STRATEGIC TRANSPORT PROJECTS REVIEW

PROTECTING OUR CLIMATE AND IMPROVING LIVES

Appendix I: Recommendation Appraisal Summary Tables

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1. Detailed Appraisal Summary

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

1.1. Recommendation 1 - Connected neighbourhoods

Recommendation Description

This recommendation would deliver comprehensive, cohesive networks of high-quality active travel routes radiating for approximately 800m from key locations in town or neighbourhood centres, better connecting them with nearby residential areas and public transport nodes. The interventions would create safer, more inclusive environments for people walking, wheeling, cycling, and spending time in their local areas.

This recommendation would deliver the transport elements of 20-minute neighbourhoods (10 minutes there, 10 minutes back) that were a commitment of the 2020 Programme for Government (20-minute neighbourhoods should also include a good range of non-transport related facilities and services, which are not considered in STPR2, hence that terminology not being applied to this recommendation). Options would be determined by local circumstances but are expected to include:

- More equitable balance between transport modes making for a more welcoming and inclusive environment for people;
- Reallocation of road space to better provide for walking, cycling and wheeling;
- Improved surfacing and lighting of foot and cycle ways;
- Improved cycle parking;
- Improved integration of and access to bus/rail services;
- Removal and/or rationalisation of on-street parking;
- Measures to reduce traffic volumes and/or speeds;
- Improved road crossing points;
- Urban realm improvements;
- Connections to Active Freeways and other active travel routes to enable longer-distance active journeys.

1.2. Relevance

Relevant to towns and neighbourhood centres in cities

Connected neighbourhoods are likely to be relevant to:

- All of Scotland's towns; and
- Neighbourhood centres in all of Scotland's cities.

This recommendation would benefit a large proportion of the Scottish population:

- If implemented in neighbourhood centres in the four largest cities (70-100 schemes), 350,000-500,000 people would live within the improved areas;
- If implemented in neighbourhood centres in all cities and relevant towns (350-500 schemes), 1.3M-1.9M people would live within the improved areas.

1.3. Estimated Cost

Capital £2,501m - £5,000m

Capital costs for implementation of Connected neighbourhoods would depend on local circumstances but would typically be in the range of £5m to £10m per site. Based on the extent or implementation outlined above, the total capital cost estimate is therefore £350m (four largest cities only) to £5,000m (all cities and relevant towns).

Increased revenue funding would be required if the facilities provided are to be maintained to a high standard.

1.4. Position in Sustainable Investment Hierarchy

Reduces the need to travel unsustainably

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

- Provide fair access to services we need;
- Be easy to use for all;
- Be affordable for all;
- Help deliver our net-zero target;
- 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	+++	+++	+++	+	+++	+	+	+++	+	+++	+	+++	+	+++	+++

This recommendation makes a strong contribution to the STPR2 Transport Planning Objectives (TPOs), STAG criteria, and Statutory Impact Assessment criteria. This assessment conclusion is based on a wide body of evidence from other locations in the UK and beyond where similar schemes have been implemented successfully, with considerable benefits realised.

Connected neighbourhoods particularly contribute to objectives for social inclusion and health, and can also assist in meeting goals for environmental improvement and inclusive economic gain.

Connected neighbourhoods are implementable from a feasibility perspective in Scotland's urban areas, although costs of comprehensive implementation would be

substantial. Detailed local engagement and design work would be required to identify the most appropriate locations and types of intervention.

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
▪ **Air Quality:** transport, and road transport in particular, remains a significant contributor to poor air quality. Air pollution increases the risks of diseases such as asthma, respiratory and heart disease, particularly for those who are more vulnerable. Air quality is often worse in areas of deprivation and is a health inequality issue. ▪ **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. ▪ **Social Isolation:** there is increasing recognition of social isolation and loneliness as major public health issues that can have significant impacts on physical and mental wellbeing. Disabled people in particular can feel trapped due to a lack of accessible transport, particularly on islands and in remote and rural areas. ▪ **Global Climate Emergency:** the Scottish Parliament committed to an ambitious target of net zero emissions by 2045 and transport needs to play its part. Transport is currently Scotland's largest sectoral emitter, responsible for 37% of Scotland's total greenhouse gas emissions (Greenhouse gas emissions encompass CO_2 emissions)[i] in 2018[ii]. Our transport system needs to minimise the future impacts of transport on our climate. ▪ **Physical Activity:** the importance of active travel is becoming more evident as the consequences of physical inactivity are studied. It is recognised that one of the most effective ways to secure the required 30 minutes of moderate activity per day is to reduce reliance on motorised transport, changing the means of everyday travel to walking and cycling[iii].

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

- Active freeways and cycle parking hubs (2)
- Village-town active travel connections (3)
- Connecting towns by active travel (4)
- Long-distance active travel network (5)
- Increasing active travel to school (8);
- Improving access to bikes (9)
- Expansion of 20mph limits and zones (10); and
- Improving active travel on trunk roads through communities (37).

Other areas of Scottish Government activity

- Active Travel Framework (2020)[iv];
- The National Walking Strategy (2014)[v];
- Cycling Action Plan for Scotland (CAPS) (2017)[vi];
- Town Centre Action Plan (2013)[vii];
- The Place Principle[viii];
- The Programme for Government[ix]; and
- Revised Draft Fourth National Planning Framework (Revised Draft NPF4)[x].

In some instances, infrastructure improvements may require reallocation of road space away from other modes. Where this is the case, design stages would require to balance the sometimes-conflicting aspirations for improved active travel routes with those for bus priority, local access and servicing, and aspirations to reduce traffic pollution and congestion.

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
+++	+++

Modal shift of short-distance trips from car to more sustainable modes of transport (including walking, wheeling and cycling) reduces levels of air pollution and greenhouse gases[xi]. Research carried out in Waltham Forest showed that interventions to reallocate road space from general traffic resulted in 56% reduction in motor traffic on average within one mini-Holland scheme area[xii].

Evidence also suggests that the interventions put forward in this option would positively encourage people to switch to a more active mode of travel for everyday journeys. Research found that, a year after implementation of mini-Holland schemes, it was 24% more likely that respondents had used a bike in the past week and people living near to where schemes had been implemented had increased their past-week time spent walking and cycling by an extra 41 minutes; 32 of the extra 41 minutes were walking, and nine cycling[xiii].

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

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

Low Scenario	High Scenario
+++	+++

Interventions in this recommendation would enhance inclusiveness by improving connections to local shops and facilities without use of private transport, and so using modes that are accessible to almost everyone. This would reduce transport poverty to disadvantaged and vulnerable users and improve mobility and inclusion. Up to 1.9M people could benefit if Connected neighbourhoods were introduced in town and city locations across Scotland. Local active travel interventions would also enable more people to access public transport nodes (rail stations and bus stops,), safely and conveniently.

Road danger is the biggest single barrier to active travel use[xiv], with children and older people particularly affected. Inaccessible cycle infrastructure is the single biggest difficulty faced by disabled cyclists in the UK[xv] as well as a significant barrier to users of adapted cycles. Women are under-represented in cycling (STPR2 Active Travel Statistics Summary: Gender)[xvi].

Improved local infrastructure can help overcome barriers for members of these and other disadvantaged groups.

People living within a Low Traffic Neighbourhood (LTN) area, which introduced many similar measures to a Connected Neighbourhood, are less likely to own a car with a 20% decrease in probability of car ownership[xvii].

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

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

Low Scenario	High Scenario
+++	+++

Active travel is beneficial to physical health and mental wellbeing. Keeping physically active can reduce the risk of heart and circulatory disease by as much as 35% and risk of early death by as much as 30%, and has also been shown to greatly reduce the chances of asthma, diabetes, lower blood pressure and cancer[xviii]. Adults who cycle regularly can have the fitness levels of someone up to 10 years younger[xix]. People living in a walkable, mixed use neighbourhood have higher levels of social capital which positively support wellbeing[xx]. Improved public realm allows for people to gather and socialise. Studies have linked the quality of public spaces to people's perceptions of attractiveness of an area, contributing towards their quality of life.

By creating more pleasant, accessible, safe communities, this recommendation would help realise these outcomes, with particular benefits likely to be realised by some of those people often disadvantaged at present (including children and disabled people). Up to 1.9M people could live in areas that would benefit from improvements if Connected neighbourhoods were introduced in all relevant town and city locations across Scotland.

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

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

Low Scenario	High Scenario
+	+

Reallocating road space and prioritising active modes can have economic benefits and provide better spaces for people to live, work and shop in. Typical increases in footfall in retail areas of up to 20-30% result[xxi]. Regeneration of the public realm can boost commercial trade, increase local retail sales, raise rental rates and property values and provide opportunity for cost-saving cycle freight[xxii].

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

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

Low Scenario	High Scenario
+++	+++

Improved pedestrian and cycling infrastructure together with other interventions such as speed reduction can significantly reduce road casualties. In 2018, 86% of cycling casualties and 95% of pedestrian casualties in Scotland occurred on built-up roads, with a speed limit of 40mph or less[xxiii]. Accident survival rates are between about three[xxiv] and five[xxv] times higher when a pedestrian is hit by a car driving at 20mph, compared to 30mph. The introduction of a Low Traffic Neighbourhood (LTN) in a London suburb led to a three-fold decline in the number of injuries in the area and estimated that walking, cycling and driving all became approximately 3-4 times safer per trip[xxvi].

Public realm improvements such as the provision of street lighting can prevent road traffic collisions and increase pedestrian activity through reduction in the fear of crime[xxvii]. More people walking, wheeling and cycling in and around neighbourhood centres would increase natural surveillance and so improve personal security.

Findings from Waltham Forest, London, where an LTN has been implemented, shows that street crime reduced by 18% in the 3 years following implementation[xxviii].

This recommendation could also improve the resilience and reliability of the transport network through modal shift from car to active travel journeys, resulting in reductions in road congestion. Active travel infrastructure tends to be reliable for users, provided appropriate maintenance is undertaken, as users are largely independent from the actions of others (so not subject to delays or diversions caused by operational problems on public transport or road networks). This recommendation is expected to have a major positive impact on this objective in both the 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 the Low and High scenarios.

2. Climate Change

Low Scenario	High Scenario
+	+

This recommendation would help generate a modal shift from car to active modes for short and medium-length journeys and would thus lead to a modest reduction in 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 the Low and High scenarios.

3. Health, Safety and Wellbeing

Low Scenario	High Scenario
+++	+++

Improved pedestrian and cycling infrastructure together with other interventions such as speed reduction can significantly reduce road casualties. In 2018, 86% of cycling casualties and 95% of pedestrian casualties in Scotland occurred on built-up roads, with a speed limit of 40mph or less[xxix]. Accident survival rates are between about three[xxx] and five[xxxi] times higher when a pedestrian is hit by a car driving at 20mph, compared to 30mph. The introduction of a Low Traffic Neighbourhood (LTN) in a London suburb led to a three-fold decline in the number of injuries in the area and estimated that walking, cycling and driving all became approximately 3-4 times safer per trip[xxxii].

More people walking, wheeling and cycling in and around neighbourhood centres would increase natural surveillance and so improve personal security. Public realm improvements such as the provision of street lighting can prevent road traffic collisions and increase pedestrian activity through reduction in the fear of crime[xxxiii]. Findings from Waltham Forest, London, where an LTN has been implemented, shows that street crime reduced by 18% in the 3 years following implementation[xxxiv].

Walking, wheeling and cycling locally allows more people to feel connected with their local community and would improve public health. Furthermore, access to health and wellbeing infrastructure via active travel modes would be improved. Improved public realm allows for people to gather and socialise. Studies have linked the quality of public spaces to people's perceptions of attractiveness of an area, contributing towards their quality of life. Up to 1.9M people could live in areas that would benefit from improvements if Connected neighbourhoods were introduced in all relevant locations across Scotland.

Some adverse effects on visual amenity could be anticipated during the construction period; however, these interventions are unlikely to result in significant adverse effects on visual amenity during operation.

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

4. Economy

Low Scenario	High Scenario
+	+

There is published evidence of benefits of improvements to public realm, walking and cycling to support to local and national economies.

Well-planned regeneration of the public realm and accompanying enabling of active travel, using measures of the types proposed in this recommendation, can typically boost local retail trade by up to 20-30%[xxxv].

Residential property values rise 1% if motor vehicle traffic is reduced by 50%[xxxvi].

Cycle parking can deliver five times the retail spend per square metre than the same area of car parking[xxxvii]. Over a month, people who walk to local high streets spend up to 40% more than people who drive to the high street[xxxviii].

No significant impact on Transport Economic Efficiency is anticipated. This recommendation is expected to have a minor positive impact on this criterion in both the Low and High scenarios.

5. Equality and Accessibility

Low Scenario	High Scenario
+++	+++

Public realm improvements which support walking and wheeling have a role to play in increasing inclusion and reducing inequality. In Scotland, around three in ten households (28%) did not have access to a car in 2019, and a much higher proportion of people cannot drive[xxxix].

There are many social and community benefits associated with improving conditions for local active travel particularly to young people, older people and people with disabilities, all of whom are more likely to be restricted from accessing services and facilities by traffic dominated environments and other local barriers.

This recommendation would extend active travel networks but would not impact on public transport network coverage. Affordability is also unlikely to be impacted by this recommendation.

Also refer to EqIA/ICIA/FSDA/CRWIA Assessment in the next section.

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

3.3. Deliverability

1. Feasibility

Connected neighbourhoods are readily feasible and would comprise more extensive roll-out of interventions for which there is already significant experience of implementation in Scotland and elsewhere.

However, the feasibility at any specific location remains to be tested, and much detailed development work and local decision-making is required to identify the most appropriate solutions and their preferred fit with the urban realm.

Very few of the interventions would be on/adjacent to the trunk road network, so projects would typically be for local authorities to lead. Transport Scotland's role could be to support and facilitate implementation, largely in a sponsor or funding role.

2. Affordability

Given the scale of investment required to deliver interventions around town and neighbourhood centres across Scotland, delivery of this recommendation would likely be phased over a number of years and would require further assessment to determine the most appropriate approaches in any given location. There are also likely to be revenue costs to ensure that infrastructure is well maintained.

3. Public Acceptability

Data from a survey conducted in 2020 shows that the public are in favour of measures to encourage walking and cycling with 6.5 people supporting changes to their local streets for every 1 person against[xl]. In addition, surveys in 12 UK cities, 55% of residents think too many people drive in their neighbourhood, 68% support building more cycling tracks even when this would mean less room for other road traffic, and 58% of residents would like to see more government spending on cycling[xli].

However, whilst Connected neighbourhoods interventions are typically popular overall post-implementation, some pre- and post-implementation challenges are expected from people who feel they would be adversely affected, in particular those that drive through affected areas.

3.4. Statutory Impact Assessment criteria

1. Strategic Environmental Assessment (SEA)

Low Scenario	High Scenario
+	+

This option seeks to promote and facilitate modal shift to sustainable and active travel with a focus on improved safety, user enjoyment and creating accessible spaces for all users. Up to 1.9M people could experience a positive influence on their travel choices.

The anticipated modal shift would result in a reduction in emissions of key air pollutants. Waltham Forest's LTN, which delivered measures similar in nature and scale to those being recommended as connected neighbourhoods, resulted in a 7% reduction in NOx, PM10 and PM2.5, sufficient to increase life expectancy by around 1.5 months per resident of the area[xlii].

This recommendation is likely to result in positive effects on SEA objectives for reducing greenhouse gas emissions (SEA Objective 1) and improving air quality (Objective 3), as it seeks to encourage a modal shift to more sustainable modes of travel, and, as a result, reduce levels of transport related air pollution and carbon emissions, reducing transport related noise and improving the quality of places. To increase improvements in air quality interventions could be focused in areas in or adjacent to Air Quality Management Areas (AQMAs).

This recommendation would also have a positive effect on achieving a sustainable transport network (Objective 8), quality of life (Objective 4) and safety (Objective 7) as it seeks to expand the existing active travel network, providing more active travel options, safer routes and helping to reduce noise and vibration (Objective 5) in urban and suburban areas for a significant number of the population. 1.3M-1.9M people would live within the improved areas. The influence the recommendation has on achieving high quality places (Objective 6) is yet to be determined.

There is an uncertain relationship between the proposed recommendation and climate adaptation, natural resources, water, biodiversity, soil, cultural heritage and landscape and visual amenity (Objectives 2 and 9 to 14), due to the potential construction impact of new routes. Further assessment should be undertaken to identify any significant environmental effects once the location of interventions is decided.

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

2. Equalities Impact Assessment (EqIA)

Low Scenario	High Scenario
+++	+++

This recommendation provides the opportunity to provide safer and affordable access to services. This includes access to employment, education, health facilities and other transport services, including other active travel routes, which are important to many groups with protected characteristics, including deprived urban communities who would likely benefit through this recommendation. Through the reallocation of road space and improved surfaces and crossing points, the infrastructure installed could be designed to incorporate adapted cycles and as such address mobility issues experienced by commonly-disadvantaged groups, such as women, disabled people and older people. Improved safety measures would also reduce road and personal safety concerns for active travel users, including children.

An uptake in active travel may additionally improve physical health and mental wellbeing outcomes and is also likely to lead to air quality improvements if the uptake is matched by a reduction in private vehicle use and traffic congestion. Improved health outcomes as a result of better air quality are of particular benefit to those who are more vulnerable to air pollution, including children, older people and disabled people.

However, the extent to which groups with protected characteristics would benefit from this recommendation would depend on the extent to which all listed interventions can be adopted, as it is noted that this would depend on local circumstances. In addition, the extent of benefit would depend on the location and routeing of active travel networks and facilities, their proximity to local services and the ability for people to access the network. The effects of reallocation on road space on other road users could also have potential adverse effects on certain groups such disabled people who rely on parking spaces close to essential services.

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

3. Island Communities Impact Assessment (ICIA)

Low Scenario	High Scenario
+	+

As with the EqIA assessment above, there are potential benefits for island communities in regard to improved, safer and less costly access to essential services and recreation. However, the extent to which island communities would benefit from these connected neighbourhoods would depend on the extent of the uptake in listed interventions, the location and routing of active travel facilities and network, proximity to required services and the ability for those from island communities to access the network.

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

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

Low Scenario	High Scenario
+++	+++

This recommendation is likely to lead to significant improvements for children due to a reduction in the perceived danger of road accidents and casualties; improved air quality if the uptake in active travel is accompanied by a decrease in private vehicle use and traffic congestion; better and less costly access to education and other services; and the consequential effects of improved access to services for the whole community (such as parent and carer access to employment).

However, the extent to which this recommendation would improve outcomes for children would depend on the extent that the interventions listed are adopted (especially in regard to the reallocation of road space and other safety measures), the location and routeing of the network, and its proximity to local services.

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

5. Fairer Scotland Duty Assessment (FSDA)

Low Scenario	High Scenario
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Beneficiaries of this recommendation would include deprived communities, as this recommendation could target many urban and suburban communities across Scotland with consequential positive effects on improving access to services. As well as benefitting these 'communities of place', the recommendation would additionally improve access to services for 'communities of interest', including those with lower access to private vehicle use (such as women, young people and low income households) and others who may benefit from less costly travel options. However, the extent to which this recommendation would reduce inequalities of outcome would depend on the extent that the interventions listed are adopted, the location and routing of the network, its proximity to local services and the ability for those from deprived and disadvantaged communities to access the active travel network.

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

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