

**F APPRAISAL SUMMARY TABLES**  
**F.1 Part 1 Appraisal Summary Tables**

South Stirling Park & Ride  
Stirling Council and Tactran  
STAG Report



South Stirling Park & Ride  
Stirling Council and Tactran  
STAG Report



## South Stirling Park and Ride – Site 1 - Corbiewood

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
Proposal Name:	South Stirling Park and Ride – Site 1 Name of Planner: Niall Gardiner, Tactran															
Proposal Description:	P&R Site 1 – Corbiewood Local Bus: Adjusted P&R or new P&R service Express Bus: Diverted Express Capital costs/grant: £2-3m Annual revenue support P&R: TBC Bus: TBC Estimated Total Public Sector Funding Requirement: Present Value of Cost to Govt.: TBC															
Funding Sought From: (if applicable)	Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers Amount of Application: Sum TBC															
<b>Background Information</b>																
Geographic Context:	The site is located at the Corbiewood Racing Track, north of the A91 midway between the A872 and A9. The built and natural environment largely comprises a Brownfield site, but the southern boundary of Site 1 extends into Greenbelt. Locally trees/hedgerows, grassland within the racing track compound and a small group of buildings associated with the racing track are present.															
Social Context:	This site is shown to be located in Datasone S01006076 which is located in the Sauchenford area.  <table border="1"> <thead> <tr> <th>Indicator</th> <th>Site Value</th> <th>Average Scotland Value</th> </tr> </thead> <tbody> <tr> <td>2009 Scottish Index of Multiple Deprivation Rank<sup>1</sup></td> <td>1531</td> <td>3253</td> </tr> <tr> <td>Geographic Access Domain Rank<sup>2</sup></td> <td>3080</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74) <sup>3</sup></td> <td>76.9%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car<sup>4</sup></td> <td>33.6%</td> <td>34.2%</td> </tr> </tbody> </table> <p>The above data suggests that the site will be located in an area which is assessed to be in the 25% most deprived areas in Scotland (SIMD Rank). The site is shown to generate an average score in terms of access to</p>	Indicator	Site Value	Average Scotland Value	2009 Scottish Index of Multiple Deprivation Rank <sup>1</sup>	1531	3253	Geographic Access Domain Rank <sup>2</sup>	3080	3253	Economically Active Population (aged 16 – 74) <sup>3</sup>	76.9%	83.1%	Proportion of Households Without Access to a Car <sup>4</sup>	33.6%	34.2%
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	<p>local facilities (GAD Rank). The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active and the proportion of households who do not have access to a car, when compared to the Scottish average recorded.</p> <p>Notes:  <sup>1</sup> &amp; <sup>2</sup> – SIMD and GAD rank data obtained from <a href="http://simd.scotland.gov.uk/Stirling">http://simd.scotland.gov.uk/Stirling</a>  <sup>2</sup> – Proportion of population who are economically active obtained from Table KS09a <a href="http://www.scr.gov.uk/scr/COMMON/home.jsp">http://www.scr.gov.uk/scr/COMMON/home.jsp</a>  <sup>3</sup> – Proportion of households without access to a car obtained from Table CAS059 <a href="http://www.scr.gov.uk/scr/COMMON/home.jsp">http://www.scr.gov.uk/scr/COMMON/home.jsp</a></p>
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%. Corbiewood Racing Track currently occupies the development site. The immediate area is predominantly rural in nature.</p>
<p><b>Planning Objectives</b></p>	
<p>Objective:</p> <p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites -</p> <p><b>Minor benefit</b></p>	<p>Performance against planning objective:</p> <p>Park &amp; Ride Users: The ability of a site at this location to operate effectively in the transport system is affected by its relative proximity to Pirnhall Interchange and relative remoteness from two transport corridors. Access to the site via Pirnhall Interchange would expose trip makers to potentially negative effects of queuing and delay at Pirnhall at peak times. Consultation with bus operators suggests that Public Transport trips would be most effectively assigned via A9 corridor to increase journey time reliability but initial modelling suggests that there is no difference in the journey times between the routes. From both corridors diversion would be necessary for both private and public transport but the location does mean that there is some potential to attract from both routes. The location away from a route is not best practise for the location of an attractive park and ride. It would be counterintuitive for car drivers to divert significantly from existing corridors and operationally inefficient for existing local bus and express coach services. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castlevue.</p> <p>Other Transport System Users: The site would impart additional circulation cutting movements at Pirnhall Interchange as drivers divert toward the A91 in the AM peak that may have a negative impact on efficiency and reliability at that location. In the PM peak there may be a shift of traffic from the A872 southbound entry arm to the A91 entry arm. Further into the city there may be slight journey time</p>

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<p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Moderate benefit</b></p> <p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling -</p> <p><b>Minor benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change</p> <p><b>Minor benefit</b></p> <p>5. To minimise impact on the natural and built environment</p> <p><b>No benefit or impact / Minor benefit</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport</p> <p><b>Moderate benefit</b></p>	<p>benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and Larbert. It has the potential to provide access to the Bannockburn Heritage Centre if bus services routes via the A872.</p> <p>To serve this site by express coach would require a deviation from existing routes which would detract from the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site but would rather be closer to the A872. Consideration could be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip.</p> <p>Utilises an existing racing track and lorry park area, some trees would be lost but potential to mitigate. Marginal encroachment on Greenbelt and possible location within historic site. Some effect on landscape/visual amenity. Overall low impact on environment, with potential for landscaping/biodiversity improvements.</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has some potential to be incorporated and suitably connected within an area considered for future development, it is within the perceived city boundary of the A91 with potential development land around it,</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2: Selected</p> <p>Why: The proposal is favoured as it has low environmental impacts and is favoured in its overall potential to integrate with the future Local Development Plan. It has some potential to draw patronage from both the A91 and A9 corridors but only with a supported dedicated service and requires diversion</p>

**South Stirling Park and Ride – Site 1 - Corbiewood**

	<p>off corridors for both private and strategic traffic.</p>
<p><b>Implementability Appraisal</b></p> <p>Technical:</p>	<p>From a technical standpoint the site is of suitable size (approx 330m x 150m) and shape. Access could be formed from the A91 at its existing junction with Pirnhall Road. The access would likely be in the form of a roundabout improving access to the Brucefields Golf Centre and Back O'Muir Farm. The site is flat which is favourable for earthworks costs however this may give design problems for drainage and any SUDS features. There is room for expansion, of similar size, to the west of the site. Access from Stirling by pedestrians and cyclists would be possible by the expansion of the path network. Public utilities are not onerous; however there would be diversionary works for electricity utility on the A91 junction with the formation of the new roundabout.</p> <p>Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities and the disruption to the local road network during construction.</p>
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>• that the site does not lend itself well to commercial bus operations increasing likelihood that it will be dependant on subsidy for bus and maintenance costs, therefore would be subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>

South Stirling Park and Ride – Site 1 - Corbiewood

	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p>
<p>Public:</p>	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: residential properties at Muiralehouse and southern edge of Bannockburn; Brucefields golf course and golf driving range; users of local roads/countryside paths.</p>
STAG Criteria	
Criterion	Assessment Summary
<p>Environment:</p>	<p>Description of Impacts</p> <p>Overall Minor impact - no benefit or impact</p>
	<p><b>Supporting Information</b></p> <p>Noise and vibration: Noise environment dominated by road traffic noise mainly assumed to emanate from the adjacent M9 and M80 motorways, coupled with the surrounding A-road network. Closest significant collection of residential properties on the edge of Bannockburn approximately 250m to the north. Directly adjacent to the north of the site within the separating ground to Bannockburn are located approximately 8 isolated residential dwellings. The closest significant non-residential sensitive receptor, Bannockburn Hospital, is approximately 440m to the north-east of Site 2. Directly to the west is the</p>

	<p>Brucefield Family Golf centre, which could be adversely affected by noise. P&amp;R likely to reduce traffic on main routes into Stirling (A872, A91 and A9) and therefore likely to present a <b>minor benefit</b> impact at a strategic level. At the local level, there will be a quantifiable adverse impact within the immediate surrounding area from increased traffic accessing the site which is likely to result in a <b>minor impact</b>.</p> <p><b>Air Quality:</b> <b>Background</b> There are no AQMA in the vicinity of the proposed site. There are no designated sites in the vicinity of the proposed site. Monitoring station at Stirling City Centre shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009. There are approximately 8 properties within 200m of the site.</p> <p><b>Global Air Quality – CO<sub>2</sub> Emission</b> P&amp;R is anticipated to reduce private vehicle travel on the A872, A91 and A9 as the public switch to use the bus facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – NO<sub>2</sub></b> P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at 8 properties as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – PM<sub>10</sub></b> P&amp;R is anticipated to lead an increase in PM<sub>10</sub> concentrations at 8 properties as more vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p><b>Water quality, drainage and flood defence:</b> No known surface water features present in vicinity. <b>No benefit or impact</b>.</p>
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		<p>Geology: No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal group, with bedrock at or near the surface. Possible historical mining in the area. <b>No benefit or impact</b> (provisional - See Part 2)</p> <p>Biodiversity and habitats: No known sites designated for nature conservation. Small area of woodland between existing greyhound track and an informal lorry park area would likely be affected. <b>Minor impact</b>.</p> <p>Landscape: No designated landscape areas. Relatively flat uniform topography. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. <b>Minor impact</b>.</p> <p>Visual amenity: Key receptors - residential properties at Muiralehouse and southern edge of Bannockburn; Brucefields golf course and golf driving range; users of local countryside paths; Pirnhall Road; Eastern Distributor Road (A91); farms and Bannockburn Hospital on east side of A91. Intervisible with some important public viewpoints at greater distances, e.g. Dumyat and Possibly Wallace Monument and Stirling Castle. <b>Minor impact</b>.</p> <p>Agriculture and soils: Located on land classed as moderate capability for agriculture. No prime agricultural land affected. <b>No benefit or impact</b>.</p> <p>Cultural heritage: No recorded sites of cultural heritage interest within area proposed. However, likely to be within the Battle of Bannockburn site (Inventory area for battle site currently being drafted by Historic Scotland), but this not seen as significant constraint by Stirling Council. <b>Minor impact</b>.</p>
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<p>Safety:</p>	<p>Description of Impacts Minor benefit</p>	<p>Minor benefit - An improved junction layout has the potential to improve road safety. An issue with access safety is with the visibility and sight stopping distance on the A91 from the west. This could be resolved by purchasing a strip of land as a visibility splay for the roundabout.</p>
<p>Economy:</p>	<p>Description of Impacts Minor benefit</p>	<p>Minor benefit - The proposal is likely to reduce traffic volumes on the road network in Stirling. There is not potential to improve strategic coach journey times and the reliability of travel times. There may be impacts on existing bus users where buses are diverted. The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>
<p>Integration:</p>	<p>Description of Impacts Moderate benefit</p>	<p>Moderate benefit - The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner. The proposal fits with wider government policy as demonstrated through its inclusion in STPR.</p>
<p>Accessibility and Social Inclusion:</p>	<p>Description of Impacts Minor benefit</p>	<p>Minor benefit - The proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion.</p>

## South Stirling Park and Ride – Site 2 - Back o’Muir

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
Proposal Name:	South Stirling Park and Ride – Site 2															
Proposal Description:	Location: P&R Site 2 – Back o’Muir Local Bus: Adjusted P&R or new P&R service Express Bus: Diverted Express															
Funding Sought From: (if applicable)	Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers															
<b>Background Information</b>																
Geographic Context:	The site is located in land south of the A91 midway between the A872 and A9. The built and natural environment comprises gently sloping improved grassland to the west of Back o’ Muir farm. Locally ditches/patchy hedgerows and a few trees occur along the existing field boundaries.															
Social Context:	This site is shown to be located in Datazone S01006076 which is located in the Sauchenford area.  <table border="1"> <thead> <tr> <th>Indicator</th> <th>Site Value</th> <th>Average Scotland Value</th> </tr> </thead> <tbody> <tr> <td>SIMD Rank</td> <td>1531</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3080</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>76.9%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>33.6%</td> <td>34.2%</td> </tr> </tbody> </table> <p>The above data suggests that the site will be located in an area which is assessed to be in the 25% most</p>	Indicator	Site Value	Average Scotland Value	SIMD Rank	1531	3253	GAD Rank	3080	3253	Economically Active Population (aged 16 – 74)	76.9%	83.1%	Proportion of Households Without Access to a Car	33.6%	34.2%
Indicator	Site Value	Average Scotland Value														
SIMD Rank	1531	3253														
GAD Rank	3080	3253														
Economically Active Population (aged 16 – 74)	76.9%	83.1%														
Proportion of Households Without Access to a Car	33.6%	34.2%														

**South Stirling Park and Ride – Site 2 - Back o’Muir**

	<p>deprived areas in Scotland (SIMD Rank). The site is shown to generate an average score in terms of access to local facilities (GAD Rank). The site is shown to be slightly lower than when appraised in terms of the proportion of the population who are economically active and the proportion of households who do not have access to a car, when compared to the Scottish average recorded.</p>
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%. The development site is currently rural in nature and is bound on the west by the A91.</p>
<p><b>Planning Objectives</b></p>	
<p>Objective:</p>	<p>Performance against planning objective:</p>
<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Minor benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Minor benefit</b></p>	<p><b>Park &amp; Ride Users:</b> The ability of a site at this location to operate effectively in the transport system is affected by its relative proximity to Pirnhall Interchange and relative remoteness two transport corridors. Access to the site via Pirnhall Interchange would expose trip makers to potentially negative effects of queuing and delay at Pirnhall at peak times. Public Transport trips would be most effectively assigned via A9 corridor to increase journey time reliability. From both corridors diversion would be necessary for both private and public transport. This is not best practise for the location of an attractive park and ride. It would be counterintuitive for car drivers to divert significantly from existing corridors and operationally inefficient for existing local bus and express coach services. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castleview.</p> <p><b>Other Transport System Users:</b> The site would impart additional circulation cutting movements at Pirnhall Interchange in the AM peak that may have a negative impact on efficiency and reliability at that location. In the PM peak there may be a shift of traffic from the A872 southbound entry arm to the A91 entry arm. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and Larbert. It has the potential to provide access to the Bannockburn Heritage Centre if bus services route via the A872. Site is located on the east of the A91 whereas existing areas of residential</p>

**South Stirling Park and Ride – Site 2 - Back o’Muir**

<p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling</p> <p><b>Minor benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change</p> <p><b>Minor benefit</b></p> <p>5. To minimise impact on the natural and built environment</p> <p><b>Minor impact</b></p> <p>6. To maximise integration between Stirling Council’s Local Development Plan and provision of public transport</p> <p><b>Minor impact</b></p>	<p>development are located to the west of the road.</p> <p>To serve this site by express coach would require a deviation from existing routes which would detract from the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site but would rather be closer to the A872. Consideration could be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip.</p> <p>Within Greenbelt on an improved grassland field. Dissociated with town of Bannockburn and located on rising ground therefore potentially visually exposed with effect on landscape/visual amenity.</p> <p>Overall low-medium impact on environment and outside the city boundary of the A91</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has only limited potential to be incorporated and suitably connected within an area considered for future development, it is not within the perceived city boundary of the A91,</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2: Rejected.</p> <p>Why: the proposal is being rejected from further consideration primarily because of its lack of potential to be integrated into the Local Development Plan, low levels of accessibility and minor to moderate negative landscape impacts.</p>
<p><b>Implementability Appraisal</b></p>	
<p>Technical:</p>	<p>From a technical standpoint the site is of suitable size (approx 330m x 150m) and shape. Access could be formed from the A91 at its existing junction with Pirnhall Road. The access would likely be in the form of a roundabout improving access to the Brucefields Golf Centre and Back O’Muir Farm. The site is on a slight gradient which is preferable for drainage. It is approximately 220m x</p>

South Stirling Park and Ride – Site 2 - Back o’Muir

	<p>185m, and there is room for expansion to the west of the site; however this would encroach on the Bannockburn House grounds and a number of listed buildings. Access from Stirling by pedestrians and cyclists would be possible by the expansion of the path network; however they would require crossing facilities on the A91. Public utilities are not onerous except for any diversionary works for electricity utility on the A91 junction for the formation of the new roundabout. There are also electricity cables, both overhead and underground, along the site boundary, adjacent to the A91 which would be undesirable.</p> <p>Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities and the disruption to the local road network during construction.</p>
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>• that the site does not lend itself well to commercial bus operations increasing likelihood that it will be dependant on subsidy for bus and maintenance costs, therefore would be subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>
<p>Financial:</p>	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p>

South Stirling Park and Ride – Site 2 - Back o’Muir

<p>Public:</p>	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: Back o’ Muir farm (an isolated operational farm with a residential aspect); Muir of Bannockburn; Bannockburn House; residential properties to the north within the outlying residential areas of Bannockburn; users of the local road along the northeast boundary of the site; Bannockburn Hospital to the northeast; Eastern Distributor Road (A91).</p>
STAG Criteria	
Criterion	Assessment Summary
<p>Environment:</p>	<p>Description of Impacts</p> <p>Overall Minor impact</p>
<p><b>Supporting Information</b></p> <p>Noise and vibration:</p> <p>Noise environment dominated by road traffic noise mainly considered to emanate from the adjacent M9 and M80 motorways, coupled with the surrounding A-road network.</p> <p>Closest significant collection of residential properties on the edge of Bannockburn approximately 250m to the north, 5 properties located along Muiralehouse Road within 200m, at Bannockburn House to the west and Back o’ Muir farm to the east. The closest significant non-residential sensitive receptor, Bannockburn Hospital, is approximately 300m to the north of the Site 2. 300m to the north-west at the end of Muiralehouse Road is located Brucefield Family Golf centre, which could be adversely affected by noise. P&amp;R likely to reduce traffic on main routes into Stirling (A872, A91 and A9) and therefore likely to present a <b>minor benefit</b> at a strategic level. At the local a level, there will be a quantifiable adverse impact within the immediate</p>	

	<p>surrounding area from increased traffic accessing the site which is likely to result in a <b>minor</b> impact.</p> <p><b>Air Quality:</b> <b>Background</b> There are no AQMA in the vicinity of the proposed site. There are no designated sites in the vicinity of the proposed site. Monitoring station at Stirling City Centre shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009. There are approximately 5 properties within 200m of the site.</p> <p><b>Global Air Quality – CO<sub>2</sub> Emission</b> P&amp;R is anticipated to reduce private vehicle travel on the A872, A91 and A9 as the public switch to use the buses facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – NO<sub>2</sub></b> P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at 5 properties as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement in air quality. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – PM<sub>10</sub></b> P&amp;R is anticipated to lead an increase in PM<sub>10</sub> concentrations at 5 properties as more vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement in air quality. Overall <b>minor benefit</b>.</p> <p><b>Water quality, drainage and flood defence:</b> No known surface water features present in vicinity, but field drainage at site boundaries. <b>No benefit or impact</b>.</p> <p><b>Geology:</b> No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal</p>
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South Stirling Park and Ride – Site 2 - Back o’Muir

