Proposal Details			
Proposal Name:	Combined Option A (Inshes to Smithton Trunk Link Road + Longman Grade Separation Option 1)		
Proposal Description:	**The Inshes to Smithton Trunk Link Road** is an approximately 2.3 km dual carriageway trunk road between a new grade separated junction at Inshes and the southern roundabout forming the proposed grade separated A96 Smithton junction, as part of the A96 Inverness to Nairn dualling scheme. The new junction at Inshes includes a new link road connection to Culloden Road. The existing Inshes Junction slip roads would be closed under this proposal. **Longman Option 1** is a two-bridge roundabout grade separated junction. The existing roundabout is enlarged at ground level, with approaches from the A82 and Stadium Road altered. Slip roads are constructed to the side of the existing A9 dual carriageway and the A9 is raised on an embankment over the new roundabout. The A9 between Raigmore Interchange and Longman Junction is widened to three lanes in each direction providing a lane gain/lane drop arrangement between the noses of the slip roads. Note that in accordance with the option sifting process Longman Option 3 has also been assessed in combination with the Inshes to Smithton Trunk Link Road. As the results of the traffic modelling	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £110 to £150 million (2014 prices excluding VAT)

	assessment for this grade separated option were shown to be very similar to Longman Option 1 it has not been subject to a separate appraisal or the production of a specific AST. The appraisal process at this stage confirms the principle of Longman Grade separation rather than the absolute junction form.		
Background Information			
Geographic Context:	The A96 is a strategic trunk road which connects Inverness to Aberdeen, and the A9 is a strategic trunk road between the Central Belt and Northern Scotland. The A96 is single carriageway as it approaches Inverness but becomes a dual carriageway on approach to the Inverness Retail Park roundabout. The A9 on approach to and around Inverness is dual carriageway. Longman Junction is an at-grade roundabout to the North of Inverness on the A9 which connects the A9 to the A82 and Stadium Road. It is often subject to congestion as commuters from the North and East of Inverness, via Kessock Bridge and the A96, make their way to/from Inverness City Centre. Culloden Road (B9006) is located to the South East of Inverness and to the East of the A9. It provides an important connection between the settlements to the east of the A9 and Inverness. As a result the Culloden Road/B8082 junction at Inshes experiences high levels of traffic which is subject to delays especially during peak periods. The A9 and A96 are subject to the national speed limit, as is the A82 until approximately 100m from the junction. Stadium Road, which connects to Longman junction from the East, has a speed limit of 30 mph. Stevenson Road and Culloden Road are urban in nature, and Culloden Road (B9006) has a speed limit of 40 mph until it's junction with the B8082 at Inshes, and Stevenson Road has a speed limit of 30 mph. The area between Raigmore Interchange and Longman junction, to the west of the A9, is a mixture of industrial estates and railway yards, with the industrial estate extending north beyond Longman junction to the shore. Inverness Caledonian Thistle football stadium is located to the east of the A9, as is a landfill site that extends from Stadium Road south east along the foreshore towards the A96. To the south east of Raigmore interchange, there is a retail park and a business park. The new UHI campus that is currently under construction, is also located in this area, and accessed from Culloden Road and Caulfield Road North. The large residential areas of Balloch, Smithton, Culloden, Cradlehall and Westhill lie to the east of Raigmore Interchange, bounded by rural tracts of countryside. The area to the south and west of Inshes roundabout is predominantly residential, along with the major employment and amenity sites of Raigmore Hospital, Beechwood Business park, the Police Headquarters and a retail park, including a food supermarket also located in the area.		

Social Context:	The areas which would be affected by the East Link Road element are Inshes, Smithton, Culloden, Westhill and Cradlehall as well as the proposed future developments to the East of Inverness. These areas are characterised by a higher proportion of economically active residents of 77% (Scotland's Census 2011) than the Scottish average of 69% (Scotland's Census 2011). Unemployment levels in the area are lower than both the Scottish national average and across the Highland region as a whole. Residents of these areas earn on average more than the national and regional average. The option does not pass through or lie in close proximity to any datazone areas that are ranked in the top 15% of the Scottish Index of Multiple Deprivation (SIMD) 2012. Longman junction is surrounded by Longman industrial Estate. There are no residential properties nearby. To the North of Longman Junction, on Stadium Road, is Inverness Caledonian Thistle football stadium. Longman is an important junction for commuters travelling across the Kessock Bridge to Inverness. The option is located within the boundary of the Inverness Central, Raigmore and Longman datazone that is ranked in the most deprived 15% of the SIMD.
Economic Context:	The economic sectors in Inverness are largely focused in the city centre and the large-scale Inverness Retail Park. Elsewhere, the city's manufacturing and light industries can be found across a number of major business and industrial parks throughout the city, including Dalcross Industrial Estate, Beechwood Park, Longman Industrial Estate and Smithton Industrial Estate. The main economic sectors in Inverness relate to Life Sciences, Renewable Energy, Digital Media and Electronics. Economic growth and development within Inverness and the surrounding area is potentially restricted due to the level of congestion at key junctions including the trunk road junctions at Longman (connecting the A9 and A82) and Raigmore Interchange (connecting the A9 and A96), and local road network junctions including Inshes roundabout. The A96 is a key route for accessing Inverness from the East, with congestion experienced at Raigmore Interchange and Longman Junction during peak periods. Longman junction is also the main junction for traffic travelling between areas North of Inverness via the A9 Kessock Bridge and Inverness City Centre, and at the same time is of importance to long distance traffic between the North of the country and the central belt. Culloden Road is also an important commuter link between the Balloch, Smithton and Culloden areas to the City Centre, and connects to Inshes roundabout on the west side of the A9, leading to Sir Walter Scott Drive and south Inverness. Culloden Road provides the only non-trunk road crossing over the A9 in the area and this key route is also frequently subject to congestion.

Planning Objectives	
Objective:	Performance against planning objective:
L1: Improve journey time and increase opportunities to travel, particularly by public transport, between Aberdeen and Inverness.	**L1 – Moderate Benefit** This option removes the South to East and East to South movement from Raigmore Interchange and in doing so improves the performance of Raigmore Interchange. Journey times between the A96 East of Smithton and the Milburn Road / Harbour Road junction are reduced by 47% in the AM peak and by 17% in the PM peak. In the opposite direction, journey times are reduced by 3% in the AM peak and stayed at the same level in the PM peak. The journey times between the A96 East of Smithton and the A82 via Longman Junction are reduced by 46% in the AM peak and 28% in the PM peak. In the opposite direction there are more modest savings and in the AM peak the journey time stayed at the same level, with a 6% reduction in the PM peak. Whilst this option does not directly increase the opportunities to travel by public transport, it will provide an improvement in journey times for bus services accessing Inverness via the A96.
L2.1: Improve the effectiveness of the road network hierarchy in addressing the conflict between longer distance and local traffic through rationalisation of local movements' use of Trunk Road junctions	**L2.1 – Moderate Benefit** The road network hierarchy will be improved through the provision of grade separation at Longman and the new dual carriageway link between the A9 and A96 At Longman, longer distance A9 traffic is separated from local traffic accessing Inverness via the A82 and Stadium Road. Between Inshes and Smithton, the new dual carriageway link reduces the East to South and South to East movements at Raigmore Interchange and improves the operation of the junction. In both peak hours the secondary road network through Smithton sees a reduction in traffic flows as trips transfer onto the new link road to access South Inverness and the A9. As a result, the transport modelling assessment indicates that the local traffic levels on the A96 passing through Raigmore Interchange reduce in the westbound direction during the AM Peak by 25%, and in the eastbound direction in the PM peak by 30%. The transport modelling indicates an increase in local traffic using Longman Junction travelling via the A82 in the westbound direction in the AM peak (50%), and in the eastbound direction in the PM peak (33%). Whilst local traffic levels using Longman Junction increase, overall the level of conflict between local and longer distance traffic is reduced as there is a reduction in the number of conflict points under the grade separation between longer distance and local traffic movements. Creation of the additional crossing over A9 through the provision of the new grade separated junction at Inshes reduces the level of westbound local traffic passing through the trunk road junction by 29% in the AM peak. There is a slight increase in the level of local traffic travelling eastbound in the PM peak passing through the trunk road junction (8%).

