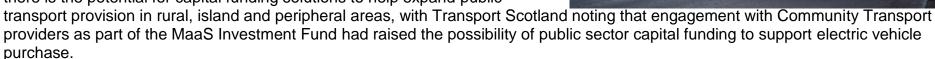
Improved public transport offering where fixed timetable services do not satisfactorily cover the needs of individuals, including consideration of demand responsive travel

## Intervention 6 – Investment in Demand Responsive Transport and Community Transport

## 1 Description of Package

The need to increase connectivity and to support improved mobility was raised across all regions during stakeholder engagement for STPR2. In some cases, this sought expansion of the fixed route network, whilst in others the emphasis was on trialling or expansion of DRT and/or Community Transport services. In particular, a number of options highlighted the role that these services could have in providing access to education, employment and healthcare, and in integrating with other services and other modes. Indeed, the need for improving these links has now been exacerbated, with the COVID-19 pandemic affecting the financial viability of bus services, particularly in more remote locations.

It is recognised that flexible services have traditionally required ongoing revenue support, which does not fall under the remit of STPR2. However, there is the potential for capital funding solutions to help expand public



A critical concern for any MaaS related projects to be delivered through Phase 1 of STPR2 will be the extent to which the digital platform – the online or app-based booking, ticketing and reservation system – can encourage travel by more sustainable modes. Therefore, while the existence of credible technology to underpin the digital platform will be key, it will also be important to assess the extent to which schemes are likely to generate additional use where it is most needed in order to improve the longer term financial sustainability of services.

The MaaS Investment Fund (MIF) was launched in June 2019, following a commitment in the 2018 Programme for Government to establish a £2m investment fund to support testing of the Mobility as a Service concept. The intention is to support pilot schemes that offer improved digital access to travel information, coupled with ticketing and payment options, so that passengers can be better informed of more sustainable ways of undertaking their journey. The emphasis of Round 1 was to support journey planning



Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

and service and ticketing integration across schemes targeted at:

- Rural and island communities;
- Assisting tourism; and
- Improving accessibility and mobility.

Round 1 of the Fund awarded just under £1m to pilot schemes proposed by HITRANS, Tactran and Dundee City Council, with the main aspects of their bids summarised as follows:

- HITRANS: covering both residents and tourists, bringing together journey planning, real time data and ticket purchasing.
- Tactran: three pilot studies, covering NHS Tayside, Loch Lomond & the Trossachs National Park and Dundee & Angus College, bringing together journey planning, real time data, facilities information, personalised booking and ticket purchasing.
- Dundee City Council: improved provision of information on travel options for those attending events and improved ticketing options at the point of purchasing event tickets.

Due to the COVID-19 pandemic, it is envisaged that these pilots will take place in 2021/22, with the MIF re-opening for Round 2 bids in January 2021. The second round of bids will retain the first and third themes but will replace the tourism theme with an emphasis on urban applications, including those that provide solutions to problems arising as a result of COVID-19.

However, for MaaS to be successful, connectivity needs to be in place first, whether through a bus-based solution, including expansion of the fixed route network or use of flexible services, such as DRT and Community Transport services, or through the provision of access to other modes of transport, such as through car clubs and cycle hire.

This theme is aimed at improving bus-based connectivity. Therefore, as part of Phase 1 of STPR2, it is recommended that capital funding should be focused on pilot schemes and demonstration projects that seek to draw on innovative solutions, perhaps supported by MaaS or smart technology where appropriate, or on international best practice in bus service provision. These schemes would help to establish whether scarce existing resources could be better utilised across the public network, home to school transport, special educational needs travel and non-emergency patient travel, either on the basis of fixed route services or through flexible routeing. Measures under this intervention could also be complementary to those outlined in Intervention 11 aimed at improving integration at ferry terminals.



#### 2 What we have heard?

The National Transport Strategy highlighted the following key challenges related to this intervention:

#### **Table 1: Challenges identified in the National Transport Strategy**

#### SOCIAL ISOLATION

Many people feel socially isolated, with 6% of adults having contact with family, friends or neighbours less than once or twice a week. There is increasing recognition of social isolation and loneliness as major public health issues that can have a significant impact on a person's physical and mental wellbeing. Transport can play a crucial role in keeping people connected, allowing them to socialise, access services and meet with friends and family face-to-face. Transport essentially allows people to be socially active and therefore positively impacts on their wellbeing.

