TAYSIDE AND CENTRAL SCOTLAND TRANSPORT PARTNERSHIP

17 MARCH 2026

LOCAL RAIL DEVELOPMENT FUND

REPORT BY TRANSPORT STRATEGY OFFICER

Purpose
This report provides an update on the studies funded through the Scottish Government's Local Rail Development Fund (LRDF). This includes short updates on the status of the 'Stirling Strategic Park & Ride Study' and 'Bridge of Earn Transport Appraisal' respectively.

The report predominantly outlines the outputs of the Detailed Options Appraisal Report for the 'Tay Cities Park & Choose Strategy: Opportunities along the Perth-Montrose Transport Corridor' and seeks Partnership approval of the report's submission to Transport Scotland to make the case for identified rail improvements in the Angus area.

Summary
The Local Rail Development Fund gave RTPs, Councils and Community Groups the opportunity to investigate the potential for rail improvements. The final reports require political approval before submission to Transport Scotland, who would then consider whether the proposals merit further investigation.

In relation to the Tay Cities Park & Choose Strategy, the report gives an overview of the options which were progressed to the Detailed Options Appraisal. The outcome of the appraisal showed that bus-related interventions were likely to be the most effective and cost-efficient interventions to the problems considered in the study. Rail related improvements in the Balmossie / Golf Street area could provide targeted benefits and value for money.

1 RECOMMENDATIONS

1.1 That the Partnership:

(i) Notes the status of the Stirling Strategic Park & Ride Study and the Bridge of Earn Transport Appraisal;

(ii) Notes the outcomes from the Tay Cities Park & Choose Strategy Detailed Options Appraisal; and

(iii) Approves the submission of the Tay Cities Park & Choose Strategy Detailed Options Appraisal to Transport Scotland and the request that Transport Scotland consider the potential for additional rail services in the Balmossie / Golf Street area.

2 BACKGROUND

2.1 The Scottish Government's Local Rail Development Fund (LRDF) was introduced to enable stakeholders to investigate the potential for rail-based improvements. The appraisals would then be submitted to Transport Scotland for their consideration of whether the proposals merited further investigation by Transport Scotland and Network Rail. The Fund was launched in 2018 with a further funding round in 2019. Appraisals were to be undertaken in line with Scottish Transport Appraisal Guidance (STAG).

2.2 Tactran were successful in the award of funding for three studies across the region. Initially the Stirling Strategic Park & Ride Study and Bridge of Earn Transport Appraisal were funded from the first round, whilst funding was secured in the second round for the Tay Cities Park & Choose Study. Report to Partnership RTP/23/25 provides an earlier update.

2.3 A Park & Choose facility allows for a broader choice of options for users, with the intention that users can park their car and walk, cycle or use public transport to reach their destination, whereas a Park & Ride facility is traditionally public transport focussed.

Stirling Strategic Park & Ride Study

2.4 The Stirling Strategic Park & Ride Study was concluded and considered by Stirling Council's Environment, Transport and Net Zero Committee on 28 March 2024 (Environment, Transport & Net Zero Committee) and submitted to Transport Scotland in June 2024. The report identified that a new station to the south of Stirling was worthy of consideration by Transport Scotland.

2.5 Following no response from Transport Scotland on their consideration of the study, the Partnership Director sent a letter to the Director of Rail requesting an update in July 2025. In November 2025 a response from the Director of Rail was received:

- Providing assurance that Transport Scotland are reviewing the Detailed Options Appraisal Report for the Stirling LRDF Appraisal and are ensuring full consideration of the analysis undertaken
- Noting the intention to provide the Cabinet Secretary for Transport with advice soon and to update ourselves at the earliest opportunity.

Bridge of Earn Transport Appraisal

2.6 Perth and Kinross Council intend to undertake a park & ride study around Perth and have undertaken an initial data collection exercise and analysis of the use of the existing Park & Ride sites at Broxden and Kinross.

2.7 All the LRDF studies were multi-modal studies. Hence both the Tay Cities Park & Choose Study and the Bridge of Earn LRDF Study considered bus, coach and rail options. The findings of both the Tay Cities Park & Choose Study (as they relate to the principle of providing bus-based park & ride around Perth) and the Bridge of Earn LRDF Study (which considered specific park & ride opportunities in/near Bridge of Earn) will be considered and reviewed as part of any future Perth Park & Ride Study being undertaken by Perth & Kinross Council.

Tay Cities Park & Choose Strategy

2.8 'The Tay Cities Park & Choose Strategy: Opportunities along the Perth-Montrose Transport Corridor' study has recently concluded. Stantec UK Limited were commissioned by Tactran to undertake this work. This report predominantly outlines the outputs of that study.

2.9 Historically there have been several studies undertaken with an overall aim to maximise the potential for enhanced Park & Ride serving Dundee and Perth, including allowing for longer distance travel by bus and coach and encouraging modal shift in favour of rail through station parking provision. This study builds on these overall aims and identifies and investigates multi-modal transport options that support a Park & Choose strategy along the Perth-Montrose transport corridor.

2.10 The Scottish Transport Appraisal Guidance requires:

- Identification of problems and establishment of transport planning objectives (TPOs). This stage of the TayCities study is contained with an Initial Appraisal: Case for Change on the Tactran website
- The identification and qualitive appraisal of all options which could support the TPOs, shifting out those options which would not adequately address the TPOs. This stage of the Tay Cities study is contained with an Preliminary Options Appraisal on the Tactran website

2.11 The TPOs developed were:

Table 1: Transport Planning Objectives	
TPO 1	Increase active travel mode share at rail stations and main bus hubs along the Montrose to Perth corridor by 5% by 2030
TPO 2	Increase the number of people boarding and alighting at rail stations by 5% along the rail corridor between Montrose and Perth by 2030
TPO 3	Increase the number of people travelling by bus into Perth and Dundee by 5% by 2030
TPO 4	By 2030, 5% of new rail and bus journeys are made by passengers who would have otherwise used car to access Dundee and Perth

2.12 The final stage of the process, summarised in this report, is the Detailed Options Appraisal, which undertakes a quantitative appraisal of the remaining options.

3 DISCUSSION

Tay Cities Park & Choose Strategy

3.1 The Executive Summary of the report can be found in Appendix A with the full report available in the Members area of the Tactran website. Appendix B summarises the performance of the options against the TPOs and includes the benefit/cost ratio.

