

## Appendix H – EQIA

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### Introduction

WSP, on behalf of Transport Scotland, is investigating the impacts of reducing speed limits on the national road network in terms of road safety, economics, and the environment.

At this stage, two options are being considered to assess the impacts of altering speed limits:

#### Option 1

This option aims to improve road safety on rural single carriageway whilst minimising economic impacts.

- On rural single carriageways:
  - Cars and motorcycles would have a decreased speed limit of 50mph; and
  - Goods vehicles (>7.5t) would have an increased speed limit of 50mph.
- On rural dual carriageway as follows:
  - No alterations to speed limits proposed.
- On motorways:
  - No alterations to speed limits proposed.

#### Option 2

This option aims to improve road safety on the rural road network and maximise environmental benefits.

- On rural single carriageways:
  - Cars and motorcycles would have a decreased speed limit of 50mph; and
  - Goods vehicles (>7.5t) would have an increased speed limit of 50mph.
- On rural dual carriageway as follows:
  - Cars and motorcycles would have a decreased speed limit of 60mph; and
  - Goods vehicles (>7.5t) would have an increased speed limit of 60mph.
- On motorways:
  - All vehicles limited to 60mph.

Section 149 of the Equality Act 2010 outlines a 'Public Section Equality Duty' (PSED), which obliges public authorities to have due regard when implementing strategic policy to eliminate discrimination. This requires authorities to eliminate unlawful discrimination, advance equality of opportunities, and foster good relations between persons on grounds of sex or marital status, on racial grounds, or on grounds of disability, age, sexual orientation,

language or social origin, or of personal attributes, including beliefs or opinions, such as religious beliefs or political opinions.

The Equality Act 2010 (Specific Duties) (Scotland) Regulations 2012 require listed authorities to undertake an impact assessment in relation to the needs outlined in section 149(1) of the Act and alter the proposed policy (where relevant) to ensure none of the aforementioned protected groups face discrimination.

This technical note provides an initial look at the evidence base, and peer reviewed literature, to identify whether any of the eight protected groups will face any discrimination if either of the two options proposed at this stage are implemented as policy. If any groups are identified to face discrimination based on the implementation of any option, mitigations will be suggested, and further work will need to be completed after changes have been suggested.

## Expected Benefits & Disbenefits

It is expected that there will be benefits and disbenefits resulting from the proposed options. This section outlines what the expected benefits and disbenefits are for each option (summarised in Table H-1), and how they are expected to affect the general population.

**Table H-1 – Proposed Speed Management Options**

Option	Single carriageways (All other vehicles)	Single carriageways (HGVs)	Dual carriageways and motorways (All other vehicles)	Dual carriageways and motorways (HGVs)
Status Quo	60 mph	40 mph	70 mph	50 mph (dual carriageway) 60 mph (motorway)
1	50mph	50mph	*70mph	*50 mph (dual carriageway) *60 mph (motorway)
2	50mph	50mph	60mph	60mph

\*No change from status quo.



## Option 1

Option 1 will result in a decrease in speed for cars travelling on single carriageway roads. The estimated impacts of on key appraisal categories are summarised in Table H-2, based on the assessments carried out by WSP alongside the preparation of this EqIA scoping note.

Full details of all assessments are included in the supporting assessment report.

**Table H-2 – Option 1 Future Appraisal Summary**

<b>Category appraised</b>	<b>Without Policy and 100% Compliance</b>	<b>With Policy and 100% Compliance</b>	<b>Without Policy and Realistic Compliance</b>	<b>With Policy and Realistic Compliance</b>
<b>Environment – noise climate</b>	Minor benefit	Minor benefit	No impact or benefit	No impact or benefit
<b>Environment – local air quality (airborne particulate matter)</b>	No impact or benefit	No impact or benefit	No impact or benefit	No impact or benefit
<b>Environment – local air quality (Nitrous Oxide emissions)</b>	No impact or benefit	No impact or benefit	No impact or benefit	No impact or benefit
<b>Climate Change – Greenhouse Gas Emission</b>	No impact or benefit	No impact or benefit	No impact or benefit	No impact or benefit
<b>Health, Safety and Wellbeing – accidents (All severity)</b>	Moderate benefit	Moderate benefit	Moderate benefit	Moderate benefit
<b>Economy – Economic efficiency of the transport system</b>	Moderate negative impact	Moderate negative impact	Moderate negative impact	Minor negative impact

