

# A83 Rest and Be Thankful

MTS EIAR VOLUME 4, APPENDIX 7.3 -  
POPULATION AND HUMAN HEALTH BASELINE

Transport Scotland

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## A7-3. Population and Human Health Baseline

### A7-3.1. Overview of study area population and land use characteristics

A7-3.1.1. It is important to note in setting the scope of this baseline review that, while the MTS (Proposed Scheme) concerns improvements to the Old Military Road (OMR) only, this route runs adjacent to and is used as a diversionary route for the A83 during times of planned and unplanned (e.g. landslips) closures. As such the Proposed Scheme, while not directly concerning the A83, improves the resilience of the transport network by acting as a vital link during such closures. It is therefore reasoned that this baseline should include consideration of the A83.

A7-3.1.2. The low population density of Argyll & Bute is reflected in the Proposed Scheme location within the Cowal North (04) data zone, Lomond North ward, within the Argyll and Bute Council area. This area of Cowal North (04) has a population of 842 ([based on 2019 census estimates](#)), largely in accessible rural settlements such as Arrochar and Succoth. However, the area of Glen Croe itself (within which the Proposed Scheme is located) has very small numbers of isolated residential properties scattered along the OMR and more so the A83, with only two being located within 500m of the Proposed Scheme. The closest communities are the villages of Succoth and Arrochar (approximately 7.6km and 11km distant respectively) to the southeast, Lochgoilhead to the southwest and Cairndow to the northwest, all within a 15 minute drive of the Rest and be Thankful Viewpoint. Helensburgh is the closest area (approximately 40.8km) classified as urban, while Glasgow is the closest city (approximately 87km).

A7-3.1.3. The main land uses in the immediate vicinity of the Proposed Scheme are improved / semi-improved grazing for livestock (in the glen floor), and coniferous forestry plantation, though there are small pockets of native woodland planting. There are also large areas of rough grazing / moorland located in the upland areas adjacent.

A7-3.1.4. Within the Glen Croe area, particularly, though not exclusively, in the forested areas are a number of walking and cycling trails. The OMR itself is used by walkers, cyclists and horse-riders and is identified as a Loch Lomond and The Trossachs NP Core Path Corridor. Other routes in the area include those associated with the Argyll Forest Park and they provide access to the higher

peaks (the 'Arrochar Alps') in the area, including of particular note 'The Cobbler' which is one of the most popular hills in Scotland for walking and is noted as being suitable for rock climbing / bouldering. The Cobbler (or Ben Arthur) is most commonly climbed from its eastern side, beginning at Arrochar forest, however, more experienced hillwalkers enjoy the challenge of the climb from Honeymoon Bridge, along an improved walking route which is accessed via a car park and picnic spot immediately adjacent to the A83 (approximately 2.8km from the Proposed Scheme).

- A7-3.1.5. Ardgartan Forest to the west of the OMR is a forest of Sitka and Norway spruce that is a popular area for walking, cycling and horse riding, having way marked trails that offer opportunities for wildlife viewing. Opportunities also exist for 'off-route' hiking in this area.
- A7-3.1.6. While the immediate locale of the Proposed Scheme is rural with a very low population, the A83 road does play a vital role in linking wider communities to the health, social, educational, recreational and economic facilities and opportunities that they require. In addition to providing a link to health centres, schools, colleges, and leisure facilities, it allows families and friends to meet and allows access to wider markets for employment or business opportunities. In short, the A83 road has clear importance for health and wellbeing outcomes for individuals and the wider community.
- A7-3.1.7. Communities in Cowal, Dunoon, Kintyre and across Mid Argyll rely on the A83 as their main road access to Glasgow and Central Scotland without needing to rely on ferries or take detours with potentially significant cost or time implications – such detours could add up to 75 minutes to journey time and a corresponding increase in fuel use. See Chapter 2: Need for the Proposed Scheme for further discussion the importance of the OMR diversion route.

