

12 People and Communities

12.1 Introduction

- 12.1.1 The aim of this chapter is to identify and provide an assessment of the potential impacts on people and communities resulting from the construction and operation of the scheme. The term 'people and communities' refer to the interactions of local people with community facilities, roads, infrastructure and land use.
- 12.1.2 Interim Advice Note 125/15 (Ref 12.1) explains that the People and Communities assessment should consist of an amalgamation of DMRB, Volume 11, Section 3, Part 6: Land Use (Ref 12.2), Section 3, Part 8: Pedestrians, Cyclists, Equestrians and Community Effects (Ref 12.3), as well as Section 3, Part 9: Vehicle Travellers (Ref 12.4). Although the DMRB guidance on people and communities was superseded in October 2019, it was considered that this scheme had progressed to such a stage, that applying the new guidance was not feasible. The introduction of the DMRB GG101 Section 1.3 states: *Individual documents shall be implemented as soon as they are published in the DMRB except:...2. where the contract has reached a stage that, in the opinion of the Overseeing Organisation, use of a new or revised document would result in significant additional expense or delay...*
- 12.1.3 In addition, section 1.4 states: where the contract has reached a stage that, in the opinion of the Overseeing Organisation, use of a new or revised document would result in significant additional expense or delay, the decision whether to use a new or revised document shall be in accordance with the Overseeing Organisation's procedure.
- 12.1.4 In agreement with Transport Scotland, it was determined that the use of the old DMRB guidance was appropriate, given the progression of the scheme.
- 12.1.5 Land use impacts are assessed in terms of effects on residential, community, development and agricultural land. This includes consideration of agricultural, community and designated development land that may be lost, along with residential and commercial buildings that may be demolished, or have land taken from them. Mitigation measures to prevent, reduce or compensate for adverse effects will also be identified.
- 12.1.6 Waterway restoration projects, as described in DMRB Volume 11, Section 3, Part 6, Chapter 11, will not be considered in this assessment due to the absence of any canals or major waterways within the study area.
- 12.1.7 Community impacts are determined in terms of severance from community facilities, therefore any potentially affected community facilities are included.

12.1.8 This chapter also considers the impacts arising from the construction and operation of the scheme on all travellers and is divided into two sections, considering firstly those travelling by motorised vehicle (Vehicle Travellers) and secondly those travelling on foot, by bicycle or by horse (Non-motorised Users, or NMUs).

12.2 Policy and Legislative Background

12.2.1 The following legislative framework and planning policies (Table 12-1) apply in the consideration of People and Communities.

Table 12-1: Summary of relevant legislation and policy

Legislation / Plan / Policy	Description
The Scottish Government Scottish Planning Policy 2014 (Ref 12.5)	<p>Scottish Planning Policy (SPP), published on June 23, 2014, sets out national planning policies which reflect Scottish Ministers' priorities for planning, development and use of land.</p> <p>Key Planning outcomes for Scotland:</p> <ul style="list-style-type: none"> • A successful sustainable place – supporting economic growth, regeneration and the creation of well-designed places • A low carbon place – reducing our carbon emissions and adapting to climate change • A natural resilient place – helping to protect and enhance our natural cultural assets and facilitating their sustainable use • A connected place – supporting better transport and digital connectivity
Scotland's National Transport Strategy (NTS) 2016 (Ref 12.6)	<p>The NTS was originally published in December 2006 to act as an enabler of economic growth through a vision towards an accessible Scotland with safe, integrated and reliable transport that supports economic and social growth. The NTS was subject to a review in April 2016, with an aim not to rewrite the NTS but to investigate the durability of its underpinning policies and strategies.</p>
The Scottish Government Designing Streets: A Policy Statement for Scotland 2010 (Ref 12.7)	<p>This policy marks a change in the emphasis of guidance on street design towards place-making and away from a system focused upon the dominance of motor vehicles. It has been and is intended to sit alongside the 2001 planning policy document Designing Places, which sets out government aspirations for design and the role of the planning system in delivering these.</p>
Transport Scotland Cycling Action Plan for Scotland 2017-2020 (Ref 12.8)	<p>The overall aim of the Cycling Action Plan for Scotland (CAPS) is to get more people cycling more often. The vision states that by 2020, 10% of all journeys taken in Scotland will be by bicycle.</p> <p>Relevant objectives include improvements to cycle infrastructure and cycling promotion and education.</p>
Scottish Government Let's Get Scotland Walking: The National Walking Strategy 2014 (Ref 12.9)	<p>This policy aims to encourage people to walk as part of their everyday journeys, to enjoy walking in the outdoors and promotes the design of places or spaces which encourage walking.</p> <p>Three strategic aims are to:</p> <ul style="list-style-type: none"> Create a culture of walking where everyone walks more often as part of their everyday travel and for recreation and well-being. Better quality walking environments with attractive, well designed and managed built and natural spaces for everyone. Enable easy, convenient and safe independent mobility for everyone.

