

# East Dunbartonshire Council Local Transport Strategy – Transport Options Report

## Background Report 2 – Route Corridor (STAG) Studies Review

**AECOM** Transportation

Strathclyde Partnership for Transport  
(SPT) / East Dunbartonshire Council March 2015

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### East Dunbartonshire Part 2 Transport Appraisal – Kirkintilloch/Lenzie-Bishopbriggs-Glasgow Corridor Study

Final Report



### A81 Milngavie - Bearsden Corridor Study

### STAG Final Report



REPORT N° 70024474-001

#### A81 OPTIONS APPRAISAL STUDY FINAL REPORT

MARCH 2018



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## 1. Introduction

### Summary of studies

There are two main route corridors within East Dunbartonshire, these are; the A81 Milngavie-Bearsden-Glasgow corridor and the A803/806 Kirkintilloch/Lenzie-Bishopbriggs-Glasgow corridor. A number of route corridor studies have been carried out to appraise a range of options that aim to improve overall transport conditions in East Dunbartonshire and support sustainable and active travel on the two main corridors.

Details of these studies can be found at the following web address

<https://www.eastdunbarton.gov.uk/residents/planning/planning-policy/transport>

The Route Corridor Studies provide evidence and do not set out policy or strategy, nor have they been approved by East Dunbartonshire Council as policy. All options therefore either contribute towards delivering policy set out in the 2013 Local Transport Strategy or have been considered through the Local Transport Strategy process.

Through the Local Transport Strategy process, some options may not be considered suitable for progressing due to the appraisal finding a low ratio of benefits to costs or identifying prohibitive costs or delivery issues. The summaries in section 5 below have assisted assessment of the detailed Route Corridor Studies and the preferred and alternative options set out in the Transport Options Report. The Transport Options Report highlighted key points from the summaries in section 5 in explaining the rationale for including an option as a preferred option or alternative.

This background report will describe in detail the outcomes of the route corridor studies carried out on each corridor in 2015 by AECOM and the A81 Transport Options Appraisal Study carried out by WSP in 2018. The 2015 studies were commissioned by East Dunbartonshire Council and SPT to provide updates to previous studies and appraise a number of options for each corridor. The 2018 WSP study was commissioned by East Dunbartonshire Council to provide value for money assessments for a rail halt at Allander as part of a wider STAG study.

## 2. STAG Methodology

Scottish Transport Appraisal Guidance (STAG) is the Scottish Government's option appraisal methodology and is used to help transport planners and decision-makers to develop transport policies and projects in Scotland.

The Guidance supports the Scottish Government's objectives by providing a clear framework to assess evidence-based transport problems and opportunities. It does so by promoting robust, objective-led analysis that can be consistently applied in all transport appraisal contexts. It is a requirement that all transport projects for which Scottish Government support or approval is required are appraised in accordance with STAG.

STAG appraisal has four parts:

- Pre-Appraisal: project objectives are established with key stakeholders; an analysis of present and future problems, constraints and opportunities; and option generation sifting and development;
- Part 1 Appraisal: initial appraisal and broad assessment of impacts, designed to decide whether a proposal should proceed, subject to meeting the planning objectives and fitting with relevant policies; and
- Part 2 Appraisal: detailed appraisal of the options taken forward from the Part 1 appraisal with specific consideration to the Government's objectives (Environment, Safety, Economy, Integration, Accessibility and Social Inclusion), cost to government, monitoring and evaluation, and risk and uncertainty.
- Post-Appraisal: Following the STAG study and project completion. This phase focuses on monitoring and evaluation, to assess performance against the original appraisal.

The studies utilise this appraisal methodology to establish the rationale for potential transport interventions using a robust evidence base to allow for informed decision making. It should be noted that STAG tests options against an extensive set of criteria which indicates options' effectiveness in various contexts, and provides an aid to decision makers.

It should be noted that STAG studies are proportionate transport appraisals and there is no rigid approach to generating options although there are mandatory criteria for options to be tested against. In particular the A803/806 studies focussed on strategic level projects while acknowledging the benefits of Active Travel options and assumed these will be progressed through the Local Transport Strategy delivery process.

### 3. Summary of A803/806 Study

Table 1

<b>Study</b>	A803/806 (Kirkintilloch/Lenzie – Bishopbriggs – Glasgow) Route Corridor Study 2015
<b>Author</b>	AECOM
<b>Methodology</b>	<ul style="list-style-type: none"> <li>• STAG – See above</li> <li>• Qualitative appraisal</li> <li>• Quantitative appraisal – modelling used Central Scotland Transport Model 12 (CSTM12), a multi-modal transport model covering the main road and public transport network of the Central Belt of Scotland.</li> </ul>
<b>Stakeholder Consultation</b>	<p>Transport Appraisal Stakeholder Workshop held on 6 November 2014 with representatives from key stakeholder groups, including; community councils, SPT, NHS, Police Scotland, Transport Scotland, cycling groups, East Dunbartonshire Council and the consultants, AECOM. The stakeholder workshop allowed for further discussion of the options and assisted the consultants in gaining a greater understanding of perceptions of issues and opportunities on the corridors. Telephone interviews were carried out with stakeholders who were unable to participate in the workshops but expressed an interest in being involved.</p> <p>The study team also met separately with Transport Scotland and Network Rail.</p>
<b>Key transport problems</b>	<ul style="list-style-type: none"> <li>• Peak congestion, particularly on the A803 through Bishopbriggs, with associated impact on journey time reliability and air quality.</li> <li>• High levels of through-traffic with a potential negative effect on local traffic movement.</li> <li>• Parking pressures around rail stations (Lenzie), and on-street parking in Bishopbriggs including the A803.</li> <li>• Bus journey time reliability on the A803 during peak times, and also on the M8 approach to Glasgow (express services from East Dunbartonshire via the A806).</li> <li>• High demand for rail services from the study area, particularly on peak services between Lenzie / Bishopbriggs and Glasgow.</li> <li>• Future growth in economic and housing developments including areas such as Woodilee and Westerhill.</li> <li>• Relatively high private car ownership, with higher than national average use of car for travel to work and study.</li> <li>• Carriageway space is limited in some parts of the A803 therefore most on-road cycling is not segregated from normal vehicular traffic.</li> <li>• There are various environmental constraints in the area including an Air Quality Management Area (AQMA) at Bishopbriggs.</li> <li>• Lack of connectivity / interchange between local bus services and rail.</li> </ul>
<b>Transport Planning Objectives</b>	<ol style="list-style-type: none"> <li>1. Promote modal shift to sustainable transport modes for trips to key attractors outside of the study area, particularly commuting journeys.</li> <li>2. Improve public transport journey times and journey time reliability through the study area.</li> <li>3. Improve accessibility by sustainable transport modes to key trip attractors within the study area.</li> </ol>

	<ol style="list-style-type: none"> <li>4. Deliver a transport network that supports improvements to human health and air quality, while minimising the impact on the environment.</li> <li>5. Provide a sustainable transport network that supports local development, regeneration and contributes to the sustainable economic growth of the study area.</li> </ol>
<b>Options Appraised</b>	<ol style="list-style-type: none"> <li>1. Do Minimum</li> <li>2. A803 Quality Bus Corridor package.</li> <li>3. Bus Hub in Kirkintilloch.</li> <li>4. Bus Park-&amp;-Ride adjacent to/in vicinity of KLR and associated bus priority.</li> <li>5. Bus Park-&amp;-Ride adjacent to BRR and associated bus priority.</li> <li>6. Bus Service Improvements and new services (including Kirkintilloch / Lenzie Loop Bus).</li> <li>7. Increase parking provision at Lenzie Rail Station.</li> <li>8. Develop a new rail halt at Woodilee (with P&amp;R) &amp; promote sustainable access.</li> <li>9. Develop a new rail halt at Westerhill (with P&amp;R) &amp; promote sustainable access.</li> </ol>

## 4. Options Appraised in 2015 Route Corridor Studies

### A803/806 (Kirkintilloch/Lenzie – Bishopbriggs – Glasgow) Route Corridor Study 2015

The following tables summarise the information provided on each option in the A803/806 Route Corridor Study.

Table 3

<b>1. Do Minimum</b>		
<b>Description of option</b>		Committed schemes including; Bishopbriggs Relief Road (i.e. including Phase 5), Split Cycle Offset Optimisation Technique (SCOOT); Kirkintilloch Town Centre Masterplan, Parking Strategy and Decriminalised Parking Enforcement, EGIP phase 1, Glasgow City Council family cycling routes and Glasgow City Council City Centre Strategy.  The Do Minimum sets the baseline against which other options are compared.
<b>Mode</b>		Active Travel, Rail, Bus, Road
<b>Included in LTS 2013 - 2017</b>		Yes
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	N/A
	<b>Rate for Optimism Bias</b>	N/A
	<b>Applied to estimating uncertainty of +/-30%</b>	N/A
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	N/A
<b>Estimated timescales for completion</b>		N/A
<b>Modelling Analysis effects of option</b>		N/A
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		N/A

<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>	N/A
<b>Assessment against Transport Planning Objectives</b>	N/A
<b>Benefits Including:</b> <ul style="list-style-type: none"> <li>• <b>Cumulative impacts and any benefits to other projects</b></li> </ul> <b>Potential Delivery Partners and Funding</b>	<p>BRR will remove traffic from Bishopbriggs Town Centre. SCOOT will improve general traffic flow at pinch points. Kirkintilloch Town Centre Masterplan will aim to improve walking, cycling and public transport access and facilities, reduce vehicle speeds and improve the sense of place of the town centre. EGIP will have many benefits including, increased capacity, improved journey times, reduced emissions, more reliable trains, improved facilities on trains and improved stations among others. Glasgow City Council's plans and policies indirectly have benefits for all in the region and especially for those East Dunbartonshire residents who commute to Glasgow for work or study.</p> <p>Note – Benefits arising for the Do Minimum are the baseline against which other options are compared.</p>
<b>Risks and Deliverability Issues Including:</b> <ul style="list-style-type: none"> <li>• <b>Cumulative impacts and any impact on other projects</b></li> <li>• <b>Potential Delivery Partners and Funding</b></li> </ul> <b>Further work required before option could be delivered</b>	<p>BRR new phases could encourage more vehicle trips. BRR carried other delivery risks and significant funding is required for Phase 5.</p> <p>New road and footway conditions arising from Kirkintilloch Town Centre Masterplan may take time to bed in and cause temporary confusion for users.</p> <p>EGIP carries risk of temporary disruption which could cause damage to travel habits and increasing vehicle trips in the short term. The project is very large and so inherently carried some risk of slippage and rising costs, however these issues are beyond the scope of this document.</p> <p>Note – Risks arising for the Do Minimum are the baseline against which other options are compared.</p>



## 2. A803 Quality Bus Corridor Package.

<b>Description of option</b>		Quality Bus Corridor measures on A803 between Torrance Roundabout and Colston Road to improve bus journey times and journey time reliability for bus movements on this corridor. Measures could include: <ul style="list-style-type: none"> <li>• Congestion by-pass lanes;</li> <li>• Discontinuous bus lanes;</li> <li>• Parking restrictions at peak periods;</li> <li>• Infill bus stop lay-bys;</li> <li>• Alteration to traffic turning movements and lane priority;</li> <li>• Priority through SCOOT controlled signalised junctions.</li> <li>• Implementation of real-time bus information.</li> </ul>
<b>Mode</b>		Bus
<b>Included in LTS 2013 - 2017</b>		Yes
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	630,000 - 1,170,000
	<b>Rate for Optimism Bias</b>	44%
	<b>Applied to estimating uncertainty of +/-30%</b>	907,200 - 1,684,800
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	1,296,000
<b>Estimated timescales for completion</b>		36 Months approx
<b>Modelling Analysis effects of option</b>		Usage at Bishopbriggs Station falls by 5% and at Lenzie by 4%.
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		33724 - Very high level of net benefits.
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		33.934
<b>Assessment against Transport Planning Objectives</b>		Average ++, overall very high. Would promote modal shift to public transport.