	The cumulative level of local traffic passing through the trunk road junctions at Longman, Raigmore and Inshes results in a net reduction of 13% in westbound traffic in the AM peak, and a net reduction of 5% in eastbound traffic in the PM peak. For further details of the supporting analysis refer to Appendix 1 – Select Link Analysis at the end of the AST.
L2.2: Reduce conflicts for longer distance and local traffic for planned development areas to the East.	**L2.2 - Minor Benefit** This option provides a dedicated link for traffic travelling between the A9 and A96. It allows strategic traffic to travel between the East and South without travelling through Raigmore Interchange. Local movements from the planned development areas will continue to use the A96 to access Inverness City Centre, as will longer distance strategic traffic between Aberdeen and Inverness City Centre. The level of local trips passing through the interchange would reduce by 25% in the westbound direction at the approach in AM peak, and by 30% in the eastbound direction during the PM Peak. This reduction in travel costs encourages slightly more traffic travelling from the development areas further to the east, including Dalcross Industrial Estate, to Inverness via the A96 rather than using the local road network. For further details of the supporting analysis refer to Appendix 1 – Select Link Analysis at the end of the AST.
L3: Improve connectivity, particularly by public transport and active travel, between Inverness city centre and the growth area to the East including Inverness Airport	**L3 – Minor Negative Impact** There are no junctions along the Trunk Link Road to allow public transport to serve the communities in between. As a dual carriageway trunk road, it is more difficult provide active travel links across the road corridor compared to other single carriageway options. The new link severs a core path and a national cycle route in the area, although this could be mitigated (at least partly) through the provision of different crossing facilities between the development areas lying either side of the trunk link road.
L4: Improve safety for motorised and non-motorised users by reducing the accident rate at Trunk Road junctions	**L4- Moderate Benefit** This option reduces the level of conflicting traffic travelling through the new Longman Junction by separating the A9 through traffic accessing Inverness. The new grade separated junction will be built to modern standards and so should improve safety and reduce accident rates compared to the existing junctions. As the option is grade separated, traffic that remains on the A9 has been removed from the junction. This results in a reduced number of vehicles using the roundabout and would therefore provide a safer facility for non-motorised users. The option also allows for the provision of additional traffic control measures such as signal control to further reduce exposure to conflicting traffic movements. The option will reduce traffic levels and congestion on the A9 and A96 at Raigmore Interchange and thus lead to a reduction in accident numbers. The new grade separated junction at Inshes will be built to modern safety standards and so should improve the safety compared to the existing A9 Inshes junction. However the construction of a new link may partially offset these potential benefits as the additional road space may increase slightly the overall level of vehicle kilometres travelled and therefore opportunities for accidents to occur.

L5.1: Improve the operational performance of the trunk road network and junctions on the A9 and A96 as they approach Inverness from the Kessock Bridge; South of Inshes and the Smithton Roundabout.	**L5.1- Moderate Benefit** This option will contribute towards improving the operational performance of the A9 Inshes Junction by providing a new grade separated junction connecting to the A9, and through the grade separation of Longman junction to separate longer distance traffic from local movements. The new Junction at Inshes removes a current sub-standard arrangement and provides a layout more suited to prevailing and future traffic flows. The reduction in traffic levels passing through Raigmore Interchange reduces the level of delay and leads to an improvement in the overall operation of the interchange. From the transport modelling assessment, the results indicate the following journey time savings for selected key movements: • A9 Kessock Bridge to A96 East of Smithton (42 % in AM peak and 14 % in the PM peak) • A9 Kessock Bridge to Culloden Road east B9177 (51 % in AM peak and 33 % in the PM peak) • A9 Kessock Bridge to A9 South of Milton of Leys (40 % in AM peak and 8 % in the PM peak) • A96 East of Smithton to A9 Kessock Bridge (54 % in AM peak and 40 % in the PM peak) • A96 East of Smithton to Culloden Road east of B9177 (65 % in AM peak and 53 % in the PM peak) • A96 East of Smithton to A9 South of Milton of Leys (43 % in AM peak and 11 % in the PM peak) • Culloden Road east of B9177 to A9 Kessock Bridge (50 % in AM peak and 39 % in the PM peak) • Culloden Road east of B9177 to A96 East of Smithton (49 % in AM peak and 51 % in the PM peak) • A9 South of Milton of Leys to A9 Kessock Bridge (39 % in AM peak and 27 % in the PM peak) • A9 South of Milton of Leys to A96 East of Smithton (22 % in AM peak and 26 % in the PM peak) • A96 East of Smithton to Milburn Rd (47 % in AM peak and 17 % in the PM peak) • Milburn Rd to A96 East of Smithton (3 % in AM peak and 0 % in the PM peak) A full set of journey time analysis results are presented in Appendix 2 at the end of the AST.
L5.2 Improve the operational performance of the secondary network and junctions where this may improve the operation of the trunk road network	**L5.2- Minor Benefit** This option shows a reduction in traffic on the local roads, suggesting a transfer of traffic away from the B9006 Tower Road onto the new link road, and a transfer of traffic from Harbour Rd and Milburn Road onto the A82 Longman Road. The operational improvements provided by this option for the trunk road network provide an additional benefit in improving the operation of roads on the secondary road network.

Implementability Appraisal		
Technical:	The road and junction improvements would be implemented using proven methods and technology. Disruption during construction is likely and temporary works and traffic management would be required in order to mitigate the impact. There are significant utilities in the vicinity of Longman junction, in particular a high pressure gas main and an Inverness – Lossiemouth fuel pipeline in the verges of the A9. Each would require protection or diversion as part of this proposal.	
Operational:	There are no factors which might adversely affect the ability to operate the proposal over its projected life with major additional costs.	
Financial:	The implementation of this option would be subject to available funding being confirmed from appropriate budgets.	
Public:	Grade separation of Longman junction is not in the public domain. While it may be acceptable in the wider community, opposition from local residents and landowners is possible. This proposal would require land acquisition beyond the current road boundary. The Inshes to Smithton Trunk Link Road proposal is in the public domain and was presented at Public Exhibition in February 2012. Consultation feedback from the public and local residents, landowners and businesses was not favourable due to the impact of the new junction at Dell of Inshes and the impact on views of the Moray Firth from properties in Cradlehall. This option would require compulsory purchase of properties in the Inshes area.	
STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**

Environment: *Notes – All STAG ratings for individual assessment areas are expressed without mitigation.* *The impacts of the individual options are presented, not the cumulative impacts.* *Overall STAG Rating Small–Major Negative.* Global and Local Air Quality	Major Negative Impact	**Inshes to Smithton Trunk Link Road** The route alignment goes through an area of mainly agricultural land, with a junction constructed to the North of Inshes. The route alignment goes within close proximity of Ashton Farm and residential receptors to the North of Inshes. Other sensitive receptors nearby include the residential areas of Smithton and Cradlehall. There are potential significant air quality impacts during operation through moving traffic closer to the residential receptors of Ashton Farm and those in the North of Inshes. In order to determine whether it is feasible to mitigate against and reduce the level of these potential impacts, further work will need to be undertaken to incorporate the traffic data into an air quality model. This would help to determine the level of impact at each sensitive receptor and allow a review of potential mitigation options to be considered.
	Minor Benefit	**Longman Option 1** This is mainly an industrial area, with only a few residential dwellings, located mainly near to the Caledonian Thistle football ground, with some to the South of the option near the Raigmore roundabout. During operation there is a potential benefit to residents close to Stadium Road as traffic along this road is decreased with this option.
Cultural Heritage	Moderate Negative Impact	**Inshes to Smithton Trunk Link Road** The option will result in an impact on setting for the Ashton Farm Cottages Ring Ditch and Pit Circles Scheduled Monument, with severance of the two parts of the monument. There is also a potential impact on the setting of a listed building Castlehill House (Category B Listed building). There is also high potential for impact on unknown archaeological remains in this area. It is unlikely that mitigation will significantly reduce the impact on the setting of the scheduled monument. It is likely that any potential impacts on the setting of Castlehill House could be reduced through standard mitigation such as design of route option to minimise visual intrusion and through landscape planting.
	No Benefit or Impact.	**Longman Option 1** There are no impacts on known cultural heritage assets and there is limited potential for the presence of unknown archaeological remains.

Noise & Vibration	Major Negative Impact	**Inshes to Smithton Trunk Link Road** The route alignment goes through an area of mainly agricultural land, with a junction constructed to the North of Inshes. The route alignment goes within close proximity of Ashton Farm and residential receptors to the North of Inshes. Other sensitive receptors nearby include the residential areas of Smithton and Cradlehall. There is potential for short-term noise impacts during construction activities such as piling, earthworks and vehicular movements, and significant impacts during operation through moving traffic closer to the residential receptors of Ashton Farm and those in the North of Inshes. In order to determine whether it is feasible to mitigate against and reduce the level of these potential impacts, further work will need to be undertaken to incorporate the traffic data into a noise model. This would help to determine the level of impact at each sensitive receptor and allow a review of potential mitigation options to be considered.
	Minor Benefit	**Longman Option 1** This is mainly an industrial area, with only a few residential dwellings, mainly located near to the Caledonian Thistle football ground, with some to the South of the option near the Raigmore roundabout. There is potential for short-term noise and vibration impacts during construction activities such as piling, earthworks and vehicular movements. During operation there are potential benefits to residents close to Stadium Road as traffic here is decreased through this option. It is likely that potential impacts during construction could be reduced through adherence to construction best practice.
Habitats and Biodiversity	Moderate Negative Impact	**Inshes to Smithton Trunk Link Road** Although the route option is located to the South of the Moray Firth (SAC), Inner Moray Firth (SPA) and Longman and Castle Stuart Bays SSSI there is still the potential, as a result of construction and any changes to lighting regimes, to impact on these sites through loss of foraging habitat and disruption to foraging patterns and flightlines of SPA qualifying species. Further to this as the area supports the habitats suitable for European Protected Species (Cairnlaw Burn for otters, ponds for Great Crested Newts and broadleaved and mature woodland for bats) impacts could arise through loss and severance of habitat. There are also potential impacts on badgers through fragmentation and loss of habitat or direct mortality. It is likely that potential impacts could be reduced through mitigation such as adherence to SEPA's Pollution Prevention Guidelines, the erection of mammal proof fencing along the boundary of the carriageway, provision of suitable habitat for protected species (e.g. bat boxes), and sympathetic design of any lighting. In light of the proximity of the SPA, potential impacts on foraging areas used by qualifying species may require more specific mitigation.

