STRATEGIC TRANSPORT PROJECTS REVIEW

PROTECTING OUR CLIMATE AND IMPROVING LIVES

Appendix I: Recommendation Appraisal Summary Tables

December 2022

Jacobs AECOM

1. Detailed Appraisal Summary

An 'Appendix I: Recommendation Appraisal Summary Tables (ASTs) Explanatory Note' accompanies this AST.

1.1. Recommendation 7 – Changing road user behaviour

Recommendation Description

This recommendation focuses on delivering options to improve compliance with speed limits, and options to achieve positive changes in attitudes and behaviours amongst all road users, across all roads in Scotland.

By doing so, this recommendation would reduce the number and severity of accidents, contributing towards the Scottish Government's Vision Zero strategy. This recommendation strongly aligns with the outcomes of Scotland's Road Safety Framework to 2030 (RSF); and with other STPR2 recommendations and ongoing initiatives and programmes focussed on managing speed, and encouraging and enabling healthier, safer travel.

Options primarily focus on improving driver behaviour, a cultural change towards attitudes to speed, and tackling other inappropriate behaviours, such as negative attitudes towards more at risk road users. Furthermore, this recommendation would ensure that all road users (including those walking, wheeling and cycling) know and understand their road safety responsibilities, for themselves and others.

Options include behavioural change campaigns and initiatives, and education and training to improve attitudes and behaviours. One aim of this recommendation is to create a shift in societal norms towards speeding, that previous initiatives have achieved towards lack of seatbelt use and driving under the influence of alcohol/drugs, which are now socially unacceptable.

This recommendation also includes options to enforce speed limits, through the inclusion of speed enforcement technology, which could be used alongside behavioural change campaigns to assist in the implementation of the Speed Management Plan (Recommendation 38).

The options included in this recommendation would look to address road safety issues across the whole road network (which would need to be in line with the Safety Camera handbook in respect of speed enforcement technology). It is anticipated that a focus on routes or sections of routes with the following characteristics would be more effective:

- Higher than average accident rates;
- Higher than average proportions of accidents related to unsafe driver behaviours, such as excessive speeds; and
- Lower than average compliance with speed limits.

1.2. Relevance

Relevant to communities across Scotland

Scotland's RSF has a vision to have the "best road safety performance in the world by 2030". The framework is based on the Safe System (A Safe System involves those who manage and design the roads as well as those who use them; each is responsible for, and must contribute to, eradicating fatal and serious injuries. Ultimately, all road users are expected to use the roads safely and comply with the rules)[i], of which 'Safe Speeds' is one of the five pillars. Transport Scotland has committed to undertake a National Speed Management Review, identified in Recommendation 38, Speed Management Plan. This would consider appropriate speed limits in different settings across the road network, including for different vehicle types.

Evidence shows that cultural issues with speeding still need to be overcome[ii]. Despite a downward trend in reported speeding behaviours in recent years, a number of problematic behaviours remain prevalent.

The STPR2 National Case for Change report[iii] identified that, while road accident casualties reduced by 11% between 2017 and 2018, the number of fatalities increased. Travelling too fast for the conditions or excessive speed was reported in 9% of all reported accidents and 20% of fatal accidents in 2019[iv].

Alongside Safe Speeds, this recommendation would address 'Safe Road Use' and 'Safe Roads and Roadsides', two other pillars of the RSF. This is relevant to all road users (not just drivers, but those walking, wheeling and cycling) across all road types in all parts of Scotland; all of whom have a duty to know and comply with road rules and take personal responsibility for the safety of themselves and others, especially those users most at risk. This is particularly relevant given the significant investment being recommended through STPR2 in active travel infrastructure and supporting measures that are anticipated to result in a substantial increase in people walking, wheeling and cycling.