<p><b>Benefits</b>  <b>Including:</b></p> <ul style="list-style-type: none"> <li>• <b>Cumulative impacts and any benefits to other projects</b></li> </ul> <p><b>Potential Delivery Partners and Funding</b></p>	<p>Benefits to bus journey time, traffic flow and safety. Economic and access benefits through improving public transport link (time and reliability) to Glasgow, Westerhill, Strathkelvin Retail Park and Stobhill as well as managed congestion.</p> <p>Benefits are locked in by completion of BRR phase 4 and 5, but undermined if BRR is not completed. Consideration of ensuring bus provision and active travel provision along the Corridor. For Quality Partnership to ensure standards, SPT and Operators need to be engaged.</p> <p>General appetite for option from bus operators and transport bodies, particularly in comparison to rail. Unlikely to result in adverse environmental impacts as it involves minimal changes to existing infrastructure.</p> <p>Compatibility with future regeneration projects.</p> <p>Real Time Passenger Information Regional scheme due for roll out by SPT in Autumn 2016. The operating system utilised in the hardware units is in place and will be ready for delivery in other authorities by end 2016.</p>
<p><b>Risks and Deliverability Issues</b>  <b>Including:</b></p> <ul style="list-style-type: none"> <li>• <b>Cumulative impacts and any impact on other projects</b></li> <li>• <b>Potential Delivery Partners and Funding</b></li> </ul> <p><b>Further work required before option could be delivered</b></p>	<p>Benefits of QBC are undermined if BRR is not completed.</p> <p>City Deal Westerhill bid includes delivery of this option.</p> <p>City Deal also includes a general Strathclyde Bus Investment Programme.</p> <p>In addition, given SPT support for this option it is likely that funding will be available whether for a scheme as a whole or as individual components.</p> <p>Further engagement with operators required.</p>

### 3. Bus Hub in Kirkintilloch.

<b>Description of option</b>		Bus hub in Kirkintilloch and associated measures to bring bus stops closer together into an interchange area in the town centre, supplemented by lower cost measures such as pedestrian and cycling access improvements, better public transport information and improved shelters.
<b>Mode</b>		Bus
<b>Included in LTS 2013 - 2017</b>		Yes – “Investigate developing a dedicated bus waiting area as part of the Kirkintilloch Masterplan to improve waiting facilities, information provision and operations.” “Continue to improve bus infrastructure including the upgrade of shelters and lay-bys and measures such as priority signals and lanes, which will be undertaken in line with high environmental and design standards: Kirkintilloch town centre.”
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	105,000 - 195,000
	<b>Rate for Optimism Bias</b>	44%
	<b>Applied to estimating uncertainty of +/-30%</b>	151,200 - 280,800
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	216,000
<b>Estimated timescales for completion</b>		12 months
<b>Modelling Analysis effects of option</b>		Modelling analysis ineffective for this option. (Option too small to impact strategic network.)
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		N/A
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		N/A
<b>Assessment against Transport Planning Objectives</b>		Average +, Positive impact. Unlikely to result in notable increase in mode share for public transport.
<b>Benefits Including:</b> • Cumulative impacts and any benefits to other projects		Could reduce traffic congestion through Kirkintilloch to small degree and have marginal positive impact on economy. Would support wider regeneration of Kirkintilloch and improve accessibility for deprived areas such as Hillhead and Lennoxton. Could stimulate bus patronage.

<b>Potential Delivery Partners and Funding</b>	This project has been considered as part of the Kirkintilloch Masterplan which is currently being delivered. As part of this work the Masterplan Project Team is closely working with SPT and First Bus to improve existing bus infrastructure on the Cowgate.
<b>Risks and Deliverability Issues Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any impact on other projects</li> <li>• Potential Delivery Partners and Funding</li> </ul> <b>Further work required before option could be delivered</b>	<p>Public concern that could add congestion or have negative impact on Kirkintilloch, 'hub' concept not as acceptable as general bus improvements.</p> <p>The majority of the option will be taken forward through the Masterplan. This reflects the conclusions on the option provided by AECOM in the RCS and stakeholder and community engagement and views on the option.</p>

<b>4. Bus Park-&amp;-Ride adjacent to/in vicinity of KLR and associated Bus Priority.</b>		
<b>Description of option</b>		Bus-based Park & Ride facility to accommodate existing express services linking Kirkintilloch and Lenzie with Glasgow via the M80 and M8. The frequency of bus services would be dictated by commercial viability.
<b>Mode</b>		Bus
<b>Included in LTS 2013 - 2017</b>		Yes- "Examine the feasibility of either increasing car park capacity or develop a Park-&-Ride facility adjacent to railway stations and bus routes and deliver proposed intervention(s)."
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	616,000 - 1,144,000
	<b>Rate for Optimism Bias</b>	44%
	<b>Applied to estimating uncertainty of +/-30%</b>	887,040 -1,647,360
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	1,267,200
<b>Estimated timescales for completion</b>		12 months
<b>Modelling Analysis effects of option</b>		Usage at Bishopbriggs station unchanged and Lenzie marginal reduction. P & R estimated to generate patronage of 46,000 pa (100 passenger AM period daily).
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		£29,593
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		30.593
<b>Assessment against Transport Planning Objectives</b>		Average +. Performs positively, option would improve the attractiveness of public transport and encourage a modal shift to public transport for commuter trips.
<b>Benefits Including:</b>		Potential to increase road safety, improve access for deprived areas such as Hillhead, manage congestion and improve journey times along the A803 corridor.
<b>• Cumulative impacts and any benefits to other projects</b>		Potential to integrate with residential properties located to the east of the KLR (Woodilee).
<b>Potential Delivery Partners and Funding</b>		Modelling indicates that the main benefit is travel time savings for car users associated with a reduction in congestion.
<b>Risks and Deliverability Issues</b>		Land acquisition and costs could affect deliverability.

<p><b>Including:</b></p> <ul style="list-style-type: none"> <li>• <b>Cumulative impacts and any impact on other projects</b></li> <li>• <b>Potential Delivery Partners and Funding</b></li> </ul> <p><b>Further work required before option could be delivered</b></p>	<p>Potential sites within vicinity of Lenzie Conservation Area and Townscape Area.</p> <p>Could be undermined by Robroyston (new rail station) and Hornhill (bus park and ride planned for Hornhill Junction North Lanarkshire).</p> <p>Commercial viability would require to be discussed further with bus operators and SPT, particularly if KLR is the preferred site. However, operators noted that existing services could easily call at a B757 Park &amp; Ride and satisfy increased demand.</p>
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<b>5. Bus Park-&amp;-Ride adjacent to BRR and associated Bus Priority.</b>		
<b>Description of option</b>		Bus-based Park & Ride facility linking Westerhill with Glasgow via the BRR. The frequency of bus services would be dictated by commercial viability.
<b>Mode</b>		Bus
<b>Included in LTS 2013 - 2017</b>		Yes – “Examine the feasibility of either increasing car park capacity or develop a Park-&-Ride facility adjacent to railway stations and bus routes and deliver proposed intervention(s).”
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	616,000 - 1,144,000
	<b>Rate for Optimism Bias</b>	44%
	<b>Applied to estimating uncertainty of +/-30%</b>	887,040 - 1,647,360
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	1,267,200
<b>Estimated timescales for completion</b>		12 months
<b>Modelling Analysis effects of option</b>		Usage at Bishopbriggs & Lenzie stations fall slightly. P & R estimated to generate patronage of 39,000 pa (100 passenger AM period daily).
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		£30,250
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		31.250
<b>Assessment against Transport Planning Objectives</b>		Average +. Generally Could transfer trips from car to bus.
<b>Benefits Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any benefits to other projects</li> </ul> <b>Potential Delivery Partners and Funding</b>		<p>Could transfer trips from car to bus for commuter journeys from EDC into Glasgow, and improve sustainable access to the adjacent Westerhill Business Park. By increasing accessibility to Westerhill Business Park it would also promote local economic growth.</p> <p>May help support local economic development through a contribution of managed congestion brought about by increased accessibility, and improved journey times along the A803 corridor and the wider area.</p>

	Transport modelling indicated that the main benefits generated under this option are travel time savings for car users associated with a reduction in congestion.
<b>Risks and Deliverability Issues Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any impact on other projects</li> <li>• Potential Delivery Partners and Funding</li> </ul> <b>Further work required before option could be delivered</b>	<p>Transport modelling results suggested benefits of this option would be significantly reduced in a scenario with the Robroyston Park &amp; Ride facility in place.</p> <p>City Deal bid may result in funding for this option. In addition, development progressed as a result of City Deal could accelerate viability and dramatically increase demand for services here.</p> <p>Project planning cannot yet commence. Subject to completion of the legal agreement for application TP/ED/12/0912 land is available. Should this site not be available further investigation is required to determine a likely site for the Park and Ride that would be acceptable for operators and SPT.</p>