3.2 The Detailed Option Appraisal report considered the eight options taken forward for consideration from the Preliminary Options Appraisal stage. These were:

Table 2. Options appraised in Detailed Options Appraisal Report

Option Ref.	Type	Title	Description
A	Bus	Enhanced Bus Services and Interchanges	Improve direct bus services from hinterland settlements to Perth and Dundee, and rail stations along transport corridor. Increase DRT public transport to serve hinterland settlements
1	Active Travel	Increased Active Travel Links and Enhanced Provision	Increase active travel links to nearest Public Transport Hub from hinterland settlements and to Perth and Dundee, including enhanced provision around key services and public transport interchanges
4	Park & Ride / Choose	Increased bus-based Park & Ride / Choose provision	Implement new bus-based Park & Ride / Choose sites for all modes at key locations around Perth and Dundee, including associated bus priority measures, and at key strategic regional locations
5	Integration	Improved Bus-to-Bus and Bus-to-Rail Interchanges	Improve existing bus-to-bus and bus-to-rail interchanges along the transport corridor
7	Rail	Close and Relocate Invergowrie Rail Station	Relocate Invergowrie rail station to Dundee West, including construction of bus-to-rail interchange. Invergowrie station would close.
8	Rail	Proposed New Rail Station between Perth and Dundee	Proposed new rail station between Perth and Dundee at Errol, St Madoes or Walnut Grove, including construction of bus-to-rail interchange
9	Rail	Enhanced Rail Services and Station Facilities	Increase the number of calls and upgrade station facilities at existing, underused, rail stations at Balmossie, Barry Links and Golf Street

Option Ref.	Type	Title	Description
10	Rail	Increased Station Car Parking Capacity	Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee)

3.3 The Executive Summary of the report can be found in Appendix A with the full report available in the Members area of the Tactran website.

3.4 The non-sequential numbering of options in Table 1 above reflects the evolution of options throughout the process. For example, Option 2 - *Improved Direct Bus Services* and Option 3 - *Increased Demand Responsive Transport Provision* from the Preliminary Options Appraisal do not appear in the table above as they were combined and packaged together as Option A - *Enhanced Bus Services and Interchanges* for the Detailed Options Appraisal.

3.5 Option 6 - *Proposed New Rail Station north of Perth* was sifted out at the Preliminary Options Appraisal stage. The option appraised included a station at Luncarty with an associated Park & Ride, however, there did not appear to be strong demand for a station in the modelling, with existing bus services providing a competitive offer. It was also concluded that the existing Highland Main Line Services were too infrequent for a Park & Ride site and further stops on the Highland Main Line would be contrary to Transport Scotland's policy to speed up journey times on longer distance routes. Overall, the option was unlikely to meet the TPOs in a cost-effective manner.

3.6 Further evolution of options occurred between the Preliminary Options Appraisal and the Detailed Options Appraisal for Option 8 - *Proposed New Rail Station between Perth and Dundee* and Option 9 - *Enhanced Rail Services and Station Facilities.* For Option 8, this initially involved the consideration of a new rail station at either Errol, St Madoes or Walnut Grove. Where there were numerous options on a section of route, Transport Scotland advised investigation be focussed on one location in order to model impacts and St Madoes was chosen as it was anticipated to be the best performing location (based on comparative journey time benefits, capital and operating costs, walk-in catchment etc). For Option 9, the appraisal similarly focussed on Balmossie as an example of a location between Balmossie and Golf Street.

3.7 Please note therefore that the Detailed Options Appraisal, as part of the STAG process, is a high-level investigation of options along a corridor and the detail of options at specific locations is not scrutinised. The study is assessing the potential benefits of an intervention in an approximate location. Transport Scotland will further investigate options they deem favourable. Any option will go through further refinement and detailed investigation, including specific service levels, or location of improvement.

3.8 The modelling in the appraisal was predominantly undertaken utilising the Tay Cities Regional Transport Model. Some options could not be assessed in the model due to their nature i.e. the detail of some options could not be represented on a regional model due to their localised nature (Option 1 – *Increased Active Travel Links and Enhanced Provision* and Option 5 – *Improved Bus to Bus and Bus to Rail Interchanges*). These options were assessed qualitatively rather than quantitatively.

3.9 Options were appraised on performance against the TPOs as well as performance against STAG criteria including, cost to government, value for money, risk and uncertainty. The analysis is summarised in the Executive Summary (Appendix A) and in full in the final report (located in the Members area of the Tactran website).

3.10 The report concludes:

- Option A – Enhanced Bus Services and Interchanges and Option 4 – Increased Bus Based Park & Ride/Choose Provision emerge as the most effective and cost-efficient interventions, offering strong alignment with TPOs, STAG criteria, and value for money.
- Option 9 – Enhanced Rail Services and Station Facilities in the Balmossie / Golf Street area: provide targeted benefits limited to the corridor. A good return on investment is due to low capital costs due to existing stations.
- Rail-based Option 8 – Proposed New Rail Station between Perth and Dundee: provides targeted benefits limited to the corridor and a benefit-cost ratio indicating a poor return on investment due to the need to construct a new station.
- Active travel and integration options (Option 1 – Increased Active Travel Links and Enhanced Provision and Option 5 – Improved Bus to Bus and Bus to Rail Interchanges) support health and accessibility objectives but lack monetised benefits.

3.11 Whilst the report suggest that bus-related options provide better performance against the TPOs and provide better value for money than the rail options, it should be remembered that the bus improvements and bus-based park & ride options are:

- area wide improvements, covering a greater geography than any one rail solution
- unlikely to be delivered across the region at the same time, and would need to be phased

3.12 The bus-based park & ride option includes sites at Monifieth, North Dundee, Invergowrie and St Madoes. As noted, these are indicative locations which have been subject to a high-level appraisal and would be subject to further investigation.

3.13 The rail solutions should not be overlooked despite having limited corridor-wide impact. The benefits to certain presently underserved localities can still be worthwhile investigating further.

4 CONCLUSIONS AND NEXT STEPS

4.1 With regard to the Stirling Strategic Park & Ride study, officers will continue to press Transport Scotland for a response. With regard to the Bridge of Earn Study, members are asked to note that this work will feed into a broader park & ride study for the Perth area.

Tay Cities Park & Choose Strategy

4.2 As can be seen above, not all of the options appraised are rail solutions. Indeed, there is only one rail solution which produces a favourable outcome in the Detailed Options Appraisal. Option 9 – *Enhanced Rail Services and Station Facilities* performs well against TPOs and has a favourable benefit cost ratio, due to minimal infrastructure improvements required.

4.3 Option 8 – *Proposed New Rail Station between Perth and Dundee* performs well against TPOs but has only a marginal positive benefit cost ratio.

