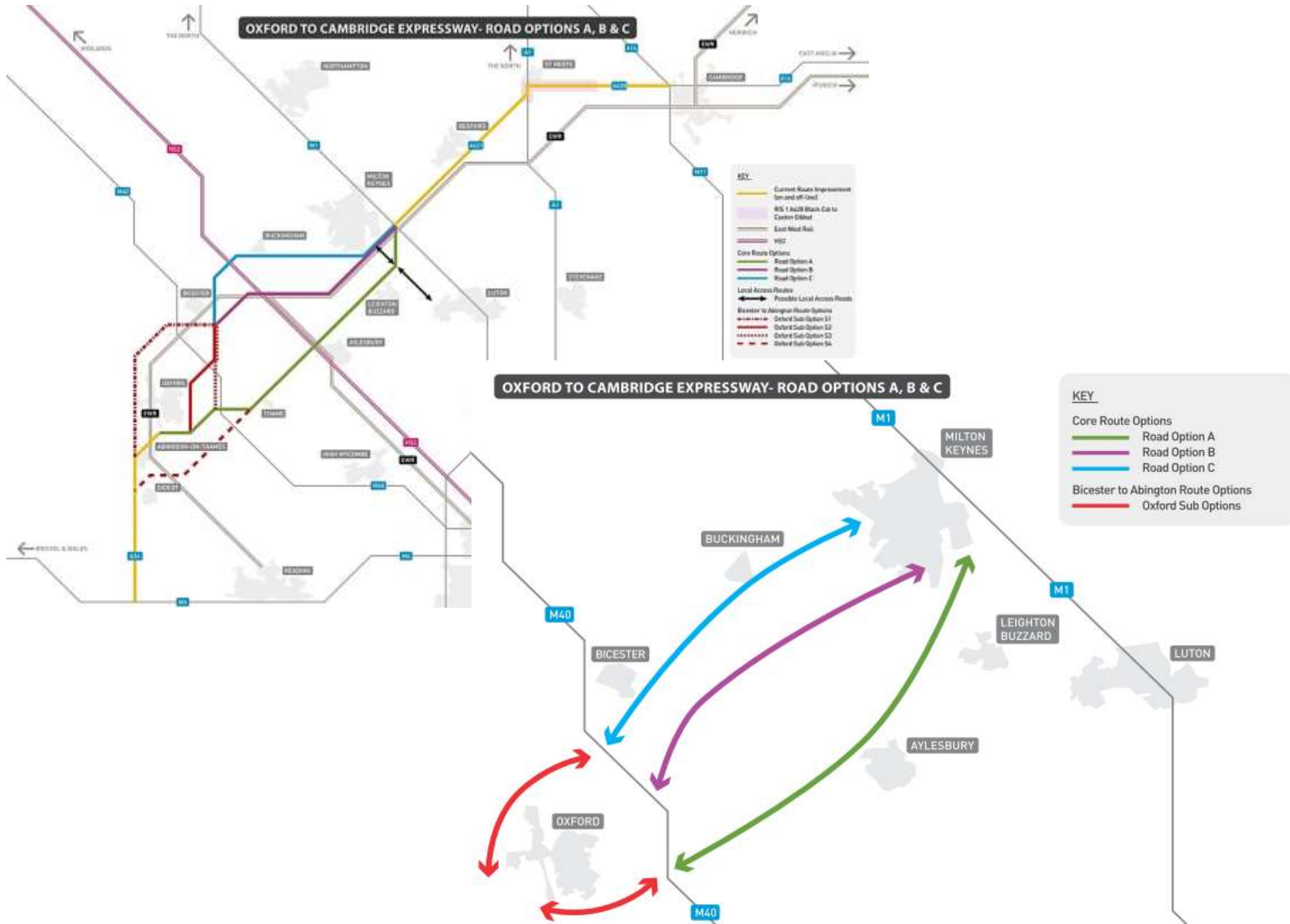
UNLOCKING GROWTH



SHORTLISTED TRANSPORT PACKAGE

Package A	Package B	Package C
Expressway Option A - Southern Route	Expressway Option B – Central Route following broad alignment of EWR	Expressway Option C – Northern Route
East West Rail – maximising choice for journeys in the corridor and beyond		
Technology – utilising current Expressway technology standards and consideration of the future role of technology for improving journeys by all modes		
Rail Integration – maximising interchange between all modes, including road and rail		
Local access / mobility – complementary measures as part of existing regional transport plans, such as City Deal and devolution		
Non-motorised users – ensuring Expressway options include measures for cycling, walking and equestrians		