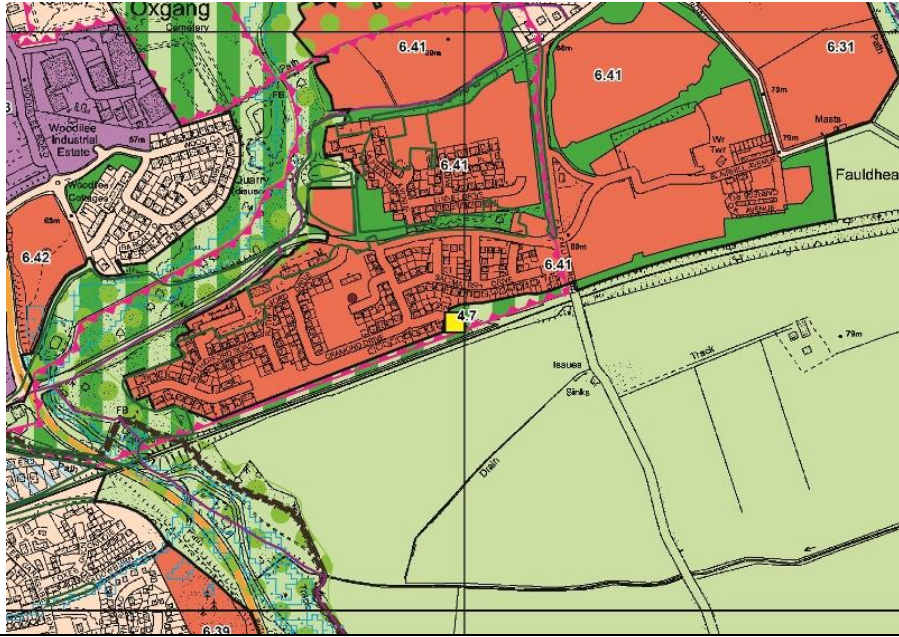
<b>6. Bus Service Improvements and New Services (including Kirkintilloch / Lenzie Loop Bus).</b>		
<b>Description of option</b>		A new loop bus service linking key locations such as Lenzie Rail Station, Kirkintilloch Town Centre, Woodilee, residential areas and the Council main offices. The frequency of bus services would be dictated by commercial viability.
<b>Mode</b>		Bus
<b>Included in LTS 2013 - 2017</b>		Yes – “Explore opportunities to provide additional bus services or alter routing to address gaps in areas.”
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	7,000 – 13,000
	<b>Rate for Optimism Bias</b>	44%
	<b>Applied to estimating uncertainty of +/-30%</b>	10,080 – 18,720
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	14,400
<b>Estimated timescales for completion</b>		6 months
<b>Modelling Analysis effects of option</b>		N/A (Option too small to affect strategic network.)
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		N/A
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		N/A
<b>Assessment against Transport Planning Objectives</b>		Average +. Improves accessibility by sustainable transport to key trip attractors.
<b>Benefits Including:</b> <ul style="list-style-type: none"> <li><b>Cumulative impacts and any benefits to other projects</b></li> </ul> <b>Potential Delivery Partners and Funding</b>		<p>Could help transfer trips from car to rail via public transport interchange possibilities.</p> <p>Could offer social benefits by offering new service in area of multiple deprivation (Hillhead).</p>
<b>Risks and Deliverability Issues Including:</b>		Significant concerns raised by SPT and operators on commercial viability.

<ul style="list-style-type: none"> <li>• <b>Cumulative impacts and any impact on other projects</b></li> <li>• <b>Potential Delivery Partners and Funding</b></li> </ul> <p><b>Further work required before option could be delivered</b></p>	<p>If this option was taken forward by the Council, rather than left to the market then commercial operators would require forecasting, the Council may need to run a trial service to ascertain demand.</p>
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<b>7. Increase parking provision at Lenzie Rail Station.</b>		
<b>Description of option</b>		Two options: (a) Surface access - extend northern car park to create 100 additional spaces; or b) Deck over one, or both, of the existing car parks, and possibly over the track. Up to 200 new parking spaces.
<b>Mode</b>		Rail
<b>Included in LTS 2013 - 2017</b>		Yes - Examine the feasibility of either increasing car park capacity or develop a Park-&-Ride facility adjacent to railway stations and bus routes and deliver proposed intervention(s)
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	a) 350,000 - 650,000 b) 1,519,000 - 2,821,000
	<b>Rate for Optimism Bias</b>	66%
	<b>Applied to estimating uncertainty of +/-30%</b>	a) 581,000 – 1,079,000 b) 2,521,540 - 4,682,860
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	a) 830,000 b) 3,602,200
<b>Estimated timescales for completion</b>		a) 2-3 years b) 3-5 years
<b>Modelling Analysis effects of option</b>		Negligible effect on car, public transport and station usage.
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		-£2,672 (Negative NPV)
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		0.003 (Very low)
<b>Assessment against Transport Planning Objectives</b>		Neutral/negative effect. Very poor effect on health/air quality. Some positive benefit for potential to enable modal shift.
<b>Benefits Including:</b> • Cumulative impacts and any benefits to other projects <b>Potential Delivery Partners and Funding</b>		Could increase rail patronage by transferring longer car trips to destination to short trips to the station.

<p><b>Risks and Deliverability Issues</b>  <b>Including:</b></p> <ul style="list-style-type: none"> <li>• <b>Cumulative impacts and any impact on other projects</b></li> <li>• <b>Potential Delivery Partners and Funding</b></li> </ul> <p><b>Further work required before option could be delivered</b></p>	<p>Site options are limited and both the expansion of the car park onto Lenzie Moss and decking of the car park have environmental implications. Instead, opportunities are examined in the RCS to improve and promote local access to the station by sustainable transport means (i.e. walking and cycling) as an alternative approach to relieving parking pressure at the station.</p> <p>Network Rail or Abellio may fund an expansion if the project is viable.</p> <p>Lenzie Improvements Project is emerging, with aims of improving sustainable access to the station and town centre of Lenzie.</p>
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## 8. Develop a New Rail Halt at Woodilee (with P&R) & Promote Sustainable Access.

<b>Description of option</b>		<p>A new rail station to improve sustainable access to Woodilee. Possible location is between A806 Initiative Road and Calfmuir Road in existing railway cutting. A car park with 50 spaces is assumed. Trains to and from Stirling would provide a 30 minute frequency. Option a) 50 car parking spaces, Option b) 300 Car Parking Spaces.</p> <p>Indicative Location of the Rail Station – LDP Proposals Map Extract</p> 
<b>Mode</b>		Rail
<b>Included in LTS 2013 - 2017</b>		Yes – “Undertake a technical study to determine the merits, costs and feasibility of developing new rail stations at Woodilee, Westerhill and Allander.”
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	<p>a) 3,199,000 - 5,941,000</p> <p>b) 4,599,000 - 8,541,000</p>
	<b>Rate for Optimism Bias</b>	

	<b>Applied to estimating uncertainty of +/-30%</b>	a) 5,310,340 - 9,862,060 b) 7,634,340 – 14,178,060
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	a) <b>7,586,200</b> (30/40 car parking spaces, if located west of line) b) 10,906,200 (300 car parking spaces if located east of line and new access road required)
<b>Estimated timescales for completion</b>		5+ years
<b>Modelling Analysis effects of option</b>		Negligible impact on Bishopbriggs and very small reduction in numbers using Lenzie station. Estimated patronage is 21,000, approximately 50 passengers during AM period.) The results of modelling suggest that the main benefits derived with this Option would be travel time savings for road users, associated with a reduction in congestion on the local road network due to an increase in public transport users linked to a new rail station at Woodilee.
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		£21,292 (High)
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		5.077 A high, positive BCR but with Robroyston P & R included - the BCR is negative.
<b>Assessment against Transport Planning Objectives</b>		Performs positively - promotes modal shift to public transport for commuter journeys.
<b>Benefits Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any benefits to other projects</li> <li>• Potential Delivery Partners and Funding</li> </ul>		<p>Likely to have greatest economic impact through improving public transport and accessibility to Glasgow, and other key economic centres located on the Edinburgh – Glasgow and Stirling/Alloa – Glasgow rail line.</p> <p>Improved safety if trips transfer to safer mode of rail.</p>
<b>Risks and Deliverability Issues Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any impact on other projects</li> <li>• Potential Delivery Partners and Funding</li> <li>• Further work required before option could be delivered</li> </ul>		<ul style="list-style-type: none"> <li>• Impact on Edinburgh Glasgow Improvement Programme (EGIP) – may undermine benefits of EGIP and reduce resilience on main Edinburgh Glasgow line. (Ability of the existing network to cope with changes or pressures to the timetable.) The Government has stated with regard to this option that ‘based on the issues set out in the corridor study and the current focus on delivery of Glasgow – Edinburgh journey time savings, any further work on these additional station proposals at this time would be abortive. There may be merit in revisiting the appraisals when EGIP works are complete and further information becomes available on future rail patronage and potential future schemes improvements. If /when these points are revisited, there should be further consideration of infrastructure and revenue costs as the figures quoted may not capture the full extent’.</li> </ul>

	<ul style="list-style-type: none"> <li>• In response to the Local Development Plan safeguarding of land for this station Network Rail stated: ‘only approximately 1.4km from Lenzie Station’ and that ‘this may raise issues in terms of achieving appropriate line speed between stations and impacts on existing and future timetabling on the key Edinburgh to Glasgow route’.</li> <li>• Could have a negative impact on journey times between Edinburgh and Glasgow.</li> <li>• Needs review against prospective infrastructure requirements of EGIP phase 2.</li> <li>• This proposed station site demonstrates greater site constraints than the Allander and Westerhill sites. Site options constrained by layout of the Woodilee Village - size of the land allocated and access through the new housing site. Alternative options would require use of green belt land, which forms a Local Nature Reserve, to the south of the railway line.</li> <li>• Other environmental constraints including: proximity of Lenzie Conservation Area and Townscape Area, pocket of Ancient Woodland, residential areas and pathways.</li> <li>• Possible that increased rail capacity would be required – either widening to 4 tracks or allowing parallel slow overtaking which would add significantly to the total cost.</li> <li>• Transport modelling shows that the viability of Woodilee Rail Station is considerably undermined by the Robroyston proposal. It is worth noting that Robroyston is further ahead in the process and has completed GRIP 4. The station is expected to be opened in late 2019.</li> <li>• It is unlikely that both Woodilee and Westerhill stations could both go ahead, however, the STAG results look at each option individually and have not assessed whether both could be delivered.</li> <li>• Station proposal borne out of proposed development at Woodilee; however its delivery was not included in planning permissions for the housing development due to the requirement to secure other planning obligations which would benefit the community – in particular developer contributions obtained from Woodilee housing development were focused on the delivery of the Kirkintilloch link road.</li> <li>• The rail line currently provides a defensible green belt boundary, development of a station could result in pressure to develop on the other side of the line, although a range of designations offer some protection.</li> </ul>
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- Delivery of a new station includes the following stages:

#### **GRIP 4**

Approximate cost: £500,000

Timeframe: 1-2 years

Funding: Council and potentially SPT

Governance for Railway Investment Projects (GRIP) is Network Rail's management and control process for the delivery of rail projects. GRIP Stage 4 is 'Single Option Development', which delivers the initial design phase of the preferred option. Success and completion of GRIP 4 constitutes approval in principle not including funding issues. There is no guarantee of progress beyond GRIP 4 therefore this work may be abortive expenditure. As rail stations require significant levels of expenditure and are part of the national strategic network with cross boundary implications, it is considered good practice to engage the Regional Transport Partnership to manage the GRIP process. GRIP 4 must either be carried out by Network Rail or approved contractor. If approved contractor, work must be checked by Network Rail at additional cost to be borne by promoter. It can therefore be more cost effective for Network Rail to carry out the GRIP 4. It should be noted that as sole owner and operator of the rail network in the UK, Network Rail have a monopoly on these matters and there is no alternative approach to developing new rail stations.