		<p>group, with bedrock at or near the surface. Possible historical mining in the area – Not fully reviewed for Part 1. <b>No benefit or impact</b></p> <p>Biodiversity and habitats: No known sites designated for nature conservation. Gently sloping improved grassland (consultation indicates this was under cereal cropping during 2009) to the west of Back o’ Muir farm. Locally, ditches/patchy hedgerows and a few trees occur along the existing field boundaries. <b>Minor impact.</b></p> <p>Landscape: No designated landscape areas. Topography gently sloping up to the southwest. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. Outwith Greenbelt but detached from built up area of Bannockburn, thereby may result in urban expansion. <b>Minor to Moderate impact.</b></p> <p>Visual amenity: Key receptors – residential properties Back o’ Muir farm, Muir of Bannockburn; Bannockburn House; users of the local road along the northeast boundary of the site; Eastern Distributor Road (A91); Bannockburn Hospital to the northeast. Potentially intervisible with important public viewpoints at greater distances, e.g. Dumyat and possibly Wallace Monument and Stirling Castle. <b>Moderate impact.</b></p> <p>Agriculture and soils: Located on land classed as moderate capability for agriculture. No prime agricultural land affected. <b>No benefit or impact.</b></p> <p>Cultural heritage: No national sites of cultural heritage interest within Site 2, but a possible dovecot recorded on the Sites and Monuments Record within the area proposed. <b>No benefit or impact.</b></p>
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South Stirling Park and Ride – Site 2 - Back o’Muir

	<p>Description of Impact</p> <p>No benefit or impact</p>	<p><b>No benefit or impact</b> - - An improved junction layout has the potential to improve road safety.</p> <p>An issue with access safety is with the visibility and sight stopping distance on the A91 from the west. This could be resolved by purchasing a strip of land as a visibility splay for the roundabout.</p> <p>There could be a disbenefit to pedestrian safety as they use any at-grade crossing facility over the A91.</p>
<p>Economy:</p>	<p>Description of Impacts</p> <p>Minor benefit</p>	<p><b>Minor benefit</b> - The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times.</p> <p>There may be impacts on existing bus users where buses are diverted.</p> <p>The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>
<p>Integration:</p>	<p>Description of Impacts</p> <p>Minor impact – no benefit or impact</p>	<p><b>Minor impact – no benefit or impact</b> - The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner. The proposal fits with wider government policy as demonstrated through its inclusion in STPR.</p> <p>Consultations with the Planning Service have suggested that this would be outside the built form of Stirling and so may not be desirable in terms of integration with planning proposals as the LDP develops.</p>

South Stirling Park and Ride – Site 2 - Back o’Muir

Accessibility and Social Inclusion:	Description of Impacts Minor impact	<b>Minor impact</b> - The proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion although the site is severed from Bannockburn by the A91.
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## South Stirling Park and Ride – Site 3 - Durrieshill

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal:  (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
Proposal Name:	South Stirling Park and Ride – Site 3 P&R Site 3 – Durrieshill															
Proposal Description:	Local Bus: Adjusted P&R or new P&R service and /or passing local services Express Bus: Diverted Express															
Funding Sought From: (if applicable)	Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers															
<b>Background Information</b>																
Geographic Context:	The site is located at the north end of the proposed Durrieshill Development, midway between the A872 and the M9 in the southeast quadrant of Pirnhall Interchange. The built and natural environment comprises sloping improved grassland (consultation indicates this was under cereal cropping during 2009). Locally, patchy hedgerows and a few trees occur along existing field boundaries, with an area of deciduous woodland present adjacent to the southern corner of the site.															
Social Context:	This site is shown to be located in Datazone S01006079 which is located in the Bannockburn area.  <table border="0"> <tr> <td>Indicator</td> <td>Site Value</td> <td>Average Scotland Value</td> </tr> <tr> <td>SIMD Rank</td> <td>2539</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3078</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>81.1%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>29.9%</td> <td>34.2%</td> </tr> </table>	Indicator	Site Value	Average Scotland Value	SIMD Rank	2539	3253	GAD Rank	3078	3253	Economically Active Population (aged 16 – 74)	81.1%	83.1%	Proportion of Households Without Access to a Car	29.9%	34.2%
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Present Value of Cost to Govt.: TBC																
Amount of Application:	Sum TBC															
Estimated Total Public Sector Funding Requirement:																

### South Stirling Park and Ride – Site 3 - Durrieshill

	<p>The above data suggests that the site will be located in an area which has similar SIMD and GAD Ranks to the Scottish average.</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active. The proportion of households who do not have access to a car is shown to be around 4% lower than the national average.</p>
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site is rural in nature and located immediately to the south-east of the M9 / M80 / A91 interchange.</p>
<p><b>Planning Objectives</b></p>	
<p>Objective:</p>	<p>Performance against planning objective:</p>
<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Minor benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Moderate benefit</b></p>	<p>Park &amp; Ride Users: The ability of a site at this location to operate effectively in the transport system is affected by its relative proximity to Pirnhall Interchange. Access to the site via Pirnhall Interchange would expose trip makers to potentially negative effects of queuing and delay at Pirnhall at peak times that would have to be travelled through two times, first by car from the M80/M9 and A91 then by bus. Existing Public Transport routes would be assigned via A872 corridor. From the A9 corridors diversion would be necessary for both private and public transport. Although on a corridor, it is located south of the main collector route into town. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castlevue.</p> <p>Other Transport System Users: The site would impart additional circulation cutting movements at Pirnhall Interchange in the AM peak from the M80 that may have a negative impact on efficiency and reliability at that location, there may be a net reduction of traffic entering from the A872 northbound as traffic would be captured from this route before entering the interchange. In the PM peak there may be a shift of traffic from the A872 southbound entry arm to the A872 northbound entry arm. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and to a lesser extent Larbert. It has the potential to provide access to the Bannockburn Heritage Centre.</p>

**South Stirling Park and Ride – Site 3 - Durrieshill**

<p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling <b>Minor benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change <b>Minor benefit</b></p> <p>5. To minimise impact on the natural and built environment <b>Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport <b>Minor impact</b></p>	<p>To serve this site by express coach would require a short deviation from existing routes which would detract from the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site. Consideration could also be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip.</p> <p>Outwith Greenbelt on an improved grassland field. Dissociated with town of Bannockburn and located on rising ground therefore potentially visually exposed with effect on landscape/visual amenity. Overall low-medium impact on environment.</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has some potential to be incorporated and suitably connected within an area considered for future development but is remote from the city, it is not within the perceived city boundary of the A91 but does have potential Durrieshill development land to the south of it, although suitability to integrate with this development is not certain.</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2: Rejected.</p> <p>Why: the proposal is being rejected from further consideration primarily because there are significant questions about the suitability of the site to be integrated into any future Durrieshill masterplan and the overall integration of the site into the potential Local Development Plan. The site would have poor accessibility to the south of the city of Stirling (north of the A91) with minor to moderate landscape impacts.</p>

**South Stirling Park and Ride – Site 3 - Durrieshill**

<p><b>Implementability Appraisal</b></p>	<p>This site is taken from the master plan for the Durie's Hill village development, and access would be via a future road and roundabout on the A872 built as part of this development. The site is on a gentle slope falling to the north, away from the access which is preferable for drainage and positioning of any SUDS features. The site is rectangular and is approximately 360 x 155m however this could shorten due to the design and positioning of the new roundabout and access road. There is room for expansion to the east of the site but this may not be possible as part of the overall master plan for the village development. Currently there are no facilities for pedestrians or cyclists at this location, and providing such could be expensive and onerous due to the need to cross the M9. Public utilities plans show the presence of 2 major pipelines running through the site at the south end. There are also overhead electricity cables and underground telephone ducts along the western boundary, adjacent to the A872.</p> <p>Technical:</p> <p>The major risk involved at this site is with the pipelines crossing the site. There is an exclusion zone of 50m either side of these, and development could be time consuming and costly if any construction was intended within this area. The risk to the environment, if any fracture of the pipelines were to happen, would be enormous and extremely dangerous.</p>
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>the site does lend itself to existing commercial bus operations on the A872 but with a frequency less than existing park and ride sites therefore is likely to require further services . Potential to utilise new bus services from Durrieshill. New dedicated or extended bus services and the site will be dependant on subsidy for bus and maintenance costs, therefore would subject to local, regional or national budgets</li> </ul> <p>Subject to local and network travel conditions and the reliability of the bus service</p>

**South Stirling Park and Ride – Site 3 - Durrieshill**

<p>Financial:</p>	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p> <p>Existing commercial passing buses (First 24,52,X39, Brians B1) would not be expected require subsidy but would not be sufficient alone.</p> <p>Potential exists to use developer subsidy to establish a suitable network of services associated with Durrieshill.</p>
<p>Public:</p>	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: Croftside Park residential property; proposed Durrieshill Development; Travelodge located at the M9 Junction 9 motorway services approximately 300m to the west.</p>
<p><b>STAG Criteria</b></p>	



South Stirling Park and Ride – Site 3 - Durrieshill

Criterion	Assessment Summary	Supporting Information
<p>Environment:</p>	<p>Description of Impacts</p> <p>Overall Minor impact</p>	<p>Noise and vibration:                      Noise environment dominated by road traffic noise mainly assumed to emanate from the adjacent M9 and M80 motorways. Closest significant collection of residential properties located approximately 1km to the north within the outlying residential areas of Bannockburn. Small number of isolated residential dwellings (3 houses) located in the area immediately surrounding the site. Closest non-residential sensitive receptor, approximately 300m to the west of Site 3, is the Travelodge at the Junction 9 motorway services. P&amp;R likely to reduce traffic on main routes into Stirling (A872, A91 and A9) and therefore likely to present a <b>minor benefit</b> at a strategic level. At the local a level, potential adverse impact to isolated residential properties within the immediate surrounding area from increased traffic accessing the site which is likely to result in a <b>minor impact</b>.</p> <p>Air Quality:                      Background                      There are no AQMA in the vicinity of the proposed site.                      There are no designated sites in the vicinity of the proposed site.                      Monitoring station at Stirling City Centre shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009. There are approximately 3 properties within 200m of the site.</p> <p>Global Air Quality – CO<sub>2</sub> Emission                      P&amp;R is anticipated to reduce private vehicle travel on the A872, A91 and A9 as the public switch to use the buses facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall <b>minor benefit</b>.</p> <p>Local Air Quality – NO<sub>2</sub>                      P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at 3 properties as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p>Local Air Quality – PM<sub>10</sub>                      P&amp;R is anticipated to lead an increase in PM<sub>10</sub> concentrations at 3 properties as more</p>

South Stirling Park and Ride – Site 3 - Durrieshill

	<p>vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p>Water quality, drainage and flood defence: No known surface water features present in vicinity. <b>No benefit or impact</b>.</p> <p>Geology: No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal group, with bedrock at or near the surface. <b>No benefit or impact</b>.</p> <p>Biodiversity and habitats: No known sites designated for nature conservation. Gently sloping improved grassland (consultation indicates this was under cereal cropping during 2009) to the northwest of Croftsides Park. Locally, patchy hedgerows and a few trees occur along the existing field boundaries, with an area of deciduous woodland present adjacent to the southern corner of the site. <b>Minor to Moderate impact</b>.</p> <p>Landscape: No designated landscape areas. Topography sloping up to the southwest. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. Outwith Greenbelt but incursion into countryside. <b>Minor to Moderate impact</b>.</p> <p>Visual amenity: Key receptors – residential property Croftsides Park; Durrieshill Development; proposed users of the A872 and local roads/tracks along the southern and northern boundaries of the site. <b>Minor impact</b>.</p> <p>Agriculture and soils: Located on land classed as moderate capability for agriculture. No prime agricultural land affected. <b>No benefit or impact</b>.</p>
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South Stirling Park and Ride – Site 3 - Durrieshill

		<p>Cultural heritage: No national sites of cultural heritage interest within Site 2, but pits recorded on the Sites and Monuments Record within the area proposed (not related to battle of Bannockburn). <b>No benefit or impact.</b></p>
Safety:	<p>Description of Impacts No benefit or impact</p>	<p>No benefit or impact - There is no great technical safety issues for this site, apart from the pipelines, as the access from the A872 would be provided by the developer of the village.</p>
Economy:	<p>Description of Impacts Minor benefit</p>	<p>Minor benefit - The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times.  There may be impacts on existing bus users where buses are diverted.  The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.  Minor impact – no benefit or impact</p>
Integration:	<p>Description of Impacts Minor impact – no benefit or impact</p>	<p>The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner. The proposal fits with wider government policy as demonstrated through its inclusion in STPR.  Consultation with the Planning Dept. suggests that this site may not integrate with the Major Growth Area</p>
Accessibility and Social Inclusion:	<p>Description of Impacts Minor benefit</p>	<p>Minor benefit - The proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion. Based on the assumption that the Major Growth area will go forward then socially inclusive access would be possible from Durrieshill.</p>

## South Stirling Park and Ride – Site 4 - Pirnhall Service Station

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal:  (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
Proposal Name:	South Stirling Park and Ride – Site 4 Niall Gardiner, Tactran															
Proposal Description:	P&R Site 4 – Pirnhall Service Station Local Bus: Adjusted P&R or new P&R service and /or passing local services Express Bus: Express Capital costs/grant: £3-4m (potentially £7-8m if footbridge required) Annual revenue support P&R: TBC Bus: TBC Present Value of Cost to Govt.: TBC															
Funding Sought From: (if applicable)	Estimated Total Public Sector Funding Requirement:  Amount of Application:  Sum TBC															
<b>Background Information</b>																
Geographic Context:	The site is located at the rear of Pirnhall Service Station, between the M80 and M9. Site allocated for commercial business development and subject to a current planning application. The site comprises an area of species-rich unimproved neutral grassland, adjacent to which is located the motorway service area facilities and petrol station. Scottish Wildlife Trust has made comment on the planning application due to the habitats present.															
Social Context:	This site is shown to be located in Datazone S01006079 which is located in the Bannockburn area.  <table border="1"> <thead> <tr> <th>Indicator</th> <th>Site Value</th> <th>Average Scotland Value</th> </tr> </thead> <tbody> <tr> <td>SIMD Rank</td> <td>2539</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3078</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>81.1%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>29.9%</td> <td>34.2%</td> </tr> </tbody> </table>	Indicator	Site Value	Average Scotland Value	SIMD Rank	2539	3253	GAD Rank	3078	3253	Economically Active Population (aged 16 – 74)	81.1%	83.1%	Proportion of Households Without Access to a Car	29.9%	34.2%
Indicator	Site Value	Average Scotland Value														
SIMD Rank	2539	3253														
GAD Rank	3078	3253														
Economically Active Population (aged 16 – 74)	81.1%	83.1%														
Proportion of Households Without Access to a Car	29.9%	34.2%														

## South Stirling Park and Ride – Site 4 - Pirnhall Service Station

	<p>The above data suggests that the site will be located in an area which has similar SIMD and GAD Ranks to the Scottish average.</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active. The proportion of households who do not have access to a car is shown to be around 4% lower than the national average.</p> <p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site is rural in nature and located immediately to the west of the M9 / M80 / A91 interchange and immediately to the north of the Stirling motorway service area.</p>
<p><b>Planning Objectives</b></p>	
<p><b>Objective:</b></p> <p>1.To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Minor benefit</b></p>	<p><b>Performance against planning objective:</b></p> <p><b>Park &amp; Ride Users:</b> The ability of a site at this location to operate effectively in the transport system is affected by its relative proximity to Pirnhall Interchange. Access to the site via Pirnhall Interchange would expose trip makers to potentially negative effects of queuing and delay at Pirnhall at peak times that would have to be entered two times, first by car then by bus. Existing Public Transport routes would be assigned via A872 corridor. From the A9 corridors diversion would be necessary for both private and public transport. The site is on the A872 corridor and it is located on route into town for 4 out of 5 arms of Pirnhall which is beneficial for attracting users from this corridor. Survey information suggests that there may be a limited degree of abstraction from Springkarse and a neutral effect on Castleview.</p> <p><b>Other Transport System Users:</b> The site would impart additional entry arm bus traffic movements at the Pirnhall Interchange services access in the AM peak that may have a negative impact on efficiency and reliability at that location requiring capacity treatments. In the PM peak there may be a shift of traffic from the A872 southbound entry arm to the Services entry arm that would impart additional circulating cutting movements to the junction. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p>

## South Stirling Park and Ride – Site 4 - Pirnhall Service Station

<p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Minor benefit</b></p> <p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling</p> <p><b>Moderate benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change</p> <p><b>Minor benefit</b></p> <p>5. To minimise impact on the natural and built environment</p> <p><b>Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport</p> <p><b>Moderate impact</b></p>	<p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and to a lesser extent Larbert. It has the potential to provide access to the Bannockburn Heritage Centre. Site is located on the west of the M9 whereas existing areas of residential development are located to the east of the motorway.</p> <p>To serve this site by express coach would not require deviation from existing routes but a lengthy site entry link would detract from the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site. Consideration could also be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip. There is limited potential for active travel to access the site.</p> <p>Would affect an area of unimproved grassland, relatively scarce in the Stirling area. Outwith Greenbelt but impact on heritage features. Some effect on landscape/visual amenity. Overall medium impact on environment, but with potential for landscaping/biodiversity improvements.</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location lacks potential to be incorporated and suitably connected within an area considered for future development; it is not within the perceived city boundary of the A91 and it does not have potential development land around it, it's accessibility as a multimodal transport hub to support a local community is limited.</p> <p>Consideration at Part 2: Rejected.</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Why: the proposal is being rejected from further consideration because the site lacks potential to be effectively integrated into the future Local Development Plan due to being constrained and isolated by its surroundings within the motorway interchange. Due to its location the site has poor active travel access that would require major mitigation and may never be fully effective due to walking distances involved. Development of the site may also have a moderate negative impact on biodiversity and</p>

**South Stirling Park and Ride – Site 4 - Pirnhall Service Station**

	<p>habitat as it contains scarce plant species.</p>
<p><b>Implementability Appraisal</b></p>	<p>The site is situated to the rear of the existing Stirling Services. The area is triangular in shape and quite large (approx 300m base x 240m in height); however there are a number of technical difficulties with it. The site has a steep gradient over west side of the site and a two major oil pipelines crossing it. This would make the approximate usable area 160m x 140m and negating possible future expansion. The layout of the Park &amp; Ride would also need to consider a number of historical features which would require to be incorporated within the design, and lead to a detrimental layout. With the site's position beside the services there is a benefit for use of existing facilities, such as retail, food and toilet facilities. A simple access could be formed off the existing road within the Services, and due to the location of the services to both the M80 and M9 motorways, preferable for strategic bus operators; however there is no easy access for pedestrians and cyclists to this site. To allow access for these from Stirling would involve the construction of a 100m span footbridge over the M9 or alterations on the existing junction with traffic signals. The footbridge would possible cost £2-4m by itself whilst the signals on the roundabout would also be costly and not be desirable for all users. Stirling Council has confirmed that it is unlikely that residents would use active travel modes to travel away from Stirling to access the Park &amp; Ride and it has been assumed that a footbridge or signalisation of the roundabout would not be essential to support the development of this site for a Park &amp; Ride.</p> <p>Risks involved in developing or implementing the proposal are the close proximity of the pipelines, and the potential large amounts of earthworks to allow a suitable gradient. The provision of pedestrian and cyclist links from Stirling would also present a large risk for both costs and safety at the crossing points.</p>
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>the site does lend itself to existing commercial bus operations on the A872 but with a frequency less than existing park and ride sites therefore is likely to require further</li> </ul>