	Moderate - Major Negative Impact.	**Longman Option 1** Construction activities have the potential to impact on the Moray Firth (SAC), Inner Moray Firth (SPA) and Longman and Castle Stuart Bays SSSI through disruption to foraging patterns and flightlines of qualifying species. Construction within the former Longman Landfill has potential to release contaminants which may impact on the internationally important sites (SAC/SPA). The route option, at its closet point, is within 400m of the Moray Firth SAC. However, as the new junction would lie mainly within the existing road the impacts associated with this option on this internationally important site are potentially moderate to major (in comparison to the other Longman options where there is a much larger footprint within the boundary of the former Longman landfill site).In addition there is potential for loss of bat habitat and trees with bat roost potential and loss of species listed in the National and Local Biodiversity Action Plans. It is likely that potential impacts could be reduced through mitigation such as adherence to SEPA's Pollution Prevention Guidelines, the erection of mammal proof fencing along the boundary of the carriageway, provision of suitable habitat for protected species (e.g. bat boxes), and sympathetic design of any lighting. However, as the construction of the option is within close proximity to the former landfill site and the SAC/SPA, SSSI and Important Bird Area, it has the potential to require more specific mitigation.
Agriculture and Soils	Moderate Negative Impact	**Inshes to Smithton Trunk Link Road** Land-take of 'Prime Quality' agricultural land and potential for severance may reduce the viability of farm units, in particular for Ashton Farm, Stratton Farm and Beechwood Farm. It is likely that potential impacts could be reduced through mitigation such as refined design of the route option to minimise land-take, and review of the opportunities to return surrounding land to agriculture.
	No Benefit or Impact.	**Longman Option 1** Land is not used for agriculture.

Landscape & Visual Amenity	Major Negative Impact	**Inshes to Smithton Trunk Link Road** There are impacts in relation to landscape character due to the introduction of road and traffic (on embankment and bridge over the railway) into an open, relatively flat landscape (Enclosed Farmed Landscapes Landscape Character Type (LCT)). This has the potential to erode the rural character of the agricultural buffer between settlements and the Moray Firth. There are also direct effects on landscape character from the severance of minor watercourses and field patterns and loss of field boundary, riparian trees and scrub vegetation. The introduction of a new junction at the A9 will not significantly impact on the urban character of the Inverness Urban Fringe and Culloden LCT. Construction of the A9 Inshes junction is likely to significantly impact on the visual amenity of residents to the North of Inshes due to its close proximity to these receptors. As the route moves further towards Smithton there is likely to be impacts on the visual amenity for settlements such as Cradlehall, Smithton (to a lesser extent), Ashton and Beechwood Farm cottages, the National Cycle Route and the Core Path. These are likely to experience an interruption of their views to the Moray Firth. The National Cycle Route and Core Path are also severed by this option, reducing visual amenity when using these routes. It is likely that most of these potential impacts could be reduced through mitigation such as sensitive design of the alignment and associated infrastructure (e.g. grading out of embankment slopes), landscape planting and where possible realignment of the Core Path/NCR. However, where the new A9 Inshes junction is within close proximity to residential receptors, there is limited opportunity for effective mitigation of visual impacts.
	Minor - Moderate Negative Impact.	**Longman Option 1** Impacts on landscape character will result from alteration to the landform through the introduction of additional carriageway width, gyratory, two new underbridges, slip roads and embankment (up to approximately 8m high) associated with grade separation, and through loss of existing roadside woodland and scrub planting. The increased height of the carriageway, traffic and road lighting has the potential for visual impacts on adjacent light industrial areas and Inverness Caledonian Thistle football ground. It is likely that potential impacts could be reduced through mitigation such as sensitive design of the alignment and associated infrastructure (e.g. grading out of embankment slopes) and landscape planting.

Water, Drainage and Flood Defence	Water Quality - Moderate Negative Impact Flood Defence – Moderate Negative Impact	**Inshes to Smithton Trunk Link Road** Construction of this option has the potential to alter existing drainage patterns and there is potential for increased fine sediment supply and chemical pollution. In addition temporary increases in peak runoff and volume have the potential to increase flood risk. During operation the increase in impermeable area may result in a permanent alteration to the hydrological regime; increasing flood risk. Any future increase in traffic volumes may result in increased volume of contaminated runoff and risk of accidental spillages as a result of vehicular collision. It is likely that potential impacts could be reduced through mitigation, such as adherence to SEPA's Pollution Prevention Guidelines and construction best practice, the provision of Sustainable Drainage Systems (SUDS) and compensatory flood storage (where required).
	Water Quality – Moderate Negative Impact Flood Defence – Minor Negative Impact.	**Longman Option 1** Construction of this option has the potential to alter existing drainage patterns and there is potential for increased fine sediment supply and chemical pollution. In addition temporary increases in peak runoff and volume have the potential to increase flood risk. There is also potential for the exposure/disturbance of contaminants and/or leachate from the former Longman Landfill and this would pose a Moderate risk to localised water quality in the Moray Firth SAC and Inner Moray Firth SPA/Ramsar site. During operation the increase in impermeable area may result in permanent changes to the hydrological regime increasing flood risk. Any future increase in traffic volumes are likely to result in increased volume of contaminated runoff and risk of accidental spillages as a result of vehicular collision. It is likely that potential impacts could be reduced through mitigation, such as adherence to SEPA's Pollution Prevention Guidelines and construction best practice and the provision of Sustainable Drainage Systems (SUDS). However, the construction of the option within close proximity to the former landfill site and SAC/SPA has the potential to require more specific mitigation.
Geology & Soils	Moderate Negative Impact	**Inshes to Smithton Trunk Link Road** Contaminated land within the vicinity of the route option includes the Inverness to Aberdeen Railway Line, Inshes Boarding Kennels, Ben View Pet Cemetery, Stratton Farm Petrol Tank, Smithton Junction Made Ground, Inshes Sewage Treatment Works, Smithy 1, Tesco Filling Station, Laundry and a Works Depot. There is the potential to impact on groundwater quality during construction due to increased fine sediment supply, chemical pollution and potential exposure/disturbance of contaminants from contaminated land sites. In addition potential impacts may arise from direct interaction and potential off-site removal of contaminated material. It is likely that potential impacts could be reduced through mitigation such as adherence to construction best practice and establishment of appropriate health and safety measures for working with contaminated land.

	Moderate Negative Impact	**Longman Option 1** Contaminated land within the vicinity of the route option includes the Inverness – Lossiemouth fuel pipeline, the former Longman Landfill and the Aberdeen to Inverness Railway Line. There are potential impacts on groundwater quality from increased fine sediment supply, chemical pollution and potential exposure/disturbance of contaminants from contaminated land sites during construction. In addition there are potential impacts from direct interaction and potential off-site removal of contaminated material. It is likely that potential impacts could be reduced through mitigation such as adherence to construction best practice and establishment of appropriate health and safety measures for working with contaminated land. However, the construction of the option within close proximity to the former landfill site and SAC/SPA has the potential to require more specific mitigation.
Safety:	Moderate Benefit	Grade separating Longman Junction will remove the conflict between A9 through traffic and turning traffic which will have a positive impact on the safety at the junction. The option also shows a reduction of traffic on the secondary road network around Smithton and Culloden that should have a positive impact on the accidents in the area. It should also reduce traffic levels and congestion in and around Raigmore Interchange and improve accident rates there. The new grade separated junction at Inshes will be built to modern standards and so provide improved safety benefits compared to the existing Inshes arrangement. The creation of the new link between Smithton and Inshes may partially offset the accident benefits as the additional road space increases traffic flows and therefore opportunities for accidents to occur.
Economy:	Minor Negative Impact	The transport modelling shows that significant benefits are derived for traffic travelling between the A96 area and the South of Inverness, traffic travelling on the A9, and traffic travelling between the A9 Kessock Bridge and the A96. The model results shows the following journey time reductions during the AM peak and PM peak : • Barn Church Road to Sir Walter Scott Drive (40% AM peak and 43% PM peak) • A96 to Sir Walter Scott Drive (48% AM peak and 44% PM peak) • Barn Church Road to A9 South of Milton Leys (35% AM peak and 13% PM peak) • A96 to A9 South of Milton Leys (43% AM peak and 11% PM peak) • Barn Church Road to Kessock Bridge (41% AM peak and 31% PM peak) • A96 to Kessock Bridge (54% AM peak and 40% PM peak) • Sir Walter Scott Drive to Barn Church Road (39% AM peak and 25% PM peak) • Sir Walter Scott Drive to A96 (35% AM peak and 24% PM peak) • A9 South of Milton Leys to Barn Church Road (24% AM and PM peak)

		• A9 South of Milton Leys to A96 (22% AM peak and 26% PM peak) • Kessock Bridge to Barn Church Road (37% AM peak and 7% PM peak) • Kessock Bridge to A96 (42% AM peak and 14 % PM peak) A full set of journey time analysis results are presented in Appendix 2 at the end of the AST. The indicative economic appraisal (TUBA only) shows that the option provides a low level of economic benefits in relation to the investment required, with a Benefit to Cost Ratio (BCR) of approximately 0.8(1). Note (1) The TUBA appraisal software requires a single cost as input so for the purposes of the economic appraisal a capital cost estimate of £119.2m has been used.