4.4 In short, Option 9 – *Enhanced Rail Services and Station Facilities* is a much quicker win to progress. As such, we recommend Option 9 - *Enhanced Rail Services and Station Facilities* is recommended as an option for further investigation by Transport Scotland.

4.5 After submission, Transport Scotland will consider whether any rail recommendations should be taken forward in their Rail Enhancements pipeline. Any projects considered in the Pipeline will be subject to detailed business cases undertaken by Network Rail prior to any final decision by Transport Scotland.

4.6 More broadly, given the favourable appraisal of bus-related options, these options can be progressed as part of existing Tactran and respective authority workstreams e.g. Tactran Bus Development Plan and bus and park & ride proposals progressed by Angus, Dundee City and Perth & Kinross Councils.

4.7 Likewise, localised improvements to active travel infrastructure and measures to improve integration can be seen as complementary to all options. Whilst these options did not come out highly in this particular appraisal, their importance should not be overlooked as part of a multi-modal transport system. Whilst not solving the problems set out in this study, improvements can be progressed as part of existing Tactran and respective authority workstreams.

4.8 The funding and delivery of bus park & ride and measures to improve integration of rail with other modes will be considered by the RTS Senior Officer Group and updated as appropriate within the RTS Delivery Plan. It may be that the Detailed Options Appraisal report is considered by respective Council committees as part of these workstreams if the proposals pertain to a specific area.

4.9 Prior to submission to Transport Scotland, the report requires political sign off. Given the regional nature of the study, it is proposed the Partnership endorses the Tay Cities Park & Choose Detailed Options Appraisal study and recommends that:

- Transport Scotland be asked to consider Enhanced Rail Services and Station Facilities in the Balmossie / Golf Street area
- Partners continue to progress bus initiatives and bus/coach based park & choose options

5 CONSULTATIONS

5.1 Officers from the four constituent Local Authorities, Scotrail and Transport Scotland have been part of the steering group which has aided progression of these studies.

6 RESOURCE IMPLICATIONS

6.1 No resource implications have been identified.

7 EQUALITIES IMPLICATIONS

7.1 The studies were undertaken in line with the Scottish Transport Appraisal Guidance (STAG). Equalities impact work has been undertaken as part of the appraisal of options.

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NOTE

The following background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (and not containing confidential or exempt information) were relied on to a material extent in preparing the above Report:

Report to Partnership RTP/23/25 Local Rail Development Fund Update, 12 September 2023

Tay Cities Park & Choose Strategy: Opportunities along the Perth-Montrose Transport Corridor

Executive Summary

On behalf of **Tactran**

Project Ref: 332610684 | Rev: A | Date: March 2026

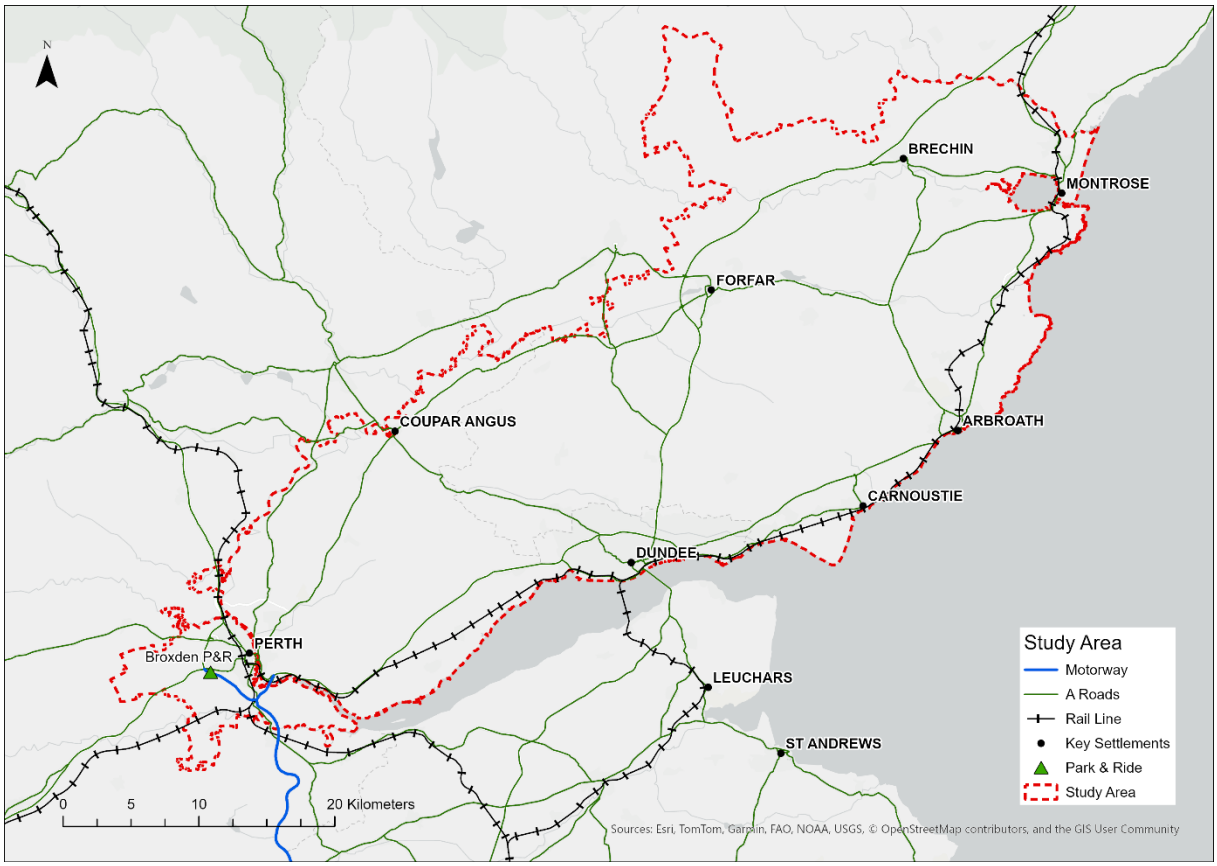
Office Address: Stantec UK Limited, 3rd Floor, Capital Square, 58 Morrison Street, Edinburgh, EH3 8PB

1 Executive Summary

1.1 Background

Stantec was commissioned by Tactran, the Tayside and Central Scotland Transport Partnership, to undertake the Tay Cities Park & Choose Strategy: Opportunities along the Perth-Montrose Transport Corridor study. This study was funded through the Scottish Government's Local Rail Development Fund (LRDF) and undertaken in line with Scottish Transport Appraisal Guidance (STAG).