#### **Funding for station through Scottish Stations Fund –Production of business case**

Approximate cost: £?

Timeframe: 1 year

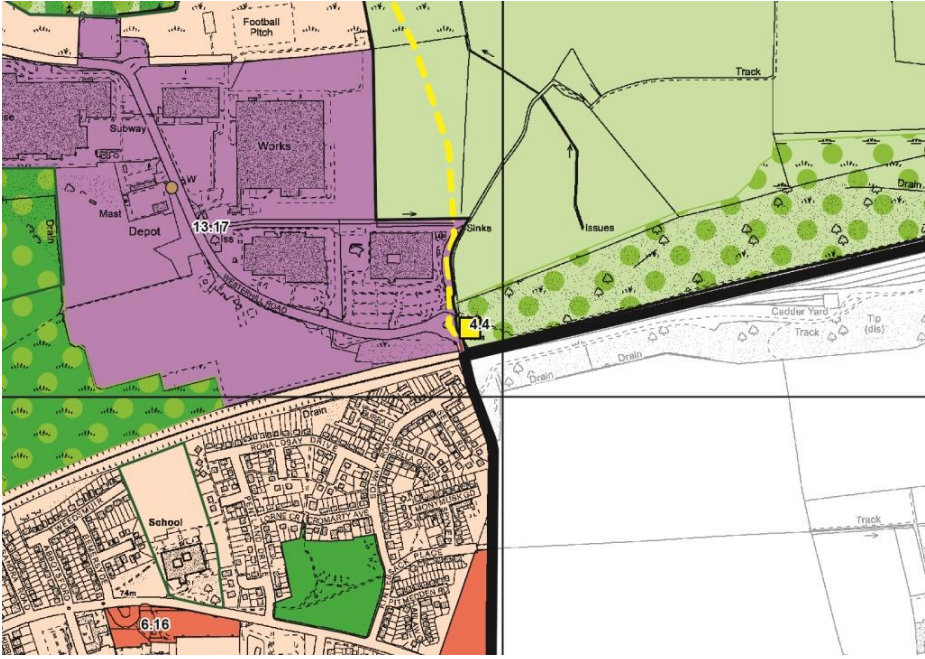
Funding: Council

A robust business case supporting an application to the Scottish Stations Fund is required. This is required to demonstrate the benefits supported by a robust analysis of demand forecasting for the proposed station and the corresponding effects on the strategic network. The promoter is required to submit the proposal to Transport Scotland. Business Case documents should include details of the proposed scheme & benefits with data inputs and assumptions. Business case must consider robust demand forecasting, benefits, assumptions and quantitative analysis of estimated station usage. Updated study must include timetable calculations incorporating the new station.



	<p>The Scottish Stations Fund runs over a 5 year control period running until 2019. Approximately £30m was available at start of current period. SPT noted that there have been approximately 70 expressions of interest in the fund in Scotland.</p> <p><b>Funding for Station through capital programme or developer contributions</b></p> <p>Timeframe: 1 year Funding: Council, Developers</p> <p>Options include:</p> <ul style="list-style-type: none"> <li>• City deal, subject to process outcome.</li> <li>• Developer contributions have been earmarked for contributing to delivery of the Bishopbriggs Relief Road, and the Allander Leisure Centre.</li> <li>• If available, Section 75 developer contributions trickle in over extended time period so the promoter must bear upfront costs until contributions are received in full.</li> </ul> <p><b>Construction</b></p> <p>Approximate cost: Minimum of £10million – £12million (for station infrastructure only) Timeframe: 2 years Funding: Council, Scottish Stations Fund</p> <p>The following costs are associated with a new station:</p> <ul style="list-style-type: none"> <li>• The construction of a basic station has been estimated as being £10million - £12million for Robroyston.</li> <li>• Annual running costs of a station is approximately £2million, which would be borne as operating costs of rail franchisee (Abellio). Any new stations would not be part of current franchise agreement and compensation would be required either from the promoter or Scottish Stations Fund. The current franchise runs to 2025.</li> <li>• All stations should be included in the Franchise agreement timetabling. Additional stations have implications for the timetable and additional work which would have to be undertaken by ScotRail as an additional cost.</li> </ul>
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## 9. Develop a New Rail Halt at Westerhill (with P&R) & Promote Sustainable Access.

<b>Description of option</b>	<p>A new rail station to improve sustainable access to Westerhill. Potential locations would be to the east or west of Westerhill Road Bridge and phase 4 of the BRR. The rail station would be located adjacent to the BRR which would better enable car users to access the rail network. A car park with 300 spaces is assumed. Trains to and from Stirling would provide a 30-minute frequency.</p> <p>Indicative Location of the Rail Station – LDP Proposals Map Extract</p> 		
<b>Mode</b>	Rail		
<b>Included in LTS 2013 - 2017</b>	Yes - Undertake a technical study to determine the merits, costs and feasibility of developing new rail stations at Woodilee, Westerhill and Allander		
<b>Costs</b>	<table border="1"> <tr> <td data-bbox="232 1257 539 1326"> <b>Cap Cost (Based on assumptions and</b> </td><td data-bbox="539 1257 2107 1326"> 2,870,000 - 5,330,000 </td></tr> </table>	<b>Cap Cost (Based on assumptions and</b>	2,870,000 - 5,330,000
<b>Cap Cost (Based on assumptions and</b>	2,870,000 - 5,330,000		

	<b>estimated uncertainty +/- 30% (£)</b>	
	<b>Rate for Optimism Bias</b>	66%
	<b>Applied to estimating uncertainty of +/-30%</b>	4,764,200 - 8,847,800
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	6,806,000
<b>Estimated timescales for completion</b>		36 months
<b>Modelling Analysis effects of option</b>		Negligible impact on Bishopbriggs and very small reduction in numbers using Lenzie station. Estimated patronage is 51,000, approximately 100 passengers during AM period.)
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		£30,634 (High)
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		7.537 A high, positive BCR but with Robroyston P & R included - the BCR is negative.
<b>Assessment against Transport Planning Objectives</b>		Performs positively - High impact on modal shift and provides sustainable transport network that supports local development and regeneration.
<b>Benefits Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any benefits to other projects</li> <li>• Potential Delivery Partners and Funding</li> </ul>		<p>Generally performs well against TPOs.</p> <p>Increases accessibility to key trip attractors and supports local development.</p> <p>Improves public transport accessibility to Glasgow and generates significant travel time benefits for public transport and road users.</p>
<b>Risks and Deliverability Issues Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any impact on other projects</li> <li>• Potential Delivery Partners and Funding</li> </ul>		<ul style="list-style-type: none"> <li>• Impact on EGIP – may undermine benefits of EGIP and reduce resilience on main Edinburgh to Glasgow line. (Ability of the existing network to cope with changes or pressures to the timetable.) The Government has stated with regard to this option that ‘based on the issues set out in the corridor study and the current focus on delivery of Glasgow – Edinburgh journey time savings, any further work on these additional station proposals at this time could be abortive. There may be merit in revisiting the appraisals when EGIP works are complete and further information becomes available on future rail patronage and potential future schemes improvements. If /when these points are revisited then there should be further consideration of infrastructure and revenue costs as the figures quoted may not capture the full extent’.</li> </ul>

<ul style="list-style-type: none"> <li>• <b>Further work required before option could be delivered</b></li> </ul>	<ul style="list-style-type: none"> <li>• In response to the Local Development Plan safeguarding of land for this station Network Rail stated: ‘only approximately 2.4km from the existing Bishopbriggs Station and 2.2km from Lenzie Station. This may raise issues in terms of achieving appropriate line speed between stations and impacts on existing and future timetabling on the key Edinburgh to Glasgow route. Furthermore, the proposed location of the Westerhill Station is also in the vicinity of a proposed location for a stabling and depot facility. It is worth noting that this proposal has recently been the subject of a submission to North Lanarkshire Council's 'Call for Sites'.</li> <li>• Could have a negative impact on journey times between Edinburgh and Glasgow.</li> <li>• Needs review against prospective infrastructure requirements of EGIP phase 2.</li> <li>• The modelling shows that the effectiveness of the Westerhill Rail Station is undermined by the Robroyston proposal. It is worth noting that Robroyston is further ahead in the process and has completed GRIP 4. Robroyston has received funding from the Scottish Stations Fund to assist with the delivery. The station is planned to be constructed by March 2019.</li> <li>• It is unlikely that both Woodilee and Westerhill stations could both go ahead however the STAG results look at each option individually and have not assessed whether both could be delivered.</li> <li>• Station proposal borne out of proposed development at Westerhill</li> <li>• Potential to include the rail station as part of any City Deal project or consider for freight. AECOM provided additional high level feasibility study of Westerhill’s suitability as a strategic freight hub. Initial findings identified several problematic issues including a lack of identified demand for an additional freight hub. Westerhill site has physical problems which would have to be overcome e.g. existing rail gauge not suitable for heavy freight containers.</li> <li>• Delivery of a new station includes the following stages:</li> </ul> <p><b>GRIP 4</b></p> <p>Approximate cost: £500,000  Timeframe: 1-2 years  Funding: Council and potentially SPT</p>
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	<p>Governance for Railway Investment Projects (GRIP) is Network Rail’s management and control process for the delivery of rail projects. GRIP Stage 4 is ‘Single Option Development’, which delivers the initial design phase of the preferred option. Success and completion of GRIP 4 constitutes approval in principle, not including funding issues. There is no guarantee of progress beyond GRIP 4, therefore this work may be abortive expenditure. As rail stations require significant levels of expenditure and are part of the national strategic network with cross boundary implications, it is considered good practice to engage the Regional Transport Partnership to manage the GRIP process. GRIP 4 must either be carried out by Network Rail or approved contractor. If approved contractor, work must be checked by Network Rail at additional cost to be borne by promoter. It can therefore be more cost effective for Network Rail to carry out the GRIP 4. It should be noted that as sole owner and operator of the rail network in the UK, Network Rail have a monopoly on these matters and there is no alternative approach to developing new rail stations.</p> <p><b>Funding for station through Scottish Stations Fund – Production of business case</b></p> <p>Approximate cost: £?  Timeframe: 1 year  Funding: Council</p> <p>A robust business case supporting an application to the Scottish Stations Fund is required. This is required to demonstrate the benefits supported by a robust analysis of demand forecasting for the proposed station and the corresponding effects on the strategic network. The promoter is required to submit the proposal to Transport Scotland. Business Case documents should include details of the proposed scheme &amp; benefits with data inputs and assumptions. Business case must consider robust demand forecasting, benefits, assumptions and quantitative analysis of estimated station usage. Updated study must include timetable calculations incorporating new station.</p> <p>The Scottish Stations Fund runs over a 5 year control period running until 2019. Approximately £30m was available at start of current period. SPT noted that there have been approximately 70 expressions of interest in the fund in Scotland.</p> <p><b>Funding for Station through capital programme or developer contributions</b></p> <p>Timeframe: 1 year  Funding: Council, Developers</p> <p>Options include:</p> <ul style="list-style-type: none"> <li>• City deal, subject to process outcome.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Developer contributions have been earmarked for contributing to delivery of the Bishopbriggs Relief Road, and the Allander Leisure Centre.</li> <li>• If available, Section 75 developer contributions trickle in over extended time period so the promoter must bear upfront costs until contributions are received in full.</li> </ul> <p><b>Construction</b></p> <p>Approximate cost: Minimum of £10 – 12million (for station infrastructure only)  Timeframe: 2 years  Funding: Council, Scottish Stations Fund</p> <p>The following costs are associated with a new station:</p> <ul style="list-style-type: none"> <li>• The construction of a basic station has been estimated as being £10-12million for Robroyston.</li> <li>• Annual running costs of a station approximately £2million, which would be borne as operating costs of rail franchisee (Abellio). Any new stations would not be part of current franchise agreement and compensation would be required either from the promoter or Scottish Stations Fund. The current franchise runs to 2025.</li> <li>• All stations should be included in the Franchise agreement timetabling. Additional stations have implications for the timetable and additional work would have to be undertaken by ScotRail as an additional cost.</li> </ul>
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## 5. Summary of 2015 and 2018 A81 Studies and a history of A81 studies