## A7-3.2. Population and Health Profile

- A7-3.2.1. The Proposed Scheme is located in an area rural in nature, with no population centres located within it or within its immediate vicinity. As such, to understand the population of the area it is important to look further afield at the local authority level. [Scottish Government statistics](#) show the population of Argyll and Bute to be approximately 85,430 (2020), though this population has been generally decreasing (and is anticipated to continue to decrease), with a decline since 2001 of approximately 5.6% (against an increasing Scottish

population of approximately 8.2% over the same period). These changes in demographics (along with a generally ageing population and attractiveness of Argyll and Bute for retirement) are also leading to a percentage increase in the older population.

- A7-3.2.2. In order to help establish the baseline health profiles within the 500m study area, [Design Manual for Roads and Bridges LA 112: Population and Human Health \(DMRB LA112\)](#) identifies a range of data to be considered. These are set out for the study and wider areas as follows (note that health related data is reported at different geographic / administration levels, depending upon the issue / health outcome being reported). Note that a large amount of data on health and wellbeing in Scotland can be found on the Public Health Scotland website – see [ScotPHO profiles \(shinyapps.io\)](#):

#### Percentage of community with increased susceptibility to health issues (vulnerable members e.g., <16 & >65):

- Argyll and Bute (11.7%) have a larger population aged 75+ compared to Scotland as a whole (8.6%), with Bute and Cowal having the highest proportion within Argyll & Bute. It is anticipated the average age will continue to increase
- National Health Service (NHS) Highland has higher levels of people 65+ with high levels of care needs who are cared for at home but fewer adults claiming incapacity benefit/severe disability allowance compared to the rest of Scotland and
- decreasing population of people aged under 16.

#### Age Profile

- A7-3.2.3. The following sets out the profile of the older and younger population cohorts of the wider study area:

**Table A7-3-1 - Population cohorts (youngest and oldest)**

Population cohort	Cowal North (03)	Cowal North (04)	Argyll and Bute	Scotland
Youngest cohort	9.8% of population under the age of 16	15.8% of population under the age of 16	14.4% of population under the age of 16 (12,441)	16.6% of population under the age of 16
Oldest cohort	34.4% of population over the age of 65	18.8% of population over the age of 65	26.4% of population over the age of 65 (22,777)	19.6% of population over the age of 65

**Percentage of community with pre-existing health issues e.g. respiratory disease/chronic obstructive pulmonary disease (COPD):**

- 150.19 per 100,000 (age-sex standardised rate) Chronic obstructive pulmonary disease (COPD) hospitalisations in Argyll & Bute (19/20 to 21/22 financial years, 3-year aggregates) (vs 207.4 per 100,000 for Scotland as a whole). This is approximately at the 75<sup>th</sup> percentile of the data range and considered statistically significantly better and
- asthma patient hospitalisations 59.09 per 100,000 (age-sex standardised rate) in Argyll & Bute (19/20-21/22 financial years, 3-year aggregate) (vs 68.4 per 100,000 for Scotland as a whole), though while better this is not considered statistically significantly so.

**Deaths from respiratory diseases:**

- Mortality rate from COPD in Scotland is 1.6% for males and 2.5% for females.

**Percentage of community with long term illness or disability:**

- Around 1 in 3 adults (approximately 33.3%) in Argyll & Bute have a limiting long-term condition.

**General Health:**

- In Argyll and Bute, the leading cause of death for males in 2021 was Ischaemic heart diseases (13.3% of all male deaths), followed by

Dementia and Alzheimer's (7.2%). In Scotland overall, the leading cause of death for males was also Ischaemic heart diseases (13.7%), followed by Dementia and Alzheimer's (6.2%).