#### POVERTY

Transport clearly has a vital role to play in helping people trapped in poverty. Yet, in many cases, those on low incomes are excluded from maintaining social connections or accessing employment opportunities due to the affordability and availability of transport options. People in low income households are more likely to travel by bus, while those in higher income households are more likely to use a car. Public transport is therefore very important

to those on low incomes, yet in many areas of high social deprivation public transport options can be limited and relatively expensive. This can further impact on poverty.

The Rural Commission's report 'An Economy for All of Scotland' expanded on these issues, commenting that:

'We ... know that for many people it is not possible to utilise public transport in getting to their nearest regional centre for a meaningful day's work or activity, or in getting between some of our towns and cities. We need to see a more holistic view of our transport networks and look to put in place transport solutions to address areas of poor connectivity. We also believe that as digital connectivity enhances there are opportunities to look at demand responsive services that could help plug the gap where a bus route network cannot be sustained.'

The public and private sector appetite for MaaS within Scotland was confirmed by the creation of MaaS Scotland, a joint venture between Technology Scotland and ScotlandIS, which has established a formal network covering over 70 public and private sector



<sup>&</sup>lt;sup>1</sup> Scottish Council for Development and Industry, An Economy for All of Scotland, 2019 <a href="https://www.scdi.org.uk/ruralcommission/">https://www.scdi.org.uk/ruralcommission/</a>

Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

organisations, making it the largest network of its kind in Europe. The impact that MaaS can have in helping to increase the demand for public transport – and hence its financial sustainability – has been highlighted by Michael Matheson MSP, who stated following the announcement of the successful bids for Round 1 of the MIF that:

• 'The concept has the potential to transform the way we use transport by making public and shared transport options as desirable as using our car. The award of funding for these projects can grow the evidence base for MaaS by developing and testing digital solutions that encourage and enable modal shift to public and active transport alternatives. It's about increasing simplicity and reducing barriers for those choosing to travel and encouraging them to choose sustainable options. All of which can make a significant contribution to a healthier and more sustainable Scotland.'

Lack of bus network connectivity was one of the problems raised during the STPR2 National Bus Workshop, with the potential for integrating new technology into service provision, information and payment put forward as a possible solution. These conclusions were confirmed during subsequent conversations with Association of Transport Co-ordinating Officers (ATCO) representatives, who additionally raised the issue that a dispersed population in more rural areas may not always provide sufficient demand to support fixed route bus services throughout the day.

Figures 1 and 2 below show levels of satisfaction concerning the level of connectivity to key services such as sites of employment, healthcare and education and access to the nearest bus stop obtained through the STPR2 public surveys, covering the eight STPR2 regions not included in the three early appraisal studies (Borders, the South West and the North East).



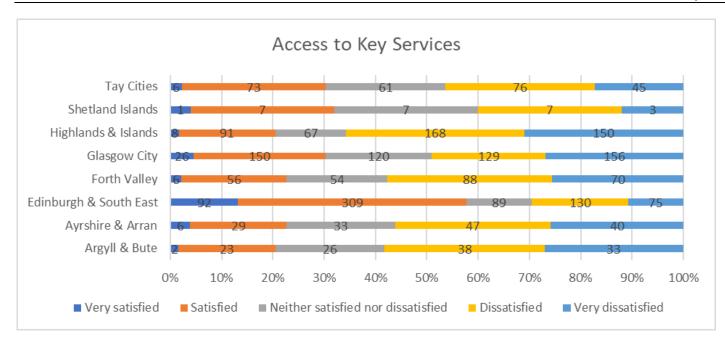


Figure 1: Satisfaction with access to key services results from STPR2 public survey

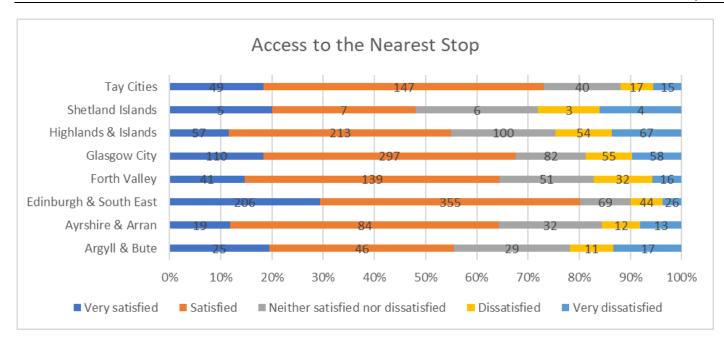


Figure 2: Satisfaction with access to the nearest stop results from STPR2 public survey

The differences between the two figures are interesting, because while dissatisfaction with access to the nearest bus stop was highest in Shetland Islands, the Highlands & Islands and Argyll & Bute, the picture was somewhat different for access to key services, with respondents in the Highlands & Islands most dissatisfied, but those in the Shetland Islands more satisfied with this metric in relative terms than might have been expected. This emphasises the need to consider connectivity on the basis of both journey origin (are there bus services close to where people live?) and destination (once on a bus, does it go where people want to go?).