Legislation / Plan / Policy	Description
Choosing Our Future: Scotland's Sustainable Development Strategy 2005 (Ref 12.10)	Part 7 of this policy aims to ensure the promotion of high-quality community spaces which help to connect communities to amenities and facilities, preferably through active travel
Aberdeenshire Council Local Development Plan 2017 (Ref 12.11)	The Aberdeenshire Development Plan aims to take a balanced approach to transport and communication development, to make efficient use of the transport network, reduce the need to travel and promote walking, cycling and public transport. It promotes development in locations that do not result in further traffic congestion and which are well served by public transport but also recognises that in remoter locations there may be no alternative to using cars.
Aberdeenshire Council Local Transport Strategy (LTS) 2012 (Ref 12.12)	<p>The Aberdeenshire LTS primarily aims to address, as well as deliver real, measurable improvements in relation to issues of congestion, climate change, physical inactivity and the prospect of future fuel scarcity. The LTS has been developed in alignment with the objectives set out by Aberdeenshire City Council as part of the Nestrans partnerships set out in the North East Regional Transport strategy.</p> <p>The LTS supports the infrastructure priorities of the Structure Plan, the emerging Strategic Development Plan and the emerging Local Development Plan. As part of this, the LTS reiterates its support in relation to current and proposed developments, including junction improvements at Laurencekirk.</p>
Aberdeenshire Council Walking and Cycling Action Plan 2009 (Ref 12.13)	<p>The Walking and Cycling Action Plan seeks to contribute to the wider LTS through increasing regional levels of walking and cycling. The plan outlines four main objectives in support of delivering this vision:</p> <ul style="list-style-type: none"> • To work with school children, staff and parents to encourage more walking and cycling to and from school; • To improve the safety of walking and cycling in Aberdeenshire, and contribute to national road safety targets; • To promote walking and cycling as alternative transport modes, particularly for short trips; and • To encourage and facilitate walking and cycling as leisure and tourist activities to provide benefits to health and the local economy.
Aberdeenshire South East Core Paths Plan (Ref 12.14)	<p>As stipulated in the Land Reform (Scotland) Act 2003, local authorities are required to draw up a Core Path Plan to provide the basic framework of routes sufficient for the purpose of giving the public reasonable access throughout the area. Core Paths are a key part of outdoor access provision that aim to promote access and reduce the potential for conflict between the needs of land managers and those of access users. The development of a Core Paths Plan by each Local Authority and National Park Authority will ensure that each town and village have a basic framework of paths available for recreation and everyday journeys by local people and visitors, facilitating:</p> <ul style="list-style-type: none"> • Health improvements • Social inclusion • Sustainable transport • Tourism • Sustainable development
Equality Act 2010 (Ref 12.15)	This regulatory instrument replaces the Disability Discrimination Act and makes it an offence to discriminate against a person because of their mental or physical impairment; including access to infrastructure.

Legislation / Plan / Policy	Description
The Scottish Government National Planning Framework 3 (NPF3) 2014 (Ref 12.16)	<p>The NPF3 is the third document of its kind. It is described as the “spatial expression of the Government Economic Strategies” and focuses on promoting sustainable economic growth, the efficient use of energy and resources as well as the preservation and enhancement of the environment, whilst developing physical and non-physical connections between people across the country, incorporating the following:</p> <ul style="list-style-type: none"> • Buildings and facilities should be accessible on foot and by cycle. • Improvements to active transport networks. • Urban areas to be made more attractive and safer for pedestrians and cyclists. • Cycle routes and, where relevant, cycle parking and storage should be safeguarded and enhanced. • Accessibility issues and street layout and design should be part of the design and planning processes.
Transport Scotland, Fitting Landscapes. Securing More Sustainable Landscapes, 2014. (Ref 12.17)	<p>Fitting Landscapes is a Transport Scotland policy with the primary vision of promoting more sustainable designs, implementation, maintenance and management of the transport national network to ensure that the landscapes we create and manage are of high quality and well-integrated. The policies main aims include:</p> <ul style="list-style-type: none"> Ensure high quality of design and place. Enhance and protect natural heritage. Use resources wisely. Build in adaptability to change.
Aberdeen City and Shire Strategic Development Plan 2014 (Ref. 12.18)	<p>The purpose of this plan is to set a clear direction for future development of the North East, and it recognises the importance of providing links and connections.</p>