Historically there have been several detailed strategies that have been developed with an overall aim to maximise the potential for enhanced Park and Ride serving the region's cities, including allowing for longer distance travel by bus and coach and encouraging modal shift in favour of rail through station parking provision. This study has built on this overall key aim and has identified and investigated multi-modal transport options that support a Park and Choose strategy along the Perth-Montrose transport corridor. The study has also considered maximising the opportunity presented by the Aberdeen to Central Belt Rail Improvements.



Tay Cities LRDF: Study Area

1.2 Aims of the Study

The key aims of the study were to identify and investigate transport options that could:

- Reduce congestion and air pollution in Perth and Dundee.
- Support climate change and journey time objectives by reducing road traffic on strategic routes.
- Address the peripherality of the Tay Cities Region by improving sustainable connectivity options to Scotland's cities.

1.3 Study Approach

The study was undertaken having due regard to STAG as follows:

- **Initial Appraisal: Case for Change** report was completed in September 2021. That report documented the first stage of the study which involved identifying evidenced transport problems and opportunities in the study area and setting Transport Planning Objectives (TPOs) to reflect the changes sought to address these problems and opportunities. A range of potential multi-modal transport options were then generated and sifted so that only options worthy of further consideration were taken forward to the appraisal stage.
- **Preliminary Options Appraisal** report was completed in September 2023. That report documented the penultimate stage of the study and involved an appraisal of the multi-modal transport options taken forward to the appraisal stage. The options were appraised qualitatively in terms of their performance against the STAG criteria and the TPOs. This resulted in some options being rejected or combined so that only options worthy of further detailed consideration were taken forward to the Detailed Options Appraisal stage.
- **Detailed Options Appraisal** report was completed in February 2026 and provided a detailed analysis of the multi-modal options brought forward from the Preliminary Options Appraisal.

2 Case for Change

2.1 Transport Problems, Opportunities and Constraints

Three separate exercises were undertaken to identify transport problems, opportunities, and constraints as follows:

- **Stakeholder Engagement:** undertaken with a wide range of stakeholders, including local authorities, key transport operators, active travel groups, and local business and tourism organisations.
- **Data Analysis:** covering a mix of socio-economic and transport data sources.
- **Key Documents Review:** including a wide range of relevant local and regional transport strategies and plans, as well as previous studies.

Based on these exercises, several transport problems, opportunities, and constraints were identified:

Transport Problems: broadly described in STAG as undesirable or harmful circumstances with the transport system

Problem 1 (Active Travel): Some potential users are not travelling by active modes to public transport hubs (rail and bus) along the corridor because walking and cycling can feel unsafe and be inconvenient for some. The root causes identified include motorised traffic levels and speeds, and a lack of high-quality, safe walking and cycling routes.

Problem 2 (Public Transport Accessibility): Some people are unable to use public transport because access to services is limited along the corridor. Root causes of this problem include limited public transport service provision and lack of travel information.

Problem 3 (Public Transport Connectivity): Some people are not using public transport to access employment, key services and opportunities within Perth and Dundee and beyond because journey times are long relative to car. The main root causes are lack of direct public transport services, lack of rural connectivity, and lack of frequent public transport services.

Problem 4 (Transport Integration): For those without a direct connection, using public transport is inconvenient to access employment, key services and opportunities within Perth and Dundee and

beyond. Several root causes were identified, including lack of high-quality interchanges, lack of transport integration between modes, including PT and active travel, lack of direct public transport connections, lack of public transport timetable integration, and lack of integrated ticketing.

Problem 5 (Rail Station Parking Capacity): Some people are not using rail station parking because they are unable to park reliably / regularly. This is due to constrained parking capacity at rail stations.

Problem 6 (Park & Ride): Some people are not using Park & Ride because they are unable to park securely and complete rest of their journey by public transport. Lack of Park & Ride capacity / number of sites and constrained parking capacity at rail stations were identified as the root causes.

Problem 7 (Journey Times by Road): Too many people are using private car to access Perth and Dundee, therefore causing extended and variable car / van / commercial vehicles and bus journey times. Root causes include traffic delays at key locations within Dundee and Perth during peak times, high car mode share, high car ownership / availability outwith Dundee and Perth, and limited alternative travel choices for some.

Problem 8 (Air Pollution): Too many cars in Perth and Dundee are having a negative effect on local air quality. The main root cause identified was traffic levels and associated vehicle emissions.

Transport Opportunities: broadly described in STAG as where a change to the transport system may lead to a positive outcome

The following transport opportunities were identified via the stakeholder engagement exercise and key document review:

Opportunity Category	Opportunity
Active Travel	Sustrans Places for Everyone Fund to begin rolling out improvements
Accessibility & Connectivity	Improve public transport accessibility
	Improve sustainable connectivity
Public Transport Availability	Increase public transport choice
Public Transport Growth	Improve PT infrastructure and services
	Improvements to the bus fleet
	Capitalise on Revolution in Rail and Aberdeen to Central Belt proposals
Public Transport Infrastructure and Information	Improve access to travel information
Transport Integration	Improve transport integration, affording PT opportunities for first and last mile journeys
Modal Shift	Encourage sustainable transport modes

Constraints: broadly described in STAG as circumstances which may impact on the delivery of potential interventions or option generation / development

The constraints considered in the Case for Change were:

Physical Constraints

- Land within Dundee and Perth boundaries is generally designated as protected green space or is already allocated to housing or economic development.
- The hinterland within the study area is rural and its settlements are sparsely located. This sparse topography can constrain: the ability to travel; the delivery of sustainable transport effectively; and implementing potential infrastructure interventions due to higher delivery costs and environmental concerns.

Environmental Constraints

- The potential environmental impacts when considering any new road, rail or public transport infrastructure.
- Proximity of transport corridor to environmental designations such as Sites of Special Scientific Interest (SSSI), Ramsar sites and Special Areas of Conservation, particularly along the Firth of Tay.

Collaboration and Cooperation

Multiple bodies will be required to participate and take options forward, including Transport Scotland, Tactran, sustrans, Public Transport operators, ScotRail and Network Rail.

2.2 Transport Planning Objectives

Following the analysis of Problems, Opportunities and Constraints, a series of TPOs were developed such that they express the outcomes sought for the study, describe how the identified transport problems will be alleviated and reflect the opportunities to be realised. Given the then aspirational commitment by Scottish Government to reduce car kilometres nationally by 20% by 2030, this timeframe has been included in the TPOs.