Comments relating to dissatisfaction with connectivity were also raised through STPR2's online surveys, including the following:

- 'Bus in remote parts of Argyll is not flexible enough to allow people to work or undertake social activities. We need to have an on-demand system and remove fixed services' – respondent from Argyll & Bute.
- 'Removal of [the] local bus service has left elderly people cut off and [they] cannot access shops or healthcare' respondent from Ayrshire & Arran.
- 'It takes two buses to travel to [the] local hospital. It can involve a 3/4 hour wait for [the] connecting bus on the return journey to travel 10 minutes along the road' respondent from Ayrshire & Arran.



Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

- 'Living in a rural part of the City of Edinburgh [I] find the bus service is very poor to the village or non-existent to outlying areas' respondent from Edinburgh & the South East.
- 'We can't go into town on a Saturday as there is not a bus home. We have to now walk 25ish minutes from [the] drop off point [which is] not ideal for [the] elderly or [those] carrying shopping in [the] rain' respondent from Highlands & Islands.
- 'The nearest bus stop is about 20/25 minutes from our house, and some of the walk is along a road with no pavement or safe verge' respondent from Highland & Islands.

Through the stakeholder and public engagement undertaken for STPR2, the possibility of a MaaS scheme was raised for Orkney, Forth Valley and Tay Cities, and East Lothian has recently announced proposals to examine the extent to which mobility hubs could assist with provision of a better integrated travel solution, supported by a MaaS digital platform.



### 3 The evidence base to support a case for change?

In determining the need for improving connectivity in rural, island and peripheral areas, and particularly in identifying the areas most in need of improvements, it is informative to consider the Scottish Access to Bus Indicator (SABI)<sup>2</sup> as a suitable metric to understand where there is a lack of bus service provision and where alternative solutions to traditional bus service provision could be most effective. This information is produced at the Scottish Neighbourhood Statistics data zone level, but population weighted averages have been obtained for each STPR2 region and for individual authorities, as shown in Figures 3 and 4 below. In both cases, the horizontal axis shows the SABI score, where a score of zero indicates no accessibility, with accessibility increasing as the score increases.

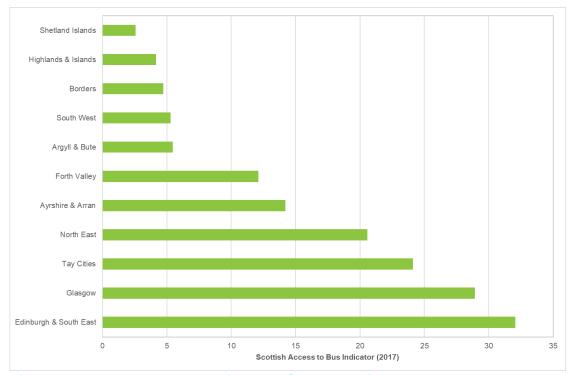


Figure 3: Access to bus services by STPR2 region

<sup>&</sup>lt;sup>2</sup> Scottish Government, Bus Accessibility Data 2019, https://statistics.gov.scot/slice?dataset=http%3A%2F%2Fstatistics.gov.scot%2Fdata%2Fbus-accessibility



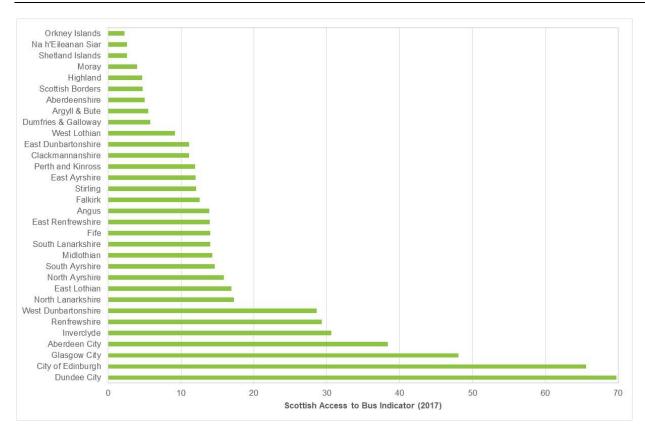


Figure 4: Access to bus services by Authority

Not surprisingly, it is the most rural regions that have the lowest SABI scores, with Shetland Islands, Highlands & Islands, Borders, South West and Argyll & Bute indicating the poorest levels of accessibility. However, when considered at a local authority level, it is apparent that there are also authorities in relatively urban regions that have poorer accessibility scores, including West Lothian and East Dunbartonshire. This highlights the importance of extending this theme to cover peripheral urban areas, as well as rural and island communities.

To examine further the extent to which SABI scores correspond with the level of rurality of an authority, the Urban Rural Classification<sup>3</sup> was examined. As with SABI, this information is produced at the Scottish Neighbourhood Statistics data zone level,

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<sup>&</sup>lt;sup>3</sup> Scottish Government, Urban and Rural Classification, 2016, <a href="https://www2.gov.scot/Publications/2018/03/6040/downloads">https://www2.gov.scot/Publications/2018/03/6040/downloads</a>

Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

so population weighted averages were obtained for each authority. When ranked against both accessibility and rurality, the following authorities showed the greatest difference in their ranking between the two metrics:

- East Dunbartonshire: ranked 8<sup>th</sup> most urban, but 22<sup>nd</sup> most accessible;
- West Lothian: ranked 12<sup>th</sup> most urban, but 23<sup>rd</sup> most accessible; and
- East Renfrewshire: ranked 5<sup>th</sup> most urban, but 15<sup>th</sup> most accessible.

Conversely, East Lothian was ranked 20<sup>th</sup> most urban, but 9<sup>th</sup> most accessible, demonstrating a better than expected level of accessibility. However, outliers like East Lothian notwithstanding, this analysis does demonstrate that as well as affecting rural and island communities, there are also urban communities affected by low levels of accessibility.

As a further example of the localised nature of accessibility, plots are provided in Figure 5 below showing SABI 2019 deciles relative to the bus network<sup>4</sup> for Dundee and the surrounding area, Stirling and the surrounding area, Inverness and the surrounding area and Orkney. In particular, the plots for Dundee and Inverness show high levels of accessibility within the immediate urban areas, with substantially lower levels beyond the city boundaries. The position for Stirling is less marked, but still demonstrates lower levels of accessibility outside the urban areas. On the other hand, the plot for Orkney shows low levels of accessibility for the entire island. These differences highlight the need to fully understand local circumstances when developing schemes to improve connectivity.

Appendix B – Appraisal Summary Table – Intervention 6 – Page 10



<sup>&</sup>lt;sup>4</sup> Taken from TRACC, a multimodal accessibility and journey time analysis tool

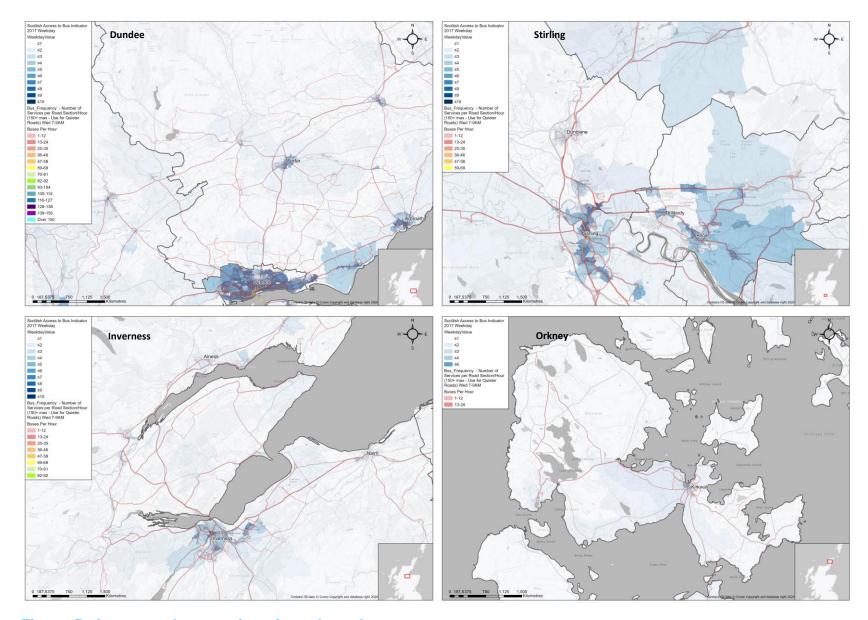


Figure 5: Access to bus services for selected areas

It is also worth highlighting the impact that COVID-19 has had on bus travel, as shown in Figure 6 below<sup>5</sup>. From this figure, it is apparent that concessionary bus use reached a level of around 50% of expected demand in August 2020, although more recent information suggests that this has now started to fall. While bus is outperforming rail travel, it is still significantly below car use, which was approaching 100% in August. Given that reduced levels of demand will also have reduced the financial viability of the bus network, and given that bus services in rural, island and peripheral areas are generally the least profitable, there is a danger that COVID-19 could exacerbate the lower levels of connectivity in these areas, as bus services become unprofitable and are reduced or withdrawn.

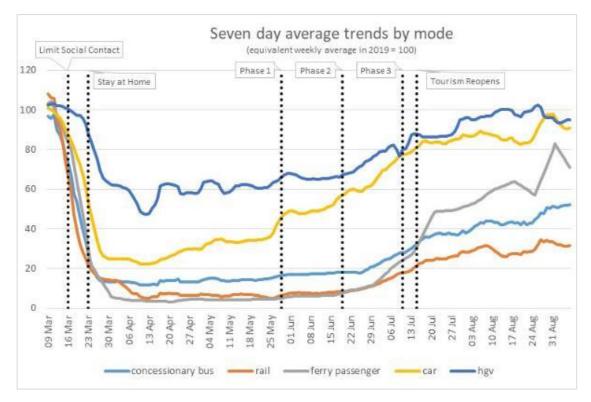


Figure 6: Seven day average travel trends by mode, from March through August 2020 during COVID-19 pandemic



<sup>&</sup>lt;sup>5</sup> Transport Scotland Travel Trends Reporting

Intervention 6 – Investment in Demand Responsive Transport Mobility as a Service

### 4 The Strategic Rationale

As set out in the National Transport Strategy 2 (NTS2), bus use declined by over 20% between 2007/08 and 2017/18. While NTS2 highlighted the impact that increasing congestion has had in reducing bus patronage, there are also marked differences in levels of service provision between and within regions. Indeed, the 2019 Programme for Government raised the issue of regional differences in service provision and the need to enhance Scotland's connectivity in order to provide inclusive access to jobs and to address isolation and remoteness, with A Connected Scotland highlighting the role that transport can play in addressing these concerns.

NTS2 expanded on this role, emphasising the need to find solutions to regional differences in transport provision, particularly in remote, rural and island communities, but also in low-density suburban areas. This is captured in all four aspects of the Vision for Transport in Scotland, particularly in terms of promoting equality ('fair access to the services we need'), but also in terms of health and wellbeing ('make our communities great places to live') and economy ('get us to where we need to get to').

It is in this context that the Investment in Demand Responsive Transport and Community Transport theme has been selected for inclusion in Phase 1 of STPR2. Indeed, the need for action has been exacerbated by the COVID-19 pandemic, with reductions in the financial viability of bus services particularly severe in rural, island and peripheral locations. Therefore, actions taken to establish whether scarce existing resources could be better utilised across all forms of bus service provision would assist with the recovery in bus patronage post-COVID-19.

#### Why now?

- Due to the decline in bus use by over 20%<sup>6</sup>, there has been a renewed emphasis on the role that transport can play in promoting equality, in providing inclusive access to jobs and in addressing isolation, particularly in remote, rural and island communities, but also in low-density suburban areas.
- The Scottish Access to Bus Indicator indicates that accessibility to bus services is lowest in rural, island and peripheral regions, particularly Shetland Islands, Highlands & Islands, Borders, South West and Argyll & Bute. However, when considered at a local authority level, there are also authorities in relatively urban regions that have poorer accessibility scores, particularly East Dunbartonshire. West Lothian and East Renfrewshire.
- The need for action to support the viability of bus as a mode of transport has been exacerbated by the COVID-19 pandemic, with Transport Scotland statistics showing that bus use by concessionary passengers fell to a low of around 12% of the previous year's level in the middle of the first lockdown, and while patronage had recovered to around 50% by the first week of



<sup>&</sup>lt;sup>6</sup> Transport Scotland, National Transport Strategy 2 https://www.transport.gov.scot/publication/national-transport-strategy-2/, page 24

Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

- September 2020, it remained at this level throughout the rest of September, before starting to fall in October.
- As well as playing an essential role in tackling climate change, bus has a key role to play in reducing travel poverty. The 2019 Scottish Household Survey indicated that 48% of the most deprived households (SIMD quintile 1) do not have access to a car and are twice as likely to use the bus to travel to work as households in the least deprived three quintiles. Therefore, action taken to improve bus connectivity could improve accessibility to employment, education, healthcare and leisure activities for those most in need.

The need to increase connectivity and to support improved mobility was raised across all regions during STPR2's stakeholder engagement, covering proposals to expand the fixed route network, to trial or expand DRT and/or Community Transport services and to use MaaS to improve accessibility through the provision of integrated journey planning and payment systems. In particular, a number of options highlighted the role that these services could have in providing access to education, employment and healthcare, and in integrating with other services and other modes.

At a time when the need for improving public transport links has been exacerbated, with the COVID-19 pandemic affecting the financial viability of bus services, particularly in rural, island and peripheral locations, provision of capital funding that is focused on pilot schemes and demonstration projects that seek to draw on innovative solutions could help to improve connectivity, perhaps supported by further funding through the MIF. With this support from Transport Scotland, regions could seek to establish whether scarce existing resources could be better utilised across the bus network in order to improve connectivity.



# 5 Meeting the STPR2 Transport Planning Objectives

TRANSPORT PLANNING OBJECTIVE	CONTRIBUTION	SCALE OF IMPACT (-3 TO +3)
A sustainable strategic transport system that contributes significantly to the Scottish Government's net zero emissions target.	Improving bus connectivity where current services do not provide satisfactory cover would increase the attractiveness of bus and could provide new links that are not currently provided. This has the potential to achieve modal transfer from car, which would reduce pollution.	✓
An inclusive strategic transport system that improves the affordability and accessibility of public transport.	Improving bus connectivity would improve accessibility to employment, education, healthcare and leisure activities, especially for passengers from the most deprived households, who are less likely to own a car and are therefore more reliant on travel by bus.	<b>√</b> ✓
A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing.	Improving bus connectivity could reduce social isolation, enhancing locations as attractive places to live and improving the wellbeing of those living in these locations, with better access to healthcare also improving their health.	<b>√</b> ✓
An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland.	Technological advances, especially through the use of MaaS, could improve the financial viability of bus services in rural, island and peripheral areas through increased efficiency of service provision relative to fixed route timetables and could also increase the level of integration between services and modes, making it easier for people to travel where they wish to go.	✓
A reliable and resilient strategic transport system that is safe and secure for users.	Improving bus connectivity could provide minor safety benefits if passengers are currently required to walk longer distances to bus stops using roads with poor pedestrian facilities, but these benefits are not likely to be substantial.	-

## 6 Addressing the Post Covid-19 Priorities

POST-C19 PRIORITIES <sup>7</sup>	CONTRIBUTION
Employment	Bus provides a key mode of transport to employment for those without access to a car. Given that COVID-19 has reduced the financial viability of bus services, and that this may have disproportionately affected the viability of services in rural, island and peripheral areas, loss of connectivity could result in reduced accessibility to employment in these areas. Mitigating actions taken through this theme could improve the efficiency of bus service provision by seeking to provide connectivity in a more cost-effective manner, helping to improve financial viability and therefore also helping to retain accessibility to employment in rural, island and peripheral areas.
The Environment	Improved bus connectivity will increase the attractiveness of bus as a mode of transport, assisting the recovery of patronage post-COVID-19 and increasing modal transfer from car. Given that a well-used bus will emit less pollutant per passenger than a car, this will be beneficial to the environment.
Education	16% of children travel to school by bus (Sustrans Hands Up Scotland Survey 2019). However, many school bus services require subsidies and pressures on local authority revenue budgets due to COVID-19 may require decisions about whether to cut these subsidies. This theme would support actions taken to mitigate the impact of COVID-19 by seeking to provide connectivity in a more cost-effective manner, thereby assisting with retaining or improving levels of school bus provision. The proposal to offer free bus travel to those under 19 would improve the attractiveness of bus to those benefiting, so action taken through this theme to retain bus connectivity would support the under 19 proposals.
Equalities	Reduced financial viability of bus services in rural, island and peripheral areas due to COVID-19 could result in a disproportionate reduction in service levels, which could increase social isolation and negatively impact on the health and wellbeing of those living in these areas. This theme would support actions taken to mitigate the impact of COVID-19 by improving the efficiency of bus service provision and seeking to provide connectivity in a more cost-effective manner, thereby

<sup>&</sup>lt;sup>7</sup> Criteria taken from The Scottish Government's response to the Advisory Group on Economic Recovery, August 2020



Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

POST-C19 PRIORITIES <sup>7</sup>	CONTRIBUTION
	helping to retain bus services in these areas.

# **7** SEA, EqIA and Other Impact Assessments<sup>8</sup>

ASSESSMENT	COMMENTARY
SEA (Strategic Environmental Assessment)	There could be a slight beneficial impact on local air quality and reductions in accidents if improvements in bus connectivity increase the attractiveness of bus as a mode of transport and consequently reduce private car usage. It will also help reduce greenhouse gas emissions. This intervention will therefore complement the SEA and help progress the SEA objectives.
EqIA (Equality Impact Assessment)	There could be a beneficial impact of reduced barriers to travel for those with reduced mobility if improvements in bus connectivity reduce the distance needing to be travelled in order to catch a bus.
ICIA (Island Communities Impact Assessment)	Given that one of the main aims of this theme is providing increased bus connectivity in island regions, there could be a large beneficial impact on Island Communities.
CRWIA (Children's Rights and Wellbeing Impact Assessment)	Improved bus connectivity could have a beneficial impact on children and young people, given that 16% of children travel to school by bus (Sustrans Hands Up Scotland Survey 2019) and children and young people may be more likely to use buses for leisure travel, given that those under 17 will not be able to drive. Where children and young people are currently experiencing long walks to bus stops and a long wait for connecting services, improved connectivity could also result in improved personal security.
FSDIA (Fairer Scotland Duty Impact Assessment)	There could be a large beneficial impact in tackling inequality, with improved bus connectivity in rural, island and peripheral areas helping to reduce social isolation and improve the health and wellbeing of those living in these areas. Given that the 2019 Scottish Household Survey indicated that 48% of the most deprived households (SIMD quintile 1) do not have access to a car and are twice as likely to use the

<sup>&</sup>lt;sup>8</sup> All of these impact assessments are currently underway but no formal assessments have yet been undertaken. Please note SEA and EqIA scoping reports have been produced and consulted upon.



Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

ASSESSMENT	COMMENTARY
	bus to travel to work as households in the least deprived three quintiles, the beneficial impacts will be highest for those from the most deprived households.

### 8 Implementability and Interdependencies

IMPLEMENTABILITY CRITERIA	COMMENTARY
Feasibility	Improving bus connectivity is feasible, but if technological advances are required to support these improvements, the availability of appropriate technology would need to be considered, as would the extent to which passengers could access this technology.
Affordability	May not be affordable if ongoing revenue support is required. However, capital funding provided through the MIF or through other sources such as the Islands' Growth Deal and the Islands Green Recovery Programme may support measures to improve the efficiency of service provision, reducing the need for revenue support.
Public Acceptability	Improving bus connectivity is likely to be acceptable to the public, although this may depend on how it is to be funded. If these improvements are to be supported through the use of a digital platform, acceptability may be dependent on passengers' ability to access this platform.

### **Key Interdependencies**

Funding for further MaaS pilot schemes may be available through Round 2 of the MIF, which is expected to launch in January 2021. However, only c£1m in funding is available through the MIF and no additional central revenue funding is likely to be available, so there may be interdependencies with other funding sources, including the Islands' Growth Deal and the Islands Green Recovery Programme.

Intervention 6 - Investment in Demand Responsive Transport Mobility as a Service

The need to improve access to public transport in the more remote areas has been exacerbated by the COVID-19 pandemic, with reductions in the financial viability of bus services particularly severe in these locations. The early interest in the MaaS pilot schemes has highlighted the potential that integrated journey planning, payment service and ticketing integration could have in improving accessibility but for MaaS to be successful, connectivity needs to be in place first. Therefore, it is recommended that capital funding is provided for pilot schemes and demonstration projects that seek to draw on innovative solutions and international best practice, which can help to establish whether scarce existing resources could be better utilised across the bus network in order to improve connectivity in rural, island and peripheral areas.