SHORTLISTED EXPRESSWAY OPTIONS



SCHEME COSTS

Shortlisted Expressway Option	Base cost (plus uncertainty and project risk)*
Option A	£3,452
Option BS1	£3,035
Option BS2	£3,297
Option BS3	£3,366
Option CS1	£3,216
Option CS2	£3,481
Option CS3	£3,514

- *Costs in £millions*
- *These are order of magnitude costs only and reflect the strategic nature of the options and outline route detail at this stage of the study.*
- *These are cost estimates based at 2014 prices. They assume a current scheme opening date of 2030/31.*
- *Further work will be undertaken to refine these cost estimates as the study progresses to the next stage*

STRATEGIC BENEFITS

National

- Provide an attractive and efficient route for strategic car and freight movements between the East of England, South West England and South Wales, releasing pressure on the alternative M25 and M5-M42-M6 corridors; and
- Support the continued economic growth of the region by improving transport connectivity between 'high tech clusters', potentially creating a single fully functioning knowledge-intensive corridor.

Regional

- Improve links between local communities and businesses along the route including Didcot-Oxford-Bicester (A34), Buckingham-Milton Keynes-Bedford (A421) and St Neots-Cambourne-Cambridge (A428) thus enhancing important commuter routes between jobs and homes;
- Provide an important regional function linking key employment sites and growth areas such as the Science Vale, Bicester, Milton Keynes and Cambridge with surrounding labour pools; and
- Provide connectivity into regional service centres for leisure, tourism and access to amenities.

Local

- Sections of the Expressway would have positive impacts in their own right, including local access between homes, jobs and services;
- Support the delivery of key local growth sites; and
- Address local transport issues, for example congestion on the A34 around Oxford.

SCHEME BENEFICIARIES

- Freight industry
- Business travellers
- Commuters
- Leisure travellers
- Local Communities
- Knowledge-Intensive sectors and the wider economy



CONNECTIVITY

Journey time savings

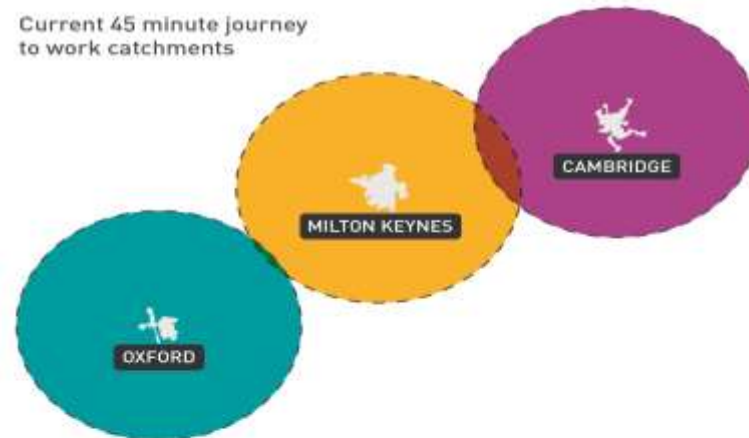
- Up to 60 minutes: M4 to M11
- Around 40 minutes: M4 and the M1