**South Stirling Park and Ride – Site 4 - Pirnhall Service Station**

	<p>services. Potential to utilise new bus services from Durieshill. New dedicated or extended bus services and the site will be dependant on subsidy for bus and maintenance costs, therefore would subject to local, regional or national budgets</p> <ul style="list-style-type: none"> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>
<p>Financial:</p>	<p>There could be a major capital cost implication of developing this site as described in the technical section. Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p> <p>Existing commercial passing buses (First 24, 52, X39, Brians B1, Citylink 909, 913, Megabus M8) would not be expected require subsidy but would not be sufficient alone.</p> <p>Potential exists to use developer subsidy to establish a suitable network of services associated with Durieshill.</p>
<p>Public:</p>	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: motorways/interchange; motorway service area; scattered farms/residential properties to the south of the M80; some more elevated residential areas in Bannockburn/Whins of Milton.</p>
<p><b>STAG Criteria</b></p>	
<p><b>Criterion</b></p>	<p><b>Assessment</b>      <b>Supporting Information</b></p>



South Stirling Park and Ride – Site 4 - Pirnhall Service Station

	Summary	
<p>Environment:</p>	<p>Description of Impacts</p> <p>Overall Minor impact</p>	<p>Noise and vibration:</p> <p>Noise environment dominated by road traffic noise mainly assumed to emanate from the adjacent M9 and M80 motorways. Closest significant collection of residential properties located approximately 1km to the north within the outlying residential areas of Bannockburn. There are two isolated residential dwellings accessed off Pimhall Road with 1 property located within 200m of the site. The closest significant non-residential sensitive receptor is the Travelodge at the M9, J9 motorway services at approximately 100m to the south-east. P&amp;R likely to reduce traffic on main routes into Stirling (A872, A91 and A9) and therefore likely to present a <b>minor benefit</b> impact at a strategic level. At the local a level, potential adverse impact to a very small number of isolated receptors within the immediate surrounding area from increased traffic accessing the site which is likely to result in a <b>minor impact</b>.</p> <p>Air Quality:</p> <p>Background</p> <p>There are no AQMA in the vicinity of the proposed site.</p> <p>There are no designated sites in the vicinity of the proposed site.</p> <p>Monitoring station at Stirling City Centre shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009.</p> <p>There is 1 property within 200m of the site.</p> <p>Global Air Quality – CO<sub>2</sub> Emission</p> <p>P&amp;R is anticipated to reduce the private vehicles travel on the A872, A91 and A9 as the public switch to use the buses facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall <b>minor benefit</b>.</p> <p>Local Air Quality – NO<sub>2</sub></p> <p>P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at 1 property as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p>Local Air Quality – PM<sub>10</sub></p> <p>P&amp;R is anticipated to lead an increase in PM<sub>10</sub> concentrations at 1 property as more</p>

South Stirling Park and Ride – Site 4 - Pirnhall Service Station

	<p>vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p>Water quality, drainage and flood defence: No known surface water features present in vicinity. <b>No benefit or impact</b>.</p> <p>Geology: No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal group, with bedrock at or near the surface. Possible historical mining in the area - Not fully reviewed for Part 1.. <b>No benefit or impact</b></p> <p>Biodiversity and habitats: No known sites designated for nature conservation. Comprises an area of unimproved neutral grassland maintaining a species-rich sward, characterised by Cowslip (<i>Primula veris</i>) which is now a scarce plant in Scotland. Also present are scattered shrubs/trees and woodland pockets. <b>Moderate impact</b>.</p> <p>Landscape: No designated landscape areas. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. Outwith Greenbelt and surrounded but the motorway/road network. <b>Minor impact</b>.</p> <p>Visual amenity: Key receptors – motorways/interchange; motorway service area; scattered farms/residential properties to the south of the M80; some views from more elevated residential areas in Bannockburn/Whins of Milton; Bannockburn Monument (depending on the exact location of the parking areas). Site 4 also intervisible with some important public viewpoints at greater distances, e.g. the Wallace Monument and Top of the Town Cemetery and potentially the Castle. However seen against the backdrop of the motor network. <b>Minor impact</b>.</p> <p>Agriculture and soils: Located on land classed as moderate capability for agriculture. No prime agricultural land affected. <b>No benefit or impact</b>.</p>
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South Stirling Park and Ride – Site 4 - Pirnhall Service Station

		<p>Cultural heritage: No national sites of cultural heritage interest within Site 4, but includes the remains of the Roman road and a ha-ha associated with Bannockburn House. Elements of these could be retained within the development site while others could be archaeologically investigated. <b>Minor impact.</b></p>
Safety:	<p>Description of Impacts Minor impact</p>	<p><b>Minor impact</b> - The main safety issue would be for pedestrian and cyclist accessing the Park and Ride facility. Although the existing access onto the roundabout would be utilised, the intensification in usage, on an already busy junction would require further investigation.</p>
Economy:	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit</b> - The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times.  There may be impacts on existing bus users where buses are diverted.  The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>
Integration:	<p>Description of Impacts Moderate impact</p>	<p><b>Moderate impact</b> - The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner. The proposal fits with wider government policy as demonstrated through its inclusion in STPR.  The site location lacks potential to be incorporated and suitably connected within an area considered for future development; it is not within the perceived city boundary of the A91 and it does not have potential development land around it. It's accessibility and ability to integrate as a multimodal transport hub to support a local community is limited.</p>

South Stirling Park and Ride – Site 4 - Pirnhall Service Station

Accessibility and Social Inclusion:	Description of Impacts Moderate impact	<b>Moderate impact</b> - The proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion. The site is not easily accessed by socially inclusive walking and cycling.
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## South Stirling Park and Ride – Site 5 – A872 West

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal:  (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
Proposal Name:	Name of Planner:  Niall Gardiner, Tactran															
Proposal Description:	South Stirling Park and Ride – Site 5 P&R Site 5 – A872 West  Local Bus: Adjusted P&R or new P&R service and /or passing local services Express Bus: Express  Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers															
Funding Sought From: (if applicable)	Estimated Total Public Sector Funding Requirement:  Capital costs/grant: £2-3m Annual revenue support: TBA  Present Value of Cost to Govt.: TBA  Amount of Application:  Sum TBC															
<b>Background Information</b>																
Geographic Context:	The site is located north of the A91 and west of the A872. Sites 5a and 5b are currently within the Green Belt land, but under consideration as part of the Local Development Plan for commercial/business development. The built and natural environment comprises improved grassland fields with surrounding scattered farmsteads. Locally, hedgerows/trees define the boundaries of part of Site 5a and the majority of Site 5b, with a linear strip of woodland present along the southern boundary of Site 5b providing a buffer between the site and the M9.															
Social Context:	This site is shown to be located in Datazone S01006079 which is located in the Bannockburn area.  <table border="1"> <thead> <tr> <th>Indicator</th> <th>Site Value</th> <th>Average Scotland Value</th> </tr> </thead> <tbody> <tr> <td>SIMD Rank</td> <td>2539</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3078</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>81.1%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>29.9%</td> <td>34.2%</td> </tr> </tbody> </table>	Indicator	Site Value	Average Scotland Value	SIMD Rank	2539	3253	GAD Rank	3078	3253	Economically Active Population (aged 16 – 74)	81.1%	83.1%	Proportion of Households Without Access to a Car	29.9%	34.2%
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Proportion of Households Without Access to a Car	29.9%	34.2%														

**South Stirling Park and Ride – Site 5 – A872 West**

	<p>The above data suggests that the site will be located in an area which has similar SIMD and GAD Ranks to the Scottish average.</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active. The proportion of households who do not have access to a car is shown to be around 4% lower than the national average.</p> <p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site is rural in nature and located immediately to the north-west of the M9 / M80 / A91 interchange and the south of Pirnhall Business Park.</p>
<p><b>Planning Objectives</b></p>	
<p><b>Objective:</b></p>	<p>Performance against planning objective:</p>
<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Moderate benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Moderate benefit</b></p>	<p><b>Park &amp; Ride Users:</b> Located in an attractive position in terms of park and ride best practise on a main commuter corridor. Existing Public Transport routes would be assigned via A872 corridor. The site is on a corridor it is located on all encompassing route into town for traffic from Pirnhall Interchange. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castleview, the A872 corridor is the furthest in the southern area from Springkerse and therefore the least likely to abstract patronage.</p> <p><b>Other Transport Systems Users:</b> From the A9 corridor some diversion would be necessary for private transport (although demand from this corridor may be light due to the significant diversion) and may impart slight additional circulation cutting movements at Pirnhall Interchange in the AM peak from the A91 that may have a negative impact on efficiency and reliability at that location. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and to a lesser extent Larbert. It has the potential to provide access to the Bannockburn Heritage Centre.</p>

**South Stirling Park and Ride – Site 5 – A872 West**

<p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling <b>Moderate benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change <b>Moderate benefit</b></p> <p>5. To minimise impact on the natural and built environment <b>Moderate – Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport <b>Minor benefit</b></p>	<p>To serve this site by express coach would not require significant deviation from existing routes and so maintaining the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider services M8 &amp; 909 to serve this site. Consideration could also be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip. There is some potential for active travel to access the site but the A872 may cause some severance.</p> <p>Some impact on hedgerows/trees. Effect on landscape/visual amenity, key receptors in proximity and further away. Overall medium impact on environment.</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The Site 5 location has some potential to be incorporated and suitably connected within an area considered for future development, it is within the perceived city boundary of the A91 with potential development land around it, although west of the A872 that could be a barrier to potential development linkages to the east of the A872. The LDP is still in development but the site may be being considered for future business uses to complement the business uses already adjacent.</p> <p>Consideration at Part 2: 5a Accepted.</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Why: the proposal in Site 5a is being accepted for further consideration because it has potential to be conveniently situated on a major commuter route into Stirling meeting local and strategic objectives. The site also has the potential to complement business functions adjacent to it and some potential to integrate into the future Local Development Plan. The site has potential to be readily accessible by active travel. On this corridor it is also less likely to abstract patronage from Springkerse P&amp;R than closer to the A9. Visual amenity and cultural heritage may be moderately negatively impacted which requires further investigation.</p>

**South Stirling Park and Ride – Site 5 – A872 West**

	<p>Site 5b is rejected because although it exhibits some characteristics 5a it has a greater impact on the gateway entry to Stirling and therefore would have less potential to integrate within the Local Development Plan. The site also has more significant technical implementability issues to contend with.</p>
<p><b>Implementability Appraisal</b></p> <p>Technical:</p> <p>Operational:</p>	<p>5a). This site is in Pirnhall Business Park, 100m west of the Milton Roundabout on the A872, situated beside two large company headquarters, namely Ogilvie Homes and FES Ltd. The site would be accessed from the western leg of the existing roundabout, continuing along to the end of the existing road. It would then cross a builder's yard, possibly Ogilvie Homes, before entering the site. The site is a good shape and size (approx 227 x 167m), and is on a slight gradient which is preferable for drainage and positioning of SUDS features. The site is an open field with ample opportunity to expand to the west and south. Received public utility replies indicate that there are no potential problems. There are footway links along the A872 for pedestrians, with the path network approximately 130m from the roundabout. There are very few technical risks involved in developing or implementing this proposed site, mainly the ground condition with a green field site</p> <p>5b). This site would infill between the M9 and the Pirnhall Inn on Pirnhall Road. Its size is suitable, however the shape is undesirable. It has a very undulating surface which would require considerable earthworks to obtain suitable gradients. Future expansion of the site could be possible to the west. The current site access is via Pirnhall Road and the crossroads with the A872. To gain adequate access to the "Park and Ride" site, the junction would have to be upgraded, probably to a roundabout. The close proximity of existing buildings to the junction would move the roundabout southwards towards the motorway junction, giving rise to a complicated and costly roundabout design. Public utilities' plans indicate the presence of a large water main running through the middle of the site. They also show a grouping of BT apparatus south of the crossroads, and would probably be affected by any proposed roundabout. Future expansion would have to deal with a sewer which also crosses this area.</p> <p>5b cont.) Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities at the crossroads and protection for the water main. There is also the disruption to the local road network during construction of the new roundabout.</p> <p>Factors which might adversely affect the ability to operate the proposal over its projected life without</p>



**South Stirling Park and Ride – Site 5 – A872 West**

	<p>major additional costs are:</p> <ul style="list-style-type: none"> <li>the site does lend itself to existing commercial bus operations on the A872 but with a frequency less than existing park and ride sites therefore is likely to require further services. Potential to utilise new bus services from Durieshill. New dedicated or extended bus services and the site will be dependant on subsidy for bus and maintenance costs, therefore would subject to local, regional or national budgets</li> <li>Subject to local and network travel conditions and the reliability of the bus service</li> </ul>
<p>Financial:</p>	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p> <p>Existing commercial passing buses (First 24, 52, X39, Brians B1, Citylink 909, 913, Megabus M8) would not be expected require subsidy but would not be sufficient alone.</p> <p>Potential exists to use developer subsidy to establish a suitable network of services associated with Durieshill.</p>
<p>Public:</p>	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; motorways/interchange; users of the A872 and local countryside roads/paths.</p>
<p><b>STAG Criteria</b></p>	

South Stirling Park and Ride – Site 5 – A872 West

Criterion	Assessment Summary	Supporting Information
<p>Environment:</p>	<p>Description of Impacts</p> <p>Moderate – Minor impact</p>	<p>Noise and vibration:</p> <p>Noise environment dominated by road traffic noise mainly assumed to emanate from the adjacent M9 and M80 motorways, coupled with limited noise from the surrounding A-road network particularly the A872. Closest significant collection of residential properties located approximately 1km to the north within the outlying residential areas of Bannockburn. Directly adjacent to the site are located a small number of isolated residential dwellings and also in the wider area a total number of 18 within 200m. The closest significant non-residential sensitive receptor, Premier Inn, is approximately 100m to the north of Site 5b. P&amp;R likely to reduce traffic on main routes into Stirling (A872, A91 and A9) and therefore likely to present a <b>minor benefit</b> at a strategic level. At the local a level, potential adverse impact to a limited number of isolated receptors within the immediate surrounding area from increased traffic accessing the site which is likely to result in a <b>minor impact</b>. There is likely to be no significant difference between Sites 5a and 5b with the exception that site 5a is slightly closer to the residential areas of Bannockburn than site 5b.</p> <p>Air Quality:</p> <p>Background</p> <p>There are no AQMA in the vicinity of the proposed site.</p> <p>There are no designated sites in the vicinity of the proposed site.</p> <p>Monitoring station at Stirling City Centre shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009.</p> <p>There are approximately 18 properties within 200m of the site.</p> <p>Global Air Quality – CO<sub>2</sub> Emission</p> <p>P&amp;R is anticipated to reduce private vehicles travel on the A872, A91 and A9 as the public switch to use the buses facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall <b>minor benefit</b>.</p> <p>Local Air Quality – NO<sub>2</sub></p> <p>P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at 18 properties as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p>

South Stirling Park and Ride – Site 5 – A872 West

	<p>Local Air Quality – PM<sub>10</sub></p> <p>P&amp;S is anticipated to lead an increase in PM<sub>10</sub> concentrations at 18 properties as more vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p>Water quality, drainage and flood defence:</p> <p>The Bannock Burn lies in close proximity to the north of Site 5a, there is also a ditch /field drain along part of the southwest boundary of Site 5a - marked on the current OS map. No known surface water features present in vicinity of Site 5b. <b>No benefit or impact</b>.</p> <p>Geology:</p> <p>No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal group, with bedrock at or near the surface. Site 5a - possible historical mining in the area. <b>No benefit or impact</b> (provisional - See Part 2)</p> <p>Biodiversity and habitats:</p> <p>No known sites designated for nature conservation. Hedgerows/trees define the boundaries of part of Site 5a and the majority of Site 5b , with a linear strip of woodland present along the southern boundary of Site 5b providing a buffer between the site and the M9. <b>Minor</b> impact (assuming woodland strip can be avoided).</p> <p>Landscape:</p> <p>No designated landscape areas. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. Currently within the Green Belt, but under consideration as part of the Local Development Plan for commercial/business development. <b>Minor impact</b>.</p> <p>Visual amenity:</p> <p>Key receptors – Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at southern edge of Bannockburn; Premier Inn; motorways/interchange; users of the A872 and local countryside roads/paths. Both 5a and 5b are sensitive site in the context of views / visitor experience from the Bannockburn Monument (A listed</p>
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South Stirling Park and Ride – Site 5 – A872 West

		<p>structure) and the approach into Stirling. <b>Moderate</b> impact.</p> <p>Agriculture and soils:          Located on land classed as moderate capability for agriculture. No prime agricultural land affected. <b>No benefit or impact.</b></p> <p>Cultural heritage:          Site 5a and 5b have been identified by the HLA (Historic Land-use Assessment) as comprising 18th-20th century smallholdings. Site 5a also likely to lie within the Battle of Bannockburn site (Inventory area for battle site currently being drafted by Historic Scotland) boundary. <b>Moderate impact.</b></p>
<p>Safety:</p>	<p>Description of Impacts</p> <p>Minor benefit</p>	<p><b>Minor benefit</b></p> <p>5a). The only issue with access safety is with the increased usage of the Milton Roundabout and potential for conflict with employees entering or exiting the adjacent companies.</p> <p>5b). A slight issue with access safety is with the proximity of the new roundabout or signalised junction on the A872 to the M9 Junction 9, with the possibility of traffic queuing. This would require modelling to confirm the affect of the new junction arrangement. A new junction arrangement may assist in alleviating an existing accident problem at the cross roads.</p>
<p>Economy:</p>	<p>Description of Impacts</p> <p>Minor benefit</p>	<p><b>Minor benefit</b> - The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times.</p> <p>There may be impacts on existing bus users where buses are diverted.</p> <p>The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>

South Stirling Park and Ride – Site 5 – A872 West

<p>Integration:</p>	<p>Description of Impacts Moderate benefit</p>	<p><b>Moderate benefit</b> - The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner.  The proposal fits with wider government policy as demonstrated through its inclusion in STPR.</p>
<p>Accessibility and Social Inclusion:</p>	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit</b> - he proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion.</p>

## South Stirling Park and Ride – Site 6 – A872 East

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal:	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
(Also provide name of any subsidiary organisations also involved in promoting the proposal)																
Proposal Name:	South Stirling Park and Ride – Site 6 P&R Site 6 – A872 East															
Proposal Description:	Local Bus: Adjusted P&R or new P&R service and /or passing local services Express Bus: Express															
Funding Sought From: (if applicable)	Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers															
<b>Background Information</b>																
Geographic Context:	The site is located east of the A872 and north of the A91. All Site options (a,b,c,d) are within the Green Belt land. The built and natural environment comprises improved grassland fields with surrounding scattered farmsteads. Locally, hedgerows/trees define the sections of the boundaries of Sites 6a, 6b and 6d, with a more substantial area of woodland present along the southeast boundary of Site 6d.															
Social Context:	This site is shown to be located in Datazone S01006079 which is located in the Bannockburn area.															
	<table border="0"> <tr> <td>Indicator</td> <td>Site Value</td> <td>Average Scotland Value</td> </tr> <tr> <td>SIMD Rank</td> <td>2550</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3661</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>81.1%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>29.9%</td> <td>34.2%</td> </tr> </table>	Indicator	Site Value	Average Scotland Value	SIMD Rank	2550	3253	GAD Rank	3661	3253	Economically Active Population (aged 16 – 74)	81.1%	83.1%	Proportion of Households Without Access to a Car	29.9%	34.2%
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Amount of Application:	Present Value of Cost to Govt.: TBC															
	Sum TBC															
	Name of Planner: Niall Gardiner, Tactran															