12.3 Methodology

Defining the study area

12.3.1 The relevant DMRB chapters do not set out specific guidelines on defining a study area. For residential, community and development land the study area for this assessment is defined by those areas which may be subject to land-take or to a change in access from the scheme. Where agricultural land is concerned, the study area includes the total area of any land holding where agricultural land is at risk of land-take, severance or change of access to provide an indication of context and to help quantify the significance of effect. For the purposes of this assessment, the study area was taken to be the scheme footprint with a 500m buffer for agricultural land. For development land the study area was taken to be the town of Laurencekirk and the areas surrounding it as indicated in the local development plan.

12.3.2 The assessment of NMU's was based on a review of existing infrastructure, the location of community facilities in the area and the main routes likely to be used by travellers to reach them.

Essentially, the study area is defined by the sphere of influence of any community facility in the area which intersects with the scheme. The study area for community facilities was taken to be approximately 2km.

- 12.3.3 The study area for vehicle travellers is the area of carriageway subject to improvement for which there is usable or modelled traffic data, the affected road network.

Determining the baseline

Desk study

- 12.3.4 A desk study was undertaken to review relevant plans and policies that include information on agricultural, community land use, land types and NMU/vehicle movements. These included:
- Aberdeenshire Council, Laurencekirk Core Paths Plan (2015) (Ref 12.14)
 - Access to Laurencekirk, Scottish Transport Appraisal Guidance (STAG), Part 1 - Initial Appraisal and Part 2 Detailed Appraisal (2015) (Ref 12.18)
 - AS90 (T) Laurencekirk Junctions, Nestrans (2012) (Ref 12.19)
 - Aberdeenshire Council Local Development Plan (2017) (Ref 12.11)
 - Aberdeenshire Local Development Plan- Action Programme (2017) (Ref 12.20)
 - Aberdeenshire Draft Housing Land Audit (2010- 2017) (Ref 12.21).
- 12.3.5 Google Maps (Ref 12.23) and the Department for Environment Food and Rural Affairs MAGIC Map application (Ref 12.24) were used to identify community land and facilities within the study area.
- 12.3.6 Land capability for agriculture maps produced by the Macaulay Land Use Research Institute, now the James Hutton Institute and accessed via Scotland's Environment website were key to the assessment of agricultural land in this chapter (Ref 12.22).
- 12.3.7 The Local Development Plan was reviewed to identify areas proposed for development. A review of planning applications within the study area between January 2019 and November 2019 as shown on the Aberdeenshire Council Local Development Plan Interactive Map were reviewed. Only those applications on which a decision had been made were considered within the assessment as committed development. Applications for development areas which have a decision pending were included as potential development land.

Field survey

- 12.3.8 A walkover survey of the study area was conducted on 9 March 2017. A series of NMU count surveys were used to inform the process of assessing significance of the NMU routes and understanding pedestrian movements in the study area. Commencing on the 10th of September

2018 these were carried out at 10 different locations around Laurencekirk over a seven-day period and for a minimum period of 0700 to 2100 each day to assess use of the NMU routes detailed in **Figure 12.5**.

12.3.9 Much of the information gathered for the assessment of impact upon agricultural land was derived from interviews held with local land owners, informed by a questionnaire and carried out at Stage 2. Site visits were conducted to carry out these interviews during October 2017 as part of the previous Stage 2 assessment. Interviews were not carried out as part of the Stage 3 Assessment as the previous interviews provided suitable information for the assessment of this scheme.