Table 2

Study	A81 (Milngavie – Bearsden – Glasgow) Route Corridor Study 2015 and 2018
Author	<b>2015</b> – AECOM <b>2018</b> – WSP
Methodology	<p>STAG</p> <p><b>2015</b></p> <ul style="list-style-type: none"> <li>• Qualitative appraisal</li> </ul> <p><b>2018</b></p> <ul style="list-style-type: none"> <li>• Builds on 2015 study and refined the Transport Planning Objectives</li> <li>• Quantitative appraisal including value for money assessments</li> </ul>
Stakeholder Consultation	<p><b>2015</b></p> <p>Transport Appraisal Stakeholder Workshop held on 6 November 2014 with representatives from key stakeholder groups, including; community councils, SPT, NHS, Police Scotland, Transport Scotland, cycling groups, East Dunbartonshire Council and the consultants, AECOM. The stakeholder workshop allowed for further discussion of the options and assisted the consultants in gaining a greater understanding of perceptions of issues and opportunities on the corridors. Telephone interviews were carried out with stakeholders who were unable to participate in the workshops but expressed an interest in being involved.</p> <p>The study team also met separately with Transport Scotland and Network Rail.</p> <p><b>2018</b></p> <p>Consultants WSP met with SPT and Transport Scotland to discuss the study including; the study scope, problems, opportunities, issues and constraints, and, option generation, development and sifting.</p> <p>WSP have also worked with elected members of East Dunbartonshire Council through attendances at Transport Working Group.</p>

Key transport problems	<p><b>2015 and 2018</b></p> <ol style="list-style-type: none"> <li>1. Congestion on the A81, resulting in journey time reliability issues for car, freight and bus trips.</li> <li>2. Declining number of trips made by bus – provides key function for local trips within and around the corridor, but is not competitive with rail for trips to Glasgow.</li> <li>3. Increased demand for travel on the corridor following implementation of the Kilmardinny development.</li> <li>4. High demand for rail services, resulting in parking capacity pressures at rail stations and on-street parking issues, including at Milngavie Town Centre.</li> <li>5. Lack of dedicated infrastructure for cyclists, impacting on the propensity of residents to cycle.</li> <li>6. Relatively high private car ownership, with higher than the national average use of car for travel to work and study.</li> <li>7. Several areas of Milngavie and Bearsden are not within a 10 minute walk of a rail station.</li> </ol>
Transport Planning Objectives	<p><b>2015</b></p> <ol style="list-style-type: none"> <li>1. Promote modal shift to sustainable transport for trips (particularly commuting) from or to the study area.</li> <li>2. Improve access to the public transport network, particularly for the first and last miles of journeys.</li> <li>3. Provision of a transport network that supports enhanced access to employment, social and leisure opportunities.</li> <li>4. Improve bus journey times and journey time reliability on the A81 corridor.</li> <li>5. Development of a transport network that facilitates and complements local economic development, contributing towards the sustainable economic growth of the study area.</li> <li>6. Delivery of a transport network that supports healthy lifestyles.</li> <li>7. Delivery of a transport network that enhances local air quality.</li> <li>8. Development of an integrated transport network, including co-ordination between modes and increased connectivity between active travel infrastructure and public transport.</li> <li>9. Provision of a transport network that improves safety and security across all modes of transport.</li> </ol>



	<p><b>2018</b></p> <p>Over-arching TPO – “<b>To shift to more sustainable modes of transport on the A81 corridor</b>”</p> <p>Sub-objective 1 – “Increase non-car mode share by 7.5 percentage points over a 5 year period”</p> <p>Sub-objective 2 – “Increase public transport use by 5 percentage points over a 5 year period”</p>
Options Appraised	<p><b>2015</b></p> <p>For STAG part 1 a range of options were appraised and some sifted out. The long list was:</p> <ol style="list-style-type: none"> <li>1. Option 1: Do Minimum</li> <li>2. Option 2: Increase Car Parking at Rail Stations</li> <li>3. Option 3: Rail Park &amp; Ride at Allander</li> <li>4. Option 4: Quality Bus Corridor</li> <li>5. Option 5: Area Wide Smartcard Ticketing</li> <li>6. Option 6: Improve Integrated Ticketing</li> <li>7. Option 7: Enhanced Walking and Cycling Paths and Links</li> <li>8. Option 8: Secure Cycle Storage</li> <li>9. Option 9: Bus Service Improvements</li> <li>10. Option 10: Junction Improvements</li> <li>11. Option 11: Variable Message Signs</li> <li>12. Option 12: Road Options to Enforce / Reduce Speeds and Enhance Appeal of Sustainable Travel</li> </ol> <p>Options 5: Area Wide Smartcard Ticketing, 6: Improve Integrated Ticketing and 11: Variable Message Signs were sifted out.</p> <p>Options were assigned to the following packages for STAG part 2, which included a more detailed appraisal against the Government and Transport Planning Objectives:</p> <ul style="list-style-type: none"> <li>• Package 1: Do Minimum</li> <li>• Package 2: Active Travel Modes</li> <li>• Package 3: Public Transport and Access</li> <li>• Package 4: Road</li> <li>• Package 5: Integrated Road and Public Transport/Sustainable Modes</li> </ul>

	<p>The packages comprised:</p> <p><b>Package 1 – Do Minimum</b></p> <ul style="list-style-type: none"> <li>• Parking charges and waiting restrictions at Milngavie Town Centre to prevent rail users from using parking earmarked for town centre retail;</li> <li>• Localised improvements associated with the Kilmardinny development;</li> <li>• Kessington Hub to promote interchange between walking, cycling and public transport and make Kessington more accessible for all users;</li> <li>• Implementation of cycle corridor with Phase 1 from Burnbrae Roundabout to Hillfoot and Phase 2 from Hillfoot to Kessington;</li> <li>• Bus Improvement Fund.</li> </ul> <p><b>Package 2 – Active Travel</b></p> <ul style="list-style-type: none"> <li>• Extend cycle route on Woodburn Way north of Park Road to enhance the link to Milngavie town centre and the rail station</li> <li>• Completion of the cycle link between Mains Estate and Allander Leisure Centre</li> <li>• Secure cycle storage facilities built at rail stations and in town centres</li> <li>• Development of a local network of walking and cycling paths which converge on town centres and stations</li> <li>• Development of a high quality path which links the Kilmardinny development and Milngavie station</li> </ul> <p><b>Package 3 – Public Transport and Access</b></p> <ul style="list-style-type: none"> <li>• New Rail Station at Allander</li> <li>• Quality Bus Corridor</li> <li>• Road Options to Enforce / Reduce Speeds and Enhance Appeal of Sustainable Travel</li> </ul> <p><b>Package 4 – Roads</b></p> <ul style="list-style-type: none"> <li>• Junction Improvements</li> <li>• Road Options to Enforce / Reduce Speeds and Enhance Appeal of Sustainable Travel</li> </ul>
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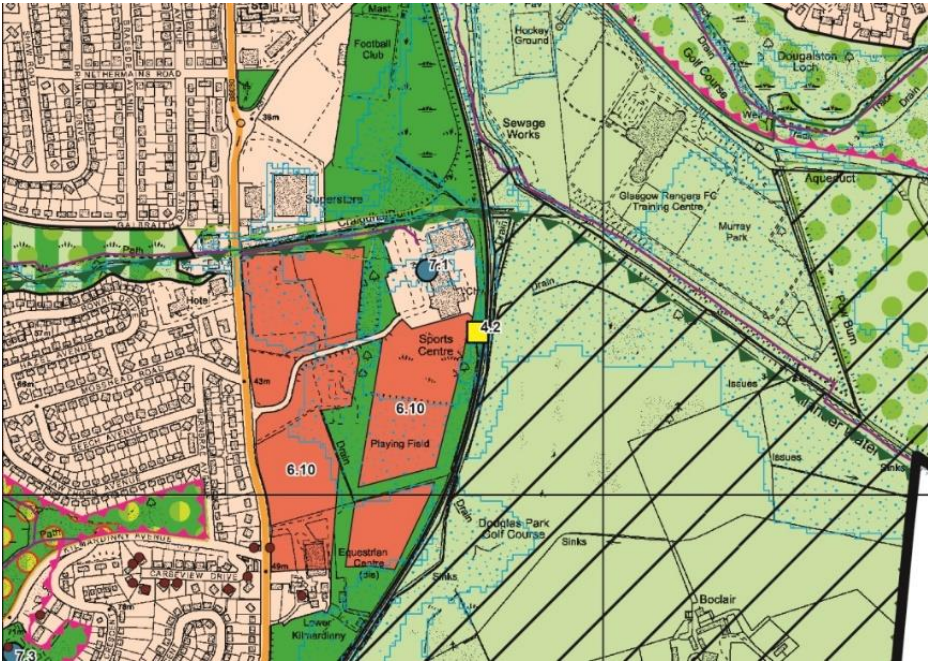
	<p><b>2018</b></p> <p><b>Do Minimum</b>  Provision of increased cycle parking at Milngavie Station  Installation of RTPI along the corridor  Extension of SCOOT to Milngavie Town Centre, comprising 4 junctions</p> <p><b>Do Something 1</b>  Extension of Bears Way (Phases 2 and 3)</p> <p><b>Do Something 2A</b>  Expansion of Milngavie Station Car Park by circa 106 spaces, via decking</p> <p><b>Do Something 2B</b>  Provision of additional parking at South Kilmardinny, with access to Hillfoot rail station via the A81</p> <p><b>Do Something 3A</b>  Construction of a new single track single platform railway station at Allander, including new access from A81, 150 space car park and cycle parking</p> <p><b>Do Something 3B</b>  Doubling of the railway track between Hillfoot and Milngavie, construction of a double platform railway station at Allander, including new access from A81, 150 space car park and cycle parking.</p>
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## 6. A81 (Milngavie – Bearsden – Glasgow) Route Corridor Study 2015