## South Stirling Park and Ride – Site 6 – A872 East

	<p>The above data suggests that the site will be located in an area which has similar SIMD and GAD Ranks to the Scottish average.</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active. The proportion of households who do not have access to a car is shown to be around 4% lower than the national average.</p>
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site is rural in nature and located immediately to the north of the M9 / M80 / A91 interchange.</p>
<p><b>Planning Objectives</b></p>	
<p>Objective:</p>	<p>Performance against planning objective:</p>
<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Moderate benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Moderate benefit</b></p> <p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling</p> <p><b>Moderate benefit</b></p>	<p><b>Park &amp; Ride Users:</b> Located in an attractive position in terms of park and ride best practise albeit on the outbound side of the road, in a similar manner to Broxden P&amp;R. Existing Public Transport routes would be assigned via A872 corridor. The site is on a corridor it is located on all encompassing route into town for traffic from Pirnhall Interchange. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castlevue park and ride, the A872 corridor is the furthest in the southern area from Springkerse and therefore the least likely to abstract patronage.</p> <p><b>Other Transport Systems Users:</b> From the A9 corridor some diversion would be necessary for private transport (although demand from this corridor may be light due to the significant diversion) and this may impart slight additional circulation cutting movements at Pirnhall Interchange in the AM peak from the A91 that may have a negative impact on efficiency and reliability at that location. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and to a lesser extent Larbert. It has the potential to provide access to the Bannockburn Heritage Centre.</p> <p>To serve this site by express coach would not require deviation from existing routes and so maintaining the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site. Consideration could also be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from</p>

**South Stirling Park and Ride – Site 6 – A872 East**

<p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change <b>Moderate benefit</b></p> <p>5. To minimise impact on the natural and built environment <b>Moderate/Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport <b>Moderate benefit</b></p>	<p>Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip. There is some potential for active travel to access the site.</p> <p>Within Greenbelt on improved grassland fields. Located on rising ground therefore potentially visually exposed with effect on landscape/visual amenity and key viewpoints. Overall low-medium impact on environment</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has some potential to be incorporated and suitably connected within an area considered for future development, it is within the perceived city boundary of the A91 with potential development land around it,</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2: Rejected</p> <p>Why: the proposal 6c was favoured over the other site 6 alternatives because it has the potential to provide an convenient park and ride site for local and strategic trips and has potential to integrate into the future Local Development plan and had lower landscape and cultural heritage impacts than 6a,6b and 6d. These sites also had technical difficulties. As an alternative site to Site 6c, Site 8 has been proposed through the consultation process that fits more sympathetically into the landscape with equal potential to contribute to the Local Development Plan therefore 6c has been rejected from further assessment.</p>
<p><b>Implementability Appraisal</b></p>	
<p>Technical:</p>	<p>6a). This site is opposite Pimhall Business Park, accessed from a new eastern leg of the existing roundabout. The site is a reasonable shape, however is small in size and is steep due to an isolated mound affecting both this and Site 6b. Earthworks would be substantial on this site,</p>



South Stirling Park and Ride – Site 6 – A872 East

increasing costs considerably. The site is bounded to the North, East and West with only site 6b as any opportunity to expand. Received public utility replies indicate that there are no potential problems on this site. The technical risks involved in developing or implementing this proposed site are mainly the large amount of earthworks required, and any ground conditions that are unveiled.

6b). As with Site 6a, this site is opposite Pirnhall Business Park, accessed from a new eastern leg of the existing roundabout. The site is a reasonable shape, however is steep due to an isolated mound affecting both this and Site 6b. Earthworks would be substantial on this site, increasing costs considerably. The site is bounded to the West by the A872, Site 6a to the north, and to the East by Brucefields Gold Course, leaving the only opportunity to expand to the south. Received public utility replies indicate that there are no potential problems on this site. The technical risks involved in developing or implementing this proposed site are mainly the large amount of earthworks required, and any ground conditions that are unveiled.

6c). The site is a good shape and size (approx 215 x 110m), and is on a slight gradient which is preferable for drainage and positioning of SUDS features. Future expansion of the site could be possible to the East. The current site access is via Pirnhall Road (East side) and the crossroads with the A872. As with Site 5b, to gain adequate access to the "Park and Ride" site, the junction would have to be upgraded, probably to a roundabout. The close proximity of existing buildings to the junction would move the roundabout southwards towards the motorway junction, giving rise to a complicated and costly roundabout design. Public utilities' plans indicate the presence of a small water main (150mm) running through the middle of the site. They also show a grouping of BT apparatus south of the crossroads, and would probably be affected by any proposed roundabout. Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities at the crossroads and protection for the water main. There is also the disruption to the local road network during construction of the new roundabout.

6d). The site is a suitable size; however the shape is long and narrow at approximately 410m with the width varying from 72m to 135m. This width would not all be available as the gradient increases greatly over a large area as it abuts the A872 and A91. Future expansion of the site could be possible to the East. The current site access is via Pirnhall Road (East side) and the crossroads with the A872. As with Sites 5b and 6c, to gain adequate access to the "Park and Ride" site, the junction would have to be upgraded, probably to a roundabout. The close proximity of existing buildings to the junction would move the roundabout southwards towards the motorway junction, giving rise to a complicated and costly roundabout design. Received public utility replies indicate that there is BT apparatus adjacent to the site. An overhead cable runs along the adjacent verge of Pirnhall Road, which presents no great cost in rerouting, however a grouping of

South Stirling Park and Ride – Site 6 – A872 East

	<p>BT apparatus is south of the crossroads, which would probably be affected by any proposed roundabout. Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities at the crossroads and protection for the water main. There is also the disruption to the local road network during construction of the new roundabout.</p> <p>Environment – Sites 6a, 6b and 6d rejected as overall low to moderate impact – score worse on some aspects when compared to other sites. Stirling Council Planning has advised that Sites 6a, 6b and 6d are unsuitable, but that Site 6c could be developed if repositioned to the east.</p>
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>• the site does lend itself to existing commercial bus operations on the A872 but with a frequency less than existing park and ride sites. Potential to utilise new bus services from Durieshill. New dedicated or extended bus services and the site will be dependant on subsidy for bus and maintenance costs, therefore would be subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>
<p>Financial:</p>	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p> <p>Existing commercial passing buses (First 24, 52, X39, Brians B1, Citylink 909, 913, Megabus M8) would not be expected require subsidy but would not be sufficient alone.</p> <p>Potential exists to use developer subsidy to establish a suitable network of services associated with Durieshill.</p>

South Stirling Park and Ride – Site 6 – A872 East

	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Public: Sensitive receptors in the area: Pimhall Farm; Hillhead Farm; Croftsie Farm; residential properties at Muiralehouse and southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; Cat Craig; users of the A872, the A91, Pimhall Road and local countryside roads/paths.</p>
STAG Criteria	
Criterion	Assessment Summary
<p>Environment:</p>	<p>Description of Impacts Moderate – Minor impact</p>
	<p><b>Supporting Information</b></p> <p>Noise and vibration: Noise environment dominated by road traffic noise mainly assumed to emanate from the adjacent M9 and M80 motorways, coupled with limited noise from the surrounding A-road network particularly the A872. Closest significant collection of residential properties located approximately 600m to the north within the outlying residential areas of Bannockburn. There are located a small number of isolated residential dwellings in the immediate surrounding area and a more substantial number in the wider area a total of 60 within 200m of the site. The closest significant non-residential sensitive receptor, Premier Inn, on the opposite side if the A872 from Sites 6c and 6d and approximately 500m south of Sites 6a and 6b. The Travelodge at Junction 9 services is approximately 400m to the south of site 6d and could potentially also be affected by noise from the site. P&amp;R likely to reduce traffic on main routes into Stirling and therefore likely to present a <b>minor benefit</b> at a strategic level. At the local a level, potential adverse impact to a limited number of isolated receptors within the immediate surrounding area from increased traffic accessing the site which is likely to result in a <b>minor impact</b>. Sites 6d and 6c are likely to impact on fewer sensitive receptors than either of 6a or 6b. Site 6d is likely to impact on the fewest number of receptors with Site 6a potentially affecting the most.</p>

	<p><b>Air Quality:</b> <b>Background</b> There are no AQMA in the vicinity of the proposed site. There are no designated sites in the vicinity of the proposed site. Monitoring station at Stirling City Centre shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009. There are approximately 60 properties within 200m of the site.</p> <p><b>Global Air Quality – CO<sub>2</sub> Emission</b> P&amp;R is anticipated to reduce the private vehicles travel on the A872, A91 and A9 as the public switch to use the buses facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – NO<sub>2</sub></b> P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at these properties as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – PM<sub>10</sub></b> P&amp;R anticipated to lead an increase in PM<sub>10</sub> concentrations at these properties as more vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p><b>Water quality, drainage and flood defence:</b> The Bannock Burn lies in close proximity to the Site 6a and 6b, situated adjacent to Site 6a along its northwest boundary. No known surface water features present in vicinity of Sites 6c or 6d. <b>No benefit or impact</b> (assuming adequate site drainage installed and no impact on Bannock Burn).</p> <p><b>Geology:</b> No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal group, with bedrock at or near the surface. Possible historical mining in the area - Not</p>
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fully reviewed for Part 1.. **No benefit or impact.**

Biodiversity and habitats:

No known sites designated for nature conservation. Comprise improved grassland areas with part of Site 6a under arable cropping. Hedgerows/trees define the sections of the boundaries of Sites 6a, 6b and 6d, with a more substantial area of woodland present along the southeast boundary of Site 6d providing a buffer between the site and the A91. **Minor impact** (assuming woodland areas can be avoided).

Landscape:

No designated landscape areas. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. Within the Green Belt. These areas are considered important in maintaining an open aspect for/views to and/from Cat Craig to the Borestone and the approach to Stirling. Cat Craig is a locally important landscape feature with historical, nature conservation and amenity value. The Bannockburn and its valley form a strong and well-defined edge to major built development and there is a strong argument for maintaining a 'green', undeveloped corridor on the south side of the burn. Sites 6a, 6b and 6d are on sloping land and P&R would be visually exposed and adverse effects very difficult to mitigate. **Moderate to Minor impact.**

Visual amenity:

Key receptors – Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at Muiralehouse and southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; Cat Craig; users of the A872, the A91, local countryside roads/paths, inc. Core Paths along the local road following the northern boundary of Site 6c and along the Bannock Burn to the northwest of Site 6a. **Moderate impact.**

Agriculture and soils:

Located on land classed as moderate capability for agriculture. No prime agricultural land affected. **No benefit or impact.**

Cultural heritage:

Sites have been identified by the HLA (Historic Land-use Assessment) as comprising 18th-20th century smallholdings. Sites 6a, 6b and 6c likely to lie within the Battle of

South Stirling Park and Ride – Site 6 – A872 East

		<p>Bannockburn site (Inventory area for battle site currently being drafted by Historic Scotland) boundary. <b>Moderate impact.</b></p>
<p>Safety:</p>	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit -</b></p> <p>6a) The only issue with access safety is with the increased usage of the Milton Roundabout and potential for conflict with employees entering or exiting the Pirnhall Business Park.</p> <p>6b) The only issue with access safety is with the increased usage of the Milton Roundabout and potential for conflict with employees entering or exiting the Pirnhall Business Park.</p> <p>6c) The only slight issue with access safety is with the proximity of the new roundabout or signalised junction on the A872 to the M9 Junction 9, with the possibility of traffic queuing. This would require modelling to confirm the affect of the new junction arrangement. A new junction arrangement may assist in alleviating an existing accident problem at the Pirnhall cross roads.</p> <p>6d) The only slight issue with access safety is with the proximity of the new roundabout on the A872 to the M9 Junction 9, with the possibility of traffic queuing. This would require modelling to confirm the affect of the new roundabout.</p> <p><b>Minor benefit -</b> The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times.</p> <p>There may be impacts on existing bus users where buses are diverted.</p> <p>The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>
<p>Economy:</p>	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit -</b> The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times.</p> <p>There may be impacts on existing bus users where buses are diverted.</p> <p>The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>

South Stirling Park and Ride – Site 6 – A872 East

<p>Integration:</p>	<p>Description of Impacts Moderate benefit</p>	<p><b>Moderate benefit</b> - The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner.  The proposal fits with wider government policy as demonstrated through its inclusion in STPR.</p>
<p>Accessibility and Social Inclusion:</p>	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit</b> - The proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion.</p>

## South Stirling Park and Ride – Site 7 – A9

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal:	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
(Also provide name of any subsidiary organisations also involved in promoting the proposal)																
Proposal Name:	South Stirling Park and Ride – Site 7															
Proposal Description:	P&R Site 7 – A9 Local Bus: Enhanced local service Express Bus: Significantly Diverted Express															
Funding Sought From: (if applicable)	Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers															
<b>Background Information</b>																
Geographic Context:	The site is located on the A9 south of the A91. The built and natural environment comprises gently sloping improved grassland with local field boundary features to east, north and south and the hospital site to the south. This site is shown to be located in Datazone S01006076 which is located in the Sauchenford area.															
Social Context:	<table border="1"> <thead> <tr> <th>Indicator</th> <th>Site Value</th> <th>Average Scotland Value</th> </tr> </thead> <tbody> <tr> <td>SIMD Rank</td> <td>1531</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3080</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>76.9%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>33.6%</td> <td>34.2%</td> </tr> </tbody> </table> <p>The above data suggests that the site will be located in an area which is assessed to be in the 25% most deprived areas in Scotland (SIMD Rank). The site is shown to generate an average score in terms of access to</p>	Indicator	Site Value	Average Scotland Value	SIMD Rank	1531	3253	GAD Rank	3080	3253	Economically Active Population (aged 16 – 74)	76.9%	83.1%	Proportion of Households Without Access to a Car	33.6%	34.2%
Indicator	Site Value	Average Scotland Value														
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GAD Rank	3080	3253														
Economically Active Population (aged 16 – 74)	76.9%	83.1%														
Proportion of Households Without Access to a Car	33.6%	34.2%														
	Name of Planner: Niall Gardiner, Tactran															
	Capital costs/grant: £2-3m															
	Annual revenue support P&R: £40k Bus: TBC															
	Estimated Total Public Sector Funding Requirement: Present Value of Cost to Govt.: TBC															
	Amount of Application: Sum TBC															



**South Stirling Park and Ride – Site 7 – A9**

	<p>local facilities (GAD Rank). The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active and the proportion of households who do not have access to a car, when compared to the Scottish average recorded.</p>
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%. The development site is currently rural in nature and is bound on the east by Bannockburn Hospital.</p>
<p><b>Planning Objectives</b></p>	
<p>Objective:</p>	<p>Performance against planning objective:</p>
<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Minor benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Minor benefit</b></p>	<p>Park &amp; Ride Users: The ability of a site at this location to operate effectively in the transport system is affected by its relative remoteness to the A872 corridor. Public Transport trips would be most effectively assigned via A9 corridor to increase journey time reliability. The site is located appropriately for the A9 corridor but from the A872 corridor diversion would be necessary for both private and express coach transport. It would be counterintuitive for car drivers to divert significantly from existing corridors and operationally inefficient for express coach services. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castlevue. Of the two main routes into Stirling, the A872 and A9, Site 7 adjacent to the A9 may abstract more passengers from Springkerse P&amp;R due to its closer proximity than a site located near the A872.</p> <p>Other Transport System Users: The site would impart additional circulation cutting movements at Pimhall Interchange as drivers divert toward the A9 in the AM peak that may have a negative impact on efficiency and reliability at that location. In the PM peak there may be a shift of traffic from the A872 southbound entry arm to the A91 entry arm. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and Larbert. The no. 38 bus passing the site also serves the Forth Valley Acute Hospital. It does not have potential to provide access to the Bannockburn Heritage Centre using existing buses. Site is located on the west of the M9 whereas existing areas of residential development are located to the</p>

South Stirling Park and Ride – Site 7 – A9

<p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling <b>No benefit or impact</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change <b>Minor benefit</b></p> <p>5. To minimise impact on the natural and built environment <b>Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport <b>Minor impact</b></p>	<p>east of the motorway.</p> <p>To serve this site by express coach would require a significant deviation from existing routes which would detract from the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they may consider extending services M8 &amp; 909 to serve this site. Consideration could be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and Ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip.</p> <p>Improved grassland field. Dissociated with town of Bannockburn and located on rising ground therefore potentially visually exposed with effect on landscape/visual amenity, but potential to integrate with adjacent hospital site. Overall low impact on environment.</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has only limited potential to be incorporated and suitably connected within an area considered for future development, it is not within the perceived city boundary of the A91 and there is uncertainty about any relationship between this site and the Bannockburn hospital, who's function may be under review,</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2: Rejection</p> <p>Why: the proposal is being rejected from further consideration primarily because of its lack of potential to be integrated into the Local Development Plan and low levels of accessibility south of the A91. Potential abstraction from Springkerse would be at higher than on more western routes and strategic coach attractiveness is poor due to significant diversions being required. The A9 corridor has less peak hour traffic than the A872 and initial forecasts suggest that it would have the least patronage of any site. There is uncertainty about any relationship between this site and the Bannockburn hospital, who's function may be under review and future thereafter unknown. Technical difficulties, in that a junction arrangement on the A9 would involve a joint access arrangement with the hospital coupled with a</p>

**South Stirling Park and Ride – Site 7 – A9**

	lengthy access road, are also a risk to taking this site forward,
<p><b>Implementability Appraisal</b></p> <p>Technical:</p>	<p>This site is situated on the south corner of the Greencorns Roundabout, between the A91 and A9. It is a field with a gentle gradient adjacent to Bannockburn Hospital. The size and shape are suitable with future expansion available to the south. Access could be provided from both the A91 and A9, however a system to either deter or safety assist right turns on the both of these single carriageways would be preferred. Access from Stirling by pedestrians and cyclists would be possible by the expansion of the path network; however they would require crossing facilities on the A91. Access to the hospital from the site could be easily provided. Received public utility plans show only apparatus along the perimeter of the site, therefore minimal protection works would be required. During consultations the bus operator on the A9 indicated that they would prefer an access on the A9 or at the roundabout.</p> <p>There are a few technical risks involved in developing or implementing this proposed site. The first is the close proximity of the access to the Greencorns Roundabout. This would possibly require a priority system on the A9 to allow buses to exit the site. The other risks lie with the unknown ground condition with a green field site.</p>
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>• The site lends itself to commercial bus operations, a 20 minute local service scurrently exists on the A9. The site would still be dependant on subsidy for maintenance costs, therefore would subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>

**South Stirling Park and Ride – Site 7 – A9**

	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development.</p> <p>In this case the risk of financing an enhanced frequency of service no. 38 may possibly be borne by the operator, subject to commercial viability. This route has already received a bus route development grant towards vehicles and frequency enhancements. First have already shown a willingness to develop this route and the attraction of additional patronage could encourage further enhancement that would improve frequency on the A9 within Stirling. It would be likely that bus fares would be set a commercial level and not be consistent with existing park and ride fares. Cost is one factor that people consider when choosing a park and ride, as demonstrated in a recent survey.</p> <p>To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p>
<p>Financial:</p>	
<p>Public:</p>	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy and the STPR. The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: properties at southern edge of Bannockburn; future developments at Corbiewood; users of local countryside paths; Eastern Distributor Road (A91); an old right of way running along the track on the southwest side of Site 7; farms and hospital on east side of A91.</p>
<p><b>STAG Criteria</b></p>	
<p><b>Criterion</b></p>	<p><b>Assessment Summary</b></p>
<p><b>Supporting Information</b></p>	