Consultation

12.3.10 Consultations were undertaken with the following organisations (further detail of which can be found in Chapter 5 and Appendix 5.1 of this document):

- British Horse Society (BHS)
- Cycling Touring Club, Scotland
- Nestrans
- Sustrans
- Scottish Rights of Way and Access Society (ScotWays)
- James Hutton Institute
- Aberdeenshire Council (Planning and building)
- Aberdeenshire Council (Public Access)
- Aberdeenshire Council (Transportation).

Private and community land

12.3.11 In the context of DMRB, private land refers to residential, commercial and industrial properties which require demolition or are susceptible to land-take because of the scheme. In this case, the scheme will not require the demolition of or any land take from residential properties, other than for realigned access, and commercial or industrial property except for farms, which are considered under agricultural land.

12.3.12 The impacts of the scheme on private land are established by quantifying the land taken from private property along with the number of properties affected. Where residential properties are concerned, actual buildings are deemed to be highly sensitive to impact, given that any impact equates essentially to demolition rendering them unusable. If land associated with a residential

property is affected, this may not have such a substantial impact on the way in which the land is used, and therefore the sensitivity will be lower.

12.3.13 Community land includes town or village greens, public parks or other land used for recreation.

The assessment of impacts on community land is informed by:

- The location, status and importance of land used by the public which is at risk
- The land-take for land used by the public
- The estimated usage of the community land
- Whether the land in question has any cultural or historical association.

12.3.14 DMRB, Volume 11, Section 3, Part 6: Land Use (Ref 12.2) does not include guidance for describing the sensitivity of private and community assets or methods for assessing the magnitude of impact. Therefore, the assessment method adopted is based on professional judgement. Table 12-2 describes the sensitivity of private and community assets, while Table 12-3 sets out scales for assessing the magnitude of impact, based on the amount of demolition or land-take required by the scheme. The significance of any potential effects is then assessed using Table 2.3 Significance matrix, of Chapter 2 Environmental Assessment.

Table 12-2: Sensitivity of receptors for use in the case of residential and community land

Sensitivity	Description
High	<ul style="list-style-type: none"> • Residential or commercial building • Property or land used by the community (e.g. play areas, schools, community halls) • Community land that attracts users nationally (e.g. national parks) • Cemeteries
Medium	<ul style="list-style-type: none"> • Residential or commercial land (e.g. gardens) • Land used by the community on a regional scale (e.g. country parks, forests and other land managed in such a way as to attract visitors from a regional development)
Low	<ul style="list-style-type: none"> • Residential or commercial land access • Derelict or infrequently used buildings • Locally used community land (e.g. local parks and playing fields)

Table 12-3: Magnitude of impacts on community and residential land use

Impact magnitude	Description
Major	Demolition of property, >50% loss of land and/or complete severance due to land-take
Moderate	Between 15% and 50% loss of land and/or major severance due to land-take.
Minor	<15% land loss and/or partial severance due to land-take.
Negligible	Very slight change from the baseline condition. Change hardly discernible
No change	No discernible change from baseline conditions

12.3.15 The categorisation of impact magnitude can on occasion lead to an under/over estimation of effect significance. Therefore, professional judgement has been used, where necessary, to supplement the outcome of any assessment.

Development land

12.3.16 Development land is land that is identified in the Aberdeenshire Council Local Development Plan 2017 (Ref 12.11) which is subject for development at some point in the future, whether for housing, commercial purposes or a community development was reviewed. The assessment identifies where areas of development land are affected by the scheme.

12.3.17 The Aberdeenshire Council Interactive Online Local Development Plan (Ref 12.25) records all current land which makes up the statutory development plan for the area as of 2018.

12.3.18 To produce a consistent and comparative assessment of effect significance, the sensitivity of areas of development land and the magnitude of any impact are categorised using amended versions of the generic descriptors outlined in Tables 2.1 and 2.2 from HA 205/08, offering a more finely graded scale of sensitivity.

12.3.19 The assignment of sensitivity, as Table 12-4 shows, is based around the importance of a development in terms of its relevance to users at various scales (from international to local), the availability of alternative locations, or how location specific the development is.

Table 12-4: Sensitivity of development land

Sensitivity	Description
Very high	Proposed development is of very high importance on an international scale. Very limited alternative locations.

Sensitivity	Description
High	Proposed development is of high importance and has been implemented at a national scale. Limited alternative locations.
Medium	Proposed development is of high or medium importance and has been imposed at a regional scale. Limited alternative locations.
Low	Proposed development is of low or medium importance and has been implemented at local or private scale. Numerous alternative locations.
Negligible	Very low importance scale. High number of alternative locations.