This recommendation would build upon programmes identified within the RSF. There are many decades of experience in the delivery of effective road safety behavioural change, education and training programmes in Scotland, including through:

- Annual campaigns such as Give Cycle Space and Scottish Road Safety Week (the first of which was held in March 2022);
- Young driver education programmes and campaigns such as Crash Magnets and #DriveSmart;
- Road safety skills training for school pupils such as Streetsense and Go Safe with Ziggy; and
- Practical Cycle Awareness training for drivers of large vehicles and learner drivers, currently delivered by Cycling Scotland.

1.3. Estimated Cost

<£25 million Capital

The costs for implementation of the options included within this recommendation are estimated to be:

- Speed enforcement technology would depend on the type of technology employed and is likely to be required in addition to the current Safety Camera Programme budget, which was £5.3 million in 2020/21. This is funded through a central grant from the Scottish Government, funding[v]. Additional costs are anticipated to be:
- Average Speed Cameras cost start from approximately £100,000;
- Fixed Speed Cameras £65,000 per site;
- Mobile Camera Vans £100,000 per van;
- Road safety campaigns, initiatives, education and training; an annual revenue cost of £5 million.

The options would form part of the road asset and require to be maintained within the appropriate responsible body's maintenance budget.

1.4. Position in Sustainable Investment Hierarchy

Maintaining and safely operating existing assets

This recommendation would contribute to seven of the 12 NTS2 outcomes, as follows:

- Provide fair access to services we need;
- Be easy to use for all;
- Promote greener, cleaner choices;
- Be safe and secure for all;
- Get people and goods to where they need to get to;
- Enable us to make healthy travel choices; and
- Help make our communities great places to live.

1.5. Summary Rationale

Summary of Appraisal

	TPO					STAG					SIA				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Low Scenario	+	+	++	+	+++	+	+	+++	+	++	+	++	+	++	++
High Scenario	+	+	++	+	+++	+	+	+++	+	++	+	++	+	++	++

Options within this recommendation are mainly targeted at improving road safety and make a positive contribution to STPR2 Transport Planning Objectives (TPOs), STAG criteria and Statutory Impact Assessment criteria, performing particularly strongly against safety, resilience and inclusion criteria.

This recommendation would help deliver outcomes of the RSA and associated delivery plan, bringing forward measures across three of the five pillars of the Safe System: 'Safe Road Use', 'Safe Speeds' and 'Safe Roads and Roadsides'.

The options are feasible, making use of delivery programmes and initiatives for which there is already significant implementation experience in Scotland and elsewhere. Delivery would be undertaken at local, regional and national levels by local authorities, Regional Transport Partnerships and Transport Scotland, as well as a range of other public and third sector delivery partners.

Options in this recommendation complement other STPR2 recommendations that seek to promote inclusive accessibility by healthy and sustainable modes.

Details behind this summary are discussed in Section 3, below.

2. Context

2.1. Problems and Opportunities

This recommendation could help to tackle the following problems and opportunities:

Relevant Problem & Opportunity Themes Identified in National Case for Change
▪ **Safety and Security:** Scotland's transport system needs to be safe. Whilst the number of road accident casualties reduced by 11% between 2017 and 2018[viii], the number of fatalities has increased. Women and disabled people in particular feel vulnerable when using public transport – particularly at bus stops, train stations or other transport interchanges. ▪ **Resilience:** a key challenge is providing a transport system that is resilient and speedily recovers from disruption, thus minimising impacts of delayed journeys on networks and users. ▪ **Changing Travel Behaviour:** changing people's travel behaviour to use more sustainable modes will have a positive impact on the environment, as well as health and wellbeing.

2.2. Interdependencies

This recommendation has potential overlap with other STPR2 recommendations and would also complement other areas of Scottish Government activity.