<p>Environment:</p>	<p>Description of Impacts</p> <p>Minor impact</p>	<p>Noise and vibration:</p> <p>Noise environment dominated by road traffic noise mainly assumed to emanate from the adjacent M9 and M80 motorways, coupled with limited noise from the surrounding A-road network particularly the A9 and A91. Closest significant collection of residential properties (approximately 96) located directly to the west of the site on the opposite side of the A91 within the outlying residential areas of Bannockburn. The closest significant non-residential sensitive receptor, Bannockburn Hospital, is directly adjacent to the east of the proposed site. P&amp;R likely to reduce traffic on main routes into Stirling and therefore likely to present a <b>minor benefit</b> at a strategic level. However, there will be a potential adverse impact at a relatively large number of dwellings and the adjacent hospital as a direct result of increased traffic accessing the PAR site which is likely to result in a <b>minor impact</b> at project level.</p> <p>Air Quality:</p> <p>Background:</p> <p>There are no AQMA in the vicinity of the proposed site. There are no designated sites in the vicinity of the proposed site. Monitoring station at Stirling City Centre shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009. There are approximately 96 properties and a hospital within 200m of the site.</p> <p>Global Air Quality – CO<sub>2</sub> Emission</p> <p>P&amp;R is anticipated to reduce the private vehicles travel on the A872, A91 and A9 as the public switch to use the buses facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall positive <b>minor benefit</b>.</p> <p>Local Air Quality – NO<sub>2</sub></p> <p>P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at these properties as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p>Local Air Quality – PM<sub>10</sub></p> <p>P&amp;R is anticipated to lead an increase in PM<sub>10</sub> concentrations at these properties as more vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles</p>
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		<p>travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p>Water quality, drainage and flood defence: No known surface water features present in vicinity, but field drainage at site boundaries. <b>No benefit or impact</b>.</p> <p>Geology: No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal group, with bedrock at or near the surface. <b>No benefit or impact</b>.</p> <p>Biodiversity and habitats: No known sites designated for nature conservation. Gently sloping improved grassland (consultation indicates this was under cereal cropping during 2009). Local field boundary features to east, north and south. <b>No benefit or impact</b>.</p> <p>Landscape: No designated landscape areas. Topography gently sloping. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. Outwith Greenbelt but detached from built up area of Bannockburn, but could offer opportunities to better integrate the redevelopment of Bannockburn Hospital, which is currently isolated from the urban area. <b>Minor impact</b>.</p> <p>Visual amenity: Key receptors – Residential properties at southern edge of Bannockburn; future developments at Corbiewood; users of local countryside paths; Eastern Distributor Road (A91); an old right of way running along the track on the southwest side of Site 7; farms and hospital on east side of A91. The site is also intervisible with some important public viewpoints at greater distances, e.g. Dumyat and possibly Wallace Monument and Stirling Castle. <b>Minor impact</b>.</p> <p>Agriculture and soils: Located on land classed as moderate capability for agriculture. No prime agricultural land affected. <b>No benefit or impact</b>.</p>
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South Stirling Park and Ride – Site 7 – A9

		<p>Cultural heritage: No sites of cultural heritage interest within Site 7. <b>No benefit or impact.</b></p>
Safety:	<p>Description of Impacts No benefit or impact</p>	<p><b>No benefit or impact</b> - There may be issues with access safety from the A9 and A91. To ensure suitable junction spacing on the A9 joint access would have to be arranged with the Hospital access. Introducing a new junction onto the A91 would not have any safety benefits. There could be a disbenefit to pedestrian safety as they use any at-grade crossing facility over the A91.</p>
Economy:	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit</b> - The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times.</p> <p>There may be impacts on existing bus users where buses are diverted.</p> <p>The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>
Integration:	<p>Description of Impacts Moderate impact</p>	<p><b>Moderate impact</b> - The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner. The proposal fits with wider government policy as demonstrated through its inclusion in STPR.</p> <p>Consultations with the Planning Service have suggested that this site would be outside the built form of Stirling and so may not be desirable in terms of integration with planning proposals as the LDP develops. There is uncertainty about any relationship between this site and the Bannockburn hospital, who's function may be under review.</p>

South Stirling Park and Ride – Site 7 – A9

Accessibility and Social Inclusion:	Description of Impacts No benefit or impact	<b>No benefit or impact</b> - The proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion. However the site is remote from Bannockburn.
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## South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

### Part 1 Appraisal Summary Tables

<b>Proposal Details</b>	
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF
Proposal Name:	South Stirling Park and Ride – Site 8 Name of Planner: Niall Gardiner, Tactran
Proposal Description:	P&R Site 8 – A872 East (Hillhead) Capital costs/grant: £2-3m Local Bus: Adjusted P&R or new P&R service and /or passing local services Express Bus: Express Annual revenue support P&R: TBC Bus: TBC Estimated Total Public Sector Funding Requirement: Present Value of Cost to Govt.: TBC
Funding Sought From: (if applicable)	Amount of Application: Sum TBC
<b>Background Information</b>	
Geographic Context:	The site is located east of the A872 and north of the A91. All Site options (a,b,c,d) are within the Green Belt land. The built and natural environment comprises and improved grassland field with surrounding scattered farmsteads. Locally, trees and shrubs associated with the edge of the Brucefields Golf Centre bound part of the eastern edge of the site.
Social Context:	This site is shown to be located in Datazone S01006079 which is located in the Bannockburn area. Indicator SIMD Rank GAD Rank Economically Active Population (aged 16 – 74) Proportion of Households Without Access to a Car Site Value 2550 3661 81.1% 29.9% Average Scotland Value 3253 3253 83.1% 34.2%

## South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

	<p>The above data suggests that the site will be located in an area which has similar SIMD and GAD Ranks to the Scottish average.</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active. The proportion of households who do not have access to a car is shown to be around 4% lower than the national average.</p> <p>Notes:  <sup>1</sup> &amp; <sup>2</sup> – SIMD and GAD rank data obtained from <a href="http://simd.scotland.gov.uk/Stirling">http://simd.scotland.gov.uk/Stirling</a>  <sup>2</sup> – Proportion of population who are economically active obtained from Table KS09a <a href="http://www.scrol.gov.uk/scrol/common/home.jsp">http://www.scrol.gov.uk/scrol/common/home.jsp</a>  <sup>3</sup> – Proportion of households without access to a car obtained from Table CAS059 <a href="http://www.scrol.gov.uk/scrol/common/home.jsp">http://www.scrol.gov.uk/scrol/common/home.jsp</a></p>
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site is rural in nature and located immediately to the north of the M9 / M80 / A91 interchange.</p>
<p><b>Planning Objectives</b></p>	
<p><b>Objective:</b></p> <p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Moderate benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p>	<p><b>Performance against planning objective:</b></p> <p><b>Park &amp; Ride Users:</b> Located in an attractive position in terms of park and ride best practise albeit on the outbound side of the road, in a similar manner to Broxden P&amp;R. Existing Public Transport routes would be assigned via A872 corridor. The site is on a corridor it is located on all encompassing route into town for traffic from Pirnhall Interchange. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castleview park and ride , the A872 corridor is the furthest in the southern area from Springkerse and therefore the least likely to abstract patronage.</p> <p><b>Other Transport Systems Users:</b> From the A9 corridor some diversion would be necessary for private transport (although demand from this corridor may be light due to the significant diversion) and this may impart slight additional circulation cutting movements at Pirnhall Interchange in the AM peak from the A91 that may have a negative impact on efficiency and reliability at that location. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and to a lesser extent Larbert. It has the potential to provide access to the Bannockburn</p>

**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

<p><b>Moderate benefit</b></p> <p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling</p> <p><b>Moderate benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change</p> <p><b>Moderate benefit</b></p> <p>5. To minimise impact on the natural and built environment</p> <p><b>Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport</p> <p><b>Moderate benefit</b></p>	<p>Heritage Centre.</p> <p>To serve this site by express coach would not require deviation from existing routes and so maintaining the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site. Consideration could also be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip. There is some potential for active travel to access the site.</p> <p>Within Greenbelt on improved grassland fields. Located on rising ground therefore potentially visually exposed with effect on landscape/visual amenity and key viewpoints. Overall low-medium impact on environment</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has some potential to be incorporated and suitably connected within an area considered for future development, it is within the perceived city boundary of the A91 with potential development land around it.</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2: Selected for further investigation</p> <p>Why: Site 8 was included in the Part 1 appraisal following detailed discussions with Stirling Council planning and other relevant departments. The proposal is favoured over Sites 6c and 6d. It has the potential to provide an attractive park and ride site for local and strategic trips and is favoured in environmental and planning terms. As an alternative site to Site 6c, Site 8 has been proposed through the consultation process that fits more sympathetically into the landscape with equal potential to contribute to the Local Development Plan.</p>

**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

Implementability Appraisal	
	<p>8. The site is a good shape and size (approx 215 x 110m), and is on a slight gradient which is preferable for drainage and positioning of SUDS features. Future expansion of the site could be possible to the East. The current site access is via Pirnhall Road (East side) and the crossroads with the A872. As with Site 5b, to gain adequate access to the “Park and Ride” site, the junction would have to be upgraded, probably to a roundabout. The close proximity of existing buildings to the junction would move the roundabout southwards towards the motorway junction, giving rise to a complicated and costly roundabout design. Public utilities’ plans indicate the presence of a small water main (150mm) running through the middle of the site. They also show a grouping of BT apparatus south of the crossroads, and would probably be affected by any proposed roundabout. Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities at the crossroads and protection for the water main. There is also the disruption to the local road network during construction of the new junction.</p> <p>Environment – Site 8 included has an overall low impact – score worse on some aspects when compared to other sites. Stirling Council Planning has advised that Site 8 is preferable to Sites 6a, 6b, 6c and 6d.</p>
<p>Technical:</p>	
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>• the site does lend itself to existing commercial bus operations on the A872 but with a frequency less than existing park and ride sites. Potential to utilise new bus services from Durieshill. New dedicated or extended bus services and the site will be dependant on subsidy for bus and maintenance costs, therefore would subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>

**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p> <p>Existing commercial passing buses (First 24, 52, X39, Brians B1, Citylink 909, 913, Megabus M8) would not be expected require subsidy but would not be sufficient alone.</p> <p>Potential exists to use developer subsidy to establish a suitable network of services associated with Durieshill.</p> <p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at Muiralehouse and southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; Cat Craig; users of the A872, the A91, Pirnhall Road and local countryside roads/paths.</p>	
Financial:		
Public:		
<b>STAG Criteria</b>		
<b>Criterion</b>	<b>Assessment Summary</b>	<b>Supporting Information</b>
Environment:	Description of Impacts  Minor impact	Noise and vibration: Noise environment dominated by road traffic noise mainly assumed to emanate from the adjacent M9 and M80 motorways, coupled with limited noise from the surrounding A-road network particularly the A872. Closest significant collection of residential properties located approximately 600m to the north within the outlying residential areas of Bannockburn. There are located a small number of isolated residential dwellings in the immediate surrounding area, and approximately 13 within 200m of the

South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

		<p>site. The closest significant non-residential sensitive receptor, Premier Inn, on the opposite side of the A872 from the site. The Travelodge at Junction 9 services is approximately 400m to the south of the proposed site and could potentially also be affected by noise from the site. P&amp;R likely to reduce traffic on main routes into Stirling and therefore likely to present a <b>minor benefit</b> at a strategic level. At the local level, potential adverse impact to a limited number of isolated receptors within the immediate surrounding area from increased traffic accessing the site which is likely to result in a <b>minor impact</b>.</p> <p><b>Air Quality:</b> <b>Background</b> There are no AQMA in the vicinity of the proposed site. There are no designated sites in the vicinity of the proposed site. Monitoring station at Stirling shows exceedences of the air quality objectives of NO<sub>2</sub> and PM<sub>10</sub> were unlikely in 2009. There are approximately 13 properties within 200m of the site.</p> <p><b>Global Air Quality – CO<sub>2</sub> Emission</b> P&amp;R is anticipated to reduce the private vehicles travel on the A872, A91 and A9 as the public switch to use the buses facilities provided by the Park and Ride. The CO<sub>2</sub> emission is likely to be reduced. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – NO<sub>2</sub></b> P&amp;R is anticipated to lead an increase in NO<sub>2</sub> concentrations at these properties as more vehicles access the site. However the scheme is likely to reduce NO<sub>2</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p> <p><b>Local Air Quality – PM<sub>10</sub></b> P&amp;R anticipated to lead an increase in PM<sub>10</sub> concentrations at these properties as more vehicles access the site. However the scheme is likely to reduce PM<sub>10</sub> concentrations along the A872, A91 and A9 due to lower numbers of private vehicles travelling via these links to Stirling. Properties at Bannockburn, Chartershall and St. Ninians may receive improvement on air quality. Overall <b>minor benefit</b>.</p>
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South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

	<p>Water quality, drainage and flood defence: No known surface water features present in vicinity of Site 8. <b>No benefit or impact</b> (assuming adequate site drainage installed and no impact on Bannock Burn).</p> <p>Geology: No known geological or geomorphological sites of specific importance. Solid geology maps indicate the presence of carboniferous sedimentary rock of the limestone coal group, with bedrock at or near the surface. Possible historical mining in the area - Not fully reviewed for Part 1. <b>No benefit or impact</b></p> <p>Biodiversity and habitats: No known sites designated for nature conservation. Comprises an improved grassland field. Trees/scrub associated with the edge of the Brucefields Golf Centre bound part of the eastern edge of the site. <b>Minor impact.</b></p> <p>Landscape: No designated landscape areas. Lies within the Lowland Fringe landscape character unit - a transitional area between the hills to the west and the Forth flatland to the east. Within the Green Belt. The site comprises relatively flat land, well contained by steeper banks/planting and a P&amp;R here would not impinge on the approach to Stirling to the same extent as a number of the other options. Currently within the Green Belt. <b>Minor impact.</b></p> <p>Visual amenity: Key receptors – Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at Muiralehouse and southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; users of the A872, the A91, local countryside roads/paths, inc. Core Paths along the local road to Croftside Farm and Cat Craig. Likely to be intervisible with some key viewpoints, but easier to screen than the sites on sloping ground. <b>Minor impact.</b></p> <p>Agriculture and soils: Located on land classed as moderate capability for agriculture. No prime agricultural land affected. <b>No benefit or impact.</b></p>
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South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

		<p>Cultural heritage: May lie within an area identified by the HLA (Historic Land-use Assessment) as comprising 18th-20th century smallholdings. Site likely to lie within the Battle of Bannockburn site (Inventory area for battle site currently being drafted by Historic Scotland) boundary. <b>Minor impact.</b></p>
Safety:	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit</b> The only slight issue with access safety is with the proximity of the new roundabout/signalised junction on the A872 to the M9 Junction 9, with the possibility of traffic queuing. This would require modelling to confirm the affect of the new roundabout.</p>
Economy:	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit</b> - The proposal is likely to reduce traffic volumes on the road network in Stirling. There is potential to improve strategic coach journey times and the reliability of travel times. There may be impacts on existing bus users where buses are diverted. The proposal may attract new jobs to the city centre, help existing tourism businesses, and assist in sustainably opening up appropriate land for development.</p>
Integration:	<p>Description of Impacts Moderate benefit</p>	<p><b>Moderate benefit</b> - The proposal enhances transport integration by allowing greater flexibility in access to local and strategic public transport. Services will be able to function in complementary manner. The proposal fits with wider government policy as demonstrated through its inclusion in STPR.</p>
Accessibility and Social Inclusion:	<p>Description of Impacts Minor benefit</p>	<p><b>Minor benefit</b> - The proposal should improve accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities. The increased support of public transport services can assist in tackling social exclusion.</p>



**F APPRAISAL SUMMARY TABLES**

**F.2 Part 2 Appraisal Summary Tables**

South Stirling Park & Ride  
Stirling Council and Tactran  
STAG Report



South Stirling Park & Ride  
Stirling Council and Tactran  
STAG Report



## South Stirling Park and Ride – Site 1 - Corbiewood

### Part 2 Appraisal Summary Table

Proposal Details																
Name and address of authority or organisation promoting the proposal:  (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
Proposal Name:	South Stirling Park and Ride – Site 1															
Proposal Description:	P&R Site 1 – Corbiewood  Local Bus: Adjusted P&R or new P&R service Express Bus: Diverted Express															
Funding Sought From: (if applicable)	Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers															
Background Information																
Geographic Context:	The site is located at the Corbiewood Racing Track, north of the A91 midway between the A872 and A9. The built and natural environment largely comprises a Brownfield site, but the southern boundary of Site 1 extends into Greenbelt. Locally trees/hedgerows, grassland within the racing track compound and a small group of buildings associated with the racing track are present.															
Social Context:	This site is shown to be located in Datazone S01006076 which is located in the Sauchenford area.															
	<table border="0"> <tr> <td>Indicator</td> <td>Site Value</td> <td>Average Scotland Value</td> </tr> <tr> <td>2009 Scottish Index of Multiple Deprivation Rank<sup>1</sup></td> <td>1531</td> <td>3253</td> </tr> <tr> <td>Geographic Access Domain Rank<sup>2</sup></td> <td>3080</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)<sup>3</sup></td> <td>76.9%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car<sup>4</sup></td> <td>33.6%</td> <td>34.2%</td> </tr> </table>	Indicator	Site Value	Average Scotland Value	2009 Scottish Index of Multiple Deprivation Rank <sup>1</sup>	1531	3253	Geographic Access Domain Rank <sup>2</sup>	3080	3253	Economically Active Population (aged 16 – 74) <sup>3</sup>	76.9%	83.1%	Proportion of Households Without Access to a Car <sup>4</sup>	33.6%	34.2%
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Amount of Application:	Sum TBC															

**South Stirling Park and Ride – Site 1 - Corbiewood**

	<p>The above data suggests that the site will be located in an area which is assessed to be in the 25% most deprived areas in Scotland (SIMD Rank). The site is shown to generate an average score in terms of access to local facilities (GAD Rank).</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active and the proportion of households who do not have access to a car, when compared to the Scottish average recorded.</p> <p>Notes: 1 &amp; 2 – SIMD and GAD rank data obtained from <a href="http://simd.scotland.gov.uk/Stirling">http://simd.scotland.gov.uk/Stirling</a> 2 – Proportion of population who are economically active obtained from Table KS09a <a href="http://www.scrol.gov.uk/scrol/common/home.jsp">http://www.scrol.gov.uk/scrol/common/home.jsp</a> 3 – Proportion of households without access to a car obtained from Table CAS059 <a href="http://www.scrol.gov.uk/scrol/common/home.jsp">http://www.scrol.gov.uk/scrol/common/home.jsp</a></p>
	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>Corbiewood Racing Track currently occupies the development site. The immediate area is predominantly rural in nature.</p>
<p>Economic Context:</p>	

South Stirling Park and Ride – Site 1 - Corbiewood

<b>Planning Objectives</b>	
Objective:	Performance against planning objective:

**South Stirling Park and Ride – Site 1 - Corbiewood**

<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites -</p> <p><b>Minor benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Moderate benefit</b></p> <p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling -</p> <p><b>Minor benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change</p> <p><b>Minor benefit</b></p> <p>5. To minimise impact on the natural and built environment</p>	<p><b>Park &amp; Ride Users:</b> The ability of a site at this location to operate effectively in the transport system is affected by its relative proximity to Pirnhall Interchange and relative remoteness from two transport corridors. Access to the site via Pirnhall Interchange would expose trip makers to potentially negative effects of queuing and delay at Pirnhall at peak times. Consultation with bus operators suggests that Public Transport trips would be most effectively assigned via A9 corridor to increase journey time reliability but initial modelling suggests that there is no difference in the journey times between the routes. From both corridors diversion would be necessary for both private and public transport but the location does mean that there is some potential to attract from both routes. The location away from a route is not best practise for the location of an attractive park and ride. It would be counterintuitive for car drivers to divert significantly from existing corridors and operationally inefficient for existing local bus and express coach services. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castleview.</p> <p><b>Other Transport System Users:</b> The site would impart additional circulation cutting movements at Pirnhall Interchange as drivers divert toward the A91 in the AM peak that may have a negative impact on efficiency and reliability at that location. In the PM peak there may be a shift of traffic from the A872 southbound entry arm to the A91 entry arm. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and Larbert. It has the potential to provide access to the Bannockburn Heritage Centre if bus services routes via the A872.</p> <p>To serve this site by express coach would require a deviation from existing routes which would detract from the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site but would rather be closer to the A872. Consideration could be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p>
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**South Stirling Park and Ride – Site 1 - Corbiewood**

<p><b>No benefit / Minor benefit</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport</p> <p><b>Moderate benefit</b></p>	<p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip.</p> <p>Utilises an existing racing track and lorry park area, some trees would be lost but potential to mitigate. Marginal encroachment on Greenbelt and possible location within historic site. Some effect on landscape/visual amenity. Overall low impact on environment, with potential for landscaping/biodiversity improvements.</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has some potential to be incorporated and suitably connected within an area considered for future development, it is within the perceived city boundary of the A91 with potential development land around it.</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2:</p> <p>The proposal is favoured as it has low environmental impacts and is favoured in its overall potential to integrate with the future Local Development Plan. It has some potential to draw patronage from both the A91 and A9 corridors but only with a supported dedicated service and requires diversion off corridors for both private and strategic traffic.</p>

**South Stirling Park and Ride – Site 1 - Corbiewood**

Implementability Appraisal	
<p>Technical:</p> <p>From a technical standpoint the site is of suitable size (approx 330m x 150m) and shape. Access could be formed from the A91 at its existing junction with Pirnhall Road. The access would likely be in the form of a roundabout improving access to the Brucefields Golf Centre and Back O'Muir Farm. The site is flat which is favourable for earthworks costs however this may give design problems for drainage and any SUDS features. There is room for expansion, of similar size, to the west of the site. Access from Stirling by pedestrians and cyclists would be possible by the expansion of the path network. Public utilities are not onerous; however there would be diversionary works for electricity utility on the A91 junction with the formation of the new roundabout.</p> <p>Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities and the disruption to the local road network during construction.</p>	
<p>Operational:</p> <p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are that:</p> <ul style="list-style-type: none"> <li>• that the site does not lend itself well to commercial bus operations increasing likelihood that it will be dependant on subsidy for bus and maintenance costs, therefore would be subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>	
<p>Financial:</p> <p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p>	



## South Stirling Park and Ride – Site 1 - Corbiewood

Public:	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: residential properties at Muiralehouse and southern edge of Bannockburn; Brucefields golf course and golf driving range; users of local roads/countryside paths.</p>		
<b>Environment</b>			
Mitigation Options Included: (Costs & Benefits)	An Environmental Report has been prepared in association with this STAG Part 2 report. The report sets out a number of mitigation measures which could be implemented to support this option.		
<b>Sub-criterion</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>	<b>Significance of Impact</b>
Noise and Vibration	Approximately 501 properties located within 600m of Site 1, plus Bannockburn Hospital and two churches. It is likely that changes in traffic distribution will have a neutral effect on noise levels at these properties and sensitive receptors.	Approximately 1182 people will experience no change in noise level.	No benefit or impact
Air Quality – Overall	Overall, likely improvement in air quality due to reduced congestion, higher average speeds and a reduction in traffic on the A872 and A9.	Net improvement in NO <sub>2</sub> concentrations: 368 properties. Net improvement in PM <sub>10</sub> concentrations: 668 properties.	Minor benefit
Global Air Quality – CO <sub>2</sub>	The total C emission will decrease.	Net change in CO <sub>2</sub> emissions: -363 tons (-99.1 tons Carbon equivalent) Total CO <sub>2</sub> equivalent emitted:	Minor benefit £317,000

South Stirling Park and Ride – Site 1 - Corbiewood

			3,705,305 (over 60 years) Discounted Monetised Value over 60 years: £47,603,473 These figures are taken from the completion of Carbon Monetisation Spreadsheet.	
Local Air Quality – PM <sub>10</sub> and NO <sub>2</sub>	The concentration of PM <sub>10</sub> / NO <sub>2</sub> at properties along A9 from the junction of the A872 to the junction of the A91 will decrease. However, the concentration of PM <sub>10</sub> / NO <sub>2</sub> at properties along A872 will increase.	2124 properties with decrease in NO <sub>2</sub> concentrations (improvement). 1756 properties with increase in NO <sub>2</sub> concentrations (deterioration). 2024 properties with decrease in PM <sub>10</sub> concentration (improvement). 1336 properties with increase in PM <sub>10</sub> concentrations (deterioration). These figures are taken from the completion of Worksheet A1.	Minor benefit	
Water Quality, Drainage and Flood Defence	No impact on surface water/flood plain. Potential impact on groundwater.	No watercourses or flood plain affected. Major / minor aquifer underlies part of site.	No benefit or impact Minor impact	
Geology	No designated sites. Potential for mineral reserves /contamination due to historic mineral workings.	No designated sites affected. Disused coal shafts within and near to the site boundary.	Minor impact	
Biodiversity	No designated sites affected.	No designated sites affected. Potential fragmentation of bat commuting routes; habitat loss of linear navigation features. Potential disturbance of bat roosting in mature trees adjacent to site.	Moderate – Minor impact	

**South Stirling Park and Ride – Site 1 - Corbiewood**

Visual Amenity	Local residential and some wider public view receptors affected.	Properties at Muiralehouse and the southern edge of Bannockburn; Brucefields golf course and golf driving range; users of local countryside paths; Pirnhall Road; Eastern Distributor Road (A91); farms and Bannockburn Hospital on east side of A91. Potential intervisible with some important public viewpoints, e.g. Dumyat and possibly Wallace Monument and Stirling Castle.	Moderate impact
Agriculture and Soils	No prime agricultural land will be affected.	Land classed as moderate capability for agriculture.	Moderate impact
Cultural Heritage	No nationally designated sites. Battle of Bannockburn site. Possible site of roman road, farmstead and colliery.	Likely to be within Battle of Bannockburn site.	Minor impact
Landscape	Minor change in existing landscape character.	No designated sites affected. Land outlined for future potential future redevelopment.	Minor impact
Physical Fitness	N/A	N/A	N/A
<b>Monetised summary</b>			
<b>Monetary Impact Ratio</b>	= £317,000		
	= 0.025		
<b>Safety</b>			
<b>Sub-criterion</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Accidents	Change in Annual Personal Injury Accidents	Existing priority junction to be converted to a roundabout to provide access into the site. This will provide a safer form of interchange than currently provided.	Forecast reduction of 20.3 accidents (34.8 – 14.5) over the 60 year assessment period

**South Stirling Park and Ride – Site 1 - Corbiewood**

	Change in Balance of Severity	NESA has been used to compare the severity of accidents generated by the proposed access option with the existing junction's operation	Proportion of fatal or seriously injured accidents is forecast to reduce from 11% - 5.6% over the 60 year assessment period
	Total Discounted Savings	NESA has been used to estimate the level of saving which will be generated by the conversion of a priority junction to a roundabout to provide access into the site.	NESA predicts accident savings equating to £1.284 million over the 60 year assessment period. £1,284,000
Security		<p>The Park &amp; Ride will be designed to a Park Mark Safer Parking Scheme standard which is an initiative of the Associations of Chief Police Officers and is aimed at reducing both crime and the fear of crime in parking facilities. The facility will be well lit with a waiting area which will be staffed during the operating hours of the facility.</p> <p>The Park &amp; Ride site is located on the edge of Stirling and it is considered that the development is unlikely to have a significant impact on the security of transport users in the vicinity of the site.</p>	N/A
<b>Monetised summary</b>		= £1,284,000	
<b>Monetary Impact Ratio</b>		= 0.103	

South Stirling Park and Ride – Site 1 - Corbiewood

Economy (Transport Economic Efficiency)				
Sub-criterion	Item	Qualitative Information	Quantitative Information	
User Benefits	Travel Time	Journey time savings from the south of Stirling to the city centre	£21,000	
	User Charges	Reduced daily charge for using Park & Ride when compared to existing car parking charges, will generate a net benefit to users	£1,216,000	
	Vehicle Operating Costs	Reduced car travel distance, therefore reduced users vehicle fuel and non-fuel operating costs	£2,555,000	
Private Sector Operator Impacts	Quality / Reliability Benefits	Reduced traffic volumes in Stirling may improve the reliability of journey times.		
	Investment Costs	None	£0	
	Operating & Maintenance Costs	None	£0	
	Revenues	None	£0	
	Grant/Subsidy payments	None	£0	
	<b>Monetised summary</b>		£3,792,000	
	<b>Monetary Impact Ratio</b>		= 0.305	

South Stirling Park and Ride – Site 1 - Corbiewood

Economy (Wider Economic Benefits)			
Sub-criterion	Item	Qualitative information	Quantitative information
Wider Economic Benefits	Agglomeration economies (WB1)	It is considered that the proposed Park & Ride will not have an impact on local employment patterns.	£0
	Increased output in perfectly competitive markets (WB3)	It is considered that the proposed Park & Ride will have a negligible impact on competitive markets given the scale and form of the proposed scheme.	£0
	Wider benefits arising from improved labour supply (WB4)	It is considered that the proposed Park & Ride will not generate a redistribution of employment and therefore not have an impact on the local labour market.	£0
<b>Monetised summary</b>		£0	
<b>Monetary Impact Ratio</b>		= 0	

South Stirling Park and Ride – Site 1 - Corbiewood

Economy (Economic Activity and Location Impacts)			
Sub-criterion	Item	Qualitative Information	Quantitative Information
Economic Activity and Location Impacts	Local Economic Impacts	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>Corbiewood Racing Track currently occupies the development site. The immediate area is predominantly rural in nature.</p> <p>It is considered that the proposed Park &amp; Ride will have a minor benefit on the local economy of Stirling by providing an additional means and alternative to the car, to directly access the centre of Stirling with its associated employment and tourist facilities.</p>	N/A
	National Economic Impacts	<p>It is considered that the proposed Park &amp; Ride will have a negligible impact when measured against the national economy. The Park &amp; Ride is however, likely to generate a minor benefit by providing an additional means for local residents to access strategic express bus services which provide access to employment opportunities located in the major employment centres of Edinburgh and Glasgow.</p>	Negligible impact

**South Stirling Park and Ride – Site 1 - Corbiewood**

	Distributive Impacts	<p>For the purpose of this study it has been assumed that the proposed Park &amp; Ride would be served by extension of the existing Castleview Park &amp; Ride service. Borestone is located approximately 2km to the south of Stirling City Centre immediately to the west of the A872. This Scottish Index of Multiple Deprivation confirms that the area is within the 5% most deprived areas in Scotland and it is considered that improving the service provision on the A872 corridor will provide additional opportunity for local residents to access employment opportunities in Stirling.</p>	Negligible impact
<b>Integration</b>			
<b>Sub-criterion</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Transport Interchanges	Services & Ticketing	<p>It is envisaged that the ticketing system which is currently in place at the existing Stirling Park &amp; Ride sites will be introduced at the proposed Park &amp; Ride.</p> <p>It is considered that there is limited opportunity to introduce a seamless ticketing system in association with the proposed Park &amp; Ride.</p>	No benefit or impact



**South Stirling Park and Ride – Site 1 - Corbiewood**

	Infrastructure & Information	<p>The site is expected to enhance transport integration by allowing greater flexibility in access to local and strategic public transport with services able to function in complementary manner.</p>	Minor benefit
Land-use Transport Integration		<p>The site has some potential to be incorporated and suitably connected within an area considered for future development. The site is within the perceived city boundary of the A91 with potential development land around it.</p> <p>The site is allocated in the current Local Plan (1st Alteration, Stirling Council 2nd August 2007) for employment use although the LDP is currently under review.</p>	Minor benefit
Policy Integration		<p>The introduction of a Park &amp; Ride with its associated bus service providing connection to the city centre will increase the service frequency on the A872 corridor improving the service provision for residents currently travelling into the centre of Stirling introducing benefits in terms of social inclusion. This is considered to be of significant importance given the demographics of the area through which the services will travel including the area of Borestone which is shown to be in the top</p>	Minor benefit

South Stirling Park and Ride – Site 1 - Corbiewood

		<p>5% of the most deprived areas in Scotland.</p> <p>It is expected that the Park &amp; Ride will be served by low floor buses as these currently serve the existing Stirling Park &amp; Ride sites. The facility will be designed to be DDA compliant and to be accessible by all.</p>	
Accessibility & Social Inclusion			
Sub-criterion	Item	Qualitative Information	Quantitative Information
Community Accessibility	Public Transport Network Coverage	<p>The introduction of a proposed Park &amp; Ride to the south of Stirling will provide an additional location at which residents will be able to access local and strategic bus services. The facility will be served by an extension of the existing Castlevue Park &amp; Ride bus service which will operate on an existing bus service corridor. While this will not increase the public transport network coverage it will increase the frequency of services on the A872 corridor and therefore increase the attractiveness of the service corridor.</p>	N/A
	Access to Other Local Services	<p>It is proposed to extend this south with the service route altered from its existing alignment to return to the city centre via its outbound route. This will provide a local service connecting the south of Stirling with the city centre and its</p>	N/A

South Stirling Park and Ride – Site 1 - Corbiewood

		<p>associated employment opportunities, including Stirling Council's office (Viewforth). The service will also provide direct access into the Royal Infirmary enhancing the accessibility of the facility for residents living in the south of Stirling.</p> <p>While the site will be accessible on foot and by cycle, its location is unlikely to result in the facility being located within convenient walking distance of established residential areas.</p>	
Comparative Accessibility	Distribution/Spatial Impacts by Social Group	<p>The proposed Park &amp; Ride is expected to benefit all social economic groups. Passengers who access the site by car are expected to be in the upper end of the groups, however the sites will also be accessible on foot and by cycle to ensure those who do not have access to a car are not excluded from using the facility.</p>	N/A
	Distribution/Spatial Impacts by Area	<p>The introduction of a Park &amp; Ride will be associated with the extension of the existing Castlevue Park &amp; Ride site bus service. This will improve the service frequency offered by the A872 bus service corridor and enhance the accessibility of the Royal Infirmary and the city centre for residents living on the route.</p>	N/A

South Stirling Park and Ride – Site 1 - Corbiewood

Strategic Environmental Assessment (SEA)		
Summary of SEA outcome where appropriate	N/A	
Cost to Public Sector		
Item	Qualitative information	Quantitative information
Public Sector Investment Costs	Park and Ride construction and new buses to purchase.	-£3,351,000
Public Sector Operating & Maintenance Costs	Costs of operating the Park and Ride Site and the Park and Ride bus service.	-£8,983,000
Grant/Subsidy Payments	None Identified	£0
Revenues	Revenue from bus fares minus car parking charges loss and loss of Springkerse bus fare revenue	-£451,000
Taxation impacts	None assessed.	£0

Monetised Summary	
Present Value of Transport Benefits	£5,392,000
Present Value of Cost to Government	-£12,784,000
Net Present Value	-£7,392,000
Benefit-Cost to Government Ratio	Ratio = 0.42

**South Stirling Park and Ride – Site 1 - Corbiewood**

Benefit-Cost to Government Ratio (including WEBs)	Ratio = 0.42
Benefit-Cost to Funding Agency Ratio	Ratio = 0.42



**South Stirling Park and Ride – Site 5a – A872 West**

**Part 2 Appraisal Summary Table**

<b>Proposal Details</b>	
Name and address of authority or organisation promoting the proposal:  (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF
Proposal Name:	South Stirling Park and Ride – Site 5a  P&R Site 5a – A872 West
Proposal Description:	Local Bus: Adjusted P&R or new P&R service and /or passing local services Express Bus: Express  Sources to be identified but may include: Transport Scotland, Tactran, Stirling Council, Developers
Funding Sought From: (if applicable)	Amount of Application:
<b>Background Information</b>	
Geographic Context:	The site is located north of the A91 and west of the A872. The site is currently within the Green Belt land, but under consideration as part of the Local Development Plan for commercial/business development. The built and natural environment comprises improved grassland fields with surrounding scattered farmsteads. Locally, hedgerows/trees define the boundaries of part of Site 5a.
	Name of Planner:  Niall Gardiner, Tactran
	Capital costs/grant (undiscounted): Site 5a existing access (*) £2,753,000 Site 5a new access (**) £4,849,000 Annual revenue support (undiscounted): £175,000  Present Value of Cost to Govt.: Site 5a* -£10,717,000 Site 5a** -£12,445,000  Sum TBC
	Total Public Sector Funding Requirement:

**South Stirling Park and Ride – Site 5a – A872 West**

	<p>This site is shown to be located in Datazone S01006079 which is located in the Bannockburn area.</p>															
<p>Social Context:</p>	<table border="0"> <tr> <td>Indicator</td> <td>Site Value</td> <td>Average Scotland Value</td> </tr> <tr> <td>SIMD Rank</td> <td>2539</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3078</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>81.1%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>29.9%</td> <td>34.2%</td> </tr> </table> <p>The above data suggests that the site will be located in an area which has similar SIMD and GAD Ranks to the Scottish average.</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active. The proportion of households who do not have access to a car is shown to be around 4% lower than the national average.</p>	Indicator	Site Value	Average Scotland Value	SIMD Rank	2539	3253	GAD Rank	3078	3253	Economically Active Population (aged 16 – 74)	81.1%	83.1%	Proportion of Households Without Access to a Car	29.9%	34.2%
Indicator	Site Value	Average Scotland Value														
SIMD Rank	2539	3253														
GAD Rank	3078	3253														
Economically Active Population (aged 16 – 74)	81.1%	83.1%														
Proportion of Households Without Access to a Car	29.9%	34.2%														
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site is rural in nature and located immediately to the north-west of the M9 / M80 / A91 interchange and the south of Pirthall Business Park.</p>															



South Stirling Park and Ride – Site 5a – A872 West

<b>Planning Objectives</b>	
Objective:	Performance against planning objective:

## South Stirling Park and Ride – Site 5a – A872 West

<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Moderate benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Moderate benefit</b></p> <p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling</p> <p><b>Moderate benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change</p> <p><b>Moderate benefit</b></p>	<p><b>Park &amp; Ride Users:</b> Located in an attractive position in terms of park and ride best practise on a main commuter corridor. Existing Public Transport routes would be assigned via A872 corridor. The site is on a corridor it is located on all encompassing route into town for traffic from Pirnhall Interchange. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castleview, the A872 corridor is the furthest in the southern area from Springkerse and therefore the least likely to abstract patronage.</p> <p><b>Other Transport Systems Users:</b> From the A9 corridor some diversion would be necessary for private transport (although demand from this corridor may be light due to the significant diversion) and may impart slight additional circulation cutting movements at Pirnhall Interchange in the AM peak from the A91 that may have a negative impact on efficiency and reliability at that location. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and to a lesser extent Larbert. It has the potential to provide access to the Bannockburn Heritage Centre.</p> <p>To serve this site by express coach would not require significant deviation from existing routes and so maintaining the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider services M8 &amp; 909 to serve this site. Consideration could also be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip. There is some potential for</p>
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**South Stirling Park and Ride – Site 5a – A872 West**

<p>5. To minimise impact on the natural and built environment  <b>Moderate – Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport  <b>Minor benefit</b></p>	<p>active travel to access the site but the A872 may cause some severance.</p> <p>Some impact on hedgerows/trees. Effect on landscape/visual amenity, key receptors in proximity and further away. Overall medium impact on environment.</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The Site 5 location has some potential to be incorporated and suitably connected within an area considered for future development, it is within the perceived city boundary of the A91 with potential development land around it, although west of the A872 that could be a barrier to potential development linkages to the east of the A872. The LDP is still in development but the site may be being considered for future business uses to complement the business uses already adjacent.</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2:</p> <p>The proposal is favoured as it has potential to be conveniently situated on a major commuter route into Stirling meeting local and strategic objectives. The site also has the potential to complement business functions adjacent to it and some potential to integrate into the future Local Development Plan. The site has potential to be readily accessible by active travel. On this corridor it is also less likely to abstract patronage from Springkerse P&amp;R than closer to the A9.</p>

South Stirling Park and Ride – Site 5a – A872 West

<b>Implementability Appraisal</b>	
<p>Technical:</p>	<p>This site is in Pirnhall Business Park, 100m west of the Milton Roundabout on the A872, situated beside two large company headquarters, namely Ogilvie Homes and FES Ltd. The site could be accessed from the western leg of the existing roundabout, continuing along to the end of the existing road. It would then cross a builder's yard, possibly Ogilvie Homes, before entering the site. An alternative access could be formed on the A872 to provide direct access into the site. The site is a good shape and size (approx 227 x 167m), and is on a slight gradient which is preferable for drainage and positioning of SUDS features. The site is an open field with ample opportunity to expand to the west and south. Received public utility replies indicate that there are no potential problems. There are footway links along the A872 for pedestrians, with the path network approximately 130m from the roundabout. There are very few technical risks involved in developing or implementing this proposed site, mainly the ground condition with a green field site</p>
<p>Operational:</p>	<p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>• the site does lend itself to existing commercial bus operations on the A872 but with a frequency less than existing park and ride sites therefore is likely to require further services. Potential to utilise new bus services from Durieshill. New dedicated or extended bus services and the site will be dependant on subsidy for bus and maintenance costs, therefore would subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul>
<p>Financial:</p>	<p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castleview may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p> <p>Existing commercial passing buses (First 24, 52, X39, Brians B1, Citylink 909, 913, Megabus M8) would not be</p>

**South Stirling Park and Ride – Site 5a – A872 West**

	<p>expected require subsidy but would not be sufficient alone.</p> <p>Potential exists to use developer subsidy to establish a suitable network of services associated with Durieshill.</p>		
Public:	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; motorways/interchange; users of the A872 and local countryside roads/paths.</p>		
<b>Environment</b>			
Mitigation Options Included: (Costs & Benefits)	An Environmental Report has been prepared in association with this STAG Part 2 report. The report sets out a number of mitigation measures which could be implemented to support this option.		
<b>Sub-criterion</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>	<b>Significance of Impact</b>
Noise and Vibration	Approximately 262 properties located within 600m of Site 5a. It is likely that changes in traffic distribution will have a neutral effect on noise levels at these properties.	Approximately 618 people will experience no change in noise level.	No benefit or impact
<b>Air Quality – Overall</b>	Overall, likely improvement in air quality due to reduced congestion, higher average speeds and a	Net improvement in NO <sub>2</sub> concentrations: 3533 properties. Net improvement in PM <sub>10</sub> concentrations: 3210 properties.	Moderate benefit

South Stirling Park and Ride – Site 5a – A872 West

	reduction in traffic on the A872 and A91.			
	The total C emission will decrease.			
Global Air Quality – CO <sub>2</sub>		Net change in CO <sub>2</sub> emissions: -308 ton (-84.1 tons of Carbon equivalent) Total CO <sub>2</sub> equivalent emitted: 3,684,555 (over 60 years) Discounted Monetised Value over 60 years: £47,651,603.46 These figures are taken from the completion of Carbon Monetisation Spreadsheet.		Minor benefit * £269,000 ** £269,000
Local Air Quality – PM <sub>10</sub> and NO <sub>2</sub>	The concentration of PM <sub>10</sub> / NO <sub>2</sub> at properties along A9 from the junction of the A872 to the junction of the A91 will decrease. Also the concentration of PM <sub>10</sub> / NO <sub>2</sub> at properties along A872 will decrease.	3636 properties with decrease in NO <sub>2</sub> concentrations (improvement). 103 properties with increase in NO <sub>2</sub> concentrations (deterioration). 3239 properties with decrease in PM <sub>10</sub> concentration (improvement). 29 properties with increase in PM <sub>10</sub> concentrations (deterioration). These figures are taken from the completion of Worksheet A1.		Moderate benefit
Water Quality, Drainage and Flood Defence	No impact on surface water/flood plain.	No watercourses or flood plain affected.		No benefit or impact
Geology	No designated sites. Potential for mineral reserves/contamination due to historic mineral workings.	No designated sites affected. Former Pirnhall Colliery and associated buildings immediately adjacent.		Negative Minor
Biodiversity	No designated sites.	No designated sites affected. Potential fragmentation of bat commuting routes; habitat loss of linear navigation		Moderate – Minor impact

South Stirling Park and Ride – Site 5a – A872 West

			features. Potential mortality or disturbance resulting from the destruction of bat/barn owl roosts in buildings.		Moderate impact
Visual Amenity	Local residential and some wider public view receptors affected.		Pirnhall Farm; Hillhead Farm; Crofts side Farm; residential properties at southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; motorways/interchange; users of the A872 and local countryside roads/paths. Views / visitor experience from the Bannockburn and the approach into Stirling.		Moderate impact
Agriculture and Soils	No prime agricultural land will be affected.		Land classed as moderate capability for agriculture.		Moderate impact
Cultural Heritage	No nationally designated sites. Battle of Bannockburn site. 18th-20th century smallholdings.		Likely to be within Battle of Bannockburn site.		Minor impact
Landscape	Minor change in existing landscape character.		No designated sites affected. Within Greenbelt. Land outlined for future potential future redevelopment.		Minor impact
Physical Fitness	N/A		N/A		N/A
<b>Monetised summary</b>					
<b>Monetary Impact Ratio</b>					

\* = £269,000

\*\* = £269,000

\* = 0.025

\*\* = 0.022

South Stirling Park and Ride – Site 5a – A872 West

Safety			
Sub-criterion	Item	Qualitative Information	Quantitative Information
Accidents	Change in Annual Personal Injury Accidents	Two access options have been developed for the site, the first uses the existing Milton Roundabout to provide access from the A872 and the second option involves the construction of a new roundabout at an existing priority junction to provide access from the A872. This will provide a safer form of interchange than currently provided.	No net detriment with use of existing junction.  Forecast reduction of 20.3 accidents (34.8 – 14.5) over the 60 year assessment period
	Change in Balance of Severity	NESA has been used to compare the severity of accidents generated by the proposed roundabout access option with the existing junction's operation. There is predicted to be no change if access is provided from the existing Milton Roundabout.	Proportion of fatal or seriously injured accidents is forecast to reduce from 11% - 5.6% over the 60 year assessment period with the conversion of a priority junction to a roundabout
	Total Discounted Savings	NESA has been used to estimate the level of saving which will be generated by the conversion of a priority junction to a roundabout to provide access into the site. There is predicted to be no change if access is provided from the existing Milton Roundabout.	NESA predicts accident savings equating to £1.284 million over the 60 year assessment period with the conversion of a priority junction to a roundabout  *£0  **£1,284,000



South Stirling Park and Ride – Site 5a – A872 West

Security		<p>The Park &amp; Ride will be designed to a Park Mark Safer Parking Scheme standard which is an initiative of the Associations of Chief Police Officers and is aimed at reducing both crime and the fear of crime in parking facilities. The facility will be well lit with a waiting area which will be staffed during the operating hours of the facility.</p> <p>The Park &amp; Ride site is located on the edge of Stirling and it is considered that the development is unlikely to have a significant impact on the security of transport users in the vicinity of the site.</p>	N/A
<b>Monetised summary</b>		* = £0	
<b>Monetary Impact Ratio</b>		** = £1,284,000	
<b>Economy (Transport Economic Efficiency)</b>		* = 0	
<b>Sub-criterion</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
User Benefits	Travel Time	Journey time savings from the south of Stirling to the city centre	*£58,000 ***£58,000
	User Charges	Reduced daily charge for using Park & Ride when compared to existing car parking charges, will generate a net benefit to users	*£1,186,000 **£1,186,000
	Vehicle Operating Costs	Reduced car travel distance, therefore reduced users vehicle fuel and non-fuel operating costs	*£2,330,000 **£2,384,000

**South Stirling Park and Ride – Site 5a – A872 West**

	Quality / Reliability Benefits	Reduced traffic volumes in Stirling may improve the reliability of journey times.	
Private Sector Operator Impacts	Investment Costs	None	£0
	Operating & Maintenance Costs	None	£0
	Revenues	None	£0
	Grant/Subsidy payments	None	£0
	<b>Monetised summary</b>		*£3,574,000 **£3,628,000 * = 0.333 ** = 0.291
<b>Monetary Impact Ratio</b>			

South Stirling Park and Ride – Site 5a – A872 West

Economy (Wider Economic Benefits)			
Sub-criterion	Item	Qualitative information	Quantitative information
Wider Economic Benefits	Agglomeration economies (WB1)	It is considered that the proposed Park & Ride will not have an impact on local employment patterns.	£0
	Increased output in perfectly competitive markets (WB3)	It is considered that the proposed Park & Ride will have a negligible impact on competitive markets given the scale and form of the proposed scheme.	£0
	Wider benefits arising from improved labour supply (WB4)	It is considered that the proposed Park & Ride will not generate a redistribution of employment and therefore not have an impact on the local labour market.	£0
<b>Monetised summary</b>		£0	
<b>Monetary Impact Ratio</b>		= 0	

South Stirling Park and Ride – Site 5a – A872 West

Economy (Economic Activity and Location Impacts)			
Sub-criterion	Item	Qualitative Information	Quantitative Information
Economic Activity and Location Impacts	Local Economic Impacts	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site is rural in nature and located immediately to the north-west of the M9 / M80 / A91 interchange and the south of Pirnhall Business Park.</p> <p>It is considered that the proposed Park &amp; Ride will have a minor benefit on the local economy of Stirling by providing an additional means and alternative to the car, to directly access the centre of Stirling with its associated employment and tourist facilities.</p>	N/A
	National Economic Impacts	<p>It is considered that the proposed Park &amp; Ride will have a negligible impact when measured against the national economy. The Park &amp; Ride is however, likely to generate a minor benefit by providing an additional means for local residents to access strategic express bus services which provide access to employment opportunities located in the major employment centres of Edinburgh and Glasgow.</p>	Negligible impact

**South Stirling Park and Ride – Site 5a – A872 West**

	Distributive Impacts	<p>For the purpose of this study it has been assumed that the proposed Park &amp; Ride would be served by extension of the existing Castleview Park &amp; Ride service. Borestone is located approximately 2km to the south of Stirling City Centre immediately to the west of the A872. This Scottish Index of Multiple Deprivation confirms that the area is within the 5% most deprived areas in Scotland and it is considered that improving the service provision on the A872 corridor will provide additional opportunity for local residents to access employment opportunities in Stirling.</p>	Negligible impact
<b>Integration</b>			
<b>Sub-criterion</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Transport Interchanges	Services & Ticketing	<p>It is envisaged that the ticketing system which is currently in place at the existing Stirling Park &amp; Ride sites will be introduced at the proposed Park &amp; Ride.</p> <p>It is considered that there is limited opportunity to introduce a seamless ticketing system in association with the proposed Park &amp; Ride.</p>	No benefit or impact

South Stirling Park and Ride – Site 5a – A872 West

	Infrastructure & Information	<p>The site is expected to enhance transport integration by allowing greater flexibility in access to local and strategic public transport with services able to function in complementary manner.</p>	Minor benefit
Land-use Transport Integration		<p>The site has some potential to be incorporated and suitably connected in an area considered for future development. The site is within the perceived city boundary of the A91 with potential development land around it, although west of the A872 that could be a barrier to potential development linkages to the east of the A872.</p> <p>The site may be being considered for future business uses to complement the business uses provided adjacent to the site. The LDP is currently under review.</p>	
Policy Integration		<p>The introduction of a Park &amp; Ride with its associated bus service providing connection to the city centre will increase the service frequency on the A872 corridor improving the service provision for residents currently travelling into the centre of Stirling introducing benefits in terms of social inclusion. This is considered to be of significant importance given the demographics of the area through</p>	Minor benefit

**South Stirling Park and Ride – Site 5a – A872 West**

		<p>which the services will travel including the area of Borestone which is shown to be in the top 5% of the most deprived areas in Scotland.</p> <p>It is expected that the Park &amp; Ride will be served by low floor buses as these currently serve the existing Stirling Park &amp; Ride sites. The facility will be designed to be DDA compliant and to be accessible by all.</p>	
<b>Accessibility &amp; Social Inclusion</b>			
<b>Sub-criterion</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Community Accessibility	Public Transport Network Coverage	<p>The introduction of a proposed Park &amp; Ride to the south of Stirling will provide an additional location at which residents will be able to access local and strategic bus services. The facility will be served by an extension of the existing Castleview Park &amp; Ride bus service which will operate on an existing bus service corridor. While this will not increase the public transport network coverage it will increase the frequency of services on the A872 corridor and therefore increase the attractiveness of the service corridor.</p>	N/A

South Stirling Park and Ride – Site 5a – A872 West

	Access to Other Local Services	<p>It is proposed to extend this south with the service route altered from its existing alignment to return to the city centre via its outbound route. This will provide a local service connecting the south of Stirling with the city centre and its associated employment opportunities, including Stirling Council's office (Viewforth). The service will also provide direct access into the Royal Infirmary enhancing the accessibility of the facility for residents living in the south of Stirling.</p> <p>While the site will be accessible on foot and by cycle, its location is unlikely to result in the facility being located within convenient walking distance of established residential areas.</p>	N/A
Comparative Accessibility	Distribution/Spatial Impacts by Social Group	<p>The proposed Park &amp; Ride is expected to benefit all social economic groups. Passengers who access the site by car are expected to be in the upper end of the groups, however the sites will also be accessible on foot and by cycle to ensure those who do not have access to a car are not excluded from using the facility.</p>	N/A
	Distribution/Spatial Impacts by Area	<p>The introduction of a Park &amp; Ride will be associated with the extension of the existing Castlevew Park &amp; Ride site bus service. This will improve the</p>	N/A



South Stirling Park and Ride – Site 5a – A872 West

		service frequency offered by the A872 bus service corridor and enhance the accessibility of the Royal Infirmary and the city centre for residents living on the route.	
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Strategic Environmental Assessment (SEA)			
Cost to Public Sector	Item	Qualitative information	Quantitative information
Summary of SEA outcome where appropriate	N/A		
Public Sector Investment Costs		Park and Ride construction and new buses to purchase.	* -£2,270,000 ** -£3,998,000
Public Sector Operating & Maintenance Costs		Costs of operating the Park and Ride Site and the Park and Ride bus service.	* -£8,421,000 ** -£8,421,000
Grant/Subsidy Payments		None Identified	*£0 **£0
Revenues		Revenue from bus fares minus car parking charges loss and loss of Springkerse bus fare revenue	* -£408,000 ** -£408,000
Taxation impacts		None assessed.	*£0 **£0

South Stirling Park and Ride – Site 5a – A872 West

Monetised Summary	
Present Value of Transport Benefits	*£3,842,000
Present Value of Cost to Government	**£5,180,000 * -£11,099,000
Net Present Value	** -£7,257,000 * -£7,647,000
Benefit-Cost to Government Ratio	*Ratio = 0.35 **Ratio = 0.40
Benefit-Cost to Government Ratio (including WEBs)	*Ratio = 0.35 **Ratio = 0.40
Benefit-Cost to Funding Agency Ratio	*Ratio = 0.35 **Ratio = 0.40

**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

**Part 2 Appraisal Summary Table**

<b>Proposal Details</b>																
Name and address of authority or organisation promoting the proposal:  (Also provide name of any subsidiary organisations also involved in promoting the proposal)	Tactran: Bordeaux House, 31 Kinnoull Street, Perth, PH1 5EN Stirling Council: Viewforth, Stirling, FK8 2ET Transport Scotland: Buchanan Hse, 58 Port Dundas Rd, Glasgow, G4 0HF															
Proposal Name:	South Stirling Park and Ride – Site 8 Name of Planner: Niall Gardiner, Tactran															
Proposal Description:	P&R Site 8 – A872 East (Hillhead)  Local Bus: Adjusted P&R or new P&R service and /or passing local services Express Bus: Express  Total Public Sector Funding Requirement: £175,000  Capital costs/grant (undiscounted): £3,910,000  Annual revenue support (undiscounted): £175,000  Present Value of Cost to Govt.: -£11,671,000															
Funding Sought From: (if applicable)	Amount of Application:  Sum TBC															
<b>Background Information</b>																
Geographic Context:	The site is located east of the A872 and north of the A91. All Site options (a,b,c,d) are within the Green Belt land. The built and natural environment comprises and improved grassland field with surrounding scattered farmsteads. Locally, trees and shrubs associated with the edge of the Brucefields Golf Centre bound part of the eastern edge of the site.															
Social Context:	This site is shown to be located in Datazone S01006079 which is located in the Bannockburn area.  <table border="0"> <tr> <td>Indicator</td> <td>Site Value</td> <td>Average Scotland Value</td> </tr> <tr> <td>SIMD Rank</td> <td>2550</td> <td>3253</td> </tr> <tr> <td>GAD Rank</td> <td>3661</td> <td>3253</td> </tr> <tr> <td>Economically Active Population (aged 16 – 74)</td> <td>81.1%</td> <td>83.1%</td> </tr> <tr> <td>Proportion of Households Without Access to a Car</td> <td>29.9%</td> <td>34.2%</td> </tr> </table>	Indicator	Site Value	Average Scotland Value	SIMD Rank	2550	3253	GAD Rank	3661	3253	Economically Active Population (aged 16 – 74)	81.1%	83.1%	Proportion of Households Without Access to a Car	29.9%	34.2%
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**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