Improve Active Travel Infrastructure on routes to and from Public Transport Hubs (Rail and Bus)

TPO 1: Increase active travel mode share at rail stations and main bus hubs along the Montrose to Perth corridor by 5% by 2030

This first TPO seeks to address identified transport user problems, including **some potential users are not travelling by active mode to public transport hubs (rail and bus) along the corridor because walking and cycling can feel unsafe and be inconvenient for some** and **some people are unable to use public transport because access to services is limited.**

Improve Accessibility, Connectivity, Integration and Increase use of Public Transport

TPO 2: Increase the number of people boarding and alighting at rail stations by 5% along the rail corridor between Montrose and Perth by 2030

The second TPO seeks to address identified transport user problems, including **some people are unable to use PT as access to services is limited**; **some people do not use public transport due**

to long journey times; **for those without direct connections using public transport is inconvenient**; and **car parking at stations is inadequate and encourages car use for full journey**.

TPO 3: Increase the number of people travelling by bus into Perth and Dundee by 5% by 2030

The third TPO seeks to address identified transport user problems, including **some people are unable to use PT as access to services is limited**; **for those without direct connections using public transport is inconvenient**; and **some people are not using park and ride as they are unable to complete their journey by public transport**.

Reduce Private Traffic on the Road Network

TPO 4: By 2030, 5% of new rail and bus journeys are made by passengers who would have otherwise used car to access Dundee and Perth

The fourth and last TPO seeks to address identified transport user problems, including **car parking at stations is inadequate and encourages car use for full journey**; and **too many people are using private car and causing congestion**.

2.3 Option Generation and Development

This task was undertaken to identify a set of transport options that could meet the TPOs and address the evidenced problems and help realise the opportunities across the study area. The option generation process was informed by:

- The TPOs set for this study.
- Consideration of previous transport studies and relevant transport plans and strategies.
- Project Team and Steering Group workshops.
- Suggestions from stakeholders.

An initial long list of options was generated and then subjected to an option sifting exercise. The option sifting approach sought to reject options that were unlikely to be delivered due to technical and / or deliverability challenges, affordability, and wider established policy objectives. It was recognised that, in some cases, there was limited quantifiable information available and therefore the approach also sought to avoid rejecting any options too early without the necessary supporting evidence to do so.

The broadly defined options recommended for Preliminary Options Appraisal are listed in Table 2-1

Table 2-1: Recommended Options for Preliminary Options Appraisal

Option Ref.	Type	Description
1	Active Travel	Increase active travel links to nearest Public Transport Hub from hinterland settlements and to Perth and Dundee, including enhanced provision around key services and public transport interchanges
2	Bus	Improve direct bus services from hinterland settlements to Perth and Dundee, and rail stations along transport corridor
3	Demand Responsive Transport (DRT)	Increase DRT public transport to serve hinterland settlements
4	Park & Ride / Choose	Implement new bus-based Park and Ride / Choose sites for all modes at key locations around Perth and Dundee, including associated bus priority measures, and at key strategic regional locations

Option Ref.	Type	Description
5	Integration	Improve existing bus-to-bus and bus-to-rail interchanges along the transport corridor
6	Rail	Proposed new rail station north of Perth at Luncarty on the Highland Main Line, including construction of a Park and Ride / Choose site
7	Rail	Relocate Invergowrie rail station to Dundee West, including construction of bus-to-rail interchange. Invergowrie station would close.
8	Rail	Proposed new rail station between Perth and Dundee at Errol, St Madoes or Walnut Grove, including construction of bus-to-rail interchange
9	Rail	Increase the number of calls and upgrade station facilities at existing, underused, rail stations at Balmossie, Barry Links and Golf Street
10	Rail	Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee)

3 Preliminary Options Appraisal

3.1 Options Appraisal Summary

The Preliminary Options Appraisal assessed, in qualitative terms, the ten transport options brought forward from the option generation and development task. In line with STAG, it considered the performance of each option against the TPOs, STAG criteria, an initial assessment against Feasibility, Affordability and Public Acceptability, and considered the 'fit' of each option in light of relevant Established Policy Objectives.

For purposes of the appraisal, Option 8 (Proposed new rail station between Perth and Dundee at Errol, St Madoes or Walnut Grove) was reported as one overall option. This was because the impacts of the three proposed rail stations against the TPOs and STAG criteria were difficult to distinguish at this stage of appraisal. Similarly, Option 9 (Increase the number of calls and upgrade station facilities at existing, underused, rail stations at Balmossie, Barry Links and Golf Street) was reported as one overall option as was Option 10 (Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee). Again, this was because the impacts of these options against the TPOs and STAG criteria were difficult to distinguish at this stage of appraisal.

The appraisal of options at the Preliminary Options Appraisal stage resulted in the recommendation of eight options to be taken forward to Detailed Options Appraisal.

Option 1 (Active Travel)

It was clear from the Case for Change that opportunities exist to promote active travel across the study area. Whilst the appraisal against the TPOs showed Option 1 is likely to require the support of the wider public transport network to promote and encourage active travel, and to improve its performance against some of the TPOs, this option strongly fits within Scottish Government's key priority to develop a sustainable travel network. It could also include enhanced provision around key services and public transport hubs, where appropriate, and increase active travel links within settlements along the transport corridor [e.g. Montrose, Arbroath, Carnoustie etc.] and to/from hinterland settlements to Perth and Dundee along the defined corridors, where relevant, therefore contributing to Scottish Government's investment in a fully sustainable transport network.

Option A (Bus)

Options 2 and 3 were packaged together and renamed as Option A. Option 2 contributed to most TPOs by providing more direct bus services from hinterland settlements to Perth and Dundee, and to rail stations along the transport corridor. This option scored positively against the five STAG criteria, particularly Integration and Accessibility and Social Inclusion, and contributed to several national, regional and local policy objectives, including sustainable mode use over private motorised vehicles, environmental and health considerations, and improving accessibility and inclusion through availability of alternative modes to car. This option would have relatively low to medium maintenance and operating costs compared with other options and a small, positive impact was predicted on the environment. The public consultation showed that Option 2 has an element of public support, particularly from those residing in Perth & Kinross who indicated that they strongly agreed and would be most likely to use this option, closely followed by those residing in Angus and Dundee. Additional funding may be required, however, and careful consideration would have to be given to funding given existing commitments of all three council areas to support current local services. Whilst Option 3 contributed to some TPOs by increasing DRT public transport to serve hinterland settlements, it is unlikely to have any material impact on (reducing) road traffic volumes and associated vehicle emissions on corridors into Perth and Dundee nor in the city centres. It is unlikely to contribute sufficiently overall (by considering the relative size and scale of impacts) to addressing the evidenced accessibility, connectivity and integration problems along the transport corridor as a standalone option. Option 3, however, could fill connectivity gaps by providing additional DRT services between the more rural settlements and the enhanced bus services and connections provided by Option 2, which would strengthen the overall viability of the bus option.