Other STPR2 Recommendations
▪ Behavioural change initiatives (6); ▪ Increasing active travel to school (8); ▪ Expansion of 20mph limits and zones (10); ▪ Trunk road and motorway safety improvements to progress towards 'Vision Zero' (30); ▪ Intelligent Transport Systems (35); ▪ Improving active travel on trunk roads through communities (37); and ▪ Speed Management Plan (38). Provision for those walking, wheeling and cycling on the trunk road network would be delivered through recommendations: Village – town active travel connections (3), Connecting towns by active travel (4), Long-distance active travel network (5) and Improving active travel on trunk roads through communities (37). Additionally, behavioural change initiatives to encourage greater uptake of active and sustainable modes (in contrast to behavioural change to improve road safety behaviours within this recommendation) would be delivered through Behavioural change initiatives (6).
Other areas of Scottish Government activity
▪ Scottish Safety Camera Programme Handbook (2019)[vi] ▪ Scotland's Road Safety Framework to 2030 (2021)[vii]; ▪ Active Travel Framework (2020)[viii]; ▪ The National Walking Strategy (2014)[ix]; and ▪ Cycling Action Plan for Scotland (CAPS) ~~(2017)~~[x]; and ▪ Place Principle (2019)[xi]

3. Appraisal

This section provides an assessment of the recommendation against:

- STPR2 Transport Planning Objectives (TPOs);
- STAG criteria;
- Deliverability criteria; and
- Statutory Impact Assessment criteria.

The seven-point assessment scale has been used to indicate the impact of the recommendation when considered under the 'Low' and 'High' Transport Behaviour Scenarios (which are described in Appendix F of the Technical Report).

3.1. Transport Planning Objectives

1. A sustainable strategic transport system that contributes significantly to the Scottish Government's net-zero emissions target

Low Scenario	High Scenario
+	+

As fear of road danger is the biggest deterrent to use of active modes[xii], measures to reduce real and perceived safety concerns are likely to have a positive impact on the share of trips made by walking, wheeling and cycling, contributing to a reduction in vehicle emissions.

The relationship between vehicle speed and air quality is complex and can be influenced by several factors, including consistency of driving speed and road environment[xiii]. However, there is evidence to suggest that reducing speeds has the potential to reduce carbon emissions (along with air pollution and noise levels), as a result of reducing average and top percentile vehicle speeds[xiv].

This recommendation is expected to have a minor positive impact on this objective in both low and high scenarios.

2. An inclusive strategic transport system that improves the affordability and accessibility of public transport

Low Scenario	High Scenario
+	+

Fear of road danger is the biggest single barrier to active travel use[xv]. Benefits of this recommendation arise especially for those for whom road danger is the biggest deterrent, in particular older people, disabled people and children[xvi].

Options to address reductions in traffic speeds and inappropriate road user behaviour would improve transport inclusivity for these and other commonly disadvantaged groups, such as unemployed people and members of low-income households, by encouraging safe, low-cost transport choices (by active modes and including access to public transport) and enhancing access to employment and other opportunities[xvii].

No impact on the affordability of public transport is anticipated.

This recommendation is expected to have a minor positive impact on this objective in both Low and High scenarios.

3. A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing

Low Scenario	High Scenario
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Research undertaken on behalf of Transport Scotland suggests that measures including lower speed limits have contributed towards reductions in the number and severity of accidents occurring in countries comparable to Scotland, such as Norway and Sweden[xviii].

Improving speed limit compliance could lead to improved attitudes and perceptions, enabling and encouraging more people to be active for short- to medium-distance journeys. The main barrier to active travel is road danger, and a reduction in road speeds can be an important motivator to taking up walking, wheeling and cycling[xix]. Active travel is good for health and wellbeing, helping to reduce the risk of chronic conditions and mitigate health inequalities[xx]. Therefore, there are likely health and wellbeing benefits arising from the implementation of lower road speeds and more respectful behaviour towards most at risk users, encouraging more people to walk and cycle[xxi].

The measures may also, by increasing the number of people out and about within their communities, make a positive contribution to places, and improve community cohesion[xxii].

This recommendation seeks to improve safety of the road network and street environments, which in turn would encourage greater use of sustainable active travel options and prioritise pedestrians and cyclists in the public realm. In addition, road traffic travelling at slower speeds may also result in positive effects by reducing noise and vibration and improving air quality due to a reduction in fuel consumption.