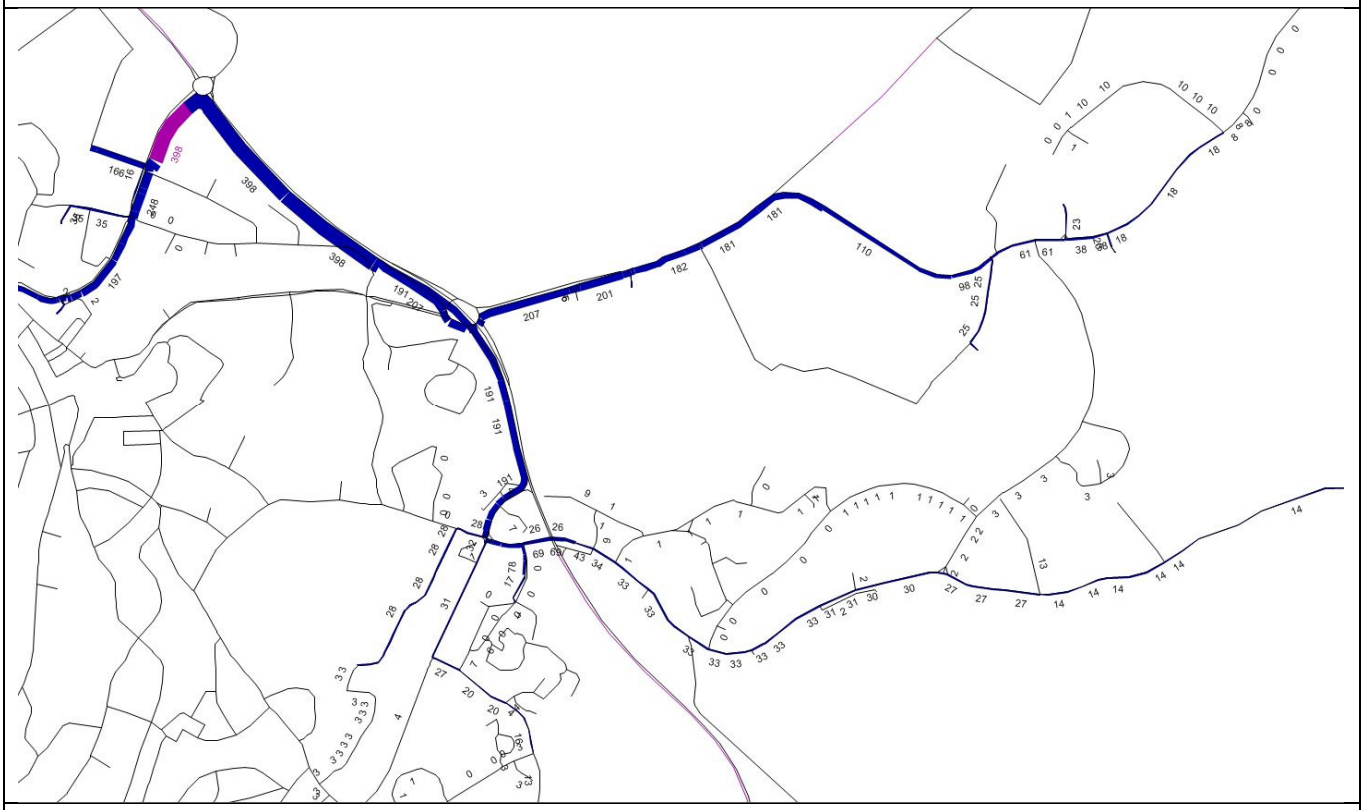
Integration:	Minor Negative Impact	Transport Integration Improved operation of the trunk road junctions should result in a benefit to bus journey times. More reliable bus times will allow for connections to other routes to be made with more certainty and would encourage multi modal travel. However the dual carriageway Trunk link road is less suitable to encourage new active travel links and severs an existing core path and cycle route. Transport & Land Use Integration This option is less well integrated with the Highland Council's proposed developments at East Inverness, as there is no provision for direct access to be taken off the trunk road link itself. In particular it conflicts with selected policy requirements contained in the Highland Wide Local Development Plan (HWLDP) pertaining the Beechwood Campus (HWLDP Policy 10) and the Inverness Retail and Business Park (HWLDP Policy 11). Policy Integration This option does not conflict with any national, regional or local transport policy. The option will contribute to the National Transport Strategy Key Strategic Outcomes through improving Journey Times and Connections between Aberdeen and Inverness, and Inverness and the central belt. It is likely to have a neutral to moderate benefit in Reducing Emissions as a result of the reduction in congestion at the trunk road junctions, although this may be partially offset by increases in average speeds due to reduced congestion and delays. The option may overall have a minor impact on Quality, Accessibility and Affordability as it will improve public transport opportunities, although the option will have some severance impacts on active travel routes. The option will support and compliment Scotland's Cities: Delivering for Scotland and enhance the Connected Cities objective through improving the transport infrastructure on the A9 and A96 trunk road accesses to Inverness. **Inshes to Smithton Trunk Link Road** Impacts on Aston Farm Cottages Scheduled Monument introduces a potential for conflict with Policy 57 of the HWLDP. Impacts on the Core Path and National Cycle Route could introduce a potential conflict with Policy 77 of the HWLDP. **Longman Option 1** Potential for conflict with Highland Wide Local Development Plan (HWLDP) Policy 5 which states that future supplementary guidance on the development of the Former Longman Landfill Site may include the requirement that developers will provide a 30 metre undeveloped corridor to safeguard the high pressure gas pipeline. However, the accommodation of the pipeline will be considered further should be this option be progressed to ensure adequate pipeline safeguards are in place. Impacts on Moray Firth SAC, Inner Moray Firth SPA and Ramsar introduce a potential for conflict with Policies 57, 58 and 72 of the HWLDP.

Accessibility and Social Inclusion:	Moderate Negative Impact	**Inshes to Smithton Trunk Link Road** The route passes through both undeveloped agricultural land and a commercial / residential area. During construction there are likely to be impacts due to congestion and increased journey times for the residential areas near the A9 junction. This will impact on communities in their ability to access local facilities and services. The route will also result in the removal of commercial and residential properties. A Core Path and National Cycle route are severed as part of this option at Ashton Farm and North Caulfield Road. It is likely that potential impacts can be mitigated and therefore reduced, with the exception of the removal of residential/commercial properties. It is likely that the potential impacts on the National Cycle Route and Core Path could be reduced through realignment or provision of infrastructure to allow these paths to cross the route option. **Longman Option 1** A temporary increase in congestion and journey times during construction for roads in the study area is predicted. This is likely to impact communities and their ability to access local facilities and services. There are likely to be benefits to communities to the North and the South in accessing facilities and employment in Inverness as journey times on the A9 are likely to significantly decrease. There is the potential to impact on the National Cycle Route during construction. It is likely that potential impacts during construction could be reduced through the use of traffic management systems and adequate signage of diversions. This option is not anticipated to have an impact on comparative accessibility.

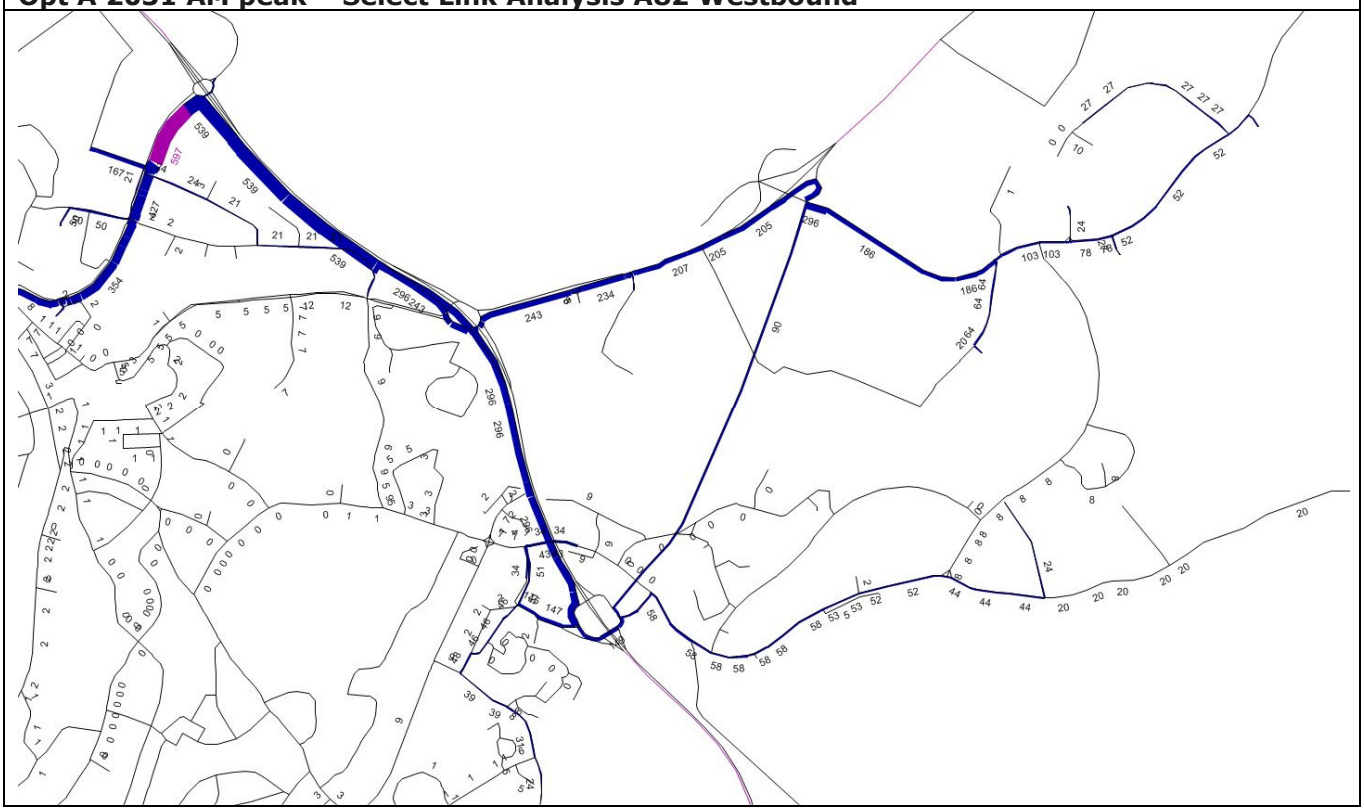
Rationale for Selection or Rejection of Proposal:	**Included post workshop** The option would directly contribute towards the objectives of improving the effectiveness of the road network hierarchy, improving safety for motorised and non-motorised users by reducing the accident rate at trunk road junctions, and improve the operational performance of the trunk road network and junctions on the A9. The improvements at Longman Junction provide journey time savings for all movements through the junction. The inclusion of the Inshes to Smithton Trunk Link Road, and gyratory junction at Inshes, results in journey time savings between the A96 East and Inverness South and the A96 East and Inverness Centre, whilst also improving the operation of Raigmore Interchange by reducing traffic levels approaching the junction from the east. Traffic levels also reduce on the A9 between Raigmore and Inshes southbound and around the Smithton and Culloden areas. The option has the highest combined journey time savings on key routes compared to the other options, and the largest reduction in traffic flows on the trunk roads (A96 and A9). The additional crossing of the A9 reduces the level of traffic using the Inshes Overbridge. However, the option has a high capital cost estimate and a number of significant impacts. The option results in a comparative reduction in air quality and increased noise levels, and significant adverse impacts due to the likely scale of embankment required between Inshes and Smithton. As a dual-carriageway standard link with no intermediate junctions it provides no opportunity for vehicles, and limited opportunities for walking and cycling connections into adjacent planned development areas. The option provides limited opportunity to improve public transport links. It is therefore not recommended that this option be taken forward for further appraisal.

Appendix 1 Select Link Analysis

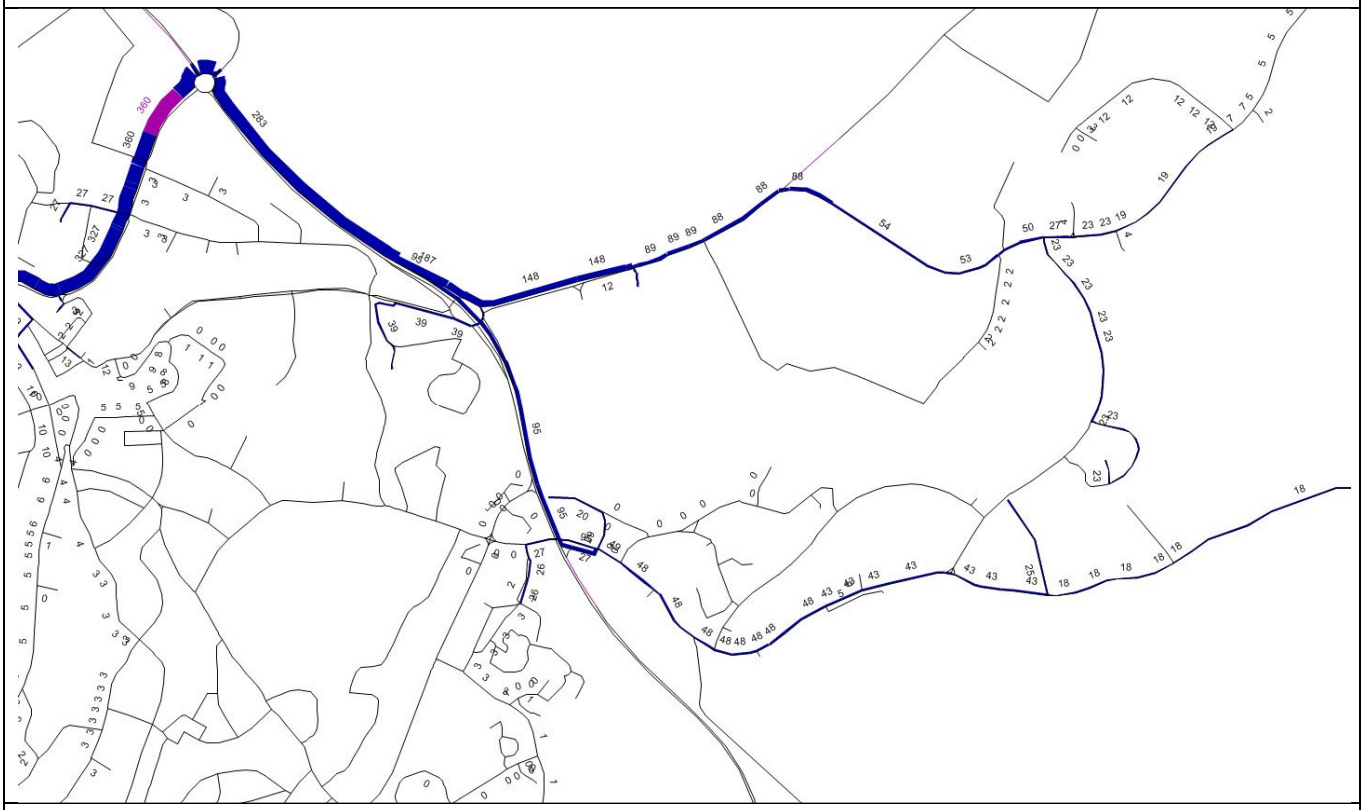
Do Min 2031 AM Peak – Select Link Analysis A82 Westbound



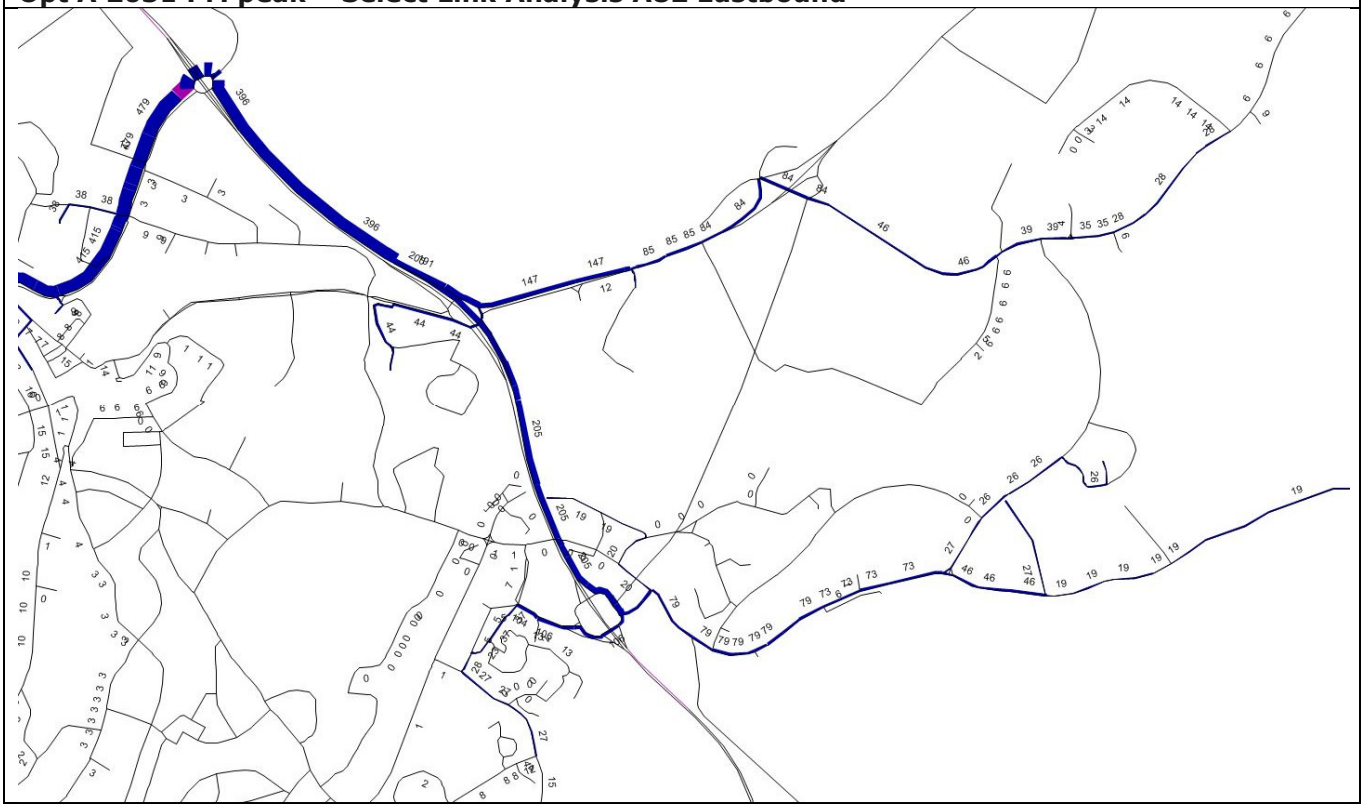
Opt A 2031 AM peak – Select Link Analysis A82 Westbound