Option 4 (Bus-based Park & Ride / Choose)

Option 4 contributed to most TPOs by implementing new Park and Ride / Choose sites for all modes at key locations around Perth and Dundee, including associated bus priority measures, and at key strategic regional locations. This option also scored positively against the five STAG criteria and contributed to several national, regional and local policy objectives, including supporting the Scottish Government's Climate Change Bill and the ambition of Perth and Dundee to achieve net-zero by 2045 or sooner. The public consultation showed an element of public support, with the majority of respondents agreeing that this option would provide benefit to the area. For the option to operate successfully, it would be dependent on the provision of adequate bus services from the Park and Ride sites. Mitigating actions to reduce any adverse impacts on existing bus operator revenue may need to be considered.

Option 5 (Integration)

Option 5 contributed to some TPOs by improving existing bus-to-bus and bus-to-rail interchanges along the transport corridor through better public transport travel planning, transport integration and information; however, it is unlikely to have any material impact on (reducing) road traffic volumes and associated vehicle emissions on corridors into Perth and Dundee nor in the city centres. It would have a minimal contribution (by considering the relative size and scale of impacts) to addressing the evidenced connectivity problems along the transport corridor. This option, however, would strengthen existing bus-to-bus and bus-to-rail integration through the improvement measures described above, aligning with the Sustainable Investment Hierarchy in NTS2.

Option 7 (Close and Relocate Invergowrie Rail Station to Dundee West)

Option 7 contributed to most TPOs by closing and relocating Invergowrie rail station to Dundee West. This option scored positively against the five STAG criteria, particularly Integration, and contributed to several national, regional and local policy objectives, including sustainable mode use over private motorised vehicles, environmental and health considerations, and improving accessibility and inclusion through availability of alternative modes to car. The environmental appraisal highlighted some potential adverse impacts although it was noted that detailed investigation work would be required to fully understand environmental impacts. If Invergowrie is retained, then the potential benefits of this option would be undermined. The public consultation showed an element of public support, particularly from those residing in Perth & Kinross and Dundee; however, this option is likely to be contested by residents

of Invergowrie who are unlikely to accept the loss of its rail station. Detailed analysis is required to determine the relative benefits of closing and relocating Invergowrie to Dundee West.

Option 8 (Proposed new rail station between Perth and Dundee at Errol, St Madoes or Walnut Grove)

Option 8 contributed to most TPOs by constructing a new rail station, including a bus-to-rail interchange, between Perth and Dundee at Errol, St Madoes or Walnut Grove. This option scored positively against the five STAG criteria, particularly Economy, Integration and Accessibility & Social Inclusion and contributes to several national, regional and local policy objectives, including sustainable mode use over private motorised vehicles, environmental and health considerations, and improving accessibility and inclusion through availability of alternative modes to car. Particularly, it would provide direct access to the rail network at a new site allowing easier access to a range of services options for some people in an area that was identified in the Case for Change as having poor access to public transport by bus. The environmental appraisal highlighted some potential adverse impacts although it was noted that detailed investigation work would be required to fully understand environmental impacts. The public consultation showed an element of public support and those residing in Perth & Kinross would be most likely to use this option, as expected.

Option 9 (Increase the number of calls and upgrade station facilities at existing, underused, rail stations at Balmossie, Barry Links and Golf Street)

Option 9 contributed to most TPOs by increasing the number of calls and upgraded station facilities at existing, underused rail stations at Balmossie, Barry Links and Golf Street. This option scored positively against the five STAG criteria, particularly Integration and Accessibility & Social Inclusion and contributed to several national, regional and local policy objectives, including sustainable mode use over private motorised vehicles, environmental and health considerations, and improving accessibility and inclusion through availability of alternative modes to car. This option would have relatively low capital and operating costs compared with other options and no significant impacts were predicted on the environment. The public consultation showed an element of public support, with those residing in Dundee most supportive of this option.

Option 10 (Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee)

Option 10 contributed to some TPOs by increasing rail station car parking at intermediate stations along the transport corridors (outside Perth and Dundee). This option would offer improved access to the rail network for some people in the rural hinterland and an alternative mode choice for those previously constrained by parking at rail stations along the corridor. This option scored positively against Economy, Integration and Accessibility & Social Inclusion STAG criteria. This option would be a low to moderate cost option compared with other options and no significant impacts were predicted on the environment. The public consultation showed an element of local public support, with the majority of respondents agreeing with the option and those residing in Angus most supportive.

3.2 Rejected Option

A summary of the rationale for sifting out Option 6 at this stage is provided below. The reader should refer to the Preliminary Options Appraisal Report (September 2023) for more detailed information of the performance of this option against the TPOs and the appraisal of the impacts under the STAG criteria that leads to the option being rejected at this stage of the study.

Option 6 (Proposed new rail station north of Perth at Luncarty)

Option 6 could generate benefits for the Luncarty area, particularly in relation to improving accessibility to key destinations [e.g. Perth, Edinburgh and Glasgow] for employment, further education, healthcare and social activities. These benefits would be limited to a relatively small user walk-in population and a further, small population a short drive away at Stanley. Overall, there did not appear to be a strong

demand for a new rail station and associated Park and Ride / Choose facility at Luncarty. There is no obvious destination and the existing bus services (Stagecoach services 23, 27 and 34) to Perth would be more competitive than the rail offer, particularly in terms of frequency. Furthermore, the Highland Main Line rail services are too infrequent for a Park and Ride site. In addition, travelling to Perth offers a much wider range of onward service options making Luncarty unattractive for large parts of the day for destinations further afield. The train service, if Transport Scotland permits the calls and the timetable allows, would be relatively sparce for Park and Ride / Choose. Furthermore, the addition of more calls on Highland Main Line services, if it is possible, is contrary to Transport Scotland's policy to speed up journey times on long distance routes. This option was unlikely to meet the TPOs in a cost-effective manner.

4 Detailed Options Appraisal

4.1 Changes in Approach

The main quantitative tool used in the detailed appraisal was the Tay Cities Regional Transport Model (TCRTM). There are some model limitations meaning the detail of some options was not possible to include within the model, and therefore not possible to produce model results. This applied to Option 1 (Active Travel) and Option 5 (Integration). Therefore, both options were assessed qualitatively rather than quantitatively.

In addition, the model is relatively coarse and not very well validated in areas affected by Option 9 (Increase the number of calls and upgrade station facilities at existing, underused, rail stations at Balmossie, Barry Links and Golf Street). Relying on outputs for individual stations was therefore challenging. As such, this option was considered as one overarching option, with a focus on changes at Balmossie only to mitigate this risk.

Option 8 (Proposed new rail station between Perth and Dundee at Errol, St Madoes or Walnut Grove) was focussed on St Madoes only. The reason being St Madoes is anticipated to be the best performing station option, which is based on comparative journey time benefits, capital and operating costs, walk-in catchment etc. as documented in AllanRail report (January 2024).

4.2 Policy Scenarios

TCRTM17 incorporates two travel demand scenarios, and both were used in the appraisal:

- The 'with' policy scenario represents the targeted outcome of the then Scottish Government policy of reducing car kilometres by 20% by 2030. This can be assumed to be a low motorised travel demand scenario.
- The 'without' policy scenario is largely representative of 'business as usual', although it does include additional traffic growth associated with the uptake of electric vehicles. This may, however, be offset by a post-COVID-19 reduction in commuting and business journeys. This can be assumed to be a high motorised travel demand scenario.

4.3 Options Appraisal Summary

The Detailed Options Appraisal has drawn on both quantitative and qualitative information for the analysis to determine the nature and significance of impacts. It has considered the performance of each option brought forward from the Preliminary Options Appraisal against the TPOs; STAG Criteria; Cost to Government; and Risks and Uncertainty associated with delivery of each option.

4.4 Performance against TPOs

Option A (Bus) performs strongly across TPOs, delivering major benefits for bus patronage (TPO3) and moderate improvements in active travel (TPO1). It also supports mode shift from car to bus (TPO4), though rail patronage gains are limited.

Option 1 (Active Travel) is the only option to deliver a major benefit for TPO1, reflecting its focus on walking and cycling infrastructure. Whilst it does not directly influence rail or bus patronage, it provides significant health and accessibility benefits.

Option 4 (Bus-Based Park & Ride / Choose) offers moderate benefits for TPO1 and TPO3, supporting sustainable travel through intercepting car trips at new P&R sites. However, its impact on rail patronage (TPO2) is minor.

Option 5 (Integration) enhances connectivity and integration between modes, improving passenger experience and supporting seamless journeys. Whilst its benefits are primarily qualitative and not monetised, it contributes positively to accessibility and health outcomes.

Option 7 (Close and Relocate Invergowrie Rail Station to Dundee West) and **Option 8 (Proposed new rail station at St Madoes)** shows the strongest rail patronage gains, with Option 8 delivering a major benefit against TPO2 and moderate improvements against TPO1. Option 7 provides localised benefits but limited corridor-wide impact.

Option 9 (Increase the number of calls and upgrade station facilities at existing, underused, rail station at Balmossie) improves accessibility at this station location, generating moderate benefits against TPO2 but limited wider impacts.

Option 10 (Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee) delivers minor benefits against TPO2 and TPO4 by improving access to rail for rural communities, though it risks inducing short car trips.

4.5 Performance against STAG criteria

Environment and Climate Change

Most options have minor or neutral environmental impacts. Options involving new infrastructure, i.e. Option 4 (Bus-Based Park and Ride / Choose), Option 7 (Close and Relocate Invergowrie Rail Station to Dundee West), Option 8 (Proposed new rail station at St Madoes), Option 10 – (Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee) carry small negative effects on biodiversity and landscape during construction. Option A (Bus) delivers the largest greenhouse gas reduction benefit due to significant bus patronage gains.

Health, Safety and Wellbeing

Option 1 (Active Travel) stands out with a moderate positive impact on health outcomes through active travel. Option 7 (Close and Relocate Invergowrie Rail Station to Dundee West) improves access to Ninewells Hospital, supporting better health and wellbeing. Other options provide incremental safety and security benefits.

Economy

Option A (Bus) achieves the highest monetised benefit (£91.5M with policy), followed by Option 4 (Bus-Based Park and Ride / Choose) (£18.8M). Option 7 (Close and Relocate Invergowrie Rail Station to Dundee West), Option 8 (Proposed new rail station at St Madoes), and Option 10 (Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee) have low economic returns, with Benefit to Cost Ratios (BCRs) close to or below 1.

Equality and Accessibility

Option A (Bus) and Option 4 (Bus-Based Park and Ride / Choose) deliver the greatest benefits for geographic and social inclusion, improving connectivity for rural communities. Option 8 (Proposed new rail station at St Madoes) and Option 9 (Increase the number of calls and upgrade station facilities at existing, underused, rail station at Balmossie) provide localised improvements, whilst affordability impacts remain neutral across all options.

4.6 Cost to Government and Value for Money

The appraisal assessed the net cost to government for each option, including investment and operating costs over a 60-year appraisal period.

Option A (Bus) has the highest total cost due to ongoing operating requirements but also delivers the largest absolute benefit (£91.5M), resulting in a strong BCR of 3.1. Option 4 (Bus-Based Park and Ride / Choose) achieves the highest BCR (6.0 in the 'without' policy scenario and 7.5 in the 'with' policy scenario) due to strong benefits and low cost, representing excellent value for money. Option 9 (Increase the number of calls and upgrade station facilities at existing, underused, rail station at Balmossie) also performs well with BCRs of 2.6 (with policy) and 2.7 (without policy) despite modest benefits.

In contrast, Option 7 (Close and Relocate Invergowrie Rail Station to Dundee West) and Option 8 (Proposed new rail station at St Madoes) have BCRs close to 1, indicating marginal viability, whilst Option 10 – (Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee) performs poorly with a BCR below 1.

Overall, Option A (Bus) and Option 4 (Bus-Based Park and Ride / Choose) provide the strongest case for investment, combining high benefits with positive BCRs, whilst rail-based options require careful consideration of strategic fit and funding availability.

4.7 Risk and Uncertainty

Risk assessment considered significance and likelihood, scored on a five-point scale, with combined scores categorised as low, medium, or high. High risks relate to cost escalation and engineering complexity for rail options, particularly new or relocated stations. Medium risks include planning delays, environmental compliance, and uncertainty in demand uptake for active travel and rail patronage. Behavioural risks such as induced car travel undermining modal shift are notable for Option 10 – Increase rail station car parking capacity at intermediate stations along the transport corridor (outside Perth and Dundee).