- In Argyll and Bute, the leading cause of death for females in 2021 was Dementia and Alzheimer's (14.0% of all female deaths), followed by Ischaemic heart diseases (8.1%). In Scotland overall, the leading cause of death for females was also Dementia and Alzheimer's (12.8%), followed by Ischaemic heart diseases (8.5%).
- Note that Cancers are grouped separately according to the type of cancer, for example, lung, breast and prostate cancer are all counted as separate causes. If all cancers were grouped together, cancer would be the leading cause of death.
- 52.04% of people aged 65+ with high levels of care needs in Argyll & Bute are cared for at home (20/21 financial year).
- High prevalence of unhealthy behaviours (>20% drink hazardous/harmful levels of alcohol, STDs increasing, 1 in 3 not physically active enough, 20% smoking, etc.) in Argyll & Bute, smoking prevalence in NHS Highland similar to those in all of Scotland but higher rates of smoking during pregnancies in NHS Highland.
- NHS Highland ranks worse than Scotland as a whole for deaths from suicide (19.8 vs 14.1 per 100,000 2017-2021, 5-year aggregate), although Argyll & Bute is 15.52 per 100,000.

### Life expectancy

- For males in Argyll and Bute there is a life expectancy of 77.7 years, while for females this is 81.64 years (2020 to 2023 three-year aggregate). This is statistically significantly better than Scotland as a whole, which has a male life expectancy of 76.54 years and 80.72 years for females over the same period.

## A7-3.3. Health related behaviours

- A7-3.3.1. The following baseline data outlines wider determinants of health as noted in [IEMA Guidance on Scoping of Human Health in Environmental Impact Assessment](#).

### Physical Activity / Walkers, cyclists and horse-riders (WCH)

A7-3.3.2. The existing active travel provision within the study area is as set out in Table A7-3-2 and reflected in Volume 3, Figure 7.1 Population and Human Health Receptors. It is to be noted that, while grouping Walkers, Cyclists and horse-riders (WCH) routes under respective Route ID headings allows for pragmatic display of the relevant routes, some of the grouped routes (WCH Sub-routes) identified in Table A7-3-2 are of different geometry (length and segments). Adopting a precautionary approach, the sub-route with the furthest reach is displayed (under the Route ID heading) and the highest sensitivity across the sub routes adopted for that group.

**Table A7-3-2 – Relevant Walking, Cycling and Horse-Riding Routes within the study area**

Route ID	WCH Sub-route Name	Designation	Sensitivity
Old Military Road (OMR)	Loch Lomond and The Trossachs NP Core Path Corridor (Other Path – 126 and 226)	Loch Lomond and The Trossachs NP Core Path Corridor	Medium
Route 1	Core Path – 2140 Loch Lomond and The Trossachs NP Core Path Corridor (Core Path – 252)	Core Path Loch Lomond and The Trossachs NP Core Path Corridor	Medium
Route 2	Core Path - 2141 Loch Lomond and The Trossachs NP Core Path Corridor (Core Path – 276)	Core Path Loch Lomond and The Trossachs NP Core Path Corridor	Medium
Route 3	Core Path – 2139 Loch Lomond and The Trossachs NP Core Path Corridor (Core Path – 45)	Core Path Loch Lomond and The Trossachs NP Core Path Corridor	Medium
Route 4	Loch Lomond and The Trossachs NP Core Path Corridor (Other Path – 248)	Loch Lomond and The Trossachs NP Core Path Corridor	Medium
Route 5	Core Path – 2461 Loch Lomond and The Trossachs NP Core Path Corridor (Core Path – 58)	Core Path Loch Lomond and The Trossachs NP Core Path Corridor	Medium

Route ID	WCH Sub-route Name	Designation	Sensitivity
Route 6	Loch Lomond and The Trossachs NP Core Path Corridor (Other Path – 269)	Loch Lomond and The Trossachs NP Core Path Corridor	Medium
Route 7	Core Path 2138 Loch Lomond and The Trossachs NP Core Path Corridor (Core Path – 82) Hillwalking Route 6 Right of Way SA/SA29/1	Core Path Loch Lomond and The Trossachs NP Core Path Corridor Hillwalking Route Right of Way	Medium
Route 11	Hillwalking Route 4	Hillwalking Route	Medium
Route 13	Hillwalking Route 5	Hillwalking Route	Medium
Route 14	Forest Recreation Route 356 Scottish Hill Track (5) 099	Forest Recreation Route Scottish Hill Tracks	Medium