Increase catchment for labour market access to jobs

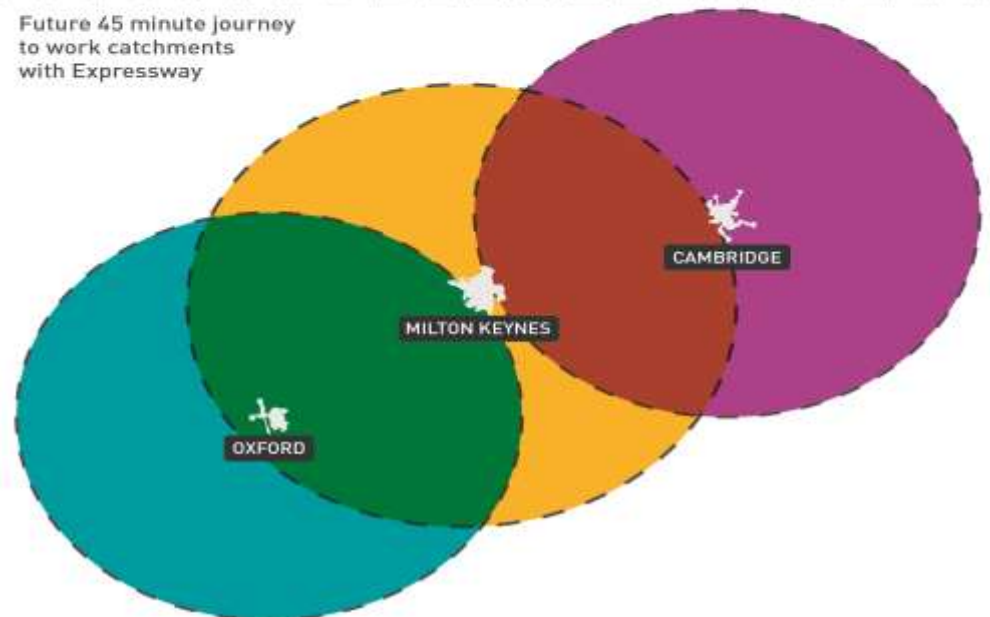
Much stronger relationship between economic areas

Significant potential for wider economic benefits

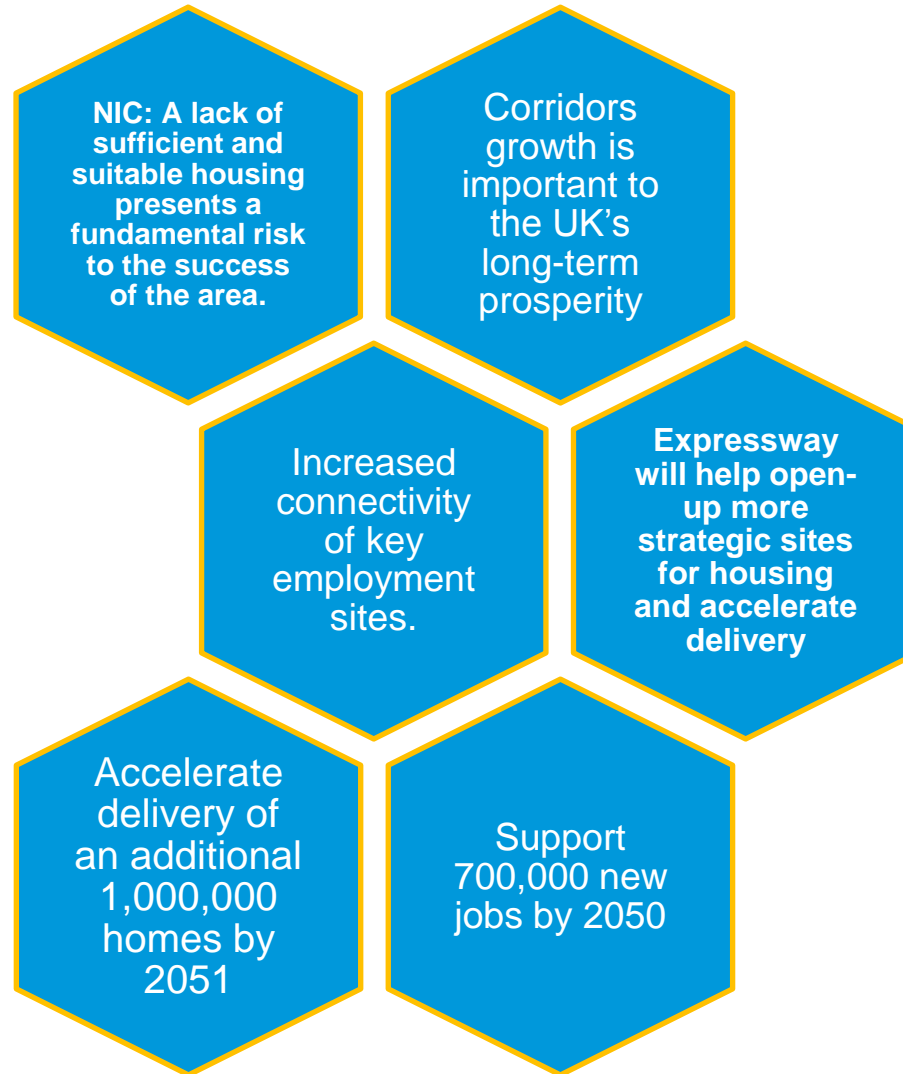
Current 45 minute journey to work catchments



Future 45 minute journey to work catchments with Expressway



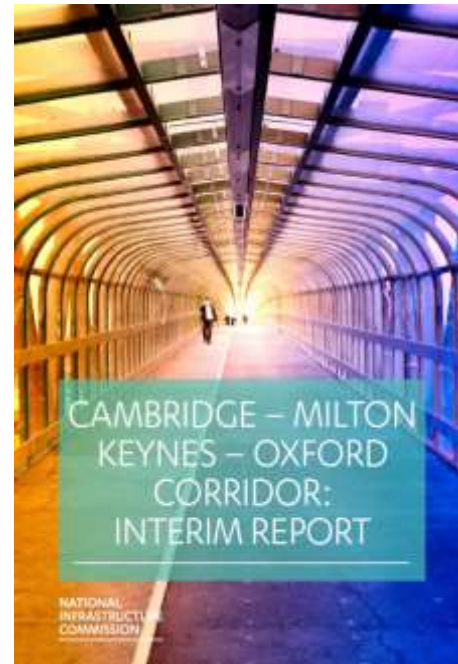
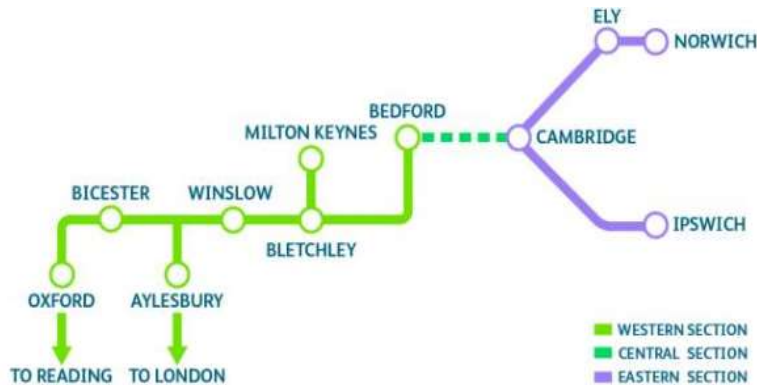
THE FUTURE: UNLOCKING GROWTH



AUTUMN STATEMENT

→ East West Rail

- Government has announced £110m funding for the link between Oxford and Cambridge including link between Milton Keynes and Aylesbury
- £100m to accelerate building the Western Section Oxford-Milton Keynes-Bedford;
- £10m to identify preferred route to extend to the east of Bedford via Sandy to Cambridge



Oxford to Cambridge Expressway Strategic Study
Stage 3 Report



Department for Transport
highways england

“transformational tech-corridor, drawing on the world-class research strengths of our two best known universities.”

*Assess the Expressway options and develop a proposal which **maximises** the schemes potential to unlock housing growth and connect labour markets.*

→ Expressway

- Government committed to spend £27m to fund the next phase of development work on the Oxford-Cambridge Expressway study



**To be discussed under agenda item 6:
DfT's Summary**

Item 5:
Update on RIS 1 and other schemes

Alan Kirkdale

RIS 1 schemes within the vicinity of the study corridors

Highways England Schemes:

- A1(M) J6-8 Smart Motorway: Start of Works 2019
- A14 Cambridge to Huntingdon: Work started – completion March 2020
- A34 Technology Improvement: Start of Works 2018
- A34 Oxford Junction Improvement: Start of Works 2018
- A5 to M1 Link: Open for Traffic end of June 2017
- A428 A1 to Caxton: public consultation March 2017
- M1 J13 to J16 Smart Motorway: Start of Works March 2018
- M11 J8-14 Technology: Start of Works March 2020

Other:

- A421 to M1 J13 to Milton Keynes (Eagle Farm): Completion subject to funding 2018/19



Department
for Transport

Item 6: A1 EoE & O2C Expressway Strategic Studies:

Philip Andrews: Deputy Director, Future Roads





Progress update

- ▶ We have published **stage 3 reports** for the strategic studies (with the exception of the M25 study, which started later).
- ▶ The National Infrastructure Commission (NIC) has published an interim report on the Oxford to Milton Keynes to Cambridge corridor.
- ▶ The Chancellor is strongly supportive of the recommendations of the NIC report, and at Autumn Statement committed £27m to further develop the **Oxford to Cambridge Expressway study**.
- ▶ The money will be used to take the study through its next phase, **Options Development**.
- ▶ Further work on **the A1 East of England study**, taking into account local plans on housing and the National Infrastructure Commission's work on the Oxford-Cambridge arc, needs to be completed before future actions can be decided.
- ▶ Further analysis will be conducted in order to fully understand the potential benefits of the proposals identified by the A1 study. The results of all analysis to date will be considered alongside the wider evidence base for RIS2.



Current focus

- ▶ Some analysis is outstanding for each of the Strategic Studies, and will be completed using the latest Highways England regional traffic models in order to produce a **Strategic Outline Business Case (SOBC)**.
- ▶ The **SOBCs** are expected to be ready around **Autumn 2017**.
- ▶ We are currently working with Highways England to design and procure the next packages of work
- ▶ We are working closely with the NIC to support their work in exploring the growth potential of the corridor, to ensure that investment strategies across the transport and housing sectors are joined up as part of a wider programme.



Interdependent schemes

▶ **East West Rail:**

- ▶ A new Strategic rail link between Oxford and Cambridge.
- ▶ Work to date suggests that EWR will complement the expressway – EWR will mainly serve city centre to city centre commuters, whereas an expressway would serve a wide user base over a larger area. This will be further explored to inform the forthcoming SOBCs.

▶ **A428 Black Cat Roundabout**

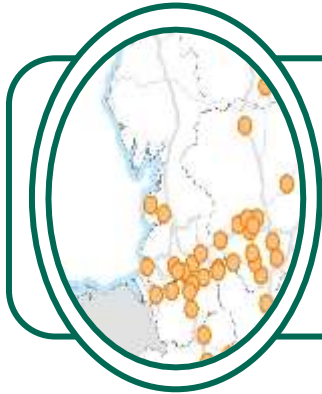
- ▶ A consultation setting out route options for early public discussion, alongside plans for Black cat roundabout, will be launched on Monday 6th March.
- ▶ The department is conscious of dependencies between the A428 scheme and the A1 study, and we will not delay the A428 scheme by waiting for the results of the A1 study.

▶ **A14 Cambridge to Huntingdon**

- ▶ An upgrade to the A14 between Ellington, west of Huntingdon, to the Milton junction on the Cambridge Northern Bypass. Includes widening the A1 between Brampton and Alconbury.
- ▶ Construction has now officially started and traffic management will be installed early in 2017.
- ▶ The A14 is expected to be open to traffic in 2020.



The RIS 2 Investment Plan



RIS 1 Schemes

Projects started in RIS1 will need to be completed. Schemes identified for development for RIS2 will also be brought forward so they can start work soon after 2020.

Strategic Studies

Six studies looking in detail at large scale and transformational projects.

- Northern Trans-Pennine Routes
- Manchester NW Quadrant
- Trans-Pennine Tunnel
- A1 East of England
- Oxford to Cambridge Expressway
- M25 SW Quadrant

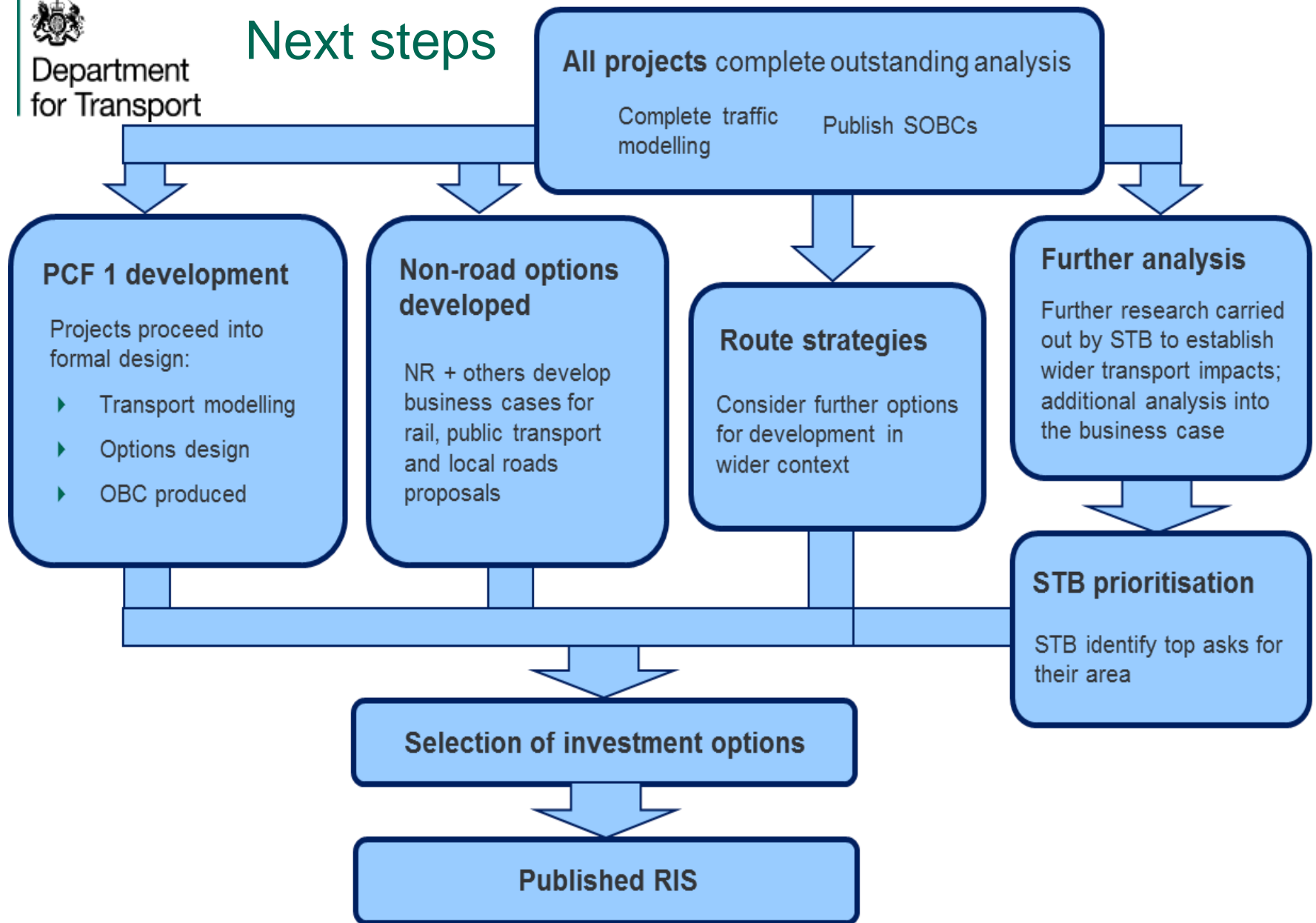


Route Strategies

These carry out an audit of pressures, needs and opportunities across the whole of the network, and identify the places where action is most urgently needed.



Next steps



Item 7:

Your Views

Your Views

Suggested topics:

- What do you think are the biggest challenges facing the projects?
- What do you think our next steps should be?
- How do you want to be engaged in the future?
- Lessons Learnt – what have we done well? What could we have done better?

***Thank you for
attending.***

***Please don't forget to fill in your
evaluation forms***