Table 4

<b>Option Number and Title – Package 2 Active Travel</b>		
<b>Description of option</b>		<p>Enhanced Walking and Cycling – Component Schemes include:</p> <ul style="list-style-type: none"> <li>• Extend cycle route on Woodburn Way north of Park Road to enhance the link to Milngavie town centre and the rail station</li> <li>• Completion of the cycle link between Mains Estate and Allander Leisure Centre</li> <li>• Secure cycle storage facilities built at rail stations and in town centres</li> <li>• Development of a local network of walking and cycling paths which converge on town centres and stations</li> <li>• Development of a high quality path which links the Kilmardinny development and Milngavie station</li> </ul>
<b>Mode</b>		Active Travel
<b>Included in LTS 2013 - 2017</b>		<p>Yes – “Enhance the quality, safety and routing of paths and footways from residential areas to town centres, key bus routes, railway stations, employment, health and leisure facilities.”</p> <p>Yes – “Work with partners to deliver parking and infrastructure improvements, such as shelter facilities, associated with cycling at railway stations, Increase and improve cycle parking provision security at Council owned facilities such as town centres, educational establishments, leisure facilities and employment areas.”</p> <p>Yes – “Identify opportunities and develop the active travel network across East Dunbartonshire and incorporating existing local, regional and national routes, which will be undertaken in line with high environmental and design standards.”</p>
<b>Costs</b>	<b>Estimated Capital Cost with Optimism Bias</b>	<ul style="list-style-type: none"> <li>• Extend cycle route on Woodburn Way north of Park Road to enhance the link to Milngavie town centre and the rail station - £10,000</li> <li>• Completion of the cycle link between Mains Estate and Allander Leisure Centre - £46,800</li> <li>• Secure cycle storage facilities built at rail stations and in town centres - £86,400</li> <li>• Development of a local network of walking and cycling paths which converge on town centres and stations - £540,000</li> <li>• Development of a high quality path which links the Kilmardinny development and Milngavie station - £720,000</li> </ul>
	<b>Rate for Optimism Bias</b>	44%
	<b>Estimated total Package cost</b>	£1,403,200

<b>Estimated timescales for completion</b>	Medium Term 2- 4+ Years
<b>Modelling Analysis effects of option</b>	N/A – A81 Study was qualitative, transport modelling carried out.
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>	N/A – A81 Study was qualitative, transport modelling carried out.
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>	N/A – A81 Study was qualitative, transport modelling carried out.
<b>Assessment against Transport Planning Objectives</b>	Perform positively against 1, 2, 3, 5, 6, 7, 8, 9
<b>Benefits Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any benefits to other projects</li> <li>• Potential Delivery Partners and Funding</li> </ul>	<p>Package will improve overall accessibility to the network, which is expected to reduce the generalised cost of travel.</p> <p>Direct journey time savings are limited however this package could reduce the number of car trips on the network and therefore reduce journey times.</p> <p>If modal shift is achieved, beneficial effects on air quality could be created.</p>
<b>Risks and Deliverability Issues Including:</b> <ul style="list-style-type: none"> <li>• Cumulative impacts and any impact on other projects</li> <li>• Potential Delivery Partners and Funding</li> <li>• Further work required before option could be delivered</li> </ul>	<p>Funding applications for active travel projects has been successful in recent years and East Dunbartonshire Council has a good working relationship with funders.</p> <p>Project planning should ensure that this component doesn't prevent other transport improvements on key routes, for example, bus improvements.</p>

Option Number and Title – Package 3 Public Transport	
<p><b>Description of option</b></p>	<ul style="list-style-type: none"> <li>• New Rail Station at Allander - Provision of a rail station and associated parking (circa 150 spaces)</li> <li>• Quality Bus Corridor (QBC) – package of measures comprising: <ul style="list-style-type: none"> <li>- Bus Priority/congestion bypasses at key points</li> <li>- Improvements for Bus stops and shelter</li> <li>- Bus detection included within SCOOT</li> </ul> </li> </ul> <p>Indicative Location of the Rail Station – LDP Proposals Map Extract</p> 
<p><b>Mode</b></p>	<p>Rail, Bus</p>

<b>Included in LTS 2013 - 2017</b>		<p>Yes – “Undertake a technical study to determine the merits, costs and feasibility of developing new rail stations at Woodilee, Westerhill and Allander.”</p> <p>Continue to improve bus infrastructure including the upgrade of shelters and lay-bys and measures such as priority signals and lanes, which will be undertaken in line with high environmental and design standards. – A81 Corridor through Bearsden and Milngavie”</p>
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	<ul style="list-style-type: none"> <li>• New Rail Station at Allander - Provision of a rail station and associated parking (circa 150 spaces) <ul style="list-style-type: none"> <li>- Single track option £5,882, 564</li> <li>- Double Track option - £19,255, 680</li> </ul> </li> <li>• Quality Bus Corridor (QBC) – package of measures comprising: <ul style="list-style-type: none"> <li>- Bus Priority/congestion bypasses at key points - £200,000</li> <li>- Improvements for Bus stops and shelter - £316,800</li> <li>- Bus detection included within SCOOT - £3,000</li> </ul> </li> </ul>
	<b>Rate for Optimism Bias</b>	44% for bus based options, 66% for rail based options.
	<b>Applied to estimating uncertainty of +/-30%</b>	N/A
	<b>(Applied to base cost (£)) Estimated Capital Cost</b>	£6,567,964 if single track option. £19,941,080 if double track option
<b>Estimated timescales for completion</b>		N/A
<b>Modelling Analysis effects of option</b>		N/A
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>		N/A
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>		N/A
<b>Assessment against Transport Planning Objectives</b>		<p>Performs positively against Transport Planning Objectives 1,2,3, 7,8 below:</p> <ol style="list-style-type: none"> <li>1. Promote modal shift to sustainable transport for trips (particularly commuting) from or to the study area.</li> <li>2. Improves access to the public transport network, particularly for the first and last miles of journeys.</li> </ol>

	<p>3. Provision of a transport network that supports enhanced access to employment, social and leisure opportunities.</p> <p>7. Delivery of a transport network that enhances local air quality.</p> <p>8. Development of an integrated transport network, including co-ordination between modes and increased connectivity between active travel infrastructure and public transport.</p> <p>High impact on modal shift and provides sustainable transport network improvements</p>
<p><b>Benefits Including:</b></p> <ul style="list-style-type: none"> <li>• Cumulative impacts and any benefits to other projects</li> </ul> <p><b>Potential Delivery Partners and Funding</b></p>	<p><b>Allander Station</b></p> <ul style="list-style-type: none"> <li>• Study found the proposed station performed well if double tracking provided - could improve the capability and capacity of the branch and could offer other benefits, such as rail performance, the ability to offer a more flexible timetable to deal with timing issues elsewhere and capacity to release empty sets during the off peak times.</li> <li>• Journey extension to existing rail users and impact on existing services because of the single line Milngavie branch. 2015 STAG suggests current timetable is not working effectively, and adding the new station has a significant impact, moving the crossing to the other end of the loop and reducing the turnaround time at Milngavie. The line forms part of complex network with many interactions, Network Rail would not wish to see any negative impacts.</li> <li>• Option of 20 minute lay-overs at Milngavie adds to the cost of operation, risk that a late running inbound train will impact on outbound train- initial view is that to facilitate any new station there will be a requirement for redoubling of the track with resultant cost implications (circa £19m compared to circa £6m).</li> </ul> <p><b>QBC</b></p> <ul style="list-style-type: none"> <li>• QBC measures likely to make bus travel more attractive through improved facilities and journey times within EDC area.</li> <li>• SPT are ready to roll out new version of RTPI regionally.</li> <li>• Would not require additional land to deliver.</li> </ul>
<p><b>Risks and Deliverability Issues Including:</b></p> <ul style="list-style-type: none"> <li>• Cumulative impacts and any impact on other projects</li> </ul>	<ul style="list-style-type: none"> <li>• In response to the Local Development Plan safeguarding of land for this station, Network Rail stated: 'Network Rail does not wish to discourage the investigation of a new rail halt at Allander but suggests further consideration should be given to the practicality of this option. The proposed location is only approximately 1.3km from the existing Hillfoot Station and 1.4 km from Milngavie Station. This may raise issues in terms of achieving appropriate line speed between stations and impacts on existing and future timetabling. On the basis that the potential for a new rail may prove unfeasible, it is suggested that the Local Development Plan/Transport Appraisal considers an alternative option of investigating how new development and</li> </ul>



<ul style="list-style-type: none"> <li>• <b>Potential Delivery Partners and Funding</b></li> </ul> <p><b>Further work required before option could be delivered</b></p>	<p>policy can support the existing station locations at Hillfoot and Milngavie such as bus priority measures, cycle lanes and footpath networks to these stations. At stations, improvements such as additional cycle lockers could also be given further consideration’.</p> <ul style="list-style-type: none"> <li>• Station proposal borne out of proposed development at Kilmardinny; however its delivery was not included in planning permissions for the housing development due to the requirement to secure other planning obligations which would benefit the community – in particular developer contributions obtained from Kilmardinny housing development were focused on the delivery of the Allander Leisure Centre.</li> <li>• The rail line currently provides a defensible green belt boundary, development of a station could result in pressure to develop on the other side of the line, although a range of designations offer some protection.</li> <li>• If double tracking is required the cost of the station will be significantly higher and difficult to estimate true cost with any certainty. Costs derived from Network Rail are subject to change and there is no ‘off the peg’ price for a station.</li> </ul>
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<b>Option Number and Title – Package 3 Roads and Parking</b>		
<b>Description of option</b>		<ul style="list-style-type: none"> <li>• Junction Improvements - Implementation of a gyratory at the A81/Roman Road/Roman Drive junction (incorporating ban of right turn from Bocclair Road)</li> <li>• Road Options to Enforce / Reduce Speeds and Enhance Appeal of Sustainable Travel including: <ul style="list-style-type: none"> <li>- Carriageway marking / localised narrowing</li> <li>- Place making initiatives to town centre environments (Suggestions include 20mph zones, appropriate street furniture, street lighting and walking and cycling facilities at and to new developments)</li> </ul> </li> </ul>
<b>Mode</b>		Road
<b>Included in LTS 2013 - 2017</b>		Yes “Continue to deliver improvements to the A81 corridor to mitigate congestion and improve air quality”
<b>Costs</b>	<b>Cap Cost (Based on assumptions and estimated uncertainty +/- 30% (£))</b>	<ul style="list-style-type: none"> <li>• Junction Improvements - Implementation of a gyratory at the A81/Roman Road/Roman Drive junction (incorporating ban of right turn from Bocclair Road) - )£648,000</li> <li>• Road Options to Enforce / Reduce Speeds and Enhance Appeal of Sustainable Travel including: <ul style="list-style-type: none"> <li>- Carriageway marking / localised narrowing - £36,000</li> </ul> </li> </ul>

		- Place making initiatives to town centre environments (Suggestions include 20mph zones, appropriate street furniture, street lighting and walking and cycling facilities at and to new developments - £1,296,000
	<b>Rate for Optimism Bias</b>	44%
	<b>Applied to estimating uncertainty of +/-30%</b>	N/A
	<b>(Applied to base cost (£))</b>	£813,600
	<b>Estimated Capital Cost</b>	
<b>Estimated timescales for completion</b>	Short to Medium term 1 year – 5 years	
<b>Modelling Analysis effects of option</b>	N/A	
<b>Net Present value vs Do Minimum (NPV) (£000s) (2)</b>	N/A	
<b>Benefit Cost Ratio vs Do Minimum (BCR) (3)</b>	N/A	
<b>Assessment against Transport Planning Objectives</b>	Junction Improvements - Performs positively against 5 Road Options to Enforce / Reduce Speeds and Enhance Appeal of Sustainable - Performs positively against 1, 5, 6, 9	
<b>Benefits Including:</b> • Cumulative impacts and any benefits to other projects <b>Potential Delivery Partners and Funding</b>	Public transport may experience minor improvements in journey times. Enhance operation, safety, reduce queuing and vehicular delay.  Road Options - These schemes are primarily aimed at reducing vehicular speeds through marking, narrowing and placemaking initiatives. Benefits expected to modal shift, economy, healthy lifestyles and integration. These measures are considered to be localised and will have minimal effects on overall corridor journey times.	
<b>Risks and Deliverability Issues Including:</b> • Cumulative impacts and any impact on other projects • Potential Delivery Partners and Funding	Funding is likely to be available from organisations such as Sustrans, SPT and developers contributions for place making and sustainable travel improvements.  Road narrowing and speed reduction are likely to have positive impacts on active travel levels as reduced traffic speed may reduce levels of perceived safety risk.	

<b>Further work required before option could be delivered</b>	Further study on effects of Gyratory at Bocclair Junction is in progress.
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## **7. 2018 A81 Transport Options Appraisal Study.**

As the 2015 A81 Study did not involve quantitative analysis on the options, a further study was required to carry out this work. In March 2016, the Council approved an amendment proposing funding to carry out an independent study which incorporated quantitative demand forecasting and transport modelling in order to determine whether there is an economic rationale for a potential rail station at Allander, as part of a wider review of transport options for the A81. The amendment in March 2016 proposed:

“Agrees that in order to maintain the Council's commitment to progress a potential rail station at Allander, the sum of £50,000 should be committed to carry out demand forecasting and transport modelling in order to determine Benefit Cost Ratios for the Allander Rail Station as part of a wider review of rail, parking, roads and public transport options for the A81 corridor, with a report on demand forecasting, transport modelling and options for the delivery of the Allander Rail Station and/or other rail service and parking improvement to be brought back to Council once completed, and where this demonstrates the viability of the Allander Rail Station then a further £454,335 be underwritten to complete a full financial and technical feasibility study.”

WSP was appointed to carry out an A81 Transport Options Appraisal Study. In order to ensure any uncertainty over the appropriateness and feasibility of transport options on the A81, discussions were held with Transport Scotland and SPT on the brief for the project given their key role as policy makers, funders and delivery partners for strategic infrastructure.

As the 2015 study was limited to updating the 2008 qualitative study, this commission sought to provide quantitative analysis using transport modelling to supplement the work carried out in the 2015 STAG study in order to generate rigorous value for money assessments such as Benefit Cost Ratios (BCR) and Net Present Value (NPV). The 2018 Study executes the more detailed and technical aspects of a STAG Part 2 (Detailed) appraisal.

The defined purpose of this study was:

“To provide further information on the appropriateness, financial feasibility and deliverability of options which will allow decision makers to establish whether there is a clear rationale for the potential options and select preferred options for the corridor; and to remove any uncertainty regarding the appropriateness and feasibility of potential interventions.”

It was also prescribed that:

“Rail and Bus industry stakeholders will be required to contribute to the development of this study and engagement with them will be required throughout the study. In particular, it is necessary to ascertain whether a potential station at Allander is feasible without line doubling, associated works and timetabling implications and crucially; what these costs would be, should line doubling be required, in order to clarify the true cost and identify if it is worthwhile expenditure given the potential costed benefits. This will necessitate participation from all relevant rail industry stakeholders from the inception of the study.”

The study followed the methodology of the 2015 STAG but sought to refresh and consolidate the 2008 and 2015 issues and constraints, transport planning objectives and options for detailed appraisal. This was to ensure:

- The problems, issues and constraints associated with the corridor remain current and relevant;
- Commentary from key stakeholders is addressed as far as reasonably practicable within the context of the study
- The approach remains commensurate with both the requirements of STAG and the Council’s requirement for a definitive study outcome which will inform future investment decisions; and
- Focus is given where required, to the detailed and technical components of the previous work, whilst avoiding regurgitation of previous work.

Key stakeholders such as Transport Scotland and Strathclyde Partnership for Transport (SPT) provided feedback on the 2015 study and were engaged through development of the 2018 study. The current study sought to address these specific points and these are summarised below:

#### **SPT Commentary**

- Consideration should be given to local and strategic trips to and from various destinations;
- Consideration should be given to current use and potential for increased use of bus as a primary mode of transport;
- There needs to be a balanced and realistic treatment of travel needs in the corridor to ensure that any solutions that emerge are clearly demonstrated to be the appropriate ones; and
- Option generation and scoring should relate to the transport planning objectives.

## **Transport Scotland Commentary**

- A clear evidence based rationale needs to be established for any interventions being considered;
- The Transport Planning Objectives (TPOs) should be specifically linked to the evidence;
- Objectives require to be SMART and incorporate definitive targets and/or indicators where possible.

From this stakeholder engagement, WSP derived the following key tasks for the current study:

- Review previous 2008 and 2015 studies;
- Review current evidence base and refresh problems, issues and constraints;
- Refine the TPO's in accordance with the above;
- Refine and re-package options in accordance with the above;
- Undertake a qualitative appraisal;
- Undertake a detailed quantitative appraisal;
- Identify risks and uncertainty

It was considered that following this approach would achieve the purpose of the study and provide clarity on options previously appraised for the study. Furthermore, WSP used this methodology successfully for the business case for the new rail station at Robroyston in Glasgow, which resulted in award from the Scottish Government's Scottish Stations Fund for delivery of a new rail station at Robroyston on the Cumbernauld line.

This study was carried out consistent with the assumption that development at Kilmardinny would be proceeding on 350 housing units with potential for further 150 should they come forward. Planning Committee originally granted permission for 550 and this was reduced to 492 in February 2015 but 150 were marked 'should this site proceed'.

## **Transport Options Appraisal Study Findings and Conclusions**

### **Transport Planning Objectives**

Transport Planning Objectives (TPOs) form an important backbone of the study as they are what options are appraised against. This is to ensure any options coming out of the study are derived from an identified, evidence based problem. Some options may indeed be economically viable, but they may not fulfil

the objectives of the study and not solve any identified problems in the study area. The TPOs in this study are derived from a review, rationalisation of problems opportunities, issues and constraints and the policy review.

The overarching Transport Planning Objective for this study was:

***“To shift to more sustainable modes of transport on the A81 Corridor”***

To ensure this met with Transport Scotland requirements, the main TPO was divided to 2 sub-objectives which were:

***Sub-objective 1: Increase non-car mode share by 7.5 percentage points over a 5 year period***

***Sub objective 2: Increase public transport use by 5 percentage points over a 5 year period***

## **OPTION DEVELOPMENT**

In order to develop appropriate options for appraisal, WSP sifted a long list of options from previous studies against the TPOs and deliverability, resulting in a new packaging of options. This was discussed with Transport Scotland and following this consultation, the packing was further refined to reflect need for a multi modal improvement scenario allowing a combination of options to be drawn together around scalability of cost and wider improvements to the corridor. The packages are described below.

## **Do Minimum**

The Do-Minimum scenario comprises interventions which have already been identified by EDC and SPT, and have committed funding, but which are yet to be implemented. These interventions which it is assumed, will be undertaken regardless of the findings of the present study. This includes:

- Provision of increased cycle parking at Milngavie Station (from 28 to 50 spaces), as per the EDC Active Travel Strategy 2015 and Abellio ScotRail Cycle Innovation Plan;
- Installation of real time passenger information screens at bus stops along the A81 corridor, as identified in the EDC Local Transport Strategy (LTS) 2013-17; and
- Extension of SCOOT adaptive traffic signal control system to Milngavie Town Centre, also as identified in the EDC LTS 2013-17. Assumed to comprise 4 junctions including bus priority:
  - A81 Strathblane Road / Baldernock Road / A81 Glasgow Road / B8030 Station Road crossroads;
  - B8030 Woodburn Way / Ellangowan Road / Gavin's Mill Road crossroads;
  - B8030 Main Street / B8050 Park Road T-junction; and
  - B8050 Park Road / Clober Road / Douglas Street / B8050 Craigdhu Road crossroads.

## **Do Something 1**

Extension of the segregated Bears Way cycleway northwards to Milngavie Town Centre and South to Kessington (i.e. Phases 2 and 3)

## **Do Something 2A**

Expansion of Milngavie Station Car Park from 134 to circa 240 spaces via decking. This work will incorporate landscaping works to enhance visual amenity and screen the car park from Woodburn Way.

## **Do Something 2B**

Provision of additional car parking for Hillfoot Station at south Kilmardinny

## **Do Something 3A**

Construction of a new single track single platform railway station at Allander, including new access from A81, 150 space car park and cycle parking.



### Do Something 3B

Doubling of the railway line between Hillfoot and Milngavie, double platform railway station at Allander, including new access from A81, 150 space car park and cycle parking.

### Appraisal

All options were appraised qualitatively against a number of criteria including:

- The study TPOs,
- STAG criteria of; environment, economy, safety, accessibility and social inclusion, and integration.
- Deliverability criteria of feasibility, affordability, and public acceptability.

The results for each option are detailed in the table below.

Option	Study Transport Planning Objectives	Governments Key Objectives	Deliverability Criteria	Totals
Do Minimum	6+	10+	9+	25+
Do Something 1	4+	13+	3+	20+
Do Something 2A	7+	13+	6+	26+
Do Something 2B	4+	9+	8+	21+
Do Something 3A	2+	3+	3+	8+
Do Something 3B	2+	2+	1+	5+

The detailed appraisal provided Benefit Cost Ratios for all the options which provide a definitive measure of value for money. The PVB (Present Value of Benefits) and PVC (Present Value of Costs) allow comparison of the costs and benefits of a scheme or option. The benefit-cost ratio (BCR) is given by  $PVB / PVC$  and so indicates how much benefit is obtained for each unit of cost, with a BCR greater than 1 indicating that the benefits outweigh the costs.

## BCR AND METHODOLOGY TABLE

Table 5

Option	Scenario	Capital Costs	BCR	Methodology
Do Minimum	20 Years Present Value	<p><b>Per junction:</b>  SCOOT Installation: £27,666.67  Civils: £33,000  Design, supervision and risk: £19,413.33  Total: £80,080</p> <p><b>RTPI Installation:</b> £10,000 per bus stop  Maintenance: £200 per bus stop plus £20,000 total operating costs assuming shared services with Glasgow City Council</p>	<b>0.91</b> - 20 Years (Poor Value for money)	<p>The detailed appraisal of the Do Minimum option has been undertaken in accordance with the methodology set out in TRL593<sup>1</sup>, the Green Book and DfT WebTAG <sup>2</sup> methodology.</p> <p>The percentage of journey time saving estimate is derived from results of commercial systems published on the SCOOT <sup>3</sup>website.</p>
Do Something 1	Phase 2 only	£442,000	<b>2.41</b> (High value for money)	AMAT <sup>4</sup>
	Phase 3 only	£319,000	<b>1.46</b> (Low value for money)	

<sup>1</sup> Within the A81 study WSP have used the industry accepted values for public transport elasticities generated by TRL in the report - TRL Report 593 – The Demand for Public Transport – A Practical Guide. Transport Research Laboratory (TRL) is independent from government, industry and academia and provides organisations with the evidence-base to enable future innovation in transport.

<sup>2</sup> WebTAG is the Department for Transport in the UK government’s guidance document that provides information on the role of transport modelling and appraisal.

<sup>3</sup> [http://www.scoot-utc.com/documents/survey\\_results.pdf](http://www.scoot-utc.com/documents/survey_results.pdf)

<sup>4</sup> The DfT released the Active Mode Appraisal Toolkit (AMAT) and reported on the evidence base to quantify the impact of investment in cycling and walking and to make the case for investing in both. The tool incorporates Health, Journey Quality and Decongestion benefits.

Option	Scenario	Capital Costs	BCR	Methodology
	Phases 2 and 3	£761,000  The costs for phases 2 and 3 have been factored on a per km cost from Bears Way phase 1, with the Phase 2 cost including the upgrade of 2 junctions at an estimated cost of £70,000 each.	<b>1.90</b> (Medium value for money)	Assessed utilising WebTAG Databook (Spring 2016 release v1.6) <sup>5</sup>
Do Something 2A	Provide additional circa 106 spaces via decking	£3,037,626	<b>3.04</b> (High value for money)	Park and Ride Demand Model. Details in Study Appendix.
Do Something 2B	150 Space Car Park	£405,666	<b>1.48</b> (Low value for money)	Park and Ride Demand Model. Details in Study Appendix.
Do Something 3A	150 Space Car Park	£6,036,970	<b>0.76</b> (Poor value for money)	Bespoke demand forecasting and appraisal tool. <sup>6&amp;7</sup>
Do Something 3A	550 Space car park	£8,050,760	<b>1.17</b> (Low value for money)	Bespoke demand forecasting and appraisal tool.

<sup>5</sup> Background annual growth has been calculated based on DfT traffic count data and updated manual counts undertaken by East Dunbartonshire Council in 2017.

<sup>6</sup> The bespoke tool was approved by Transport Scotland and was used in development of the business case for Robroyston Station.

<sup>7</sup> The bespoke tool (transport model) uses the following data sources to identify the levels of traffic which has the potential to switch to rail services: Traffic flow data; Traffic flow past the site; Proportion of traffic accessing the city centre; Car occupancy levels; Mode choice sensitivity; Journey time data; Journey times to Glasgow City Centre; Vehicle operating costs (fuel); Total distance between the site and Glasgow City Centre; Parking costs; and Local trip attraction.

Option	Scenario	Capital Costs	BCR	Methodology
Do Something 3B	150 Space Car Park	£32,882,172	<b>0.44</b> (Poor value for money)	Bespoke demand forecasting and appraisal tool.
Do Something 3B	550 Space car park	£32,882,172	<b>0.73</b> (Poor value for money)	Bespoke demand forecasting and appraisal tool.

## Conclusions

Based on the qualitative results and cost benefit analysis, the study sets out a preferred option of Do Something 2A (expansion of Milngavie station car park via decking). This option has a BCR of 3.04 (high value for money). The next high scoring option is Do Something 1 (extension of Bears Way) which has a BCR of 1.90 (medium value for money).

The new rail station option's BCR is significantly lower due to the very high capital cost of a new rail halt and the sited location's inability to draw ample passenger demand from the area, due to neighbouring land use (constraint for development to the east) and proximity to existing rail stations.

## Key Issues

The A81 Transport Options Appraisal Study raises a number of issues which will require further consideration within the process of developing the refreshed Local transport Strategy. These are highlighted in the following paragraphs.

### Potential Allander Rail Station

The Study contains the following findings on the potential Allander Rail Station:

- Benefit Cost ratio for station at Allander under all scenarios shows this option offers poor value for money.
- A new railway station at Allander would be located within reasonably close proximity (comparatively) between two neighbouring stations, which inherently reduces the ability of the new station to abstract a significant level of patronage from the existing stations.

- The more remote siting of a new station at Allander would attract very limited walking trips as a function of its more remote location from both the A81 corridor and a reasonable scale of residential walk-in catchment
- A new railway station at Allander will be sited in an area which does not currently, nor is likely to in the future, have an increased residential catchment. The Kilmardinny development (residential and commercial) is not of sufficient scale to generate the necessary levels of rail patronage and there is limited developable land, remaining within a reasonable walk in catchment of the station to warrant it being viable now or in the short to medium term.
- The rail based options (Do Something 3A and 3B) do not appear to deliver sufficient value for money, and are much less effective when measured against the Study's Transport Planning Objectives, STAG criteria and deliverability criteria.

#### **Are all the station scenarios not viable?**

Table 5 above demonstrates that the single track station option, with a 550 space car park, is predicted to have a BCR greater than 1.0, and could therefore be considered as economically viable. WebTAG suggests that a BCR value of 1.17 represents 'low value for money'. As mentioned above, the size of the car park is an important aspect of predicting future rail patronage demand. The provision of 550 parking spaces to support the facility is effectively an arbitrary figure, but included as a sensitivity test, to illustrate the levels of parking necessary to facilitate enough demand for the facility to achieve a BCR greater than 1. However, this level of provision is likely to be too high to be feasible for the following reasons:

- Additional land take would be required to provide a car park of this scale and the costs of such are not included in this assessment;
- The provision of a 550 space park and ride would require supporting access and road network mitigation/ improvements to accommodate the additional trips and the costs of such are not accounted for in this BCR assessment;
- Notwithstanding that the impacts of a draw of 550 inbound (plus drop-off) trips to the facility have not been tested on the surrounding road and junction network, it is considered that this more intense volume of traffic on the local road network during the peak hour, would create significant disbenefits on the environment; safety and security (potentially more so for school children); and accessibility, as the dominance of the private car is likely to discourage local walking and cycling.

If the above costs not currently included in the assessment were included, then the costs of providing a 550 space car park would begin to outweigh the benefits and the benefit-cost ratio is anticipated to reduce below 1.0. This point is crucial to understanding the wider impacts of implementation of a 550 space car park at the Allander site.

### **Parking**

The Study contains the following findings on parking on the Corridor:

- Decking Milngavie Station scores highest in environmental appraisal due to its ability to take cars off the road onto sustainable modes, it also scores highest in terms of feasibility and affordability.
- The study finds decking Milngavie Station car park and increasing parking provision by circa 106 spaces would incur an estimated capital cost of circa £3million.
- Large levels of parking at Allander is likely to create disbenefits relating to air quality, reductions in walking and cycling levels, local congestion and delays and additional junction works to cope with additional traffic.

### **Active Travel**

The Study contains the following key findings on Active Travel provision on the Corridor:

- The study found that completion of the Bears Way offers the second best value for money of all the options appraised.
- Benefits of active travel to corridor (and any disbenefits noted in report)
- The study finds completing the Bears Way would incur an estimated capital cost of circa £442,000 for phase 2, £319,000 for phase 3 and a combined £761,000 for the 2 phases together.

### **Bus Provision**

The Study contains the following findings on bus infrastructure and provision on the Corridor:

- There is limited scope for significant bus measures in the EDC sections of the A81.
- Furthermore any works carried out in East Dunbartonshire for bus could be undermined by a lack of provision in Glasgow, most of the delays experienced by bus users are in Glasgow anyway.

- It would be possible to increase benefits of bus by partnership working with SPT and Glasgow City Council but this is out with the scope of this study.
- First Bus has previously indicated there is not a great appetite for a bus park and ride on the A81 and it was sifted out of the 2015 STAG study for this reason.
- The Council is already looking at delivery of Real Time passenger Information roll out in partnership with SPT and this is included in the study as part of the 'Do Minimum' case.

## **8. Conclusion**

The route corridor study conclusions and key issues highlighted throughout this review will be crucial in informing the preferred options within the Transport Options Report. STAG guidance and principles should be applied to Local Transport Strategies wherever possible and as such any preferred options in the TOR should be consistent with the conclusions of the route corridor studies. Any options that are at odds with the STAG studies' conclusions would not qualify for central government funding.