A7-3.3.3. These existing facilities are predominantly used for recreation and leisure purposes rather than commuting or active travel and it is anticipated that use by vulnerable groups is minimal owing to gradient and ground conditions. This assumption is based on their location, i.e. proximity to trip generators etc, and type, i.e. gradient, alignment and amenity. The WCHAR reports provides some indication of usage and noted very limited numbers of pedestrians and cyclists and no horse-riders during a visit to the site. This observation was reflected in user count surveys at a small number of locations, commissioned for the Proposed Scheme, which suggests infrequent use by pedestrians and cyclists, reflective of the rural and remote nature of the location.

## A7-3.4. Social Environment

### Housing / Private Property and Housing

A7-3.4.1. There are two private residences (Laigh Glencroe and High Glencroe) in proximity to the Proposed Scheme, both located within the 500m study area.

## A7-3.5. Institutional and built environment

### Wider societal infrastructure and resources / Agricultural Land Holdings

A7-3.5.1. The local area consists of fields of improved and semi-improved pasture, small areas of forestry plantation and areas set aside for potential future plantation



(owned / managed by Forestry and Land Scotland), as well as areas of rough grazing. There is ongoing felling and forest management activities in the area of the Proposed Scheme and fencing and replanting has taken place on land above the A83. Forestry and Land Scotland are also in ownership of part of the Old Military Road. Note that in addition to forest services. Table A7-3-3 sets out the two main landowners located within the Proposed Scheme Boundary.

**Table A7-3-3 – Agricultural Land Holdings**

Reference	Description	Sensitivity
Farm Holding No.1	<p>There is one agricultural business (farm) located within Glen Croe. The existing farming unit covers an area of approximately 89ha. There is an additional small area for land to the north that is not farmed, being rough moorland. The majority of the farm is used for grazing and it can be considered a hill livestock farm. All of the land under the management of the farm is noted as being within the Land Capability for Agriculture of Rough Grazing 6.2- 6.3 (see <a href="#">Land Capability for Agriculture (LCA) – James Hutton Institute</a>) indicating the lowest grade of usable agricultural land.</p> <p>In addition to the residential building, there are a number of other buildings associated with the farm, including a steel portal farm shed, field shelters, barn and a drystone high walled fank with disused dipper which is used for cattle handling with the portable cattle hurdles and crush. There are also a series of fences and tracks associated with the farm.</p> <p>The farm currently own and utilise the OMR between chainages 1200 to 3830 and have an existing agreement with Transport Scotland relating to its use at times when the A83 is closed due to landslides.</p>	Medium
Forestry Holding No.1	<p>Forestry and Land Scotland (FLS) manage the national forests on behalf of the Scottish Ministers. <a href="#">The Glen Croe Land Management Plan 2019 – 2028</a> notes that the Glen Croe Land Management Plan (LMP) covers c. 3,082ha of which 55% is open hill ground. Approximately 62% of the forested area is Sitka Spruce, most of which is managed on a clearfell basis. The wider National Forest Estate cover a much more extensive area.</p> <p>FLS currently own and utilise the OMR between Chainage 320 and 1200 and have an existing agreement with Transport Scotland relating to its use at times when the A83 is closed due to landslides. In addition, FLS also own</p>	Low

Reference	Description	Sensitivity
	and operate the Rest and Be Thankful car park and viewpoint at the head of Glen Croe.	

A7-3.5.2. Information gathering to develop the understanding of the land use of the Proposed Scheme and the wider area has been informed by dialogue with relevant landowners, including the use of a Land Interest Questionnaire (LIQ) – refer to Volume 4, Appendix 7.5 Land Interest Questionnaire. Whilst the impact on agricultural businesses in the vicinity of the Proposed Scheme will be considered in the assessment, full baseline details are not provided for confidentiality reasons.

### A7-3.6. Identification of sub-groups

A7-3.6.1. From a review of the population and human health baseline of the local area, it has been possible to identify a number of sub-populations within the population and communities of the local area, who, along with the population as a whole (wider groups) could be considered vulnerable in terms of their health and wellbeing. These groups and the rationale for their identification is outlined in Table A7-3-4.

**Table A7-3-4 - Identification of subgroups**

Groups	Relevant receptor / medium	Explanation	Are these groups identified in the study area?
<p>Wider Groups – adults / working people</p>	<p>Residents living in houses, operators and users of community land and facilities, business owners and users, users of open space, recreation and leisure activities, WCH, public transport users and vehicle travellers.</p>	<p>The key challenge to the physical health, mental and social wellbeing of the local resident population arises from inactivity and unhealthy lifestyle choices. Health outcomes are also linked to the local transportation and road network through its impact on access to health facilities, potential for providing active travel opportunities and issues such as air quality and noise.</p> <p>Residents of properties in the wider study area, employees and customers at the businesses interspersed throughout the area, walkers and cyclists using recreation routes and the local footpath and cycleway network, visitors to nearby visitor attractions, and public transport users are likely to be most exposed to health impacts and outcomes from exposure to the A83 both during construction and operation.</p>	<p>Yes – while there are a very small number (two) of residential properties within 500m of the Proposed Scheme, there are residents within the wider area, particularly at Succoth and Arrochar, but also within scattered residential properties. There are also a number of businesses in the wider area, particularly at Arrochar. These businesses provide services for both locals and visitors to the area and access would be via the A83 for many.</p>

Groups	Relevant receptor / medium	Explanation	Are these groups identified in the study area?
<p>Sensitive Group - Families with children and adolescents, (pregnant women, babies, children and adolescents)</p>	<p>Residential houses, community services and facilities, open space, greenspace and recreational facilities, local footpaths and cycleways, Schools nurseries, day care centres, residential houses</p>	<p>Children and adolescents constitute a sensitive population group due partly to their need to be able to move around freely to and from school, open space, greenspace and recreational activities, whilst they lack the experience and judgement displayed by adults when moving around in traffic and public spaces and when using public transport and related infrastructure. Hence, children and adolescents as pedestrians and cyclists are at elevated risk from danger distributed by motorised transport.</p> <p>According to Transport Scotland <a href="#">Key issues and evidence summary   Transport Scotland</a> and multiple other sources on health impacts on vulnerable groups from transport schemes, children are more sensitive than adults to air pollution, noise, odour and other environmental factors and their bodies and minds are less able to deal with them.</p>	<p>Yes - while there are a very small number (two) of residential properties within 500m of the Proposed Scheme, and the wider population of Argyll and Bute is increasingly in the older age cohort, there are residents within the wider area particularly at Succoth and Arrochar, but also within scattered residential properties and it is expected that there will be families with small children, pregnant women, babies, children and adolescents. There are a number of schools in the wider area including at primary and secondary level with catchment areas resulting in the potential need for access along the A83.</p>

Groups	Relevant receptor / medium	Explanation	Are these groups identified in the study area?
		Particularly susceptible children are those from low-income and/or black and minority ethnic (BME) backgrounds and/or living in deprived areas.	
Sensitive Group – People who are physically or mentally disadvantaged (elderly people, people with physical disabilities, people with other health problems or impairments)	Residential houses, retirement / Care homes, community services and facilities (including health centres / clinics and hospitals), open space, trails and local footpaths.	Elderly people constitute a sensitive group as they are more sensitive than young and middle-aged adults. Generally, the older people are, the slower their movement and reactions and the poorer their hearing. They can be more at risk from injury and may fear falls, steps or lack of suitable footpaths, lack of safe crossing points and short crossing times at safe crossing points and other aspects of the surrounding built environment (see for example <a href="#">Asher. L, Aresu. M, Falaschetti. E, Minell. J (2012)</a> Most older pedestrians are unable to cross the road in time). This can deter them from outdoor activity, especially walking, whereas walking is critical for muscle strength and reduces the risk of falls amongst other benefits.	Yes – while the general population in Argyll and Bute performs better in many health outcomes than Scotland as a whole, it has nevertheless been shown that there are areas within Argyll and Bute which have a prevalence of unhealthy behaviours (>20% drink hazardous/harmful levels of alcohol, STDs increasing, 1 in 3 not physically active enough, 20% smoking, etc.) and higher rates of smoking during pregnancies.  It is noted that 1 in 3 adults in Argyll and Bute have a limiting long-term condition. It is also the case that the Argyll and Bute area has an increasingly older population