This recommendation is expected to have a moderate positive impact on this objective in both Low and High scenarios.

4. An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland

Low Scenario	High Scenario
+	+

This recommendation, through options that improve the compliance with speed limits, would benefit the resilience of the trunk road network for both through and local traffic, through fewer closures as a result of speed-related accidents. Evaluation of the A9 average speed camera system (Dunblane to Inverness), as an example of a measure to improve compliance with speed limits, indicates that the time during which carriageway restrictions applied due to accidents reduced by 25% following implementation[xxiii]. Whilst this recommendation includes speed enforcement measures, these cannot be deployed on every route, and sites for speed enforcement need to meet the criteria set out in the Scottish Safety Camera Programme Handbook[vi].

There is recognition that a significant element of achieving enhanced compliance with speed limits therefore relies on changing attitudes and behaviours towards speed. This

recommendation aims to achieve this through behavioural change campaigns, which if implemented alongside speed enforcement technology, could have similar benefits. This could provide benefits to businesses, and to individuals accessing employment opportunities and services. It may also provide opportunities to strengthen supply chains locally, regionally and nationally, the benefits of which would vary geographically.

Road closures have a greater impact on connectivity in more rural areas of the country, with limited or no alternative routes often causing lengthy diversions or significant delays. Improved resilience, through reduced accident-related closures is therefore likely to have a greater benefit to inclusive growth in these areas.

This recommendation could increase the compliance of 20mph speed limits. It is estimated that the value of accident and casualty prevention based on 20mph speed reduction in Scotland could be between £27.1 million and £39.9 million annually[xxiv].

This recommendation is expected to have a minor positive impact on this objective in both Low and High scenarios.

5. A reliable and resilient strategic transport system that is safe and secure for users.

Low Scenario	High Scenario
+++	+++

Research undertaken on behalf of Transport Scotland suggests that measures, including lower speed limits, have contributed towards reductions in the number and severity of accidents occurring in countries comparable to Scotland, such as Norway and Sweden[xxv].

Further evidence of the benefits of improving speed limit compliance on road safety can be found in the evaluation of the road safety camera scheme implemented on the A9 (Dunblane to Inverness), as an example of a measure to improve compliance with speed limits. This indicates that road safety has improved significantly, with reductions in total casualties of almost 30%. A corresponding reduction in fatal and serious casualties of almost 20% was noted[xxvi].

Additionally, research by the UK Transport Research Laboratory has shown that every 1mph reduction in average urban vehicle speeds can be expected to result in a 6% fall in the number of casualties[xxvii]. Whilst this recommendation includes speed enforcement measures, these cannot be deployed on every route, and sites for speed enforcement need to meet the criteria set out in the Scottish Safety Camera Programme Handbook[vi]. There is recognition that a significant element of achieving enhanced compliance with speed limits therefore relies on changing attitudes and behaviours towards speed. This recommendation aims to achieve this through behavioural change campaigns.

Research has shown that people living in deprived areas are more likely to be injured in road accidents[xxviii]. Children in low socio-economic income groups are over four times more likely to be killed or seriously injured while using local streets than children of the

wealthiest income group[xxix], so are likely to benefit most from speed reduction and efforts to improve their own behaviours when walking, wheeling or cycling.

Improving road safety, through improved driver behaviour, could deliver improved journey time reliability for both strategic and local traffic. This is of particular relevance during peak periods of travel (for example, traditional morning and evening peaks in urban areas and summer peaks in rural areas).

Evidence suggests that perceived safety is a greater influence on active travel uptake than journey times. Improving speed limit compliance would tend to result in an improved sense of safety for those walking, wheeling and cycling. Increasing active travel mode share may reduce private car usage which should further improve road safety.

Long-term national, regional and local road safety campaigns promoting safer road user behaviour can reduce road safety fears, including those of people travelling (or considering travelling) actively (more than six in ten said people would be more likely to cycle than drive if they felt safer on Scotland's roads) [xxx], and can lead to a change in perceptions and road user behaviour (In March 2019, 73% of people didn't know you could get three points on your license and a £100 for passing someone on a bicycle too closely. Following the campaign 'Operation Close Pass' research in February 2020, awareness had improved by 9%) [xxxi].

Some small benefits to security may result, if more people are out and about within their communities.

This recommendation is expected to have a major positive impact on this objective in both Low and High scenarios.

3.2. STAG Criteria

1. Environment

Low Scenario	High Scenario
+	+

See Strategic Environmental Assessment (SEA) below.

This recommendation is expected to have a minor positive impact on this criterion in both Low and High scenarios.

2. Climate Change

Low Scenario	High Scenario
+	+

As fear of road danger is the biggest deterrent to use of active modes[xxxii], measures to change driver behaviour and enhance the compliance with speed limits are likely to have a positive impact on the share of trips made by walking, wheeling and cycling by reducing

real and perceived safety concerns. This recommendation would therefore help generate a modal shift from car to sustainable modes for some journeys.

Furthermore, the relationship between vehicle speed and air quality is complex and can be influenced by several factors, including consistency of driving speed and road environment[xxxiii].

Evidence suggests that driving at 55mph instead of 65mph can reduce fuel consumption by 10% to 15%. There is also evidence to suggest that reducing traffic speeds from 30mph to 20mph in urban environments and residential areas has the potential to reduce carbon emissions (along with air pollution), as a result of reducing average and top percentile vehicle speeds[xxxiv] , and also through generating modal shift from car to active modes for short journeys in urban areas.

Overall, it is anticipated that this recommendation would result in a minor positive impact in relation to Greenhouse Gas Emissions.

No impact on the Vulnerability to Effects of Climate Change or Potential to Adapt to Effects of Climate Change is anticipated.

This recommendation is expected to have a minor positive impact on this criterion in both Low and High scenarios.

3. Health, Safety and Wellbeing

Low Scenario	High Scenario
+++	+++

Research undertaken on behalf of Transport Scotland suggests that measures, including lower speed limits, have contributed towards reductions in the number and severity of accidents occurring in countries comparable to Scotland, such as Norway and Sweden[xxxv].

Further evidence of the benefits of improving speed limit compliance on road safety can be found in the evaluation of the road safety camera scheme implemented on the A9 (Dunblane to Inverness). This indicates that road safety has improved significantly, with reductions in total casualties of almost 30%. A corresponding reduction in fatal and serious casualties of almost 20% was noted[xxxvi].

Additionally, research by the UK Transport Research Laboratory has shown that every 1mph reduction in average urban vehicle speeds can be expected to result in a 6% fall in the number of casualties[xxxvii]. Whilst this recommendation includes speed enforcement measures, these cannot be deployed on every route, and sites for speed enforcement need to meet the criteria set out in the Scottish Safety Camera Programme Handbook[vi].

There is recognition that a significant element of achieving enhanced compliance with speed limits therefore relies on changing attitudes and behaviours towards speed. This recommendation aims to achieve this through behavioural change campaigns.

Research has shown that people living in deprived areas are more likely to be injured in road accidents[xxxviii]. Children in low socio-economic income groups are over four times more likely to be killed or seriously injured while using local streets than children of the wealthiest income group[xxxix], so are likely to benefit most from speed reduction and efforts to improve their own behaviours when walking, wheeling or cycling.

Evidence suggests that perceived safety is a greater influence on active travel uptake than journey times. Improving speed limit compliance would tend to result in an improved sense of safety for those walking, wheeling and cycling. Increasing active travel mode share may reduce private car usage which should further improve road safety.

Slower traffic speeds are also anticipated to increase levels of active travel, contributing to physical health and mental wellbeing. No impact on access to health and wellbeing infrastructure is anticipated, but some small benefits to security may result, if more people are out and about within their communities.