	<p>The above data suggests that the site will be located in an area which has similar SIMD and GAD Ranks to the Scottish average.</p> <p>The site is shown to be slightly lower than average when appraised in terms of the proportion of the population who are economically active. The proportion of households who do not have access to a car is shown to be around 4% lower than the national average.</p> <p>Notes: 1 &amp; 2 – SIMD and GAD rank data obtained from <a href="http://simd.scotland.gov.uk/Stirling">http://simd.scotland.gov.uk/Stirling</a> 2 – Proportion of population who are economically active obtained from Table KS09a <a href="http://www.scrol.gov.uk/scrol/common/home.jsp">http://www.scrol.gov.uk/scrol/common/home.jsp</a> 3 – Proportion of households without access to a car obtained from Table CAS059 <a href="http://www.scrol.gov.uk/scrol/common/home.jsp">http://www.scrol.gov.uk/scrol/common/home.jsp</a></p>
<p>Economic Context:</p>	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%. The site is rural in nature and located immediately to the north of the M9 / M80 / A91 interchange.</p>

South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

<b>Planning Objectives</b>	
Objective:	Performance against planning objective:

**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

<p>1. To improve the efficiency and reliability of the south of Stirling transport system without significant adverse effect on existing Stirling Park &amp; Ride sites</p> <p><b>Moderate benefit</b></p> <p>2. To improve local access to major health, employment, tourist, leisure and retail facilities in Stirling and its city centre by Park &amp; Ride</p> <p><b>Moderate benefit</b></p> <p>3. To improve strategic access to Edinburgh and Glasgow by Park &amp; Ride from the south of Stirling</p> <p><b>Moderate benefit</b></p> <p>4. To manage travel by private car and encourage a shift to sustainable and active travel modes to tackle issues of climate change</p> <p><b>Moderate benefit</b></p>	<p><b>Park &amp; Ride Users:</b> Located in an attractive position in terms of park and ride best practise albeit on the outboard side of the road, in a similar manner to Broxden P&amp;R. Existing Public Transport routes would be assigned via A872 corridor. The site is on a corridor it is located on all encompassing route into town for traffic from Pirnhall Interchange. Survey information suggests that there may be a limited degree of abstraction from Springkerse and a neutral effect on Castleview park and ride , the A872 corridor is the furthest in the southern area from Springkerse and therefore the least likely to abstract patronage.</p> <p><b>Other Transport Systems Users:</b> From the A9 corridor some diversion would be necessary for private transport (although demand from this corridor may be light due to the significant diversion) and this may impart slight additional circulation cutting movements at Pirnhall Interchange in the AM peak from the A91 that may have a negative impact on efficiency and reliability at that location. Further into the city there may be slight journey time benefits from a reduction in traffic volume.</p> <p>Improves access by additional capacity to facilities in Stirling by providing additional parking and a means to access the services by public transport. Potential to act as a hub for access to health services in Stirling and to a lesser extent Larbert. It has the potential to provide access to the Bannockburn Heritage Centre.</p> <p>To serve this site by express coach would not require deviation from existing routes and so maintaining the express function. Consultation with Stagecoach (Citylink) operators has indicated that subject to time delays they would consider extending services M8 &amp; 909 to serve this site. Consideration could also be given to adjusting services M9 &amp; M11 that currently do not stop in Stirling to operate from Castleview Park and ride.</p> <p>Subject to suitable operational and access arrangements the provision of park and ride at this location has the potential to encourage mode shift to sustainable methods of travel in the urban area of Stirling and at a strategic level. Surveys of existing park and ride users suggest that a significant number of users have shifted from driving from their whole journey to using park and ride. The proposal would be complementary to the city centre transport management strategy. Users of the park and ride would benefit from active travel at their destination as part of their public transport trip. There is some potential for</p>
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**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

<p>5. To minimise impact on the natural and built environment</p> <p><b>Minor impact</b></p> <p>6. To maximise integration between Stirling Council's Local Development Plan and provision of public transport</p> <p><b>Moderate benefit</b></p>	<p>active travel to access the site.</p> <p>Within Greenbelt on improved grassland fields. Located on rising ground therefore potentially visually exposed with effect on landscape/visual amenity and key viewpoints. Overall low-medium impact on environment</p> <p>The identification of a park and ride site at this location would strengthen the presence of public transport in the south of Stirling. A stronger public transport base in this area could support the integration of public transport and the emerging Local Development Plan. The site location has some potential to be incorporated and suitably connected within an area considered for future development, it is within the perceived city boundary of the A91 with potential development land around it.</p>
<p>Rationale for Selection or Rejection of Proposal:</p>	<p>Consideration at Part 2:</p> <p>The proposal is favoured as it has the potential to provide an attractive park and ride site for local and strategic trips and is favoured in environmental and planning terms. As an alternative site to Site 6c, Site 8 has been proposed through the consultation process that fits more sympathetically into the landscape with equal potential to contribute to the Local Development Plan.</p>

## South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

Implementability Appraisal	
Technical:	<p>The site is a good shape and size (approx 215 x 110m), and is on a slight gradient which is preferable for drainage and positioning of SUDS features. Future expansion of the site could be possible to the East. The current site access is via Pirnhall Road (East side) and the crossroads with the A872. As with Site 5b, to gain adequate access to the “Park and Ride” site, the junction would have to be upgraded, probably to a roundabout. The close proximity of existing buildings to the junction would move the roundabout southwards towards the motorway junction, giving rise to a complicated and costly roundabout design. Public utilities’ plans indicate the presence of a small water main (150mm) running through the middle of the site. They also show a grouping of BT apparatus south of the crossroads, and would probably be affected by any proposed roundabout.</p> <p>Risks involved in developing or implementing the proposal are the costs involved with the diversionary works for the public utilities at the crossroads and protection for the water main. There is also the disruption to the local road network during construction of the new junction.</p> <p>Environment – Site 8 included has an overall low impact – score worse on some aspects when compared to other sites. Stirling Council Planning has advised that Site 8 is preferable to Sites 6a, 6b, 6c and 6d.</p> <p>Factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs are:</p> <ul style="list-style-type: none"> <li>• the site does lend itself to existing commercial bus operations on the A872 but with a frequency less than existing park and ride sites. Potential to utilise new bus services from Durieshill. New dedicated or extended bus services and the site will be dependant on subsidy for bus and maintenance costs, therefore would subject to local, regional or national budgets</li> <li>• Subject to local and network travel conditions and the reliability of the bus service</li> </ul> <p>Capital costs of construction would likely be met through grant funding from all interested parties. It may be possible to attribute some land costs to developers or seek nominal land lease agreements to support sustainable development. The revenue cost of staffing and maintaining the park and ride would not vary.</p> <p>Revenue costs for operating buses would vary depending on the model used. Adjusted P&amp;R or new P&amp;R services would require additional resources. Consultation with operators has suggested that rationalisation of the existing P&amp;R operation from Castlevue may be able to accommodate an extended service to the south of Stirling. To maintain existing levels of service (route and frequency) two additional buses would be required. For a new dedicated service for this site four new buses would be required.</p> <p>Existing commercial passing buses (First 24, 52, X39, Brians B1, Citylink 909, 913, Megabus M8) would not be</p>
Operational:	
Financial:	



**South Stirling Park and Ride – Site 8 - A872 East (Hillhead)**

	<p>expected require subsidy but would not be sufficient alone. Potential exists to use developer subsidy to establish a suitable network of services associated with Durieshill.</p>	
<p>Public:</p>	<p>The concept for a Park and Ride in the South of Stirling has been made public via the Tactran Park and Ride Strategy, the STPR and the local City Transport Strategy.</p> <p>Sensitive receptors in the area: Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at Muiralehouse and southern edge of Bannockburn; Premier Inn; Brucefields golf course and golf driving range; Cat Craig; users of the A872, the A91, Pirnhall Road and local countryside roads/paths.</p>	
<b>Environment</b>		
<p>Mitigation Options Included: (Costs &amp; Benefits)</p>	<p>An Environmental Report has been prepared in association with this STAG Part 2 report. The report sets out a number of mitigation measures which could be implemented to support this option.</p>	
<p><b>Sub-criterion</b></p>	<p><b>Qualitative Information</b></p>	<p><b>Quantitative Information</b></p>
<p>Noise and Vibration</p>	<p>Approximately 54 properties located within 600m of Site 8. It is likely that changes in traffic distribution will have a neutral effect on noise levels at these properties.</p>	<p>Approximately 127 people will experience no change in noise level.</p>
<p><b>Air Quality – Overall</b></p>	<p>Overall, likely improvement in air quality due to reduced congestion, higher average speeds and a reduction in traffic on the</p>	<p>Net improvement in NO<sub>2</sub> concentrations: 3533 properties. Net improvement in PM<sub>10</sub> concentrations: 3210 properties.</p>
		<p>Moderate benefit</p>

South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

	A872 and A91.			
Global Air Quality – CO <sub>2</sub>	The total C emission will decrease.	Net change in CO <sub>2</sub> emissions: -308 ton (-84.1 tons of Carbon equivalent) Total CO <sub>2</sub> equivalent emitted: 3,684,555 (over 60 years) Discounted Monetised Value over 60 years: £47,651,603.46 These figures are taken from the completion of Carbon Monetisation Spreadsheet.	Minor benefit £269,000	
Local Air Quality – PM <sub>10</sub> and NO <sub>2</sub>	The concentration of PM <sub>10</sub> / NO <sub>2</sub> at properties along A9 from the junction of the A872 to the junction of the A91 will decrease. Also the concentration of PM <sub>10</sub> / NO <sub>2</sub> at properties along A872 will decrease.	3636 properties with decrease in NO <sub>2</sub> concentrations (improvement). 103 properties with increase in NO <sub>2</sub> concentrations (deterioration). 3239 properties with decrease in PM <sub>10</sub> concentration (improvement). 29 properties with increase in PM <sub>10</sub> concentrations (deterioration). These figures are taken from the completion of Worksheet A1.	Moderate benefit	
Water Quality, Drainage and Flood Defence	No impact on surface water/flood plain. Potential impact on groundwater.	No watercourses or flood plain affected. Minor aquifer underlies part of site.	No benefit or impact Minor impact	
Geology	No designated sites.	No designated sites affected. Disused coals shafts within and near to the site boundary.	No benefit or impact	
Biodiversity	No designated sites.	No designated sites affected. Potential fragmentation of bat commuting	Minor impact	

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Visual Amenity	Local residential and some wider public view receptors affected.	Pirnhall Farm; Hillhead Farm; Croftside Farm; residential properties at Muiralehouse and southern edge of Bannockburn; Inn; Brucefields golf course and golf driving range; users of the A872, the A91, local countryside roads/paths, inc. Core Paths along the local road to Croftside Farm and Cat Craig. Possibly intervisible with some key viewpoints, but easier to screen than the sites on sloping ground.	routes; habitat loss of linear navigation features.  Moderate impact
Agriculture and Soils	No prime agricultural land will be affected.	Land classed as moderate capability for agriculture.	Moderate impact
Cultural Heritage	No nationally designated sites. Battle of Bannockburn site. 18th-20th century smallholdings.	Likely to be within Battle of Bannockburn site.	Minor impact
Landscape	Minor change in existing landscape character.	No designated sites affected. Within Greenbelt.	Minor impact
Physical Fitness	N/A	N/A	N/A
<b>Monetised summary</b>			
= £269,000			
= 0.023			
<b>Monetary Impact Ratio</b>			

South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

Safety		
Sub-criterion	Item	Qualitative Information
Accidents	Change in Annual Personal Injury Accidents	Existing priority junction to be signalised to provide access into the site. This is expected to have an impact in terms of safety over the existing junction layout.
	Change in Balance of Severity	NESA has been used to compare the severity of accidents generated by the proposed access option with the existing junction's operation
	Total Discounted Savings	NESA has been used to estimate the level of saving which will be generated by the signalisation of the existing priority junction to provide access into the site.
Security		NESA predicts an increased cost of £0.536 million over the 60 year assessment period. -£536,000
		The Park & Ride will be designed to a Park Mark Safer Parking Scheme standard which is an initiative of the Associations of Chief Police Officers and is aimed at reducing both crime and the fear of crime in parking facilities. The facility will be well lit with a waiting area which will be staffed during the operating hours of the facility.  The Park & Ride site is located on the edge of Stirling and it is considered that the development is unlikely to have a significant impact on the security of transport users in the vicinity of the site.
<b>Monetised summary</b>		= -£536,000
<b>Monetary Impact Ratio</b>		= -0.046

South Stirling Park and Ride – Site 8 - A872 East (Hillhead)

Economy (Transport Economic Efficiency)				
Sub-criterion	Item	Qualitative Information	Quantitative Information	
User Benefits	Travel Time	Journey time savings from the south of Stirling to the city centre	£58,000	
	User Charges	Reduced daily charge for using Park & Ride when compared to existing car parking charges, will generate a net benefit to users	£1,186,000	
	Vehicle Operating Costs	Reduced car travel distance, therefore reduced users vehicle fuel and non-fuel operating costs	£2,330,000	
Private Sector Operator Impacts	Quality / Reliability Benefits	Reduced traffic volumes in Stirling may improve the reliability of journey times.		
	Investment Costs	None	£0	
	Operating & Maintenance Costs	None	£0	
	Revenues	None	£0	
	Grant/Subsidy payments	None	£0	
	<b>Monetised summary</b>		£3,574,000	
	<b>Monetary Impact Ratio</b>		= 0.306	

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Economy (Wider Economic Benefits)			
Sub-criterion	Item	Qualitative information	Quantitative information
Wider Economic Benefits	Agglomeration economies (WB1)	It is considered that the proposed Park & Ride will not have an impact on local employment patterns.	£0
	Increased output in perfectly competitive markets (WB3)	It is considered that the proposed Park & Ride will have a negligible impact on competitive markets given the scale and form of the proposed scheme.	£0
	Wider benefits arising from improved labour supply (WB4)	It is considered that the proposed Park & Ride will not generate a redistribution of employment and therefore not have an impact on the local labour market.	£0
<b>Monetised summary</b>			£0
<b>Monetary Impact Ratio</b>			= 0

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Economy (Economic Activity and Location Impacts)			
Sub-criterion	Item	Qualitative Information	Quantitative Information
Economic Activity and Location Impacts	Local Economic Impacts	<p>Stirling has a population of around 43,000 residents and became a city in 2002. The city accommodates a diverse range of employment sectors with the majority of city employees (79%) working in the leisure, finance &amp; insurance and public sector, education &amp; health sectors. This is a similar proportion to the average for Scotland which equates to 72%.</p> <p>The site and immediate area is rural in nature.</p> <p>It is considered that the proposed Park &amp; Ride will have a minor benefit on the local economy of Stirling by providing an additional means and alternative to the car, to directly access the centre of Stirling with its associated employment and tourist facilities.</p>	N/A
	National Economic Impacts	<p>It is considered that the proposed Park &amp; Ride will have a negligible impact when measured against the national economy. The Park &amp; Ride is however, likely to generate a minor benefit by providing an additional means for local residents to access strategic express bus services which provide access to employment opportunities located in the major employment centres of Edinburgh and Glasgow.</p>	Negligible impact

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	Distributinal Impacts	<p>For the purpose of this study it has been assumed that the proposed Park &amp; Ride would be served by extension of the existing Castleview Park &amp; Ride service. Borestone is located approximately 2km to the south of Stirling City Centre immediately to the west of the A872. This Scottish Index of Multiple Deprivation confirms that the area is within the 5% most deprived areas in Scotland and it is considered that improving the service provision on the A872 corridor will provide additional opportunity for local residents to access employment opportunities in Stirling.</p>	Negligible impact
<b>Integration</b>			
<b>Sub-criterion</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Transport Interchanges	Services & Ticketing	<p>It is envisaged that the ticketing system which is currently in place at the existing Stirling Park &amp; Ride sites will be introduced at the proposed Park &amp; Ride.</p> <p>It is considered that there is limited opportunity to introduce a seamless ticketing system in association with the proposed Park &amp; Ride.</p>	No benefit or impact



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	Infrastructure & Information	<p>The site is expected to enhance transport integration by allowing greater flexibility in access to local and strategic public transport with services able to function in complementary manner.</p>	Minor benefit
Land-use Transport Integration		<p>The site has some potential to be incorporated and suitably connected within an area considered for future development. The site is also located within the perceived city boundary of the A91 with potential development land around it. The site is located approximately 1km to the south of the nearest residential areas of Borestone and around the same distance to the south-west of Bannockburn.</p>	Minor benefit
Policy Integration		<p>The introduction of a Park &amp; Ride with its associated bus service providing connection to the city centre will increase the service frequency on the A872 corridor improving the service provision for residents currently travelling into the centre of Stirling introducing benefits in terms of social inclusion. This is considered to be of significant importance given the demographics of the area through which the services will travel including the area of Borestone which is shown to be in the top 5% of the most deprived areas in</p>	Minor benefit

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		<p>Scotland.</p> <p>It is expected that the Park &amp; Ride will be served by low floor buses as these currently serve the existing Stirling Park &amp; Ride sites. The facility will be designed to be DDA compliant and to be accessible by all.</p>	
<b>Accessibility &amp; Social Inclusion</b>			
<b>Sub-criterion</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Community Accessibility	Public Transport Network Coverage	<p>The introduction of a proposed Park &amp; Ride to the south of Stirling will provide an additional location at which residents will be able to access local and strategic bus services. The facility will be served by an extension of the existing Castlevue Park &amp; Ride bus service which will operate on an existing bus service corridor. While this will not increase the public transport network coverage it will increase the frequency of services on the A872 corridor and therefore increase the attractiveness of the service corridor.</p>	N/A
	Access to Other Local Services	<p>It is proposed to extend this south with the service route altered from its existing alignment to return to the city centre via its outbound route. This will provide a local service connecting the south of Stirling with the city centre and its associated employment</p>	N/A

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		<p>opportunities, including Stirling Council's office (Viewforth). The service will also provide direct access into the Royal Infirmary enhancing the accessibility of the facility for residents living in the south of Stirling.</p> <p>While the site will be accessible on foot and by cycle, its location is unlikely to result in the facility being located within convenient walking distance of established residential areas.</p>	
Comparative Accessibility	Distribution/Spatial Impacts by Social Group	<p>The proposed Park &amp; Ride is expected to benefit all social economic groups. Passengers who access the site by car are expected to be in the upper end of the groups, however the sites will also be accessible on foot and by cycle to ensure those who do not have access to a car are not excluded from using the facility.</p>	N/A
	Distribution/Spatial Impacts by Area	<p>The introduction of a Park &amp; Ride will be associated with the extension of the existing Castlevue Park &amp; Ride site bus service. This will improve the service frequency offered by the A872 bus service corridor and enhance the accessibility of the Royal Infirmary and the city centre for residents living on the route.</p>	N/A

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<b>Strategic Environmental Assessment (SEA)</b>		
Summary of SEA outcome where appropriate	N/A	
<b>Cost to Public Sector</b>		
<b>Item</b>	<b>Qualitative information</b>	<b>Quantitative information</b>
Public Sector Investment Costs	Park and Ride construction and new buses to purchase.	-£3,224,000
Public Sector Operating & Maintenance Costs	Costs of operating the Park and Ride Site and the Park and Ride bus service.	-£8,421,000
Grant/Subsidy Payments	None Identified	£0
Revenues	Revenue from bus fares minus car parking charges loss and loss of Springkerse bus fare revenue	-£408,000
Taxation impacts	None assessed.	£0

<b>Monetised Summary</b>	
Present Value of Transport Benefits	£3,306,000
Present Value of Cost to Government	-£12,052,000
Net Present Value	-£8,747,000
Benefit-Cost to Government Ratio	Ratio = 0.27

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Benefit-Cost to Government Ratio (Including WEBs)	Ratio = 0.27
Benefit-Cost to Funding Agency Ratio	Ratio = 0.27