Groups	Relevant receptor / medium	Explanation	Are these groups identified in the study area?
		<p>Elderly people can also feel more sensitive when using public transport (see for example <a href="https://tfl.gov.uk">Older Pedestrians and Road Safety (tfl.gov.uk)</a>). They also often need to seek health services. Their continuing independence at home is often dependent on having available a range of transport mode and route options.</p> <p>People who are disabled and/or with physical and/or mental illnesses or impairments constitute a sensitive group as they may not be able to access many forms of transport or need special arrangements and/or support to access these. They are more likely to find it difficult to walk or travel independently and can also be disadvantaged by the cost of transport. Any changes in access, such as greater travel distances, diversions or replacement services during construction would have particular impacts on this group.</p>	<p>profile and 1 in 4 of Argyll and Bute's population are of pensionable age (joint highest of all Scottish Local Authorities) along with an increase in 75-84 and 85+ year olds.</p> <p>NHS Highland has higher levels of people 65+ with high levels of care needs who are cared for at home but fewer adults claiming incapacity benefit/severe disability allowance compared to the rest of Scotland.</p>

Groups	Relevant receptor / medium	Explanation	Are these groups identified in the study area?
		<p>Chronically ill persons, for example, people with impaired lung function, can be more adversely affected by air pollution. The same is true of hypersensitive individuals such as asthmatics.</p> <p>Noise can cause hypertension and cardiovascular problems. Those who already have these conditions can be more troubled by noise than others.</p> <p>People with existing physical and mental illnesses, including sleep disturbance, anxiety and depression, are likely to be more sensitive to changes to their local environment.</p>	
<p>Sensitive Group - People who are materially disadvantaged</p>	<p>Residential houses, community services and facilities, local businesses, open space, greenspace and recreational facilities, Public Right of Way (PRoW), local</p>	<p>People on low incomes (living in deprived areas is a proxy measure for low income) and people without access to a car constitute a sensitive group as they are likely to walk further because they cannot afford public transport or to own a car, and their lack of transport options may limit life and work opportunities. Those on low incomes may be less able to adapt to changes</p>	<p>Yes – it has been shown that areas within Argyll and Bute are among the most deprived 20% in Scotland. Deprivation within rural areas is also likely to be hidden by the mixed socioeconomic status of small rural areas. It is also the case that the population of Argyll and Bute is relatively</p>

Groups	Relevant receptor / medium	Explanation	Are these groups identified in the study area?
	<p>footpaths and cycleways, public transport, bus stops</p>	<p>in access, such as greater travel distance or alternative transport provision.</p> <p>People living in deprived areas are generally more likely to already have reduced access to health and social care as well as reduced access to other services and amenities.</p> <p>This group may have increased stress levels due to the factors above. In addition, this group is more sensitive to food insecurity, which has an access dimension.</p>	<p>older in general and as such will be living with fixed and potentially restricted (pension) incomes.</p> <p>The economy of the local area is also recognised as being more fragile than Scotland's as a whole, with a large seasonality aspect to it.</p> <p>17% of those aged under 16 (2,215 children) are estimated to be living in relative poverty (2019/20) in Argyll and Bute. Child poverty has long-term implications and the proportion living in relative poverty has increased since 2013/14 in Argyll and Bute alongside the rest of the UK.</p>