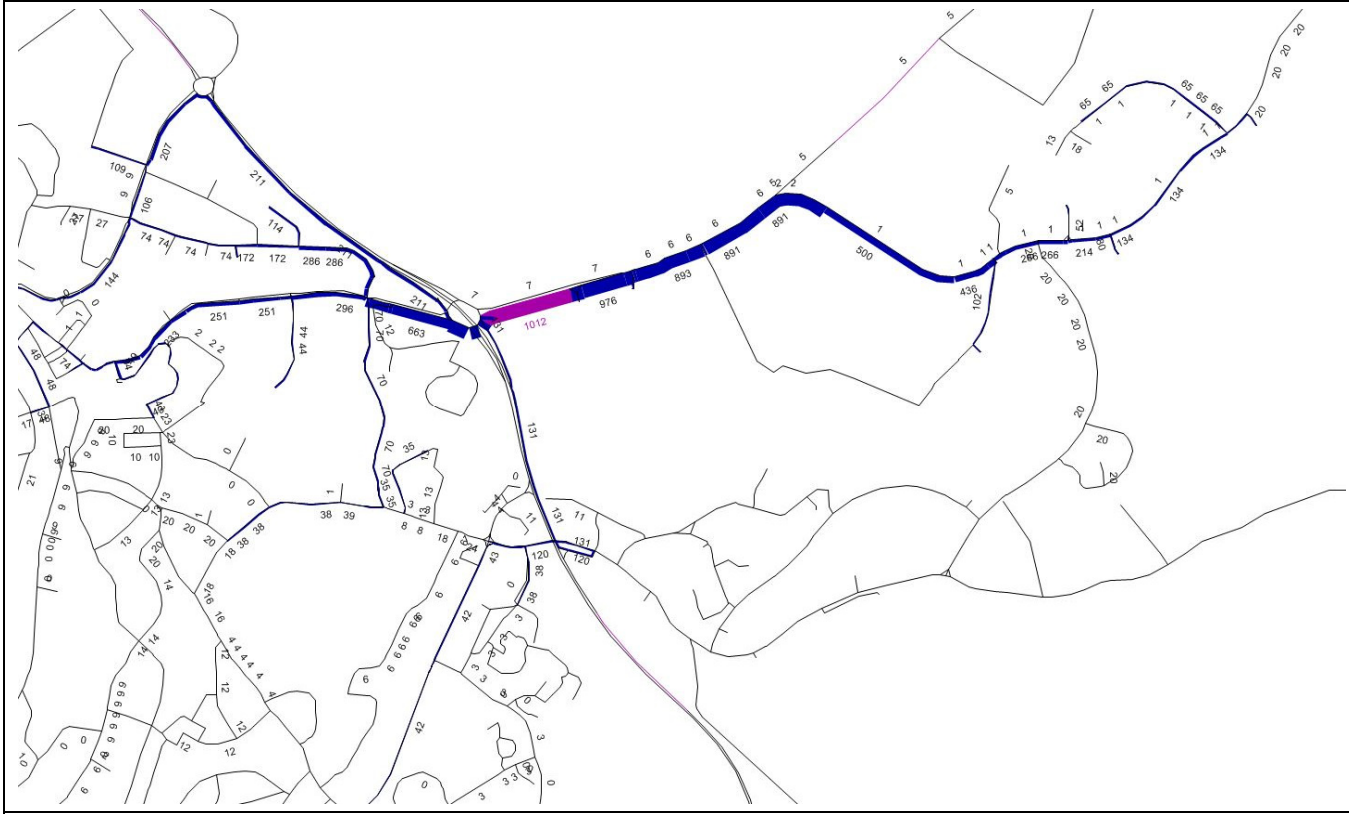
Do Min 2031 PM peak – Select Link Analysis A82 Eastbound



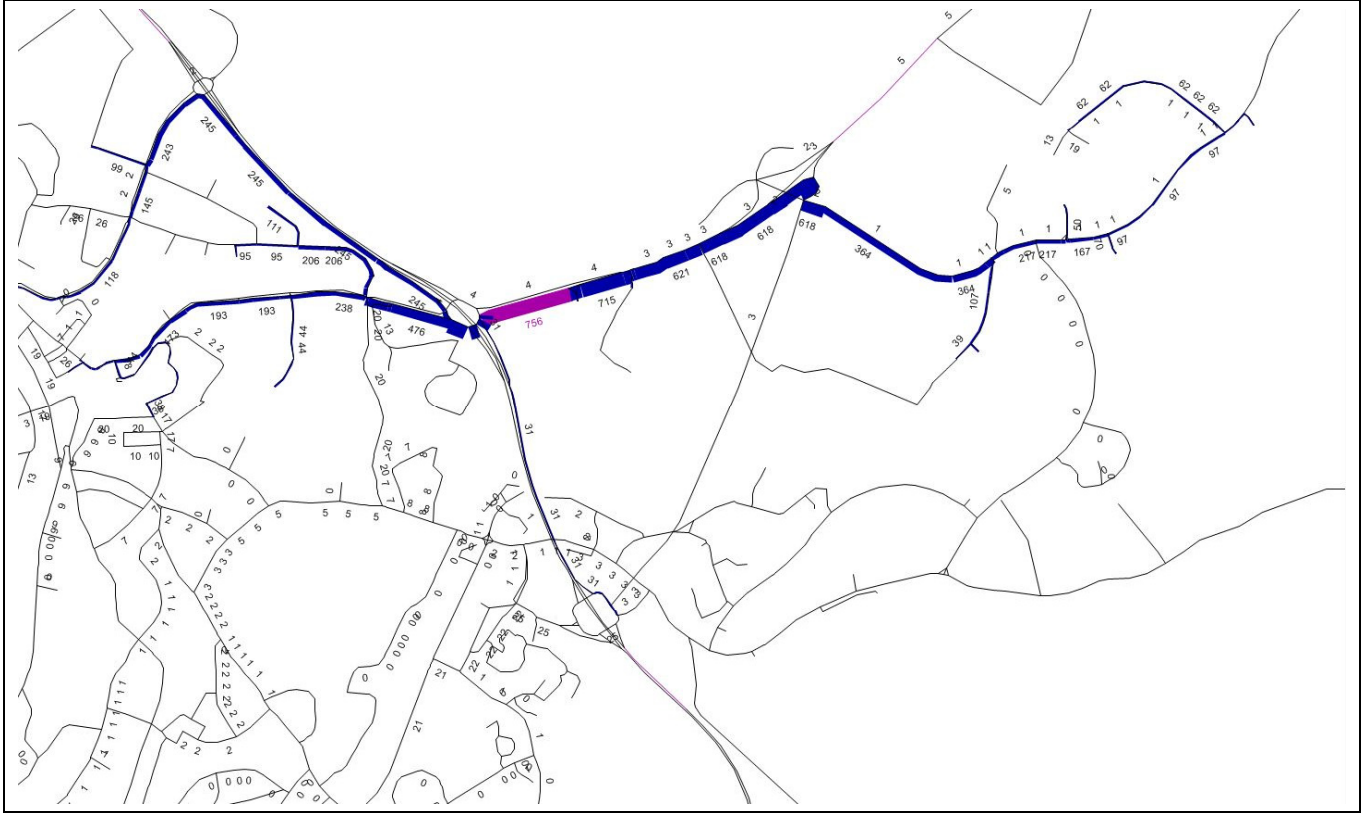
Opt A 2031 PM peak – Select Link Analysis A82 Eastbound



