Detailed Appraisal	**D3 (Part 1): Targeted Programme of Measures to Reduce Accident Severity on the A9 North of Inverness**
Estimated total Public Sector Funding Requirement:	***Capital Costs/grant*** <£10m ***Annual Revenue Support Present*** - ***Value of Cost to Gvt*** <£10m ***BCR/PVB*** N/A

Summary Impact on STAG Criteria

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Environment							
Safety							
Economy							
Integration							
Accessibility and Social Inclusion							

(Judgement based on available information against a 7pt. scale.)

Intervention Description:

This intervention supports the objective to reduce the fatal and severe accident rates on the A9 north of Inverness. This intervention would include measures such as:

- Physical works at locations such as Tore Roundabout

It is envisaged that bespoke measures would be delivered in a targeted programme to address identified high severity accident clusters along the route.

In addition, speed enforcement measures could be considered at appropriate locations

Summary: Rationale for Selection

Local realignment on the A9 north of Inverness and junction improvements are expected to improve road safety. Evidence suggests that the introduction of climbing lanes can result in a significant reduction in accidents - of up to 50 per cent - on single carriageway routes.

The introduction of appropriate speed enforcement measures could also result in the safer operation of the road network, due to greater compliance with speed limits. Evidence from trials indicates that a reduction in average speed results in significant reductions in accidents and accident severity.

The introduction of these measures is likely to bring the proportion of serious and fatal accidents closer to the national rate.

Table D3.1.1 STPR Objectives (Corridor 1)

STPR Objectives	
STPR Objective 1.1: To enhance public transport accessibility and reduce public transport journey time to and from Inverness.	**1.1: Slightly Positive** – General road improvements would result in a degree of journey time reductions for all road users. For journey times along the length of the corridor (around 170km), journey times by bus are around 1.5 times that of car. Public transport competitiveness against car travel would not increase as the improvements would benefit all road users more or less equally.
STPR Objective 1.2: To reduce the fatal and severe accident rates to the national average or lower.	**1.2: Positive -** The A9 is single carriageway with poor road alignment, and limited overtaking opportunities. This, combined with vehicle 'bunching' behind slow moving HGVs, can increase driver frustration, and in turn increase the likelihood that drivers would exceed the speed limit when the opportunity presents itself or take unnecessary risks. The A9, along with the A99, has a number of accident clusters containing fatal and serious accidents. Speed enforcement measures and carriageway improvements, targeted at the locations where there are safety issues could reduce the number of accidents. These measures would reduce the rate of fatal accidents, which is currently higher than the national average on both the A9 and A99.

Table D3.1.2 STAG Criteria

STAG Criteria		
Criteria:	**Assessment Summary:**	**Supporting Information:**
Environment:	**Minor/Moderate Negative Impact**	Although there is potential for adverse effects on the natural environment, including cultural heritage, as a result of any new infrastructure, it is anticipated that appropriate mitigation measures can be defined as the development of specific measures progress.
Safety:	**Moderate Benefit**	The existing accident rate on the section of A9 between Inverness and Thurso is in line with the national rate for this road type. The existing fatal accident rate on the Inverness to Thurso section of the A9 (0.9 fatal accidents/100MVKm) is slightly higher than the national rate (0.76 fatal accidents/100MVKm). The A99 also has a significantly greater fatal accident rate (2.1 fatal accidents/100MVKm, based on accident data from 2001 to 2005) than the national rate for this road type. Route improvements and speed enforcement measures would reduce the rate of fatal accidents. Physical measures such as the introduction of a climbing lane could significantly reduce accidents as national statistics indicate that the difference between the UK national rate for rural single carriageway roads and rural single carriageway roads with climbing lanes is a reduction of up to 50 per cent.
Economy:	**Minor Benefit**	**Transport Economic Efficiency (TEE)**: The majority of trips (45 per cent) are made between origins and destinations within the corridor, therefore local improvements on the route would benefit a large proportion of trips. The targeted introduction of speed enforcement measures and physical works at locations experiencing safety issues would reduce the number of fatal accidents on those sections. This would result in an economic saving in terms of accident benefits. **Wider Economic Benefits (WEBs):** Improvements would result in more consistent and reliable journey times. This corridor provides the main route to Scrabster, and the ferry link to Orkney, therefore any improvement on this route could also have benefits for Orkney. **Economic Activity and Location Impacts (EALIs)**: Alignment improvements, 2+1 sections and the proposed targeted speed enforcement measures would support the general drive to improve the attractiveness of the A9 and A99.

Integration:	**Neutral**	**Transport Integration**: This intervention would have no effect on public transport integration or ticketing. **Transport and Land Use Integration**: This intervention would not affect the need to travel. Although a degree of journey time savings would occur it is not considered to significantly impact on development opportunities in the area. **Policy Integration:** Improved connections between the rural communities along this corridor, would affect rural affairs.
Accessibility and Social Inclusion:	**Minor Benefit**	**Community Accessibility:** General upgrades along the route would improve access between rural communities and employment, education and health services. **Comparative Accessibility:** This intervention would not impact on comparative accessibility.

Table D3.1.3 Key Strategic Outcomes

Key Strategic Outcomes (KSO's)		
Objective:	**Assessment Summary:**	**Supporting Information:**
Improve Journey Times and Connections:	**Minor Benefit**	Significant journey time improvements are not forecast; however accident reductions would in turn reduce delays on single carriageway sections, caused by accidents. Physical works could provide more safe overtaking opportunities that could improve journey time reliability.
Reduce Emissions:	**Neutral**	This intervention would have no significant impact on emissions.
Improve Quality, Accessibility and Affordability:	**Minor Benefit**	A reduction in accidents would reduce delays along the A9 improving the reliability and subsequently quality of journeys. A reduction in the frequency of disruptions caused by accidents would improve accessibility for land users. This intervention would not impact on affordability.

Table D3.1.4 Scottish Government's Strategic Objectives

Scottish Government's Strategic Objectives		
Objective:	**Assessment Summary:**	**Supporting Information:**
Safer and Stronger:	**Moderate Benefit**	Potential road standard improvements, including widening and 2+1 sections would result in reduced safety concerns. The fatal accident rates on both the A9 and the A99 are above the national average for this road type, therefore a reduction in speeding vehicles on the route and improvements that would allow safe overtaking could help to reduce the fatal accident rates to levels closer to the national rate. This intervention would not improve the quality, accessibility And affordability of public transport.
Smarter:	**Neutral**	This intervention would have no significant impact on access to schools, colleges and universities for those living along the corridor.
Wealthier and Fairer:	**Minor Benefit**	A degree of journey time savings would occur due to improved road standards. Delays caused by accidents on the route would be reduced, thus leading to more efficient transfer of goods on the network.
Greener:	**Neutral**	This intervention would not have any impact on emissions or result in any shift from private car to public transport.
Healthier:	**Neutral**	This intervention would not have any impact on promoting healthier forms of transport

Table D3.1.5 Implementability Appraisal

Implementability Appraisal	
Technical:	No major technical issues are anticipated to arise from this intervention; however design would have to account for conditions along the corridors including terrain and land issues. Ensuring speed enforcement measures do not affect the visual impact of the area would be an issue.
Operational:	The responsibility for operational issues on the proposed measures in this intervention would remain with Transport Scotland and its maintenance contractors. No factors are anticipated to adversely affect the operation of the intervention during its projected life.
Public:	It is possible that any negative visual impact on the area of natural beauty could cause public objection, however improving safety on the route would be met with a positive response.