<b>Comparative Access by Geographic Location</b>	No impact or benefit	No impact or benefit	No impact or benefit	No impact or benefit
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## Option 2

Option 2 will result in a decrease in speed for cars travelling on single and dual carriageway roads, and on motorways. The estimated impacts of on key appraisal categories are summarised in Table H-3, based on the assessments carried out by WSP alongside the preparation of this EqlA scoping note.

Full details of all assessments are included in the supporting assessment report.

**Table H-3 – Option 2 Future Appraisal Summary**

<b>Category appraised</b>	<b>Without Policy and 100% Compliance</b>	<b>With Policy and 100% Compliance</b>	<b>Without Policy and Realistic Compliance</b>	<b>With Policy and Realistic Compliance</b>
<b>Environment – noise climate</b>	Minor benefit	Minor benefit	No impact or benefit	No impact or benefit
<b>Environment – local air quality (airborne particulate matter)</b>	No impact or benefit	No impact or benefit	No impact or benefit	No impact or benefit
<b>Environment – local air quality (Nitrous Oxide emissions)</b>	Moderate benefit	Moderate benefit	Minor benefit	Minor benefit
<b>Climate Change – Greenhouse Gas Emission</b>	Minor benefit	Minor benefit	Minor benefit	Minor benefit
<b>Health, Safety and Wellbeing – accidents (All severity)</b>	Major benefit	Major benefit	Major benefit	Major benefit

Category appraised	Without Policy and 100% Compliance	With Policy and 100% Compliance	Without Policy and Realistic Compliance	With Policy and Realistic Compliance
<b>Economy – Economic efficiency of the transport system</b>	Major negative impact	Major negative impact	Major negative impact	Major negative impact
<b>Comparative Access by Geographic Location</b>	Major negative impact	Major negative impact	Minor negative impact	Minor negative impact

## Evidence Base

### Context

This section outlines the evidence base for the eight protected characteristics and establishes the current evidence base based on transport mode usage. Where there is no evidence available to provide a baseline, this is noted within the relevant subsection. Where possible, most recent data published has been used. However, as the 2021 census has yet to fully publish the results, 2011 census data has been used.

### Age

According to the [Mid-2022 Population Estimates](#), the population of Scotland was estimated to be 5,447,700 (30 June 2022). An estimated 20% of Scotland’s population were aged 65 and over, with 16% aged 0 to 4 years.

[Transport and Travel in Scotland 2021 \(Social Survey Table 20\)](#) found that driving is the most common and frequent method of travel for adults aged 20 to 69, with the following percentages of age brackets identifying they travelled by car every day :

- 34% of 20- to 29-year-olds;
- 37% of 30- to 39-year-olds;
- 42% of 40- to 49-year-olds;
- 40% of 50- to 59-year-olds; and
- 32% of 60- to 69-year-olds.

Transport and Travel in Scotland (2021), Social Survey Table 1 found younger people (aged 17 to 19) are less likely to have a driving license than those over 65. 25% of younger people hold a full driving license compared to an average of 72% for the 60 to 69, 70 to 79 and 80+ age bands. As such, younger people are less likely to drive and more likely to use public transport or a method of active travel for journeys.

Transport and Travel in Scotland (2021), Social Survey Table 13a found those aged 60 and over (76%) are also more likely to use a car or van to travel to work when compared to the Scottish average of everyone aged 16+ (71%) Transport and Travel in Scotland (2021), Social Survey Table 15 found younger people are less likely to make their regular daily journey (travel to education rather than work) via a car, with only 22% of those aged 4 to 18 identifying that the car is their usual method of travelling to school.

Scottish Health and Inequality Impact Assessment Network Report found that older people are more vulnerable to the impact of air pollution and injury from collisions. Air pollution has been identified as a cause of premature death, with a study estimating 15,000 – 20,000 premature deaths due to exposure of PM2.5. Those aged 65 years or older account for 86% of premature deaths. This may be due to this age group having more preexisting conditions than younger adults.

Those aged 65 or over accounted for 23% of the pedestrians injured or killed within the UK from the 2019 data, while this group accounted for only 18.5% of the population. Niebuhr, Junge and Rosen found that this may be due to the increased frailness of their aging skeletal system; for example, in a collision at 37mph or above, those aged over 65 have a 100% risk of death, compared to 50% for adults aged 18 – 65. Additionally, a study analysing the demographics of drivers involved in collisions on the German Autobahn network found that older drivers tend to be involved in more severe collisions. This was due to older drivers having slower reactions than adults in other age brackets.

Children are also affected by the impact of air pollution and injury from collisions. A review of various peer reviewed studies on the effects of air pollution on newly born children to those aged 5. The review identified that there is a higher risk of developing asthma, allergies, cancer, developmental disorders (including autism), ear infections and, eczema in areas with NO2 exposure, including some within World Health Organisation limits. Children also are more likely to be injured in car accidents. A study in Singapore analysed the demographics of road traffic collisions. The study identified that child pedestrians were more likely to be involved in a collision and have serious injuries, due to their level of physical, sensory and cognitive development.

## **Disability**

In the 2011 Scottish Census, 23% of people aged 16 and over had no access to a car or van, 40% had access to one and 36% had access to two or more. However, people with a limiting long-term health condition or disability were less likely to have access to a car or van. Those who were 'limited a lot' had the lowest car access with 46% of people having no

access to a car or van. People who were 'limited a lot' by a long-term health problem or disability were the least likely to drive to work (51%) and were most likely to work mainly at or from home (15%).

More recent data from [Transport Scotland's Disability and Transport 2021 Publication](#) identifies the mode splits of those who identify as disabled when making all types of journeys. When compared to the general population in Scotland, disabled people are less likely to drive (43% vs 54%), and more likely to be a car or van passenger (17% vs 11%), take the bus (9% vs 6%), or walk (26% vs 23%).

A study which reviewed previous research findings on the scale of injuries faced by disabled pedestrians when involved in a motor vehicle collision identified that disabled people experience greater risk of injury from pedestrian-motor vehicle collisions. [The Journal of Transport and Health](#) found that disabled people are also four times more likely to be involved in a collision when compared to non-disabled people. This was identified to be due to road environments, rather than physical disability.

These statistics refer to those who identify as disabled, however the granularity of data is not available to distinguish between types of impairment.

A [study conducted in the United States](#) found that wheelchair users are more likely to be fatally injured in collisions, where they are pedestrians, with a 36% higher mortality rate than the general population.

Those with a respiratory condition (such as Asthma, and COPD) are significantly affected due to air pollution. 33% of respondents to a [survey](#) who indicated they had a lung condition, indicated that they did not leave their home when air pollution is high. During the COVID-19 Lockdowns, air quality significantly improved due to lower emissions from transport, resulting in a 41% reduction in [adult asthma hospital stays](#). Both these studies highlight the effects of pollution on those who identify as having a respiratory disability.

No relevant literature or data was found specifically relating to those who are B/blind, D/deaf, relating to mental health, neurodiversity, or dementia.

## **Race**

In the [2011 Scottish Census](#), those who identified as either White Scottish, White British, White Polish, or Other White were more likely to travel to work by car (65%, 68%, 54%, and 39%) when compared to Asian (48%) and other ethnicity groups (39%).

A [study in the United States](#) calculated estimates of person-miles by modes and race/ethnicity group derived from the 2017 data. According to the study, those who identify as Black are more likely to be killed across all modes of transport (car, walking and cycling), at a rate of four times more than those who are white. The specific statistics are:

- Non-Hispanic Blacks experience a passenger vehicle fatality rate 73% higher than non-Hispanic whites;

- Non-Hispanic Blacks experience a pedestrian (walking) death rate 118% higher than non-Hispanic whites;
- Non-Hispanic Blacks experience a cycling fatality rate 348% higher than non-Hispanic whites; and
- Non-Hispanic Asians experience the lowest rates across all three transportation modes.

Another study in the United States also indicated that Black Americans had the highest fatality rates per mile travelled, regardless of if they are pedestrians, cyclists, or drivers of a car. A reason for this was not derived from the analysis.

While it is recognised that car usage is higher in the United States and demographic composition of the general population is different from Scotland, this study still provides relevant insights. For the purposes of this EqIA, it has been assumed that similar disproportionate impacts also apply in Scotland.

## **Sex**

In Scotland, men drive more frequently than women, with 49% of men driving everyday compared to 38% of women who drive everyday (Scottish Household Survey, 2019, reported in Scottish Transport Statistics no.39, 2020).

A study on collision on the German Autobahn network indicated that women were more likely to be involved in moderate and slight collisions compared to men. This was supported by a study in the United States that suggested seat-belted woman drivers in collisions had a 73% higher chance of serious injuries than male drivers wearing a seatbelt. This could be due to the design of cars and crash test dummies, which test the collision protection on average male physiology potentially leading to a greater risk of injury for women.

Another study within the United States analyses the frequency of collisions based on mileage driven by sex. Male drivers were found to have higher driver exposure (33% more vehicle miles travelled per driver in 2009) but had a lower incidence of crashes when compared to women (1.26 vs 1.52 injurious crashes per million vehicle miles).

However, Scottish national statistics indicate that male drivers in 2022 had a collision rate of 1.3 per thousand population, and female drivers had a rate of 0.8. Male drivers aged 17-25 have the highest collision rate of 2.0 per thousand population.

## **Pregnancy and Maternity**

According to a UK study, road traffic collisions account for more than half of all maternal trauma. In this study of 15,140 female trauma patients, 1% were pregnant, however maternal mortality rates were higher than the non-pregnant female trauma patients.

Research suggests that the standard 3-point seatbelt may ride up on the pregnant abdomen, particularly on those who carry low, which in a collision, increases force to the with a corresponding increased risk of fetal injury.



There is no relevant literature or data available relating to maternity.

## **Religion or Belief**

In Scotland, the highest proportion of the population reported having no religion, with 36.7% of responses in the [2011 census](#). This was followed by, Church of Scotland (32.4%), Roman Catholic (15.9%), religion not stated (7%), other Christian (5.5%), and Muslim (1.4%).

Sikhs had the highest access to cars, with 52% having access to two or more cars. Hindus had the lowest car access, with 42% living in households with no access to a car or van. Of those who indicated they did not follow any religion, 23% had no access to a car or van, 40% had access to one car or van, and 36% had access to two or more cars or vans.

Only those who were recorded as 'Church of Scotland' had a higher-than-average proportion of people who drove to work (60%). Hindus were the least likely to drive to work (37%). 55% of those who identified as no religion drove to their place of work.

There are no peer reviewed studies available on the likelihood or severity of collision injury or the impact of speed changes similar to those proposed on any specific religious group.

## **Sexual Orientation**

There is limited information on the transport preferences and experiences of LGBTQI+ people, and there are no peer reviewed studies available on the impact of speed changes similar to those proposed on this group.

## **Gender Reassignment**

There are no peer reviewed studies available on the impact of speed changes similar to those proposed on this group.

## **Marriage and Civil Partnership**

The Scottish Government does not require assessment against this protected characteristic unless the policy or practice relates to work.



## **Assessment of Equalities Impacts**

The evidence based outlined in the previous section has been used to identify whether there is a positive (✓), negative (✗), neutral (-), or no impact (~) identified for both proposed policies. Each PSED duty, and narrative around the expected effects are outlined in Table H-4.



**Table H-4 – Equality Impact Assessment**

Protected Characteristic	Option 1: Expected Groups Impacted	Option 2: Expected Groups Impacted	Rationale
Age	<ul style="list-style-type: none"> <li>■ Older people: (+)</li> <li>■ Children and young people: (+)</li> <li>■ Other age groups: No impact</li> </ul>	<ul style="list-style-type: none"> <li>■ Older people: (+)</li> <li>■ Children and young people: (+)</li> <li>■ Other age groups: No impact</li> </ul>	<p>Older people:</p> <p>(+) The anticipated decrease in collisions is expected to have a positive impact on this age group due to their higher likelihood of injury or death from a collision.</p> <p>Children and young people:</p> <p>(+) When involved in collisions, this group are more likely to be involved in a collision as a pedestrian and suffer severe injury. Therefore, the anticipated decrease in collisions is expected to have a positive impact on this age group.</p> <p>(+) Regarding local air quality, option 2 is expected to lead to a moderate improvement in levels of NO<sub>x</sub>, therefore this option is expected to provide a benefit to children as they are most at risk of health impacts caused by poor air quality.</p>



Protected Characteristic	Option 1: Expected Groups Impacted	Option 2: Expected Groups Impacted	Rationale
<p>Disability (This refers to all those who identify as having a disability or limiting long-term health condition, including, but not limited to: mobility impairment, long-term health condition, B/blind, D/deaf, mental health condition, neurodiversity, and dementia)</p>	<ul style="list-style-type: none"> <li>■ All groups of self-identified disabled people: (+)</li> <li>■ Chronic respiratory conditions: (+)</li> </ul>	<ul style="list-style-type: none"> <li>■ All groups of self-identified disabled people: (+)</li> <li>■ Chronic respiratory conditions: (+)</li> </ul>	<p>Disabled people:</p> <p>(+) The anticipated decrease in collisions is expected to have a positive impact on this group due to their higher risk of injury from a collision.</p> <p>Chronic respiratory conditions:</p> <p>(+) This group may experience a slight benefit from the slight improvement in local air quality, however this is minor.</p>



Protected Characteristic	Option 1: Expected Groups Impacted	Option 2: Expected Groups Impacted	Rationale
Race	<ul style="list-style-type: none"><li>■ Black people: (+)</li><li>■ White and other minority race groups: No impact</li></ul>	<ul style="list-style-type: none"><li>■ Black people: (+)</li><li>■ White and other minority race groups: No impact</li></ul>	Black people: (+) Black people are more likely to suffer a fatality when involved in a collision, therefore the anticipated decrease in collisions is expected to have a positive impact on this group.
Sex	<ul style="list-style-type: none"><li>■ Men: (+)</li><li>■ Women: (+)</li></ul>	<ul style="list-style-type: none"><li>■ Men: (+)</li><li>■ Women: (+)</li></ul>	Men: (+) This group have a higher collision rate, therefore the anticipated decrease in collisions is expected to have a positive impact on this group. Women: (+) Other studies also indicate that this group are more likely to be injured in a collision, therefore the anticipated decrease in collisions is expected to have a positive impact on this group.



<b>Protected Characteristic</b>	<b>Option 1: Expected Groups Impacted</b>	<b>Option 2: Expected Groups Impacted</b>	<b>Rationale</b>
Pregnancy and Maternity	<ul style="list-style-type: none"><li>▪ Pregnant women: (+)</li><li>▪ Maternity: No Impact</li></ul>	<ul style="list-style-type: none"><li>▪ Pregnant women: (+)</li><li>▪ Maternity: No impact</li></ul>	Pregnant women: (+) This group is more likely suffer a fatality in a collision, with higher mortality rates than non-maternal women. Therefore, the expected reduction in collisions is expected to have a benefit for members of this protected characteristic.
Religion or Belief (Including “no religion”)	<ul style="list-style-type: none"><li>▪ No impact</li></ul>	<ul style="list-style-type: none"><li>▪ No impact</li></ul>	No impact.
Sexual Orientation	No impact	No impact	No impact.
Gender Reassignment	No impact	No impact	No impact.



<b>Protected Characteristic</b>	<b>Option 1: Expected Groups Impacted</b>	<b>Option 2: Expected Groups Impacted</b>	<b>Rationale</b>
Marriage and Civil Partnership	N/A	N/A	The Scottish Government does not require assessment against this protected characteristic unless the policy or practice relates to work.

**Summary**

The assessment shows that both Option1 and Option 2 will result in an overall slight benefit for some protected characteristic groups, with no negative impact identified.