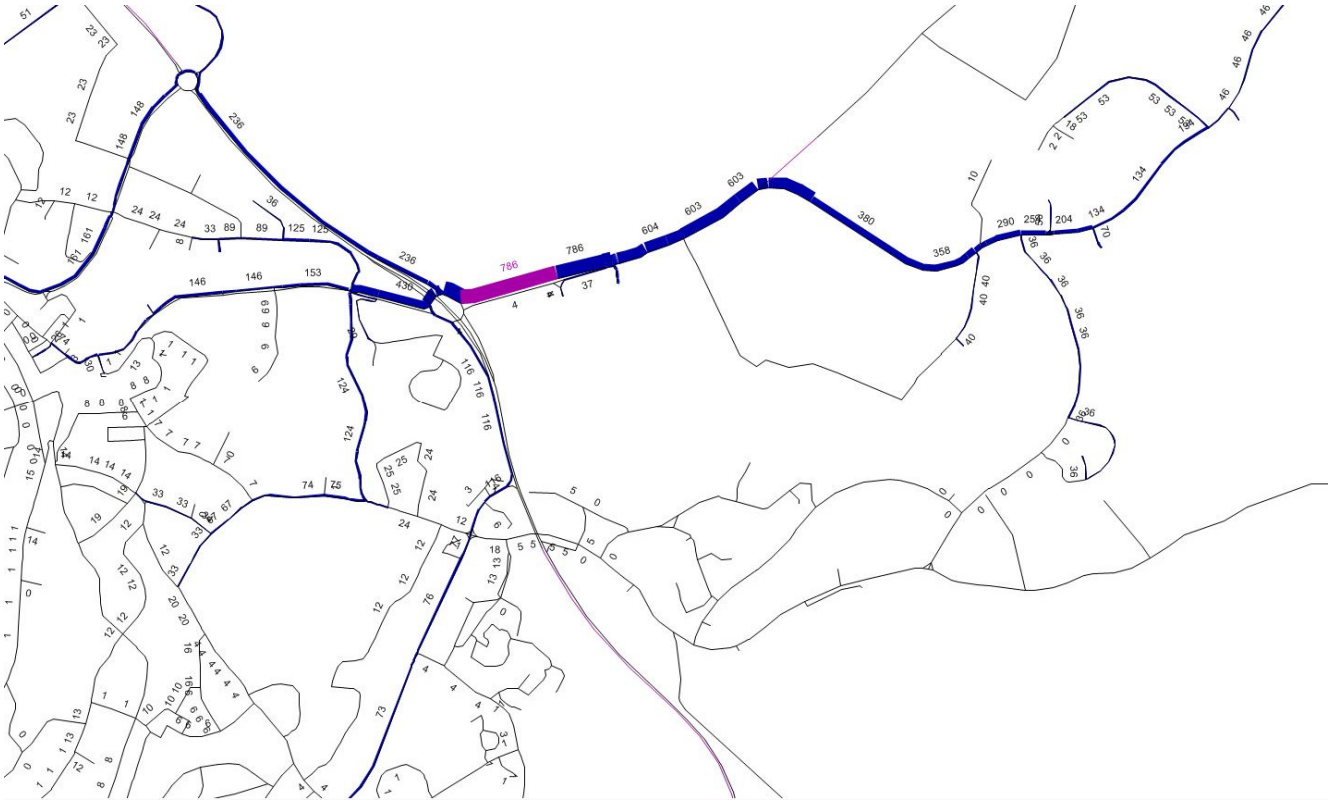
Do Min 2031 AM peak – Select Link Analysis A96 Westbound