Climate-related risks, including flooding and drainage issues, apply across infrastructure-heavy options. Mitigation measures include applying optimism bias and contingency budgets, early engagement with planning authorities and Network Rail, phased delivery, sensitivity testing for demand forecasts, and incorporating climate-resilient design. After mitigation, most risks reduce to medium or low, but rail options retain higher residual risk due to complexity and cost exposure.

4.8 Summary

Option A (Bus) and Option 4 (Bus-Based Park and Ride / Choose) emerge as the most effective and cost-efficient interventions, offering strong alignment with TPOs, STAG criteria, and value for money.

Option 8 (Proposed new rail station at St Madoes) and Option 9 (Increase the number of calls and upgrade station facilities at existing, underused, rail station at Balmossie) provide targeted benefits but limited corridor-wide impact and weaker economic performance.

Option 1 (Active Travel) and Option 5 (Integration) support health and accessibility objectives but lack monetised benefits. Future stages should prioritise options with high BCRs and strategic fit, whilst addressing delivery risks through phased implementation and robust stakeholder engagement.

Appendix B

Summary of Performance against TPOs

Option & Benefit Cost Ratio (with policy/ without policy)[1]	**TPO 1:** Increase active travel mode share at rail stations and main bus hubs along the Montrose to Perth corridor by 5% by 2030		**TPO 2:** Increase the number of people boarding and alighting at rail stations by 5% along the rail corridor between Montrose and Perth by 2030	**TPO 3:** Increase the number of people travelling by bus into Perth and Dundee by 5% by 2030		**TPO 4:** By 2030, 5% of new rail and bus journeys are made by passengers who would have otherwise used car to access Dundee and Perth
	Rail	Bus		Dundee	Perth	
Option A: Enhanced Bus Services and Interchanges BCR: 3.1/2.6	Improved bus services would result in a small reduction (-1.0%) in active travel trips to/ from rail stations	A strong uplift. 80% of the 13.1/ 14.3% uplift attributed to an increase in active travel trips to/ from Perth bus hubs	Mixed results. 'With policy' scenario showing a slight decrease likely due to a mode shift from rail to bus. 'Without policy' scenario showing a small uplift likely due to increased road congestion making rail a more attractive alternative	Modest gains in passenger volumes	Strong gains in passenger volumes and movements across PKC area – more so in 'with policy' scenario	Little impact
Option 1: Increased Active Travel Links and Enhanced Provision BCR: Not assessed quantitatively	Not assessed quantitatively but would be expected to deliver a major benefit against this TPO		Not assessed quantitatively, but is not expected to directly influence rail or bus patronage	Not assessed quantitatively, but is not expected to directly influence rail or bus patronage		Not assessed quantitatively, but is not expected to directly influence rail or bus patronage

Option & Benefit Cost Ratio (with policy/ without policy)[1]	**TPO 1:** Increase active travel mode share at rail stations and main bus hubs along the Montrose to Perth corridor by 5% by 2030		**TPO 2:** Increase the number of people boarding and alighting at rail stations by 5% along the rail corridor between Montrose and Perth by 2030	**TPO 3:** Increase the number of people travelling by bus into Perth and Dundee by 5% by 2030		**TPO 4:** By 2030, 5% of new rail and bus journeys are made by passengers who would have otherwise used car to access Dundee and Perth
	Rail	Bus		Dundee	Perth	
Option 4: Increased bus-based Park and Ride / Choose provision BCR: 7.5/6.0	Little impact	A strong uplift in active travel to bus hubs (25.7/ 27.7%) seen across the corridor, but principally in the Dundee area	Little impact	Modest gains in passenger volumes	Modest decreases in 'with policy' scenario, but modest gains in 'without' policy scenario	Little impact
Option 5: Improved Bus-to-Bus and Bus-to-Rail Interchanges BCR: Not assessed quantitatively	Not assessed quantitatively, but would be expected to deliver benefits against this TPO due to improved health outcomes from increased multi-modal trips		Not assessed quantitatively, but expected to contribute positively to greater accessibility	Not assessed quantitatively, but expected to contribute positively to greater accessibility		Not assessed quantitatively, but expected to contribute positively to greater accessibility
Option 7: Close and Relocate Invergowrie Rail Station BCR: 0.9/1.2	Little impact		Little impact	Little impact		Little impact

Option & Benefit Cost Ratio (with policy/ without policy)[1]	**TPO 1:** Increase active travel mode share at rail stations and main bus hubs along the Montrose to Perth corridor by 5% by 2030		**TPO 2:** Increase the number of people boarding and alighting at rail stations by 5% along the rail corridor between Montrose and Perth by 2030	**TPO 3:** Increase the number of people travelling by bus into Perth and Dundee by 5% by 2030		**TPO 4:** By 2030, 5% of new rail and bus journeys are made by passengers who would have otherwise used car to access Dundee and Perth
	Rail	Bus		Dundee	Perth	
Option 8: Proposed New Rail Station between Perth and Dundee BCR: 1.0/1.1	A +4/ +3.7% uplift in active travel to/ from stations, with just over half of this uplift coming from trips to/ from St Madoes Rail Station	A -2.2/ -1.8% decrease in active travel mode share - largest reduction is in the Dundee area, offset by small increases elsewhere	A +3.4/ +3.0% increase in boarding/ alighting – made up of small increases across all stations in the area	Little impact	Modest decreases in passengers travelling by bus, likely due to new rail offering to the east of Perth	Little impact
Option 9: Enhanced Rail Services and Station Facilities BCR: 2.6/2.7	A +2.7/ +2.8% uplift in active travel to stations, with 82% of this uplift coming from increased trips to Balmossie Rail Station	Little impact	A +2.1/ +2.2% increase, made up of 548% increase at Balmossie, 5- 8% decreases at adjacent stations (Broughty Ferry and Monifeith) as passenger re-route, and small gains across rest of network	Little impact		Little impact
Option 10: Increased Station	Little impact		Little impact	Little impact		Little impact

Option & Benefit Cost Ratio (with policy/ without policy)[1]	**TPO 1:** Increase active travel mode share at rail stations and main bus hubs along the Montrose to Perth corridor by 5% by 2030		**TPO 2:** Increase the number of people boarding and alighting at rail stations by 5% along the rail corridor between Montrose and Perth by 2030	**TPO 3:** Increase the number of people travelling by bus into Perth and Dundee by 5% by 2030		**TPO 4:** By 2030, 5% of new rail and bus journeys are made by passengers who would have otherwise used car to access Dundee and Perth
	Rail	Bus		Dundee	Perth	
Car Parking Capacity BCR: 0.3/0.1						

Note:

1. “With policy” = modelling assumed impact of significant polices such as a 20% reduction in car km (i.e. significantly less traffic)