

# Agenda - Sudbury Congestion Relief Scheme

Sudbury Town Hall, 7 December 2018

- 1) Welcome/ Introductions - Cllr Mary Evans, Cabinet Member for Highways, Transport and Rural Affairs, Suffolk County Council
- 2) Update on work to date - John Collins, Technical Director, WSP
- 3) Next Steps - Graeme Mateer, Head of Transport Strategy, Suffolk County Council

December 11, 2018

WSP |

**Sudbury Study**

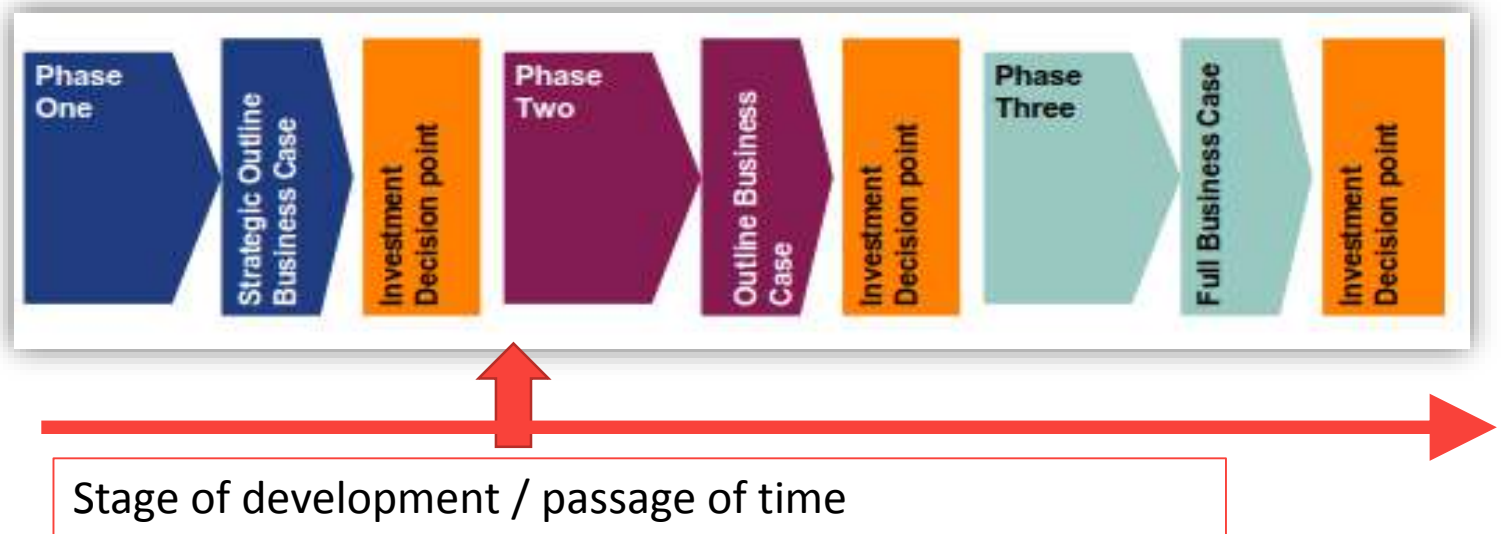


# Topics

- Background
- East Assessment
- Economic Summary
- Changes from SOBC
- Conclusion
  
- Questions

# Sudbury Study

- WSP commissioned to carry out a study and develop an Outline Business Case
- Stage 1 of study – Option Assessment Report (considering a full range of options and supporting analysis in line with DfT guidance)
- Stage 2 of study – develop an Outline Business Case for preferred option



# Scheme Objectives

PRIMARY OBJECTIVES	SECONDARY OBJECTIVES
<p><b>Improve conditions in Sudbury town centre and surrounding areas.</b></p>	<p>Improve the quality of life for residents, workers and shoppers:</p> <ul style="list-style-type: none"> <li>• Reducing carbon emissions, air and noise pollution from road traffic.</li> <li>• Reducing severance issues due to traffic levels within the town centre.</li> <li>• Improving the historic setting of Sudbury through removal of road traffic.</li> </ul> <p>Ensure any negative impacts outside Sudbury are minimised.</p>
<p><b>Reduce congestion.</b></p>	<p>Improve journey times in Sudbury and the surrounding area.</p>
<p><b>Address concerns relating to freight traffic (HGVs in particular).</b></p>	<p>Reduce the number of freight vehicles passing through Sudbury, improving conditions in the town centre.</p>
<p><b>Enable growth within Sudbury and surrounding area.</b></p>	<p>Facilitate the delivery of new homes and jobs within Suffolk and Essex.</p>
<p><b>Improve connectivity of Sudbury.</b></p>	<p>Improve attractiveness of Sudbury as a destination.</p> <p>Improve access for businesses to wider labour markets etc.</p> <p>Reduce transport costs for businesses.</p>

# Option development

- **Existing options**

- Number of previous studies
- Options within the SOBC

- **New options**

- Developed in stakeholder / consultant workshop (2018)

- **DfT compliant suite of options**

- Including low cost and non-highway

# Scheme Options - 1

Options	Description
<b>Option J1 – Junction Improvements</b>	A package of measures to increase capacity and improve traffic flow at problem junctions throughout Sudbury.
<b>Option SM1 – Sustainable Travel Initiatives</b>	A package of Sustainable Travel Initiative measures, to encourage people to make fewer journeys by private car.
<b>Option P1 – Pricing Options</b>	Introduction of parking charges to discourage car use.
<b>Option PT1 – Public Transport Options (Bus)</b>	Improvement to local bus services (increase frequency, etc.) to encourage more trips by public transport (leading to fewer journeys by private car).
<b>Option PT2 – Public Transport Options (Rail)</b>	Improvement to the overall rail 'offer' to encourage people to make fewer journeys by private car.



# Options for Consideration – Further Detail



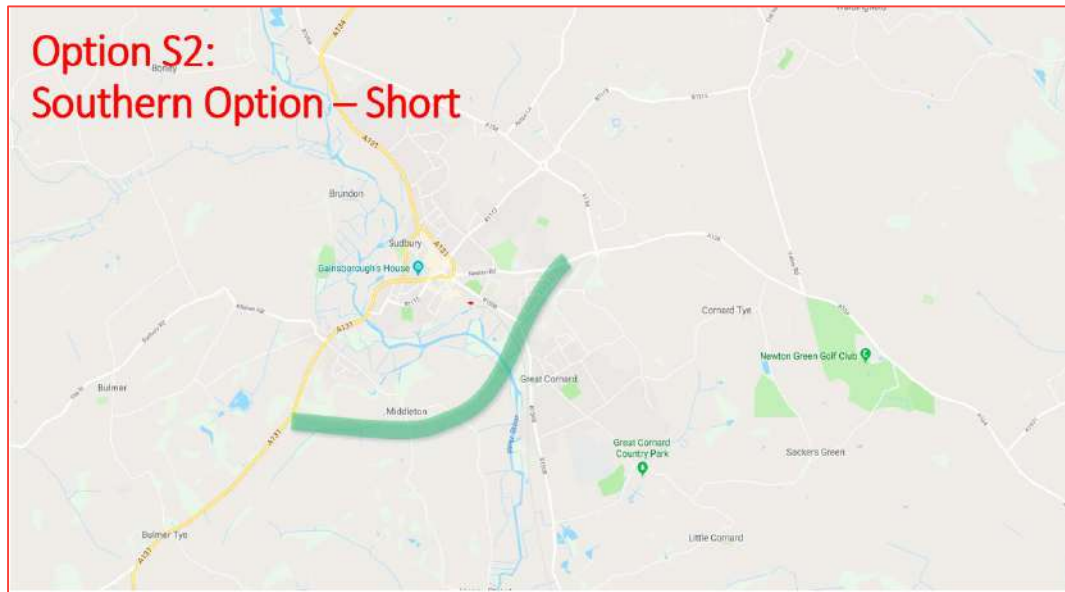


# Options for Consideration – Further Detail

**Option S1:  
Southern Option – Long**



**Option S2:  
Southern Option – Short**

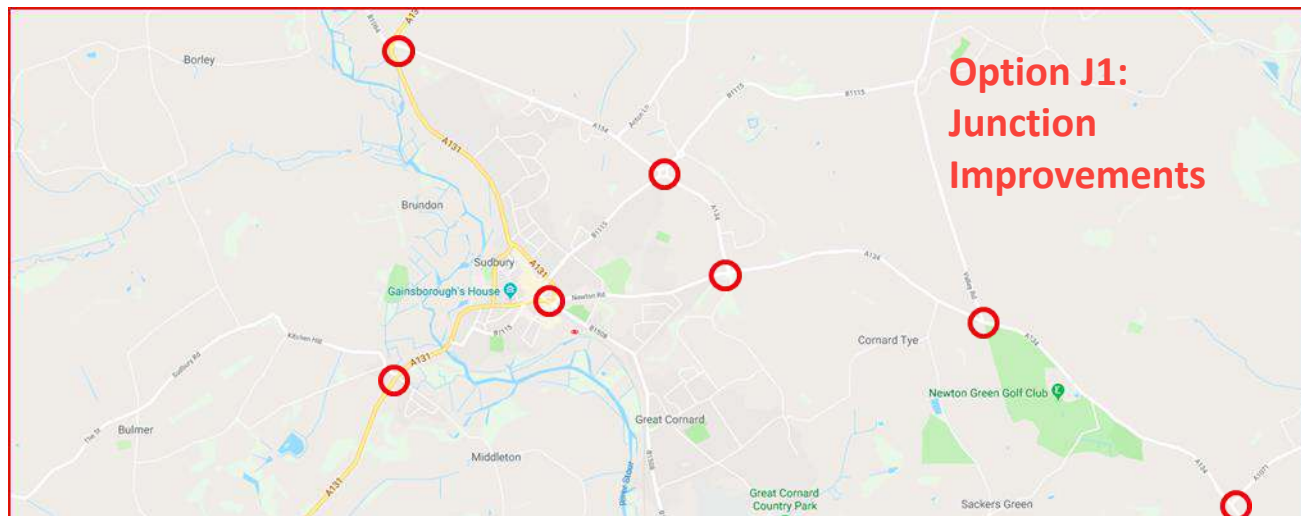


# Options for Consideration – Further Detail



# Options for Consideration – Further Detail

11



# Scope of Early Assessment and Sifting Tool (EAST) Analysis

## – Strategic case

- Scale of impact
- Fit primary and secondary objectives
- Degree of consensus over outcomes

## – Economic case

- Economic Growth (incl. connectivity, reliability, WEI, etc.)
- Carbon Emissions
- Wellbeing (incl. road safety, physical activity)
- Expected VfM Category (e.g. potential BCR, non-monetised impacts etc.)

## – Environment

- Air quality, noise, historic environment, biodiversity, landscape, water environment

# EAST Assessment Scoring System

Air Quality, Noise, Historic Environment, Biodiversity, Landscape, Water Environment

Colour	Assessment	Score	Description
7	Large Beneficial (positive) effect	7	The proposed option is expected to have a significant positive impact (Large Beneficial) on the environment.
6	Moderate Beneficial (positive) effect	6	The proposed option is expected to have a medium positive impact (Moderate Beneficial)
5	Slight Beneficial (positive) effect	5	The proposed option is expected to have a very small positive impact (Slight Beneficial) on the environment.
4	Neutral effect	4	The proposed option is not expected to have noticeable change on the environment.
3	Slight Adverse (negative) effect	3	The proposed option is expected to have some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements of the environment.
2	Moderate Adverse (negative) effect	2	The proposed option may lead to the loss of resource or partial loss of/damage to key characteristics, features or elements of the environment.
1	Large Adverse (negative) effect	1	This option may lead to the loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements of the environment.

13

## Fit with Primary Objectives

1	Low
2	
3	
4	
5	High

## Value for Money

1	Poor <1
2	Low 1 - 1.5
3	Medium 1.5 - 2
4	High 2-4
5	Very High >4

# Scope of EAST Analysis

## – **Management case**

- Implementation timetable
- Public acceptability
- Practical feasibility

## – **Financial case**

- Affordability
- Risk
- Cost (Capital / revenue)

## – **Commercial case**

- Flexibility of option (scalability)
- Funding source / certainty

# Approach 1 – Stage 1 (Total Scores)

Unique Ref. No.	Overall	Strategic Case	Economic Case	Managerial Case	Financial Case		Commercial Case	Environment	Meet Objective
	Name/No.				Afford Risk	Cost			
1	Option J1 – Junction Improvements	14	32	10	12	9	15	34	Y
2	Option SM1 – Sustainable Travel Initiatives	10	36	12	12	9	16	39	N
3	Option P1 – Pricing Options	9	34	11	14	9	15	37	N
4	Option PT1 – Public Transport Options (Bus)	10	32	10	11	9	12	33	N
5	Option PT2 – Public Transport Options (Rail)	10	30	10	12	8	11	36	N
6	Western Option - Long - W1	23	21	9	9	5	21	28	Y
7	Western Option - Short - W2	23	21	9	11	5	21	28	Y
8	Southern Option - Long - S1	24	23	6	7	4	17	24	Y
9	Southern Option - Short - S2	23	19	5	11	5	21	27	Y
10	Eastern Option - Long - E1	15	19	8	9	6	21	33	Y
11	Eastern Option - Short - E2	13	19	10	11	7	21	32	N
12	Ring Road Option - L1	25	22	3	5	4	5	10	Y



# Approach 1 –Total Scores (10-point scale)

Unique Ref. No.	Overall  Name/No.	Strategic Case	Economic Case	Managerial Case	Financial Case		Commercial Case	Environment	TOTAL SCORE	RANK
					Affordability & Cost Risk	Cost				
1	Option J1 – Junction Improvements	6	9	8	9	10	7	9	58	1
6	Western Option - Long - W1	9	6	8	6	6	10	7	52	3
7	Western Option - Short - W2	9	6	8	8	6	10	7	54	2
8	Southern Option - Long - S1	10	6	5	5	4	8	6	44	6
9	Southern Option - Short - S2	9	5	4	8	6	10	7	49	4
10	Eastern Option - Long - E1	6	5	7	6	7	10	8	49	4
12	Ring Road Option - L1	10	6	3	4	4	2	3	32	7

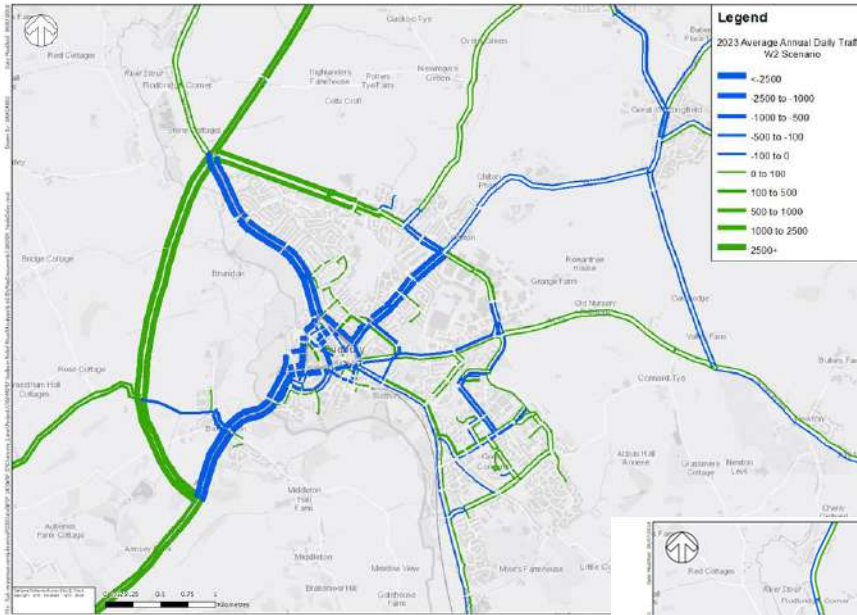
## Conclusions- East Assessment

- Approach 1 – clearly identifies options that do/don't meet objectives hence focussing the analysis.
- Approach 2 – weights most important categories (at the early stage) – and can alternate weights to help decision making process.
- Both the approaches indicate Junction Improvements as the best performing option.
- Western option (W2) as the best scoring relief road option in both approaches.

# Economic Summary

*Relief road options*

# Impacts of Relief Road Options



**Western Relief Road  
Daily Flow ~ 11500 vpd**

19

**Southern Relief Road  
Daily Flow ~ 12100 vpd**



# Comparison Between Best Performing Relief Road Options

Options	Benefits (£ '000)	Cost (£ '000)		BCR	
		Best Case	Worst Case	Best Case	Worst Case
W2	42,766	50,230	59,556	0.85	0.72
S2	29,477	49,291	63,400	0.60	0.46

- BCRs for the relief road are showing poor value for money
- The benefits presented are based on journey time and vehicle operating cost savings and are currently missing other elements such as air, noise, accident and wider benefits/disbenefits.

# Changes from SOBC

## Changes to BCR since SOBC (Western Route)

- The Benefit Cost Ratio (BCR) and Value for Money (VfM) category

VfM Category	Implied by...*
Very High	BCR greater than or equal to 4
High	BCR between 2 and 4
Medium	BCR between 1.5 and 2
Low	BCR between 1 and 1.5
Poor	BCR between 0 and 1
Very Poor	BCR less than or equal to 0

- Benefit Cost Ratio (BCR) at SOBC circa 3.0
- BCR now circa  $<1$  (0.7-0.9)



## Changes Since SOBC – Costs (Western Route)

- At SOBC Present Value of Costs (PVC) ~ £40m
- PVC now ~ £50-60m\*
- Main cost increases:
  - Structures (increased due to impact on floodplain) ~ £5m
  - Other Construction Activities ~ £4m
  - Risk ~ £2m
  - General Inflation ~ £4m

\*(£60-70m in outturn prices)

## Changes Since SOBC - Benefits (Western Route)

- At SOBC Present value of benefits (PVB) ~ £120m
- PVB now ~ £43m
- Changes in appraisal process (e.g. reduced forecast growth; revised values of time etc) have reduced benefits.
- Level of forecast flow with latest tests circa 10-15% less than at SOBC.
- Level of claimed benefits in SOBC away from the local area likely to be significantly over estimated – previously used ‘first cut’ of SCTM (these benefits previously estimated at ~ £65m now at ~ £10m).

## Conclusions

- Options that address the objectives best (relief road options) do not currently provide value for money (notwithstanding environmental and other considerations).
- Best performing option with both sifting methods is the Junction Improvement option.
- Recommend that further detailed design and analysis work carried out for Junction Improvement option and identification of potential funding options for this proposal.

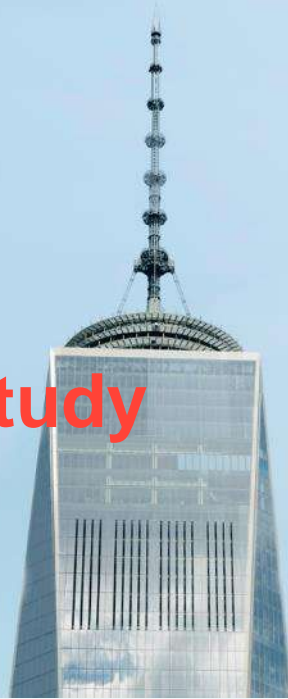
# Questions

26

December 11, 2018

WSP |

**Sudbury Study**



# Next Steps

- **Public Sector Leaders Funding**
- **Sudbury Steering Group to be reconvened**
- **Junction work to form part of Sudbury Vision**

# Thank you



# Scheme Options - 2

Options	Description
<b>Western Option - Long - W1</b>	New 3.5km long single carriageway road from the A134 north of Sudbury to A131 south of Sudbury. To include a junction with Kitchen Hill.
<b>Western Option - Short - W2</b>	New 3km long single carriageway road from the A134 north of Sudbury to A131 south of Sudbury (lower curve than W1). To include a junction with Kitchen Hill.
<b>Southern Option - Long - S1</b>	New 8.5km single carriageway road from Bulmer Tye to the A134/A1071. This carriageway will also be connected near Little Cornard by a 3km north-south link to the Shawlands Retail Park roundabout
<b>Southern Option - Short - S2</b>	New 3km long single carriageway road from the Newton Road-Cats Lane junction to A131 south of Sudbury. To include a junction with B1508.
<b>Eastern Option - Long - E1</b>	New 5.5km long single carriageway road from the A134-B1064 roundabout to A134-Valley Road junction. To include junctions with Acton Lane and B1115.
<b>Eastern Option - Short - E2</b>	New 3km long single carriageway road from the A134 (north of Claremont Ave roundabout) to B1115-Valley Road junction. To include a junction with Acton Lane.
<b>Ring Road Option - L1</b>	A new 22km single carriageway road. Alignment a combination of Option S1 + Option W1 + Option E1

# EAST Summary

- The scoring categories are made of a varying number of components. To address this, scores are converted to a 10 point scale for all categories.
- A sum of unweighted scores would take limited account of how well schemes meet stated objectives. To address this two different approaches adopted:
  - **Approach 1: 2-Stage Sift**
    - Stage 1: Initial sift to assess options which meet the objectives
    - Stage 2: Unweighted score of options which meet the scheme objectives
  - **Approach 2**: Score options by giving higher weighting to options which meet the scheme objectives.

# Approach 2 – Total Scores

Unique Ref. No.	Overall  Name/No.	Strategic Case	Economic Case	Managerial Case	Financial Case		Commercial Case	Environment
					Afford Risk	Cost		
1	Option J1 – Junction Improvements	14	32	10	12	9	15	34
2	Option SM1 – Sustainable Travel Initiatives	10	36	12	12	9	16	39
3	Option P1 – Pricing Options	9	34	11	14	9	15	37
4	Option PT1 – Public Transport Options (Bus)	10	32	10	11	9	12	33
5	Option PT2 – Public Transport Options (Rail)	10	30	10	12	8	11	36
6	Western Option - Long - W1	23	21	9	9	5	21	28
7	Western Option - Short - W2	23	21	9	11	5	21	28
8	Southern Option - Long - S1	24	23	6	7	4	17	24
9	Southern Option - Short - S2	23	19	5	11	5	21	27
10	Eastern Option - Long - E1	15	19	8	9	6	21	33
11	Eastern Option - Short - E2	13	19	10	11	7	21	32
12	Ring Road Option - L1	25	22	3	5	4	5	10

# Approach 2 – Total Scores (10-point scale)

Total Scores (10 point scale)										
		Weighting								
		4	3	1	1	1	1	1		
Unique Ref. No.	Overall	Strategic Case	Economic Case	Managerial Case	Financial		Commercial Case	Environment	TOTAL SCORE	RANK
	Name/No.				Affordability & Cost Risk	Cost				
1	Option J1 – Junction Improvements	6	9	8	9	10	7	9	94	1
2	Option SM1 – Sustainable Travel Initiatives	4	10	10	9	10	8	10	93	2
3	Option P1 – Pricing Options	4	9	9	10	10	7	9	88	5
4	Option PT1 – Public Transport Options (Bus)	4	9	8	8	10	6	8	83	8
5	Option PT2 – Public Transport Options (Rail)	4	8	8	9	9	5	9	80	9
6	Western Option - Long - W1	9	6	8	6	6	10	7	91	4
7	Western Option - Short - W2	9	6	8	8	6	10	7	93	2
8	Southern Option - Long - S1	10	6	5	5	4	8	6	86	6
9	Southern Option - Short - S2	9	5	4	8	6	10	7	86	6
10	Eastern Option - Long - E1	6	5	7	6	7	10	8	77	10
11	Eastern Option - Short - E2	5	5	8	8	8	10	8	77	10
12	Ring Road Option - L1	10	6	3	4	4	2	3	74	12