Opt A 2031 AM Peak – Select Link Analysis A96 Westbound

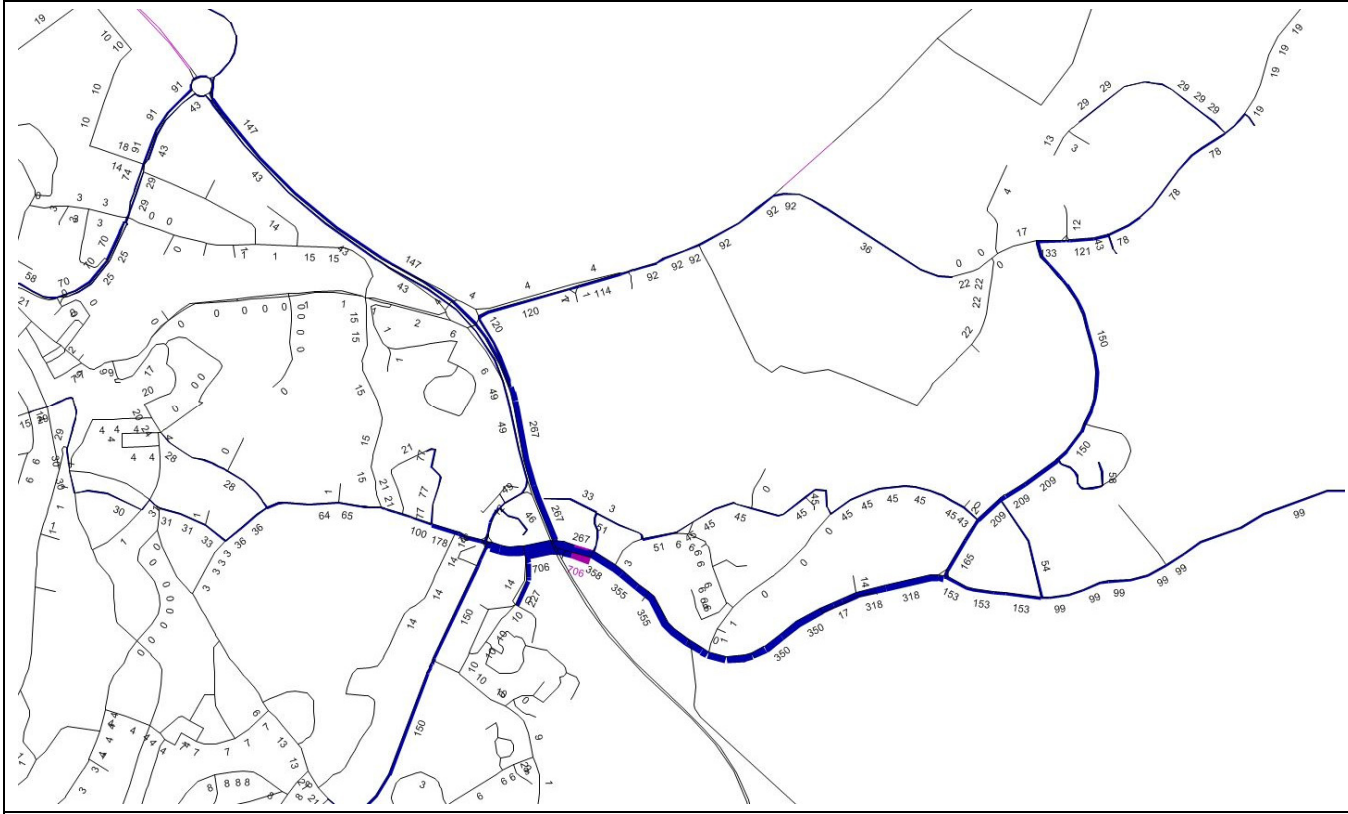


Do Min 2031 PM Peak – Select Link Analysis A96 Eastbound

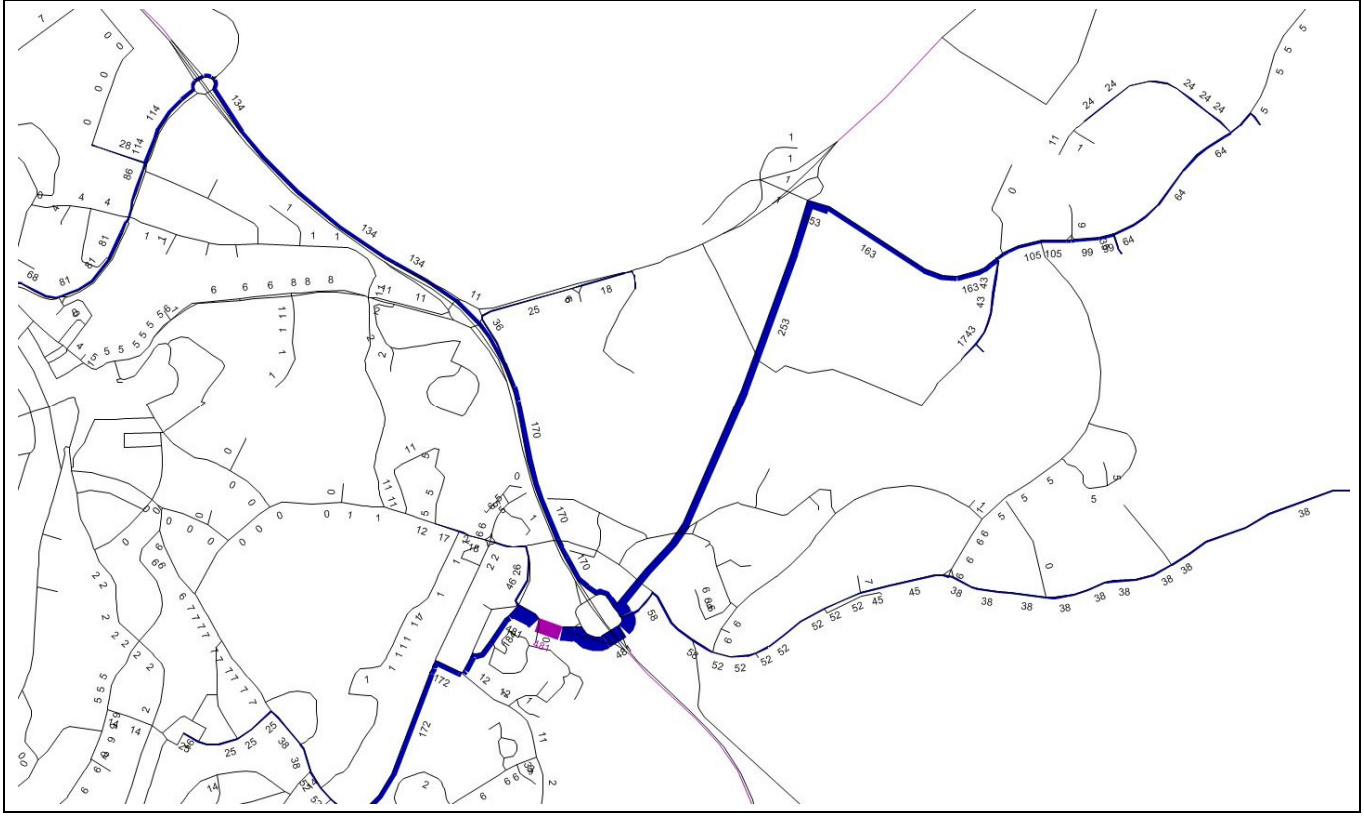


Opt A 2031 PM Peak – Select Link Analysis A96 Eastbound

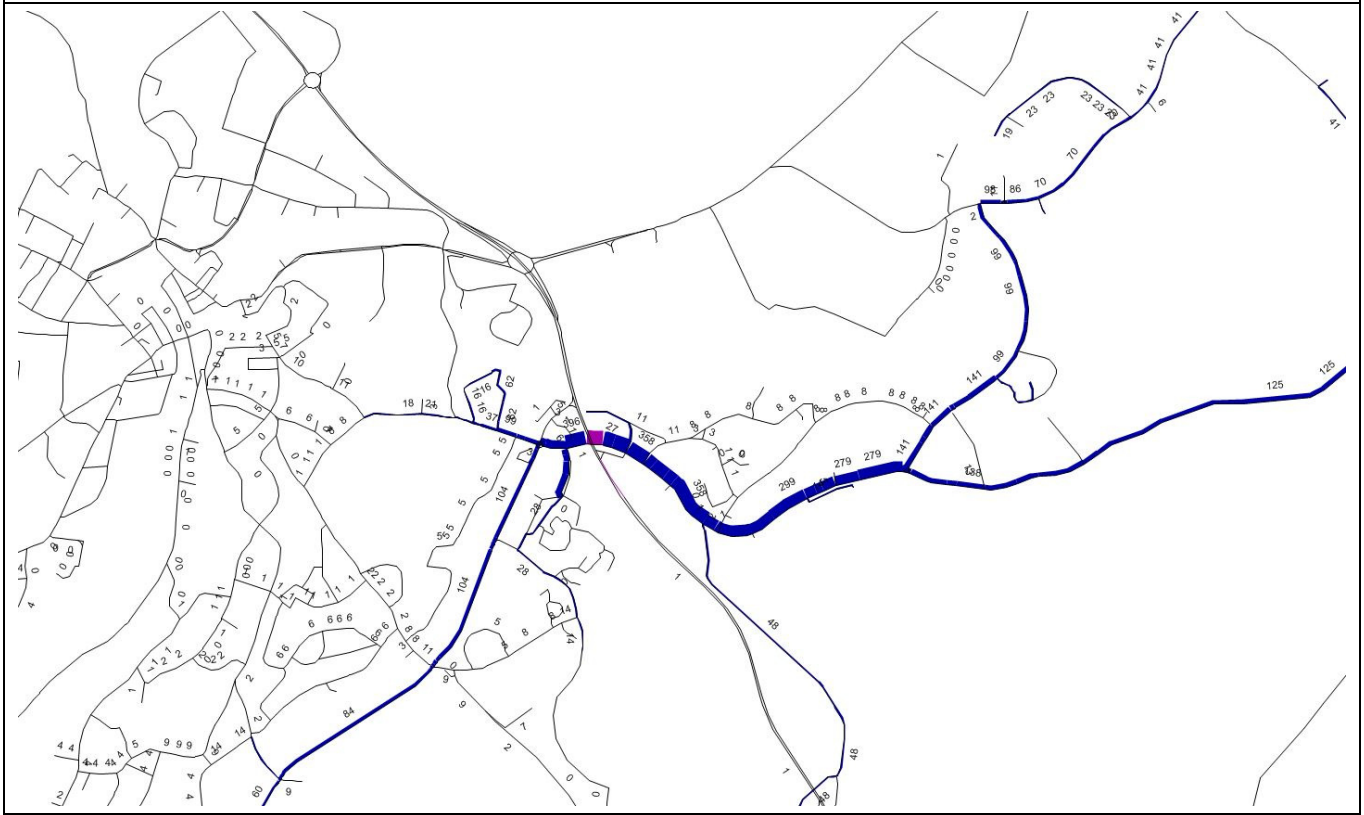
Do Min 2031 AM peak – Select Link Analysis Culloden Road Overbridge Westbound



Opt A 2031 AM peak – Select Link Analysis East Trunk Road Link Westbound



Do Min 2031 PM peak – Select Link Analysis Culloden Road Overbridge Eastbound



Opt A 2031 PM peak – Select Link Analysis East Trunk Road Link Eastbound

	Longman Junction A82 East approach		Raigmore Interchange A96 West approach		Inches Junction Culloden Road overbridge		Total	
	AM peak	PM peak	AM peak	PM peak	AM peak	PM peak	AM peak	PM peak
Do Minimum	398	360	1012	786	706	396	2116	1542
Option A	597	479	756	545	481	429	1834	1453
Difference	199	119	-256	-241	-225	33	-282	-89
% Difference	**+ 50%**	**+ 33%**	**- 25%**	**- 30%**	**- 29%**	**+8%**	**-13%**	**-5%**

Appendix 2 – Journey time analysis

From Point	To Point	Do min		Opt A		Difference		Percentage Difference	
		AM	PM	AM	PM	AM	PM	AM	PM
A9 Kessock Bridge	A96 East of Smithton	523	343	302	294	-221	-49	-42%	-14%
A9 Kessock Bridge	Barn Church Road	559	391	353	363	-207	-28	-37%	-7%
A9 Kessock Bridge	Culloden Road east of B9177	596	419	292	281	-304	-138	-51%	-33%
A9 Kessock Bridge	A9 South of Milton of Leys	612	397	365	366	-247	-31	-40%	-8%
A9 Kessock Bridge	Sir Walter Scott Drive South of Stevenson Road	702	721	437	488	-265	-233	-38%	-32%
A96 East of Smithton	A9 Kessock Bridge	761	492	347	297	-413	-195	-54%	-40%
A96 East of Smithton	Culloden Road east of B9177	502	366	173	171	-328	-195	-65%	-53%
A96 East of Smithton	A9 South of Milton of Leys	518	344	295	305	-223	-38	-43%	-11%
A96 East of Smithton	Sir Walter Scott Drive South of Stevenson Road	607	668	317	377	-290	-290	-48%	-44%
Barn Church Road	A9 Kessock Bridge	809	530	476	366	-333	-163	-41%	-31%
Barn Church Road	Culloden Road east of B9177	549	403	247	199	-303	-205	-55%	-51%
Barn Church Road	A9 South of Milton of Leys	566	382	368	333	-198	-48	-35%	-13%
Barn Church Road	Sir Walter Scott Drive South of Stevenson Road	655	706	391	405	-264	-300	-40%	-43%
Culloden Road east of B9177	A9 Kessock Bridge	697	555	346	336	-352	-219	-50%	-39%
Culloden Road east of B9177	A96 East of Smithton	548	529	279	257	-269	-272	-49%	-51%
Culloden Road east of B9177	Barn Church Road	584	577	297	288	-287	-288	-49%	-50%
A9 South of Milton of Leys	A9 Kessock Bridge	570	484	350	355	-220	-129	-39%	-27%
A9 South of Milton of Leys	A96 East of Smithton	420	458	327	338	-93	-121	-22%	-26%
A9 South of Milton of Leys	Barn Church Road	457	506	345	369	-111	-137	-24%	-27%
Sir Walter Scott Drive South of Stevenson Road	A9 Kessock Bridge	718	542	432	471	-286	-71	-40%	-13%
Sir Walter Scott Drive South of Stevenson Road	A96 East of Smithton	576	522	374	398	-203	-124	-35%	-24%
Sir Walter Scott Drive South of Stevenson Road	Barn Church Road	613	570	374	430	-239	-140	-39%	-25%
Sir Walter Scott Drive South of Stevenson Road	Culloden Road east of B9177	346	308	302	299	-44	-9	-13%	-3%
Sir Walter Scott Drive South of Stevenson Road	A9 South of Milton of Leys	458	441	423	458	-34	17	-8%	4%
A96 East of Smithton	Millburn Road/Harbour Road Junction	396	175	208	146	-187	-29	-47%	-17%

Millburn Road/Harbour Road Junction	A96 East of Smithton	179	190	174	190	-5	1	-3%	0%
A96 East of Smithton	Old Perth Rd	505	294	309	250	-196	-43	-39%	-15%
A96 East of Smithton	Old Perth Rd	568	609	360	350	-209	-260	-37%	-43%
A96 East of Smithton	Milburb Rd	396	175	208	146	-187	-29	-47%	-17%
A96 East of Smithton	A82	696	432	374	312	-322	-120	-46%	-28%
Old Perth Rd	A96 East of Smithton	283	298	277	300	-6	3	-2%	1%
Old Perth Rd	A96 East of Smithton	433	470	380	467	-52	-4	-12%	-1%
Milburb Rd	A96 East of Smithton	179	190	174	190	-5	1	-3%	0%
A82	A96 East of Smithton	366	387	366	365	0	-22	0%	-6%
Barn Church Road	Old Perth Rd	553	331	433	377	-119	46	-22%	14%
Barn Church Road	Old Perth Rd	616	647	433	377	-183	-270	-30%	-42%
Old Perth Rd	Barn Church Road	320	346	328	369	8	24	3%	7%
Old Perth Rd	Barn Church Road	469	518	399	499	-71	-19	-15%	-4%