Long-term national, regional and local road safety campaigns promoting safer road user behaviour can reduce road safety fears, including those of people travelling (or considering travelling) actively ((more than six in ten said people would be more likely to cycle than drive if they felt safer on Scotland's roads)[xl], and can lead to a change in perceptions and road user behaviour (In March 2019, 73% of people didn't know you could get three points on your license and a £100 for passing someone on a bicycle too closely. Following the campaign 'Operation Close Pass' research in February 2020, awareness had improved by 9%)[xli].

This recommendation is expected to have a major positive impact on this criterion in both Low and High scenarios.

4. Economy

Low Scenario	High Scenario
+	+

Reducing the number of accidents on the road network would provide a benefit to the economy not only through improved operation, but also due to a reduction in the costs to the Scottish economy associated with these types of accidents. The average annual socio-economic cost of road traffic accidents represents between 1.5% and 2% GDP in middle to high income countries[xlii].

Improving road safety, through improved driver behaviour, could deliver improved journey time reliability for both strategic and local traffic. This is of particular relevance during peak periods of travel (for example, traditional morning and evening peaks in urban areas and summer peaks in rural areas). Evaluation of the A9 road safety camera scheme indicates that the variability of journey times between Perth and Inverness reduced by over 3 minutes[xliii]. This would be of benefit to industries, particularly those that transport perishable goods such as the fishing and aquaculture sectors. Increases in overall journey

times however have been noted, likely as a result of an increase in adherence to speed limits[xliv].

As well as improving driver behaviour, road safety campaigns can be effective at encouraging and enabling more people to make local journeys by active and public transport modes more often, so supporting local businesses and services[xlv]. They can also aid access to training and employment[xlvi].

The enhanced resilience provided by the options, through reducing unplanned road closures, may positively influence business confidence and associated inward investment, providing benefits to businesses and to individuals accessing employment opportunities and services. Fewer road closures in rural areas creates greater resilience for these areas that are disproportionately affected by accident-related closures.

This recommendation is expected to have a minor positive impact on this criterion in both Low and High scenarios.

5. Equality and Accessibility

Low Scenario	High Scenario
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Research has shown that people living in deprived areas are more likely to be injured in road accidents[xlvii]. Children in low socio-economically disadvantaged groups are over four times more likely to be killed or seriously injured while using local streets than children of the wealthiest income group[xlviii], so are likely to benefit most from speed reduction and efforts to improve their own behaviours when walking, wheeling or cycling.

The main barrier to active travel is real or perceived road safety issues, and a reduction in road speeds can be an important motivator to taking up walking, wheeling and cycling[xlix]. Barriers to transport, including to active travel, are amplified when inequalities already exist; this is the case for women, older people, disabled people, people from ethnic minority groups and people at risk of deprivation[l], so members of these groups may realise particular benefits.

Potential enhancements in resilience, provided as a result of reducing the likelihood of road closures, could aid community accessibility, particularly for rural and remote communities, through better, more reliable access to services, both locally and further afield.

This recommendation is expected to have a moderate positive impact on this criterion in both Low and High scenarios.

3.3. Deliverability

1. Feasibility

All elements of this recommendation are readily feasible, with significant experience of the delivery of speed enforcement technology and road safety campaigns, education and

training initiatives.

Speed enforcement technology has previously been introduced on a number of routes across the country, including on the A9 (Dunblane to Inverness), A77 (Symington to Girvan), A90 (Dundee to Stonehaven) and A85 (Lix Toll to Tyndrum), as well as at individual locations and through the use of mobile units. Specific criteria does need to be met which is set out in the Scottish Safety Camera Programme Handbook[v].

Speed enforcement technology options would typically be implemented by Transport Scotland. Enforcements on local roads would be implemented by the relevant local authority, with Transport Scotland performing a role to support and facilitate implementation, in part through funding and the development of guidance and best practice.

There is also a wealth of experience of the effective delivery of road safety campaigns, education and training initiatives including those by Road Safety Scotland (RSS) and Cycling Scotland. RSS campaigns have been recognised widely in the creative industry, winning awards for their work.

Delivery of campaigns and initiatives would be undertaken at a local, regional and national level by local authorities, Regional Transport Partnerships and Transport Scotland, as well as a range of other public and third sector delivery partners.

2. Affordability

Overall, the implementation costs for wider roll out of locations and/or scale of schemes in relation to speed enforcement technology is likely to be substantial. Schemes would also require revenue funding for operation and maintenance, which could be a determining factor in the timing of schemes' roll out; likely needing to be phased to match funding availability.

Behavioural change campaigns, education and training initiatives are readily implementable and are of comparatively low cost, noting that interventions are readily scalable both in geographic coverage and level of output. They would likely have greater impact if delivered on an on-going rolling programme as opposed to one-off major investment. As a result, they could be scaled accordingly depending on the availability of funding.

3. Public Acceptability

In general, options to improve road safety are likely to receive broad public support. The strength of support tends to reflect levels of concern about traffic speeds; for example, households with children tend to be most concerned about safety and are also more supportive of speed limit reductions[li].

Evidence from the Edinburgh 20mph scheme highlights generally a very good level of public support for the reductions in speed limits and traffic speed, although some pre-implementation concerns about local effects on congestion and increased journey times were recorded[lii]

While measures such as road safety cameras are not universally well received or supported, the level of public support for safety cameras in Scotland is high. This is demonstrated by results from road user attitudes and behaviours perception surveys consistently showing that over 70% of respondents agree with the use of safety cameras[liii].

However, there is the potential for some negative perceptions with a small proportion believing safety cameras are an easy way of generating income from of motorists.

Many behavioural change and training initiatives have been, or are being, delivered in Scotland. They tend to have broad public support from organisations and members of the public.

3.4. Statutory Impact Assessment Criteria

1. Strategic Environmental Assessment (SEA)

Low Scenario	High Scenario
+	+

There are no significant effects predicted in relation to greenhouse gas reduction and climate change adaptation (Objectives 1 and 2) as the options are not anticipated to lead to a significant reduction in greenhouse gas emissions or adapt the transport network to the effects of climate change.

This recommendation is likely to result in positive effects for four SEA Objectives that fall under the population and human health SEA topic. These objectives are related to quality of life and sustainable accessibility, noise and vibration, the public realm and safety (Objectives 4 to 7). The positive scores are derived from the aims of this recommendation to improve safety of the road network and street environments, which in turn would encourage greater use of sustainable active travel options and prioritise pedestrians and cyclists in the public realm. In addition, road traffic travelling at slower speeds may also result in positive effects by reducing noise and vibration (Objective 5) and improving air quality (Objective 3), due to a reduction in fuel consumption.

No significant effects are expected for the sustainable use of the transport network and natural resource usage (Objectives 8 and 9) as the options would not significantly promote and improve the sustainable use of the transport network (by low carbon transport modes) or reduce the use of natural resources. Finally, negligible effects were predicted in relation to Objectives 10 to 14 (water environment, biodiversity, soil, cultural heritage and landscape and visual amenity) as the options for this recommendation would not cause any significant effects upon these environmental topics.

This recommendation is expected to have a minor positive effect on this criterion in both Low and High scenarios.

2. Equalities Impact Assessment (EqIA)

Low Scenario	High Scenario
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The main barrier to active travel is road danger, and a reduction in local road speeds can be an important motivator to taking up walking, wheeling and cycling[liv]. Barriers to transport, including active travel, are amplified when inequities already exist; this is the case for women, older people, disabled people, people from ethnic minority groups and people at risk of deprivation[lv], so members of these groups may realise particular benefits.

In addition, reductions in noise and vibration and potential improvements in air quality, as a result of traffic travelling at slower speeds and reductions in fuel consumption, are likely to benefit those who are more vulnerable to the adverse effects of traffic related noise and emissions including children, older people and disabled people.

This recommendation is expected to have a moderate positive impact on this criterion in both Low and High scenarios.

3. Island Communities Impact Assessment (ICIA)

Low Scenario	High Scenario
+	+

Aspects of this recommendation related to the trunk road network are not relevant to island communities. However, improved safety of the road network more generally would be of benefit to island communities both for local journeys and travelling to and from ferry- and air- ports and terminals on the mainland.

This recommendation is expected to have a minor positive impact on this criterion in both Low and High scenarios.

4. Children's Rights and Wellbeing Impact Assessment (CRWIA)

Low Scenario	High Scenario
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The biggest concern of adults when it comes to children walking and cycling is traffic danger[lvi], so lessening this danger by reducing traffic speeds can enable many more children to gain access to a wider variety of opportunities independently and use healthy modes. Children, especially in low social economic income groups, are over four times more likely to be killed or seriously injured while using local streets than children of the wealthiest income group[lvii], so may particularly benefit from investments to improve road safety.

Therefore this recommendation is likely to lead to improvements for child rights and wellbeing due to a reduction in the perceived danger of road accidents and casualties.

Improving the safety of active travel could also promote a modal switch from car travel,

thereby reducing the impact of car related issues, such as accidents and emissions, which disproportionately affect children and young people.

This recommendation is expected to have a minor positive impact on this criterion in both Low and High scenarios.

5. Fairer Scotland Duty Assessment (FSDA)

Low Scenario	High Scenario
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Research has shown that people living in deprived areas are more likely to be injured in road crashes[lviii]. Children in socio-economically disadvantaged groups are over four times more likely to be killed or seriously injured while using local streets than children of the wealthiest income group[lix], so are likely to benefit most from speed reduction and efforts to improve their own behaviours when walking, wheeling or cycling.

Deprived communities commonly experience higher levels of traffic and associated local air pollution, road safety risks and physical inactivity with evidence showing that low socio-economic status is associated with higher road traffic fatalities.

People living in deprived areas are more exposed to road traffic injuries amongst vulnerable groups such as pedestrians, cyclists and motorcyclists and nearly half of the victims in road collisions are also more concentrated in deprived neighbourhoods.

Road safety improvements can help to reduce inequalities of outcomes associated with poor physical and mental health and life chances by reducing road danger, traffic emissions and noise and increasing active travel opportunities.

This recommendation is expected to have a minor positive impact on this criterion in both Low and High scenarios.

References

[i] A Safe System involves those who manage and design the roads as well as those who use them; each is responsible for, and must contribute to, eradicating fatal and serious injuries. Ultimately, all road users are expected to use the roads safely and comply with the rules.

[ii] Road Safety Information Tracking Study (RITS), Wave 19, August 2020, https://roadsafety.scot/resources/rits-road-safety-information-tracking-study-wave-19-aug-2020

[iii] Transport Scotland, National Case for Change 2021, https://www.transport.gov.scot/media/49080/national-case-for-change-report.pdf

[iv] Transport Scotland , Reported Road Casualties Scotland 2019 – *note that whilst more recent (2020) data is available, it has not been used as not considered representative due to the impact of the COVID pandemic,* Article 2: Contributory Factors (transport.gov.scot)

[v] Transport Scotland safety-camera-annual-report-2019-20.pdf (transport.gov.scot)

[vi] Transport Scotland, Scottish Safety Camera Programme Handbook, https://www.transport.gov.scot/publication/scottish-safety-camera-programme-handbook/

[vii] Transport Scotland, Scotland's Road Safety Framework to 2030, https://www.transport.gov.scot/publication/scotland-s-road-safety-framework-to-2030/

[viii] Transport Scotland, Active Travel Framework, 2020, https://www.transport.gov.scot/active-travel/active-travel-framework/

[ix] Scottish Government, Let's get Scotland Walking - The National Walking Strategy, 2014, https://www.gov.scot/publications/lets-scotland-walking-national-walking-strategy/

[x] Transport Scotland, Cycling Action Plan for Scotland 2017 – 2020, 2017, https://www.transport.gov.scot/publication/cycling-action-plan-for-scotland-2017-2020/

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