12.3.20 The assessment of impact magnitude, shown in Table 12-5 considers the viability of the development because of the scheme, specifically in terms of size, access and surrounding amenity. Table 2.4 in DMRB HA205/08 is then used to determine the overall significance of any effect.

Table 12-5: Magnitude of impacts on development land

Impact magnitude	Description
Major	Adverse - All or some of the site would no longer be available for the proposed use and reduction in the viability of the development or amenity of the site in such a way as to interfere with its proposed use
	Beneficial - A beneficial impact is that land is still available for development and large-scale improvement in viability of the scheme through improvement and appropriateness of access, plus overall enhancement of amenity levels in the area
Moderate	Adverse - Some reduction in land available for development, but not affecting the viability of the scheme or the amenity of the site
	Beneficial - Land still available for development and measurable improvement to the overall viability of the scheme through improved access and amenity
Minor	Adverse - No reduction in land available for development, but some measurable change in the viability and amenity of the site
	Beneficial - Possible reduction in land available for development but improved viability of development through improved access and amenity
Negligible	Adverse - Very minor loss or detrimental alteration to the viability of the scheme
	Beneficial - Very minor benefit to development access and amenity
No Change	No loss or alteration to the proposed development

Agricultural land

12.3.21 At Stage 3 Environmental Impact Assessment the DMRBs guidance on assessing the effect on agricultural land is:

- To identify the type of husbandry employed.
- Severance
- Land take
- Major accommodation works for access.

12.3.22 The DMRB does not outline any one preferred method on how to assess the land take from a farm. Agricultural land was assessed using professional judgement to provide a robust methodology.

12.3.23 The assessment uses information gained through consultation with landowners undertaken in conjunction with meetings held prior to a public exhibition (October 2017). During this time questionnaires were issued to landowners with the aim to inform a more detailed assessment of potential impacts.

12.3.24 The land take from agricultural areas is quantified with reference to the Land Capability for Agriculture (LCA) classification which was developed by the Macaulay Institute for Soil Research (MLURI), now the James Hutton Institute (Ref 12.22). This categorises and provides a description of the agricultural potential of land, based on the degree of limitation imposed by its biophysical properties. Grades 1, 2 and sub-grade 3.1 are recognised as being the best and most versatile agricultural land and are collectively known as “prime quality land” and are therefore considered the most sensitive as outlined in Table 12-6. The LCA of the area is also considered in terms of soil sensitivity in Chapter 13 Geology and Soils.

12.3.25 The assessment is made in terms of absolute land take quantities against the size of each holding affected as well as the LCA classification. The descriptions of the sensitivity and magnitude of impact are shown in Table 12-6 and Table 12-7. Table 2.4 in DMRB HA205/08 is then utilised to determine the level of significance attributable to any effects.

Table 12-6: Sensitivity of agricultural land

Sensitivity	Description
High	<ul style="list-style-type: none"> • Small farms size <50ha • Presence of prime quality land (category 1, 2, 3.1) • Conventionally farmed intensive arable cropping or intensive livestock systems (e.g. dairy cattle) • Land of any farm type farmed according to organic or biodynamic standard • High value commercial sporting activity (e.g. salmon fishing) • High value woodland that is rare or distinctive and susceptible to small changes

Sensitivity	Description
Medium	<ul style="list-style-type: none"> • Medium farm size (50ha-100ha) • Presence of land of moderate quality (Class 3.2-4) • Conventionally farmed mixed cropping and livestock systems of moderate intensity • Moderate value commercial sporting activity • Moderate value woodlands tolerant to moderate levels of change
Low	<ul style="list-style-type: none"> • Large farm size (>100ha) • Presence of land of low quality (Class 5,6 and 7) • Conventionally farmed extensive livestock systems or agricultural land in non-agricultural use • Low value sporting activity (e.g. rough shooting) • More commonplace woodland tolerant of noticeable change or undergoing substantial development

Table 12-7: Magnitude of impact on agricultural land

Impact magnitude	Description
Major	<ul style="list-style-type: none"> • Loss of more than 10% of the land holding • High degree of severance extending more than 20% of the land holding • Access to agricultural, sporting and forestry land restricted • High degree of disruption to cultivation patterns and with high risk of change in land use • Disruption to driven shooting and /or high value fishing (e.g. salmon) • Noticeable change to the woodland over a wide area or an intensive change over a limited area
Moderate	<ul style="list-style-type: none"> • Loss of between 5% and 10% of the land holding • Moderate degree of severance extending between 10% and 20% of the land holding • Access to agricultural, sporting and forestry land compromised • Moderate degree of disruption to cultivation patterns with moderate risk of change in land use • Disruption to walked-up shooting and/or medium value fishing (e.g. trout) • Small changes to the woodland over a wide area or a noticeable change over a limited area

Impact magnitude	Description
Minor	<ul style="list-style-type: none"> • Loss of less than 5% of the land holding • Low degree of severance extending less than 10% of the land holding • Minimal change in access to agricultural, sporting and forestry land • Minimal degree of disruption to cultivation patterns and low risk of change in land use • Disruption to rough shooting and /or low value fishing (e.g. no permit charged) • Very minor changes to the woodland over a wide area or minor changes over a limited area
Negligible	<ul style="list-style-type: none"> • Loss of between 1% and 5% of the farmed area • Low degree of severance (less than 5% of farmed area) • Access changes with minimal increase in travelling and all machinery able to access • Minimal degree of disruption to cultivation patterns and low risk of change in land use • Disruption to rough shooting and low value fishing (e.g. no permit charged) • Potential for low degree of change in permanent or seasonal employment • Very minor changes to the woodland over a wide area or minor changes over a limited area
No change	<ul style="list-style-type: none"> • No change to all the factors above.

Non-motorised Users (pedestrians, cyclists and equestrians)

12.3.26 In accordance with Volume 11 of the Design Manual for Roads and Bridges (DMRB) Section 3, Part 8: Pedestrians, Cyclists and Equestrians (Ref 12.3), and drawing on guidance provided in Interim Advice Note 125/15 (Ref 12.1), the assessment of impacts on NMUs focuses on three main aspects;

- Journey Length - changes in journey lengths and times resulting from any diversions or closures of footpaths, tracks, public rights of way or roads.
- Amenity - the effect on the amenity value where amenity is defined as the relative pleasantness of a journey
- Community Severance - the separation of residents from facilities and services used within the community caused by new or improved roads or by changes in traffic flows.

Journey Length

12.3.27 To assess changes in journey length and the implications for community severance, it is first necessary to identify the key journeys that are likely to be affected by the scheme. In this assessment, key journeys are considered to be those which are important in connecting people

with their local facilities or routes within the study area identified as core paths, public rights of way (PRoWs) or established cycle routes.

12.3.28 The DMRB Volume 11, Section 3, Part 8 suggests two methods for establishing local travel patterns. Method A relates to situations where local travel patterns are likely to be straightforward and Method B refers to situations where local travel patterns are likely to be complex. The guidance gives no definition of “straightforward” or “complex”, however it is considered that travel patterns in the study area are straightforward. This has been informed by a site walkover which indicated relatively low numbers of NMUs likely to be impacted by the scheme, with the majority of key journeys not currently reliant on interacting with the A90 but are instead concentrated around the town centre. To assist in the identification of key journeys, community facilities have been identified in **Figure 12.1**, and the catchment of relevant schools included in **Figure 12.2**.

12.3.29 The main points to consider when assessing non-motorised users (NMUs) are:

- Identification of existing routes and community facilities used by pedestrians (including vulnerable groups) and other NMUs
- Estimation of the numbers of NMUs using a particular route
- Availability of alternative facilities accessed by the route
- Importance of the facility

12.3.30 By identifying or estimating the extent and relevance of the factors above to a chosen route, the sensitivity of travel patterns to change can be assessed, using professional judgement to apply a scale of: negligible-low-medium-high-very high, as seen in Table 12-8. For example, very high sensitivity will constitute a route with a high level of use, where a significant proportion of users are classed as vulnerable (such as aged or disabled people), where a distinct lack of alternatives is available, and where the facility being accessed is important; such as a school or medical facility. The extent to which each of these factors is present for each route will inform a decision on how sensitive they are to change. Thresholds for the number of users using a route have not been determined for use in identifying differing levels of sensitivity or magnitude.

Table 12-8: Criteria for assessing NