



Department
for Transport

Northern Trans-Pennine Routes: SRG April 16



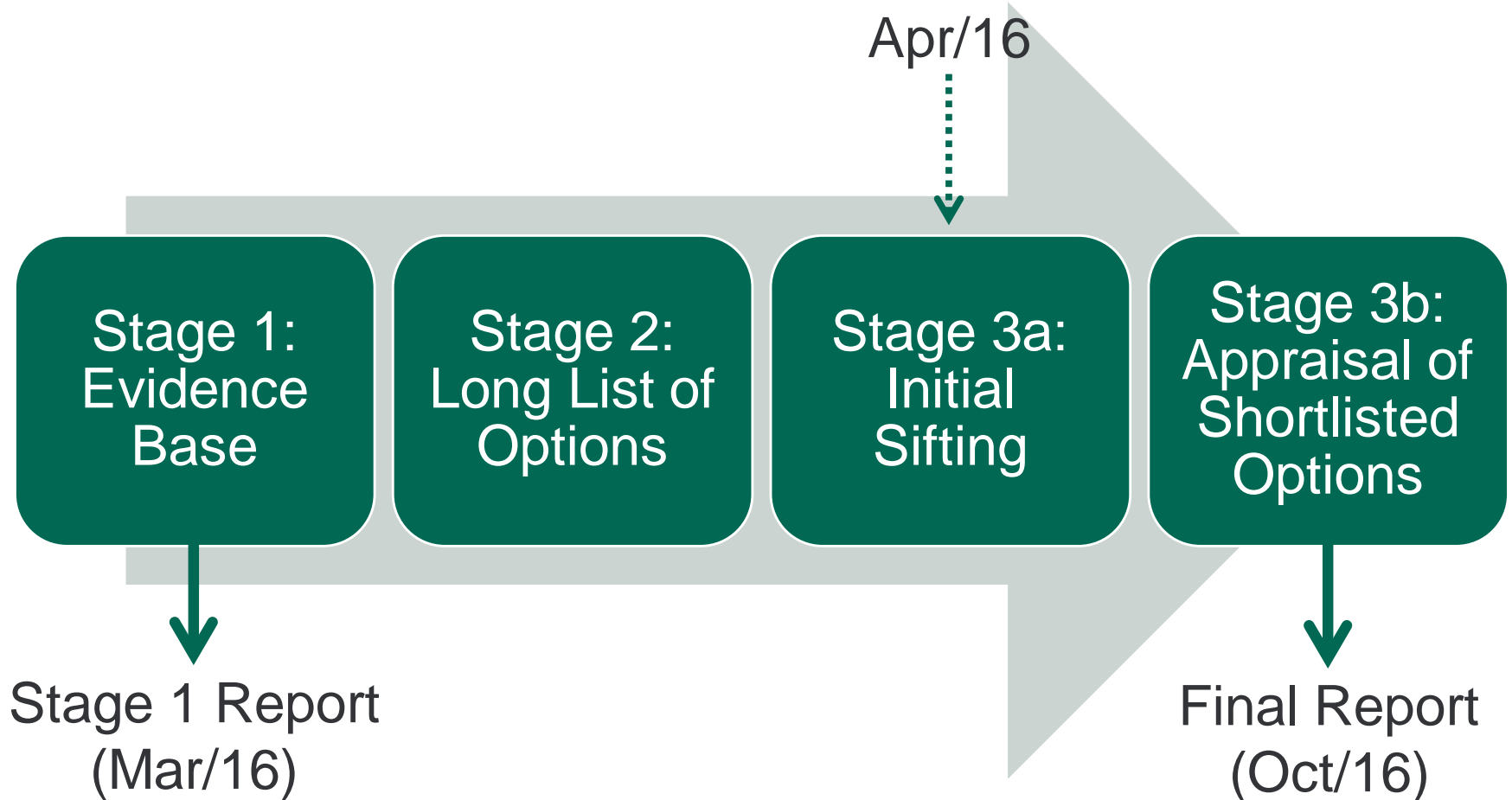


Study Objectives

- Understand **current performance and constraints** of the existing road infrastructure
- Identify **options for a new strategic corridor** upgrading one or both of the A66 and A69 and making other improvements along their length
- Understand the **operational benefits and challenges** of constructing each of the options, also assessing the safety impacts on road users and on local communities
- Understand the **benefits and impacts** resulting from the provision of a new strategic corridor to inform the strategic and economic case for investment
- Understand the **interdependencies** between the potential options arising from the Trans-Pennine Tunnel and the Manchester North-West Quadrant studies



Study Progress





Study Progress

- Study consultants commissioned in September 2015
- Meetings with key stakeholders and review of reports and other evidence
- Third SRG meeting in January 2016
- Feedback considered and intervention-specific objectives finalised
- Stage 1 Report published on 7 March 2016
- Identification of potential interventions

The screenshot shows the GOV.UK website interface. At the top, there is a search bar and navigation links for Departments, Worldwide, How government works, Get involved, Policies, Publications, Consultations, Statistics, and Announcements. The main content area is titled 'Research and analysis' and features the heading 'Northern Trans-Pennine strategic study: interim report'. Below this, it lists the source as 'Department for Transport', the publication date as '7 March 2016', and the parent document as 'Road investment strategy: post-2020 and Road network and traffic'. A summary paragraph states: 'Sets out the high level case for making improvements to the A66 and A69, to improve Trans-Pennine connectivity.' Under the 'Documents' section, two PDF files are listed: 'Northern Trans-Pennine strategic study: stage 1 report executive summary' (560KB, 14 pages) and 'Northern Trans-Pennine strategic study: stage 1 report' (15.5MB, 205 pages). Both documents include a note: 'This file may not be suitable for users of assistive technology. Request a different format.'



Study Context

TfN studies:

- Independent Economic Review
- Regional Rail Study
- Regional Freight Study
- International Connectivity
- Strategic Local Connectivity
- Smart Ticketing
- Funding and Finance
- Northern Wider Economic Impacts Study





Study Context

Three Studies announced in the first Road Investment Strategy:



Trans-Pennine Tunnel exploring the potential for a high performance link between Manchester and Sheffield under the Peak District National Park



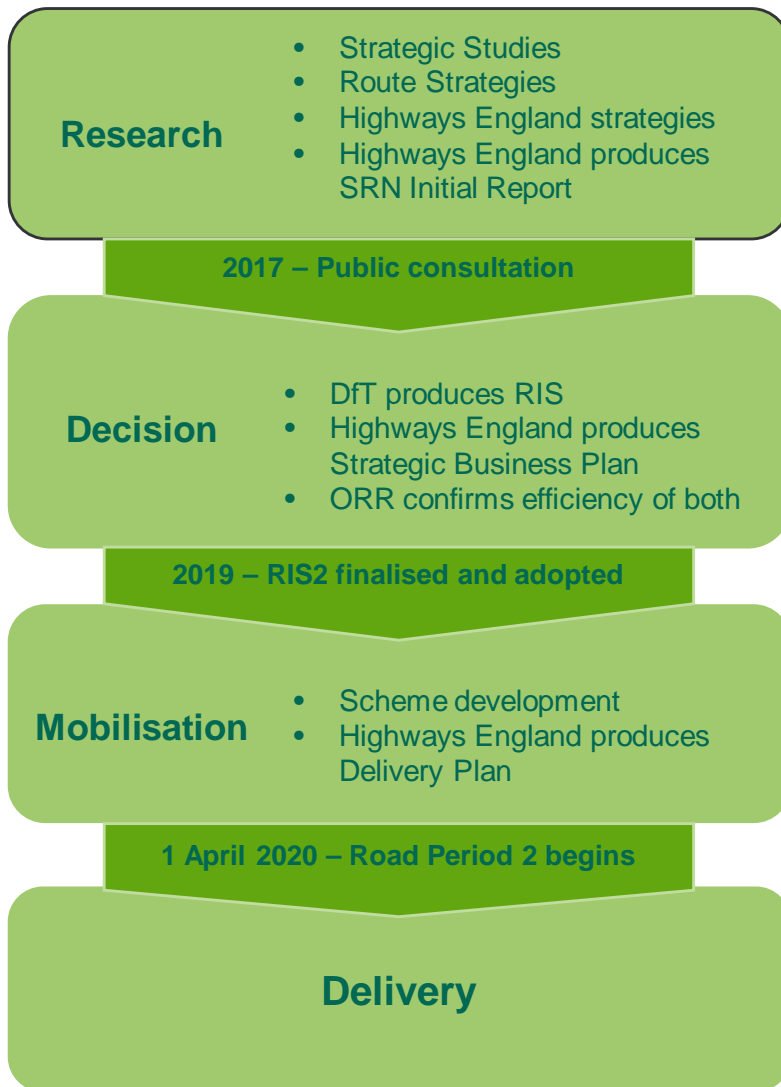
M60 Manchester North-West Quadrant investigating how to provide additional transport capacity to support economic growth



Northern Trans-Pennine considering the potential to create a new strategic east west link between the M6 and A1 to improve east-west connectivity



Wider Context - future planning



RIS2 is designed on the principle that the programme will go through distinct phases.

- ▶ The first stage consists of evidence-gathering and stakeholder engagement, trying to identify the factors and options that should shape RIS2.
- ▶ The decision phase consists of the formal negotiation of a RIS, in line with the Infrastructure Act and Highways England's licence
- ▶ Once the RIS is agreed, the process of mobilisation and delivery begins.

Each of these phases will have different needs and priorities. Key products in each stage need to be identified early, but practical development work may be able to wait until later point in the process, and allow us to focus on the items which are most urgently needed.

We will need to revisit this process to take account of the role and emerging operation of the new National Infrastructure Commission.

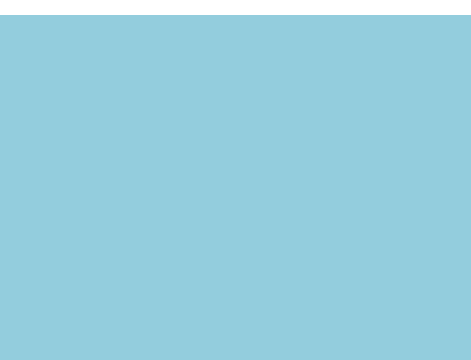


Meeting Agenda

1. Welcome and Introductions
2. Study Update
3. TfN Freight Strategy
4. Appraisal Methodology

Light Buffet and Refreshments

5. Potential Interventions
6. Breakout Session
7. Initial Assessment of Potential Interventions
8. Next Steps
9. Closing Remarks



TRANSPORT FOR THE NORTH

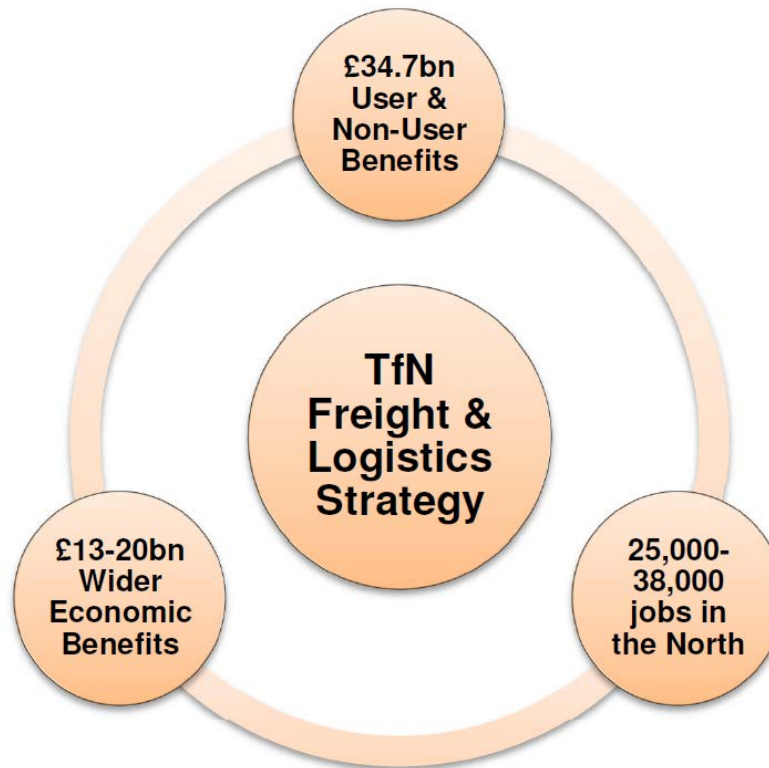
TFN FREIGHT STRATEGY

Northern Trans Pennine Strategic Route Study - Stakeholder Reference Group

Darren Kirkman
TfN Freight & Logistics Lead

The Potential for Transformative Economic Growth

“Maximise the efficiency of the movement of goods to, from and within the North of England to contribute to the transformation of the economy of the Northern Powerhouse”



**STUDY REMIT,
TEAM AND
APPROACH**



Study Team and Governance

- **Consultant Study Team**

- Project Manager: Richard Brown
- Technical Director: Mike Garratt



- **TfN Client Project Steering Group**

- Chair: Darren Kirkman, Merseytravel

- **Private Sector Reference Group**

- Chair: Bernard Molloy, Global Logistics Director, Unipart

- **Technical input from industry experts**

Approach, Remit & Methodology

- **The development of a public sector strategy.... but developed with and for a private sector Freight and Logistics industry**
- **What can the North do to help the sector maximise its contribution to the Northern Powerhouse?**
- **Phase 1: Baseline Development**
 - Freight demand & assets in the North including a 'Do Minimum' baseline
 - Policy context & international best practice
 - Conference and Stakeholder Consultation
- **Phase 2: Scenario Development & Forecasting**
 - Scenario development and testing – 'Preliminary Central' scenario & alternative scenarios
 - Forecasting strategy outcomes
 - Evaluating impact of measures
- **Phase 3: Strategy & Action Plan Development**
 - Strategy conference
 - Ongoing interface with other TfN workstreams
 - Development of Strategy Document, Action Plan and supporting Technical Appendices



**FREIGHT
& LOGISTICS
- NORTHERN
CONTEXT**



Baseline Key Findings

In the UK, a total of 1.65 billion tonnes of freight are lifted per annum. Around a third takes place in the North of England

Network flows of freight are often dominated by North – South movements, but also major East-West flows on the road network

The North plays a strong role in rail freight transport – 56% of total rail freight in 2014/15 was to or from the North

Road and rail capacity issues present significant barriers to efficiency, limiting future growth

Forecast need for the North to cater for at least 13% more freight by 2033

Existing programmes of rail and road network upgrades will, at best, keep up with demand

Future Demand and Freight Assets

With use of the GB Freight Model and 'Do Minimum' forecasts

£ **500** m

Potential cost of transport network congestion per year by 2043

Do Minimum forecasts of demand:



Road freight will grow

Rail freight will decline



Step changes in port capacity could capture increased freight throughput



Opportunities for the North through enhanced infrastructure & increased efficiency



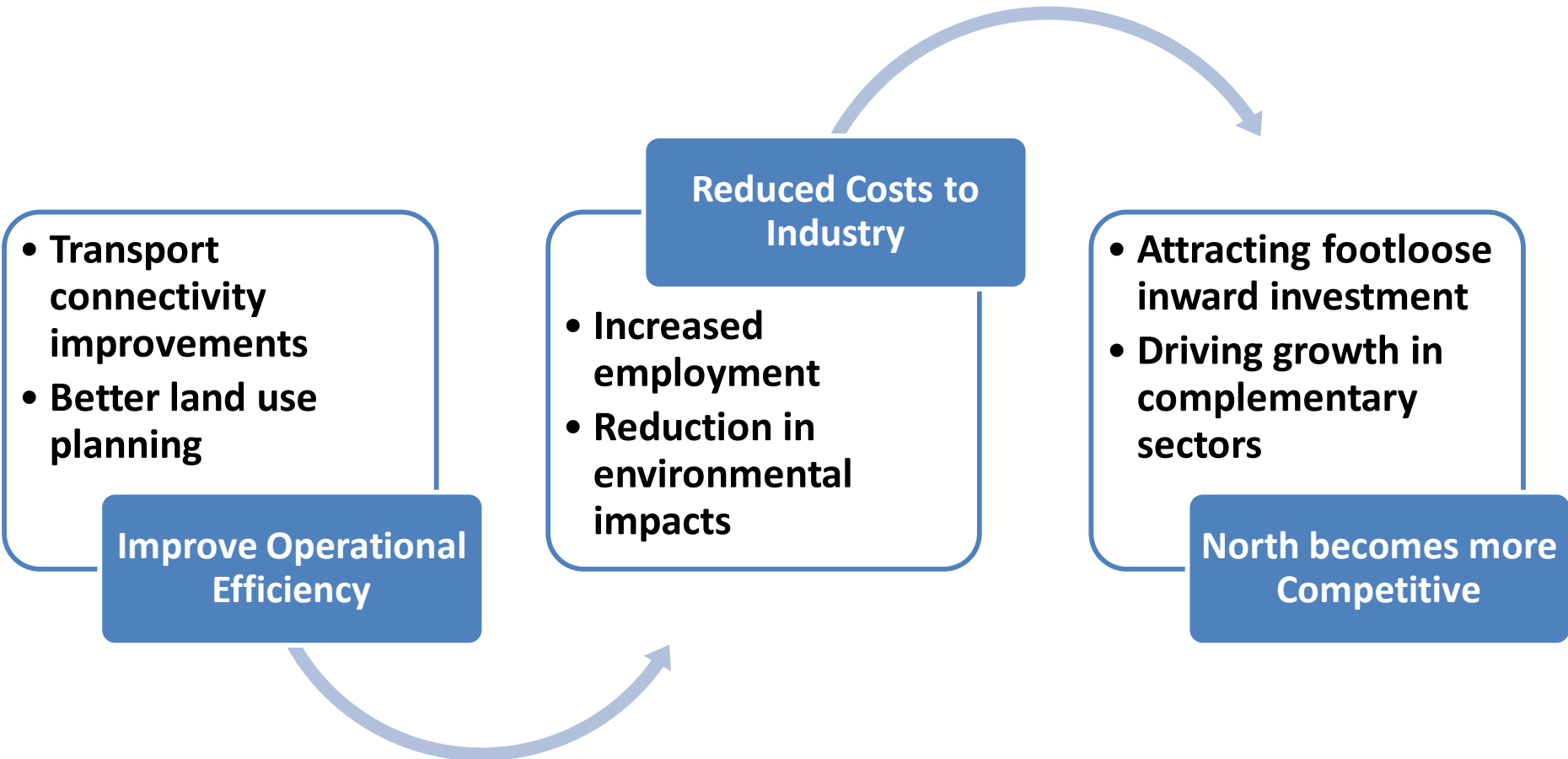
**IMPETUS FOR
STRATEGY
DEVELOPMENT**



Strategy Impetus

- UK's first pan-regional freight and logistics strategy, in pursuit of a shared public/private sector vision
- Potential to generate a large level of benefits to the Northern and wider UK economy for a relatively modest level of public sector investment
- Ensuring that infrastructure is in place to maximise the benefits from in-progress developments such as Liverpool2 and Teesport
- Crucial to strategy success is instilling sufficient confidence in the private sector to invest in its own infrastructure and new services

Strategy Impetus (2)



THE STRATEGY



Strategy Vision

A shared public/private sector vision:

*“In 2033 the North of England will have **world-class infrastructure** to facilitate the **efficient movement of freight** to, from and across the region. It will **offer high quality and cost-effective accessibility and connectivity** to global and national markets via its ports, airports and its network of Multimodal Distribution Parks. These changes, plus a **re-focused planning and policy framework** in the North, will have led to a **step-change in private sector investment** in infrastructure, services and equipment to create **new employment opportunities** in the logistics sector and the widespread adoption of **low or zero emission solutions** for both long-distance and ‘last mile’ solutions. The freight and logistics industry in the North will have fulfilled its role as one of the critical enablers to allow all industry sectors, including **advanced manufacturing and low carbon energy generation**, to flourish and grow in the region, while making the North an **attractive place to live, work and invest.**”*

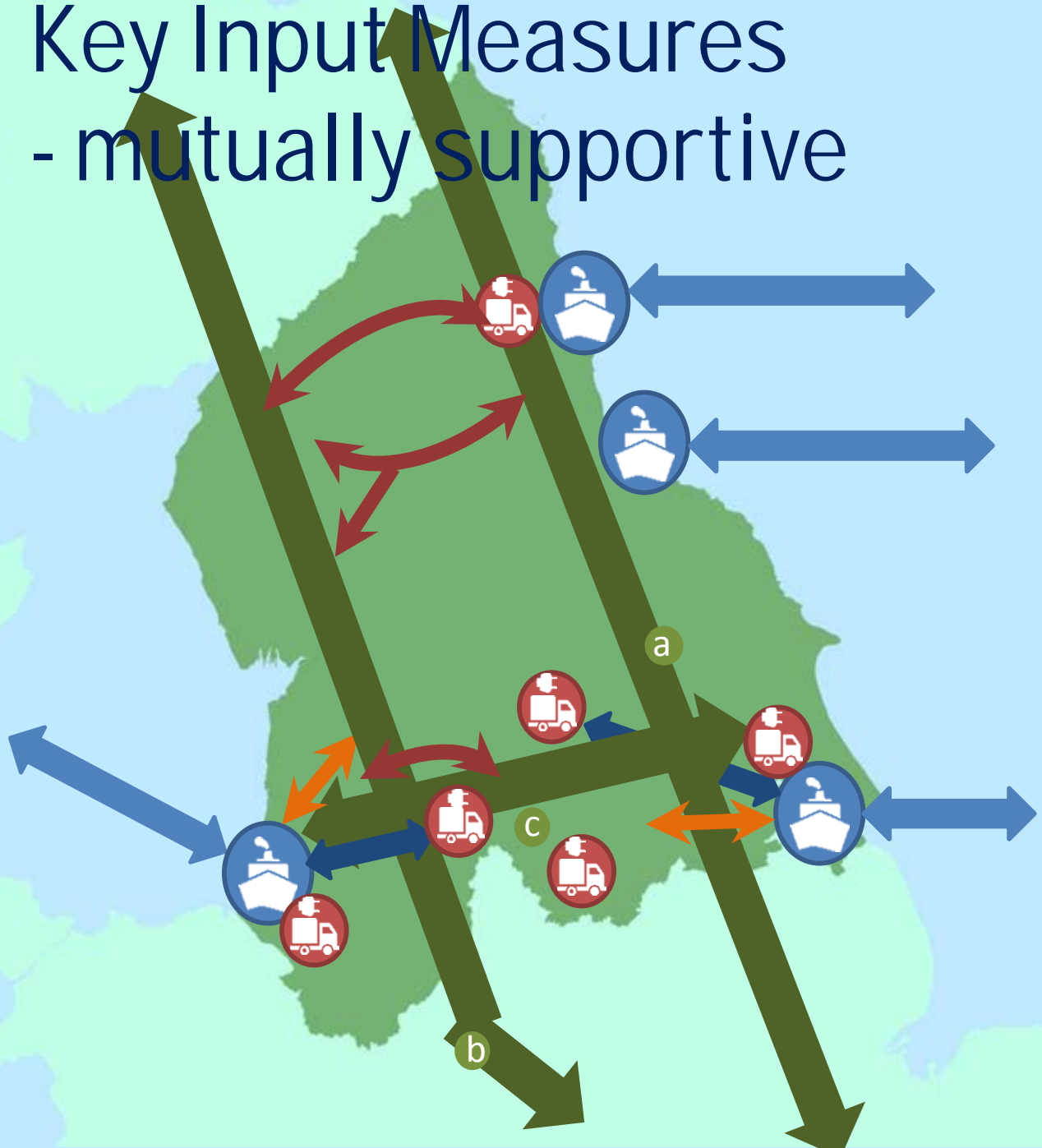
Strategy Objectives




To deliver road and rail infrastructure capacity that enables forecast demand to be realised, improve connectivity and ensure network resilience for freight and logistics activity to, from and within the North to 2033 and beyond

To deliver at least 50 hectares of rail and water connected distribution parks per annum that will also add 2 million m² of distribution centre capacity on multimodal sites in the North and create 25,000-38,000 new jobs in the logistics sector by 2033

To deliver £17 billion of efficiency gains for the UK economy through the freight and logistics sector and £18 billion of reduced congestion and environmental benefits

Key Input Measures - mutually supportive



- 
Ports on major estuaries – potential for LNG bunkering
- 
TfN studies endorsed by strategy
- 
Schemes to enhance land side access to ports endorsed by strategy
- 
Six core cities with last mile distribution solutions
- 
Creation of total rail freight network capacity as follows (paths per hour, sum of both directions):
- a
ECML & MML - 5 north of York & 14 south of Doncaster
- b
WCML - 5 north of Wigan; 11 between Crewe & Wigan; 12 south of Crewe
- c
Trans-Pennine – 6 across the Pennines
- 
Waterway / wharf upgrade with new wharf

Measures (1)

- Promotion of Shipping routes to Northern Ports:
 - Complementary land-side access improvements to ports
 - Development of Liquid Natural Gas (LNG) bunkering and potentially cold ironing infrastructure at ports
- Build out of Chained Multimodal Distribution Parks:
 - 50 hectares of suitable sites brought forward per year
 - Rail and/or water connections
 - Located at edge of urban centres - futureproofing for longer term low carbon 'last mile' distribution
- Endorsement for TfN Highway Studies and other Strategic Highway Improvements:
 - North Transpennine (A66/69)
 - Manchester North West Quadrant (M60/M62)



Measures (2)

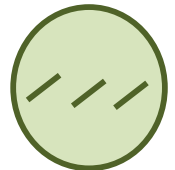
- Rail Network Upgrades:

- 20% longer freight trains
- Operating on a six day week basis
- Provision of Rail-Freight Network Capacity (paths per hour by 2033; rounded, two-way, directions summed):
 - 5 north of York and 14 south of Doncaster on the ECML and MML
 - 5 north of Wigan, 11 between Crewe and Wigan and 12 south of Crewe on the WCML
 - 6 across the Pennines



- Policy and Planning:

- Working with local and national government to explore how best to deliver the required MDP provision
- Supporting rail/water connections where required
- Harmonised approach to the regulation of access by freight vehicles in urban areas
- Strategy to provide support for training, education and qualification programmes



Anticipated Private Sector Response

- Additional two million square metres of B8 space in the North by 2033
- Higher proportion of ro-ro freight travels as unaccompanied freight on board ships directly between Continental Europe and Northern ports
- Higher proportion of deep sea shipping lines relocate to Northern ports e.g. Liverpool, Teesport
- Investment in new equipment e.g. locomotives, wagons, LNG-powered ferries

STRATEGY IMPACTS



Strategy Results (2033)

- 4% increase in the proportion of large distribution buildings located in the North
- 5% increase in the North's proportion of the UK container shipping market share
- 13% increase in the North's proportion of the UK freight ferry market share
- 42% increase in rail freight kilometres nationally
- Larger increase in the tonnage of goods carried by rail freight to, from or within the North than for the wider UK
- ~40 million tonnes reduction in the volume of goods moved by road from Southern ports to the North of England
- 32 million tonnes increase in the volume of goods carried by road in the North (particularly across the Pennines)

Transformational Benefits

Total Benefits to UK economy:

£34.7bn

Based on a 60 year appraisal period; discounted to 2010 and 2010 prices

Comprised of:

User Benefits - £16.8bn

**Non-User Benefits - £17.8bn, including
£3.8bn of environmental benefits**

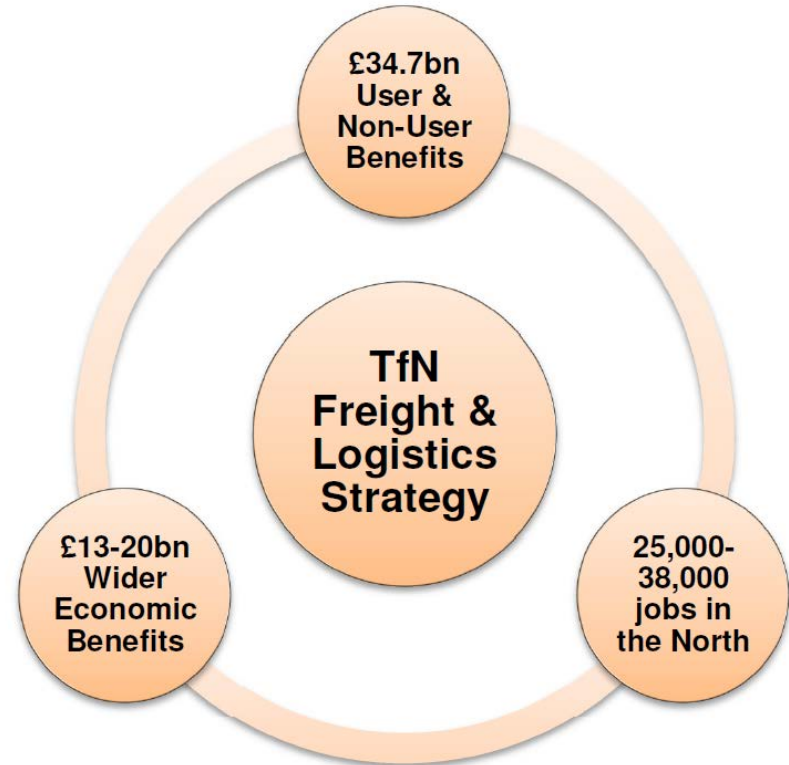
Potential Wider Economic Benefits to Northern Economy:

£13 to £20bn

(30 year appraisal period)

Job Creation in the North (by 2033):

25,000-38,000

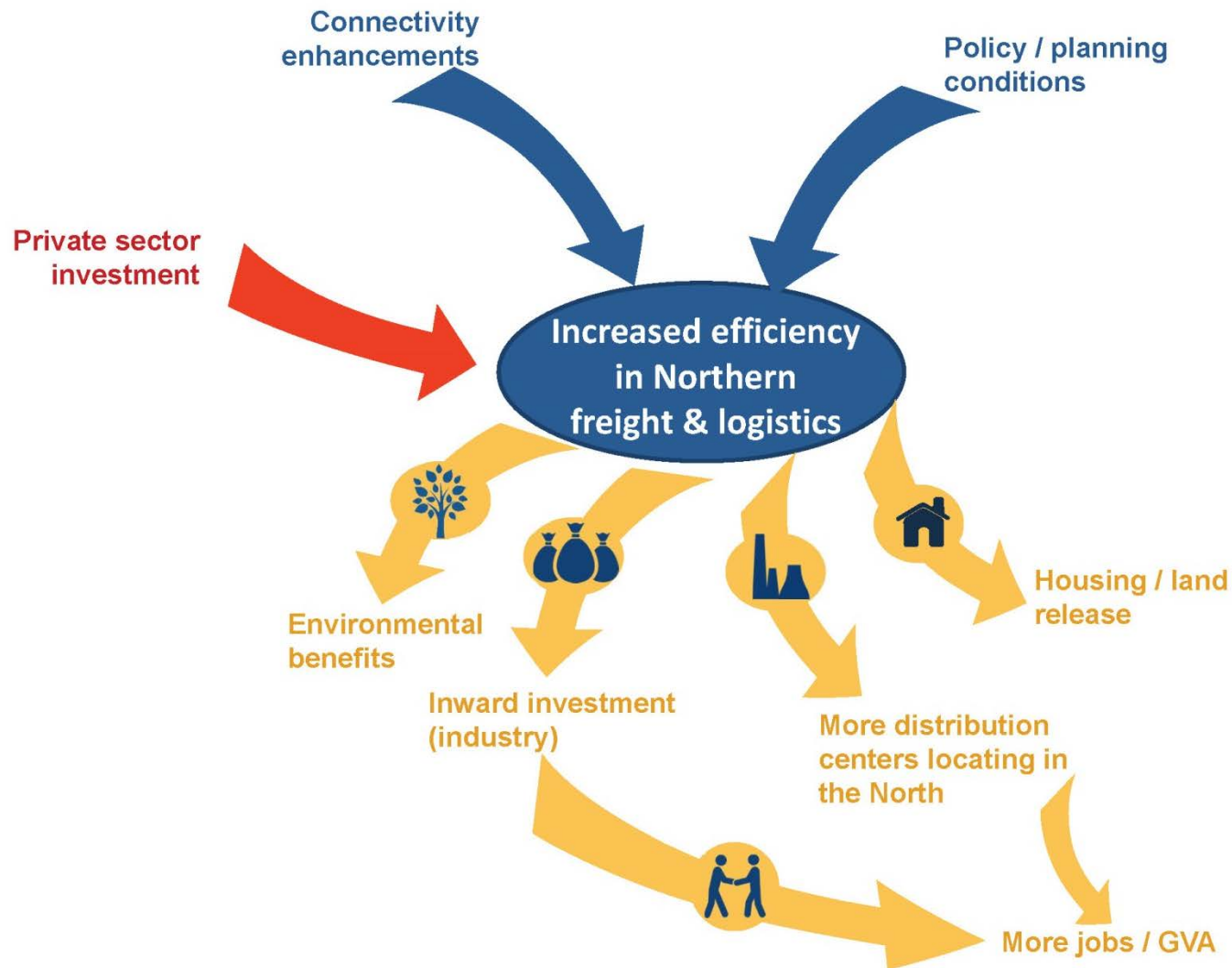


***& additional prospects of efficiency leading to inward investment,
and more competitive productive industries***

Delivery & Next Steps

- Outline Action Plan developed:
 - Actions identified in the short (2016-2021), medium (2022-2027) and long (2028-2033) terms for strategy delivery
 - Measures to be classified to confirm TfN funding and delivery
 - Key delivery partners identified
- Next Steps.... successful strategy delivery hinges on:
 - Prioritisation – drawing up **investment priorities** particularly over the short-to medium term with reference to other TfN workstreams (road and rail)
 - Keeping momentum with stakeholders- **engaging with the private sector** while interest remains high – a consultative panel/Business North
 - TfN working with local and national government to achieve better pan-Northern **land use outcomes**
 - **Further economic analysis** to ultimately support an inward investment prospectus
 - TfN developing pan-Northern guidance and coordination to harmonise key regulations for HGV access to urban areas to **maximise environmental benefits**

Delivering Transformative Outcomes



ANY
QUESTIONS?





Northern Trans-Pennine Routes Strategic Study

*Stage 2 Option Assessment –
Appraisal Methodology*



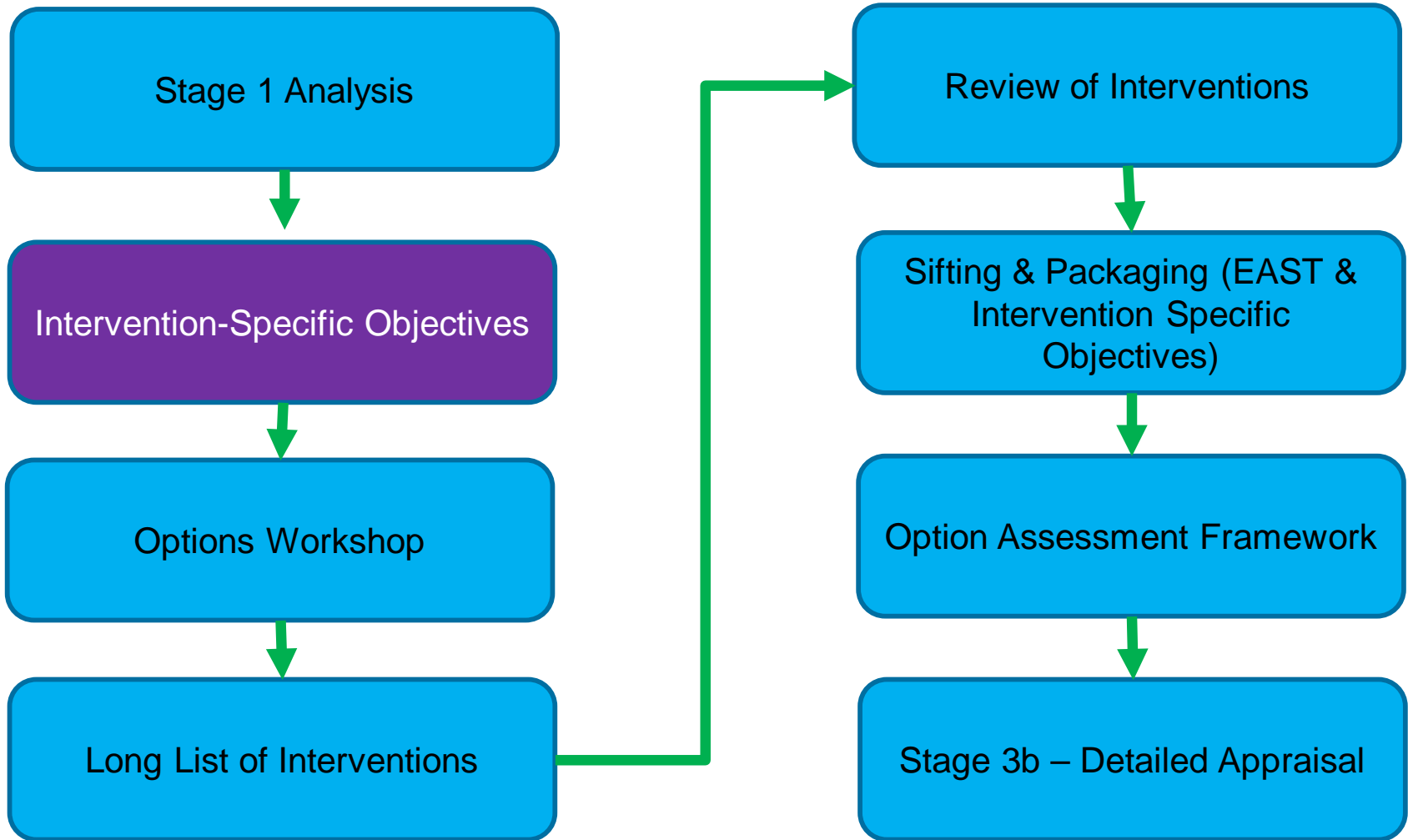
PARSONS
BRINCKERHOFF

Halcrow



steer davis gleave

STAGE 2/3 SUMMARY



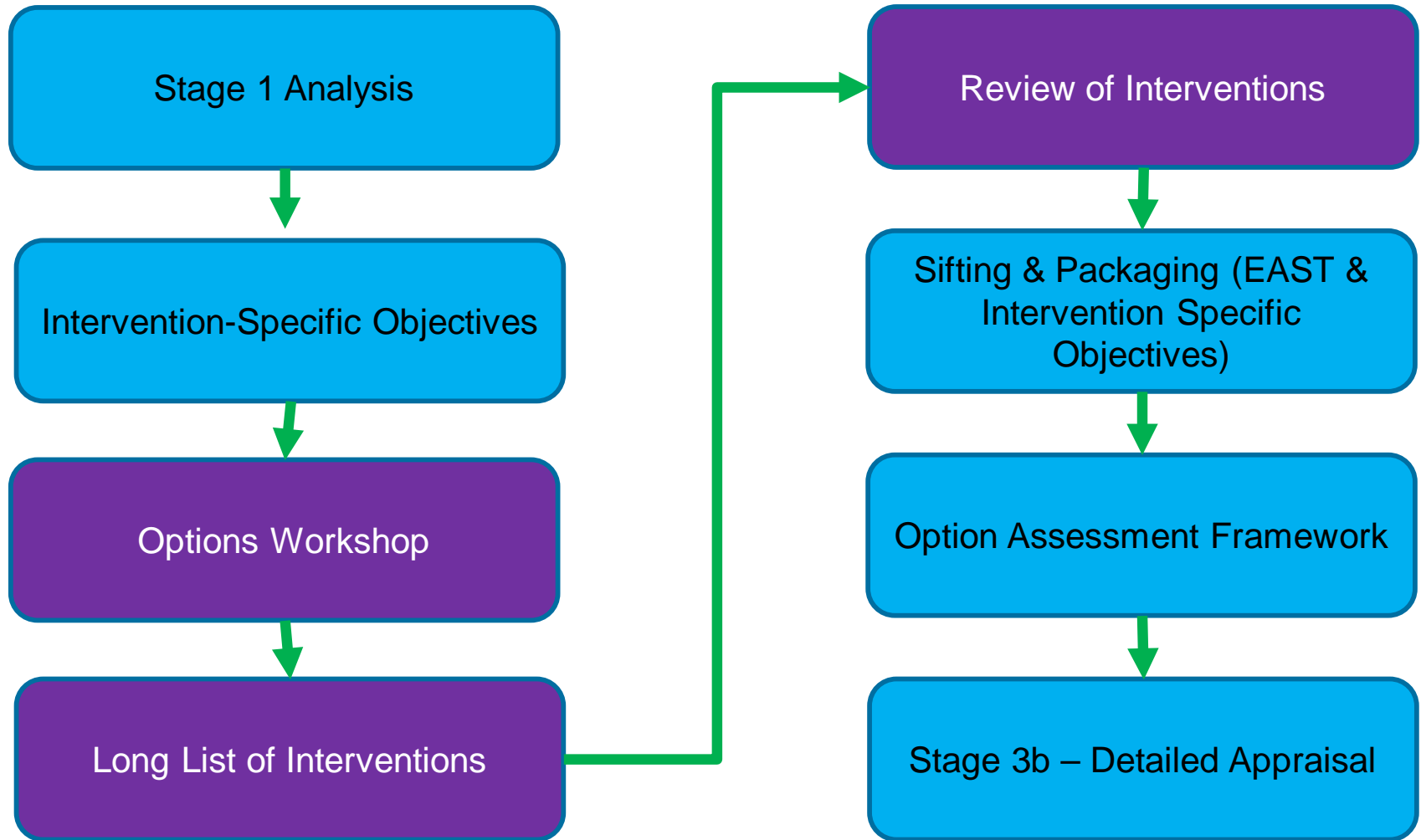
INTERVENTION-SPECIFIC OBJECTIVES (1)

Theme	Description
Economic Growth	Support the economic growth objectives of the Northern Powerhouse agenda.
	Improve access to regional economic centres and local growth sites served by the A66/A685 and A69.
Connectivity	Ensure the improvement and long-term development of the SRN through providing better national connectivity.
	Improve the A66/A685 and A69 as strategic connections for freight traffic.
	Maintain and improve access for tourism served by the A66/A685 and A69.
	Improve (and as a minimum maintain) access to services and jobs for all local road users.

INTERVENTION-SPECIFIC OBJECTIVES (2)

Theme	Description
Network Performance	Improve journey time reliability for road users.
	Reduce the number and seriousness of incidents involving road users, including NMUs.
	Improve the resilience of the routes to the impact of events such as roadworks and severe weather events.
Environment	Reduce the impact of the routes on severance for local communities.
	Minimise adverse impacts on the environment and where possible optimise environmental improvement opportunities.

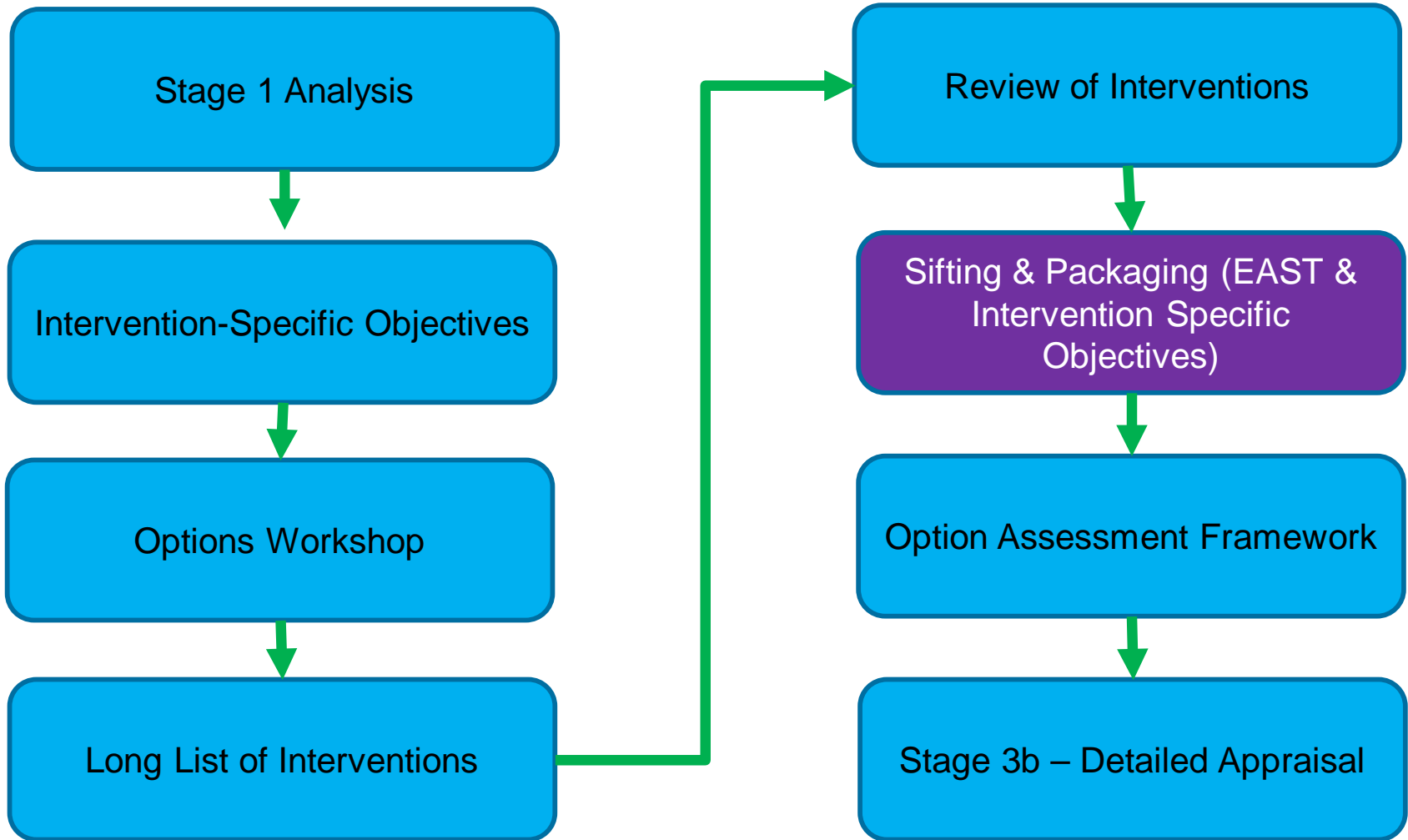
STAGE 2/3 SUMMARY



DEVELOPMENT OF LONG LIST OF POTENTIAL INTERVENTIONS

- Current and future issues in the study area were identified in Stage 1 and reported at the SRG meeting in January 2016.
- Next stage was to identify potential interventions which could address the issues identified in Stage 1.
- Potential interventions were identified at a workshop attended by DfT, Highways England and the technical leads from the supplier team.
- This session will present the long list of interventions and request your feedback on whether there are others which could be included.

STAGE 2/3 SUMMARY



OPTION SIFTING

→ Objectives of the option sifting are to:

- prioritise interventions which have a greater impact on study objectives and wider objectives; and
- package interventions which have a greater impact collectively than individually against study and wider objectives.

→ Undertaken using two sifting approaches:

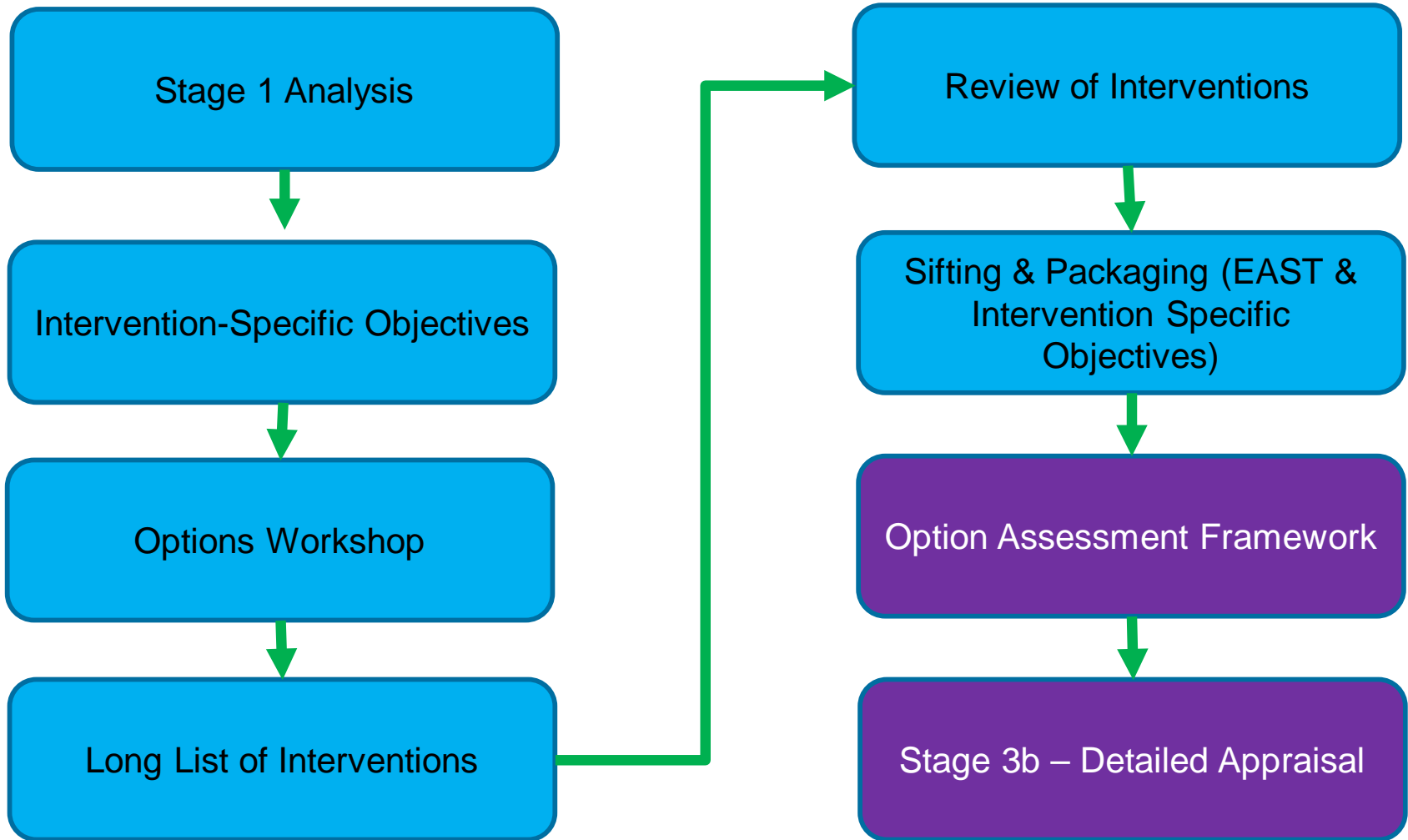
- EAST (Early Assessment and Sifting Tool), standard DfT scheme assessment tool; and
- Assessment against intervention-specific objectives.

EAST

EAST Assessment Category	
Strategic	Scale of impact
	Fit with wider transport and government objectives
	Fit with other objectives
	Degree of consensus over outcomes?
Economic	Economic Growth
	Carbon emissions
	Socio-distributional impacts and the regions
	Local environment
	Well being
	Expected VfM Category
Managerial	Implementation timetable
	Practical feasibility
	What is the quality of the supporting evidence?
Financial	Capital Cost (£m)?
	Revenue Costs (£m)?
	Overall cost risk
Commercial	Flexibility of option

- DfT spreadsheet tool aligned with Treasury Five Case model.
- Assessment follows standard EAST template and guidance.
- Assessment against intervention-specific objectives undertaken using system applied within EAST for economic case.

STAGE 2/3 SUMMARY



NEXT STEPS

→ Option Assessment Framework (OAF):

- More detailed assessment of interventions taken forward from the option sifting stage; and
- Produces recommendations on interventions to be taken forward into the Stage 3 appraisal.

→ Stage 3b - Detailed Appraisal:

- More detailed and quantitative appraisal of the interventions taken forward from OAF; and
- Produces Strategic Outline Business Cases (SOBCs) for the interventions.



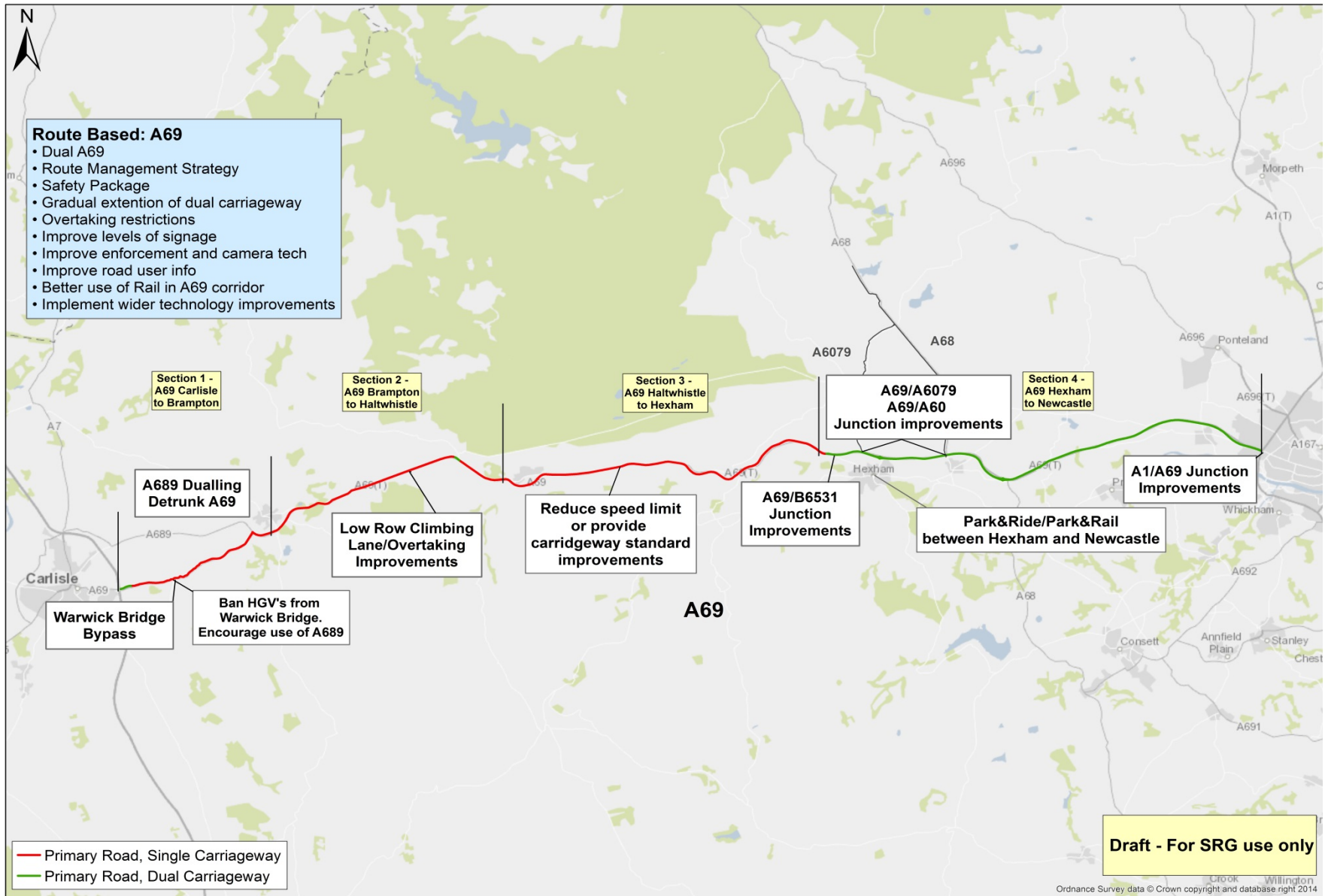
Northern Trans-Pennine Routes Strategic Study

*Stage 2 Option Assessment –
Potential Interventions*



LONG LIST OF POTENTIAL INTERVENTIONS

- Long list of potential interventions were identified at an options workshop attended by DfT, Highways England and the technical leads from the supplier team.
- The following slides present a map and the long list of potential interventions for each part of the route.
- In your pack we have also included diagrams which show how the potential interventions relate to the issues identified in Stage 1 of the study.
- In the breakout session we will ask you to consider whether any potential interventions are missing from this long list.



A69 – POTENTIAL INTERVENTIONS LONG LIST (1)

ROUTE LONG INTERVENTIONS

ID	Option Description
1.1	Dual the whole of the A69 corridor.
1.7	Implement overtaking restrictions.
1.11	Improved speed enforcement and camera technology.
1.10	Improved levels of signage.
1.12/1.14	Improved road user information and provision of technology.

A69 – POTENTIAL INTERVENTIONS LONG LIST (2)

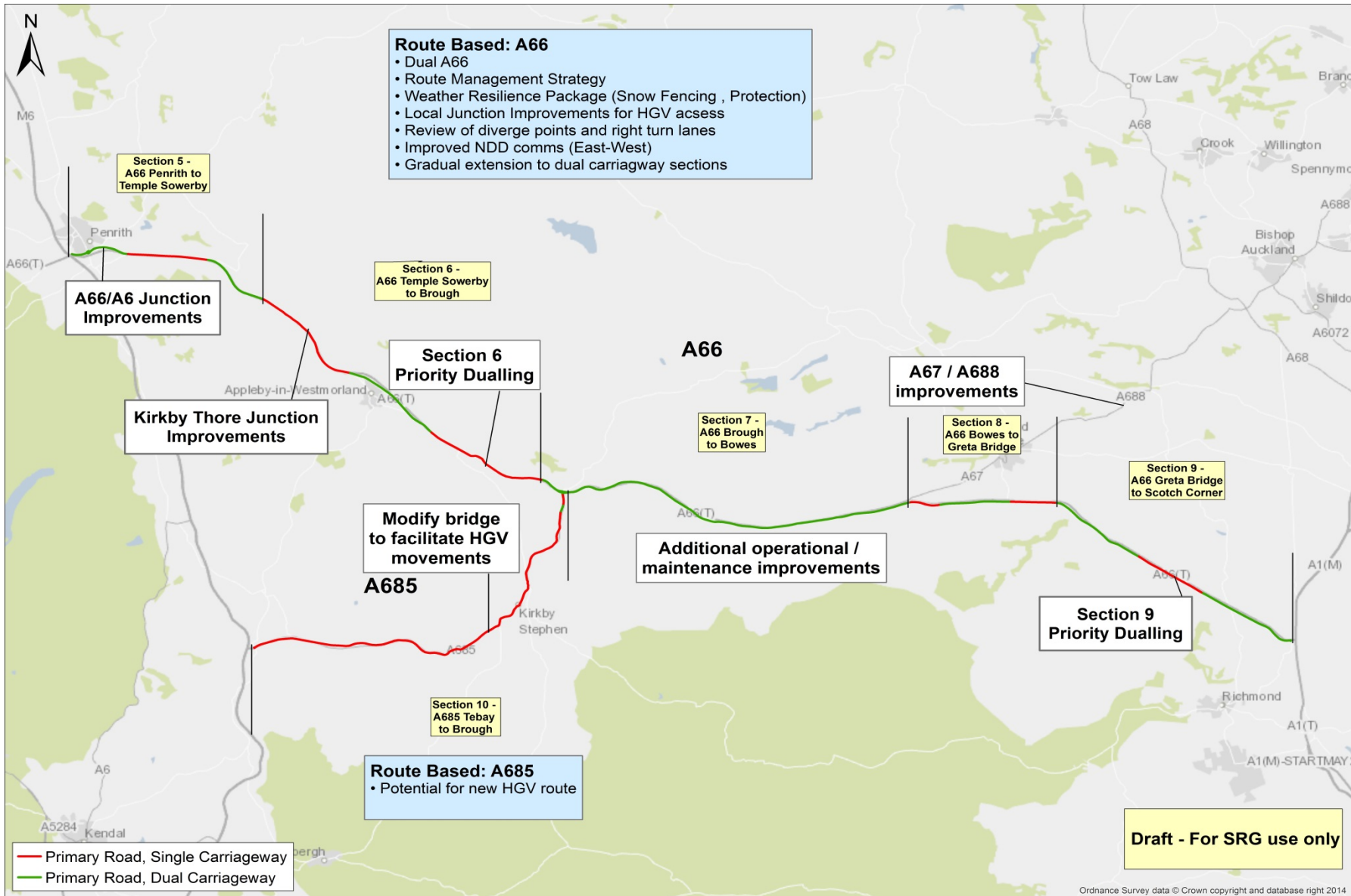
INDIVIDUAL HIGHWAY INTERVENTIONS

ID	Option Description
1.2	Dual the A689 and de-trunk the A69 corridor (with weight restrictions implemented between Junction 43 and Brampton to divert HGVs onto the A689 instead).
1.3	Construct a village by-pass around Warwick Bridge.
1.5	Introduction of an overtaking or climbing lane at Low Row.
1.8	A69/B6531 junction improvements.
1.16	Grade separation of the A69/A68 roundabout junction to the east of Corbridge.
1.17	Grade separation of the A69/A6079 roundabout at Hexham.
1.18	Upgrade the A1/A69 roundabout at Newcastle upon Tyne.
1.9	Reduce speed limit on Section 3.
1.4	Ban HGVs from entering Warwick Bridge and divert them onto the A689.
1.6	Introduction of gradual extension to dual carriageway sections to improve reliability of merging traffic.

A69 – POTENTIAL INTERVENTIONS LONG LIST (3)

INDIVIDUAL NON HIGHWAY INTERVENTIONS

ID	Option Description
1.13	Introduction of a Park & Ride/Park & Rail service between Hexham and Newcastle.
1.15	Encourage increased passenger use of the Carlisle - Newcastle line. Replace pacer carriages with new rolling stock and review station parking facilities.



A66 – POTENTIAL INTERVENTIONS LONG LIST (1)

ROUTE LONG HIGHWAY INTERVENTIONS

ID	Option Description
2.1	Dual the whole of the A66 corridor.
2.4	Fewer junctions and/or provision of local access roads.
2.10	Review of all diverge points and right-turn lanes.
2.11/2.6	Improvement/grade separation of key junctions.
2.15	Enable one lane to remain open in each direction at all times on dual carriageway sections.
2.17	Introduction of technology.

A66 – POTENTIAL INTERVENTIONS LONG LIST (2)

ROUTE LONG WEATHER RESILIENCE INTERVENTIONS

ID	Option Description
2.2	Upgrade the road surfacing to a more resilient material.
2.5	Wind barriers or planting to provide protection to vehicular traffic.
2.8	Flood risk mitigation.
2.16	Additional maintenance equipment such as snow ploughs or a salt depot could be stored centrally along the A66 route, in order to ensure efficient operations.
2.7	Improved signage for wind and snow
2.18	Introduction of snow fencing.

A66 – POTENTIAL INTERVENTIONS LONG LIST (3)

INDIVIDUAL HIGHWAY INTERVENTIONS

ID	Option Description
2.20	Dual Section 9 only: Scotch Corner to Greta Bridge.
2.3	Grade separation of the A6/A66 roundabout junction.
2.9	Realignment of the carriageway to the north of Kirkby Thore.
2.12	Improvements to the A66/Main Street priority junction at Kirkby Thore.
2.14/ 2.13	There are a large number of HGVs generated by an industrial area midway along Section 6. Consideration should be given to the grade separation of the access junction.
2.19	Introduction of gradual extension to dual carriageway sections to improve reliability of merging traffic by avoiding variable carriageway standards (i.e. single/dual/single sections).
2.21	Improvement of A688 between the junctions with the A66 and A1 as a HGV route.
2.22	Dual Section 6 only: Temple Sowerby to Brough (Warcop section).

A685 – POTENTIAL INTERVENTIONS LONG LIST (1)

INTERVENTIONS

ID	Option Description
3.1/3.2	Dual the whole of the A685 corridor.
3.3	Potential for a new HGV route either following a straight alignment or via a tunnel.
3.4	Remove A685 from PRN.
3.5	Construct a by-pass around Kirkby Stephen.
3.6	Modify the bridge in Kirkby Stephen to facilitate HGV movements.

BREAKOUT SESSION

Given the study objectives and the issues we identified in Stage 1 of the study are there any potential interventions which are missing?



PARSONS
BRINCKERHOFF

Halcrow



 steer davis gleave



Northern Trans-Pennine Routes Strategic Study

Stage 2 Option Assessment – Initial Assessment of Interventions



OPTION SIFTING

→ Objectives of the option sifting are to:

- prioritise interventions which have a greater impact on study objectives and wider objectives; and
- package interventions which have a greater impact collectively than individually against study and wider objectives.

→ Undertaken using two sifting approaches:

- EAST (Early Assessment and Sifting Tool), standard DfT scheme assessment tool; and
- Assessment against intervention-specific objectives.

INITIAL ASSESSMENT OF POTENTIAL INTERVENTIONS

- The following slides show the results of the sifting of potential interventions for each part of the route
- We repeat the slides from the last session but include an additional column which shows the results of the sifting process. These results are colour coded as:

Colour Code	Initial Assessment
Green	Retained as stand alone scheme
Yellow	Retained as part of a package of interventions
Orange	Not taken forward for further assessment

A69 – INITIAL ASSESSMENT OF INTERVENTIONS (1)

ROUTE LONG INTERVENTIONS

ID	Option Description	Initial Assessment
1.1	Dual the whole of the A69 corridor.	Retained as stand alone scheme
1.7	Implement overtaking restrictions.	Combined into safety package
1.11	Improved speed enforcement and camera technology.	Combined into safety package
1.10	Improved levels of signage.	Combined into route management package
1.12/1.14	Improved road user information and provision of technology.	Combined into route management package

A69 – INITIAL ASSESSMENT OF INTERVENTIONS (2)

INDIVIDUAL HIGHWAY INTERVENTIONS (1)

ID	Option Description	Initial Assessment
1.2	Dual the A689 and de-trunk the A69 corridor (with weight restrictions implemented between Junction 43 and Brampton to divert HGVs onto the A689 instead).	Retained as stand alone scheme
1.3	Construct a village by-pass around Warwick Bridge.	Retained as stand alone scheme
1.5	Introduction of an overtaking or climbing lane at Low Row.	Benefits not significant enough to justify estimated high cost of this scheme – only include as part of Option 1.1
1.8	A69/B6531 junction improvements.	Combined into a junction improvement package
1.16	Grade separation of the A69/A68 roundabout junction to the east of Corbridge.	Combined into a junction improvement package
1.17	Grade separation of the A69/A6079 roundabout at Hexham.	Combined into a junction improvement package
1.18	Upgrade the A1/A69 roundabout at Newcastle upon Tyne.	Combined into a junction improvement package

A69 – POTENTIAL INTERVENTIONS LONG LIST (2)

INDIVIDUAL HIGHWAY INTERVENTIONS (2)

ID	Option Description	Initial Assessment
1.9	Reduce speed limit on Section 3.	Combined into safety package.
1.4	Ban HGVs from entering Warwick Bridge and divert them onto the A689 instead.	Removed as included in 1.2 and without dualling of the A689 this intervention does not meet many intervention-specific objectives.
1.6	Introduction of gradual extension to dual carriageway sections to improve reliability of merging traffic.	Removed as included in 1.8.

A69 – POTENTIAL INTERVENTIONS LONG LIST (3)

INDIVIDUAL NON HIGHWAY INTERVENTIONS

ID	Option Description	Initial Assessment
1.13	Introduction of a Park & Ride/Park & Rail service between Hexham and Newcastle.	Scheme excluded from further consideration by this study due to minimal impact on objectives but could be considered by other organisations and studies.
1.15	Encourage increased passenger use of the Carlisle - Newcastle line. Replace pacer carriages with new rolling stock and review station parking facilities.	Scheme excluded from further consideration by this study due to minimal impact on objectives but could be considered by other organisations and studies.

A66 – POTENTIAL INTERVENTIONS LONG LIST (1)

ROUTE LONG HIGHWAY INTERVENTIONS

ID	Option Description	Initial Assessment
2.1	Dual the whole of the A66 corridor.	Retained as stand alone scheme.
2.4	Fewer junctions and/or provision of local access roads.	Combined into local junction improvements package.
2.10	Review of all diverge points and right-turn lanes.	Combined into local junction improvements package.
2.11/ 2.6	Improvement/grade separation of key junctions.	Combined into local junction improvements package.
2.15	Enable one lane to remain open in each direction at all times on dual carriageway sections.	Removed as incorporated into dualling options.
2.17	Introduction of technology.	Combined into route management package.

A66 – POTENTIAL INTERVENTIONS LONG LIST (2)

ROUTE LONG WEATHER RESILIENCE INTERVENTIONS

ID	Option Description	Initial Assessment
2.2	Upgrade the pavement surfacing to a more resilient material.	Combined into weather resilience package.
2.5	Wind barriers or planting to provide protection to vehicular traffic.	Combined into weather resilience package.
2.8	Flood risk mitigation.	Combined into weather resilience package.
2.16	Additional maintenance equipment such as snow ploughs or a salt depot could be stored centrally along the A66 route, in order to ensure efficient operations.	Combined into weather resilience package.
2.7	Improved signage for wind and snow.	Combined into weather resilience package.
2.18	Introduction of snow fencing.	Combined into weather resilience package.

A66 – POTENTIAL INTERVENTIONS LONG LIST (3)

INDIVIDUAL HIGHWAY INTERVENTIONS

ID	Option Description	Initial Assessment
2.20	Dual Section 9 only: Scotch Corner to Greta Bridge.	Retained as stand alone scheme.
2.3	Grade separation of the A6/A66 roundabout junction.	Retained as stand alone scheme.
2.9	Realignment of the carriageway to the north of Kirkby Thore.	Combined into Kirkby Thore package.
2.12	Improvements to the A66/Main Street priority junction at Kirkby Thore.	Combined into Kirkby Thore package.
2.14/ 2.13	There are a large number of HGVs generated by an industrial area midway along Section 6. Consideration should be given to the grade separation of the access junction.	Combined into Kirkby Thore package.
2.19	Introduction of gradual extension to dual carriageway sections to improve reliability of merging traffic by avoiding variable carriageway standards (i.e. single/dual/single sections).	Removed due to minimal impact.
2.21	Improvement of A688 between the junctions with the A66 and A1 as a HGV route.	Removed due to minimal impact on objectives and potentially large disbenefits.
2.22	Dual Section 6 only: Temple Sowerby to Brough.	Retained as stand alone scheme.

A685 – POTENTIAL INTERVENTIONS LONG LIST (1)

INTERVENTIONS

ID	Option Description	Initial Assessment
3.1/3.2	Dual the whole of the A685 corridor.	Removed due to very high costs for limited benefits/potentially large disbenefits.
3.3	Potential for a new HGV route either following a straight alignment or via a tunnel.	Removed due to very high costs for limited benefits/potentially large disbenefits.
3.4	Remove A685 from PRN.	Removed from further assessment as if option 3.6 does not go ahead then this would be part of the study recommendations.
3.5	Construct a by-pass around Kirkby Stephen.	Removed due to very high costs for limited benefits/potentially large disbenefits.
3.6	Modify the bridge south of Kirkby Stephen to facilitate HGV movements.	Retained as stand alone scheme.



Department
for Transport

Northern Trans Pennine: Next Steps





Strategic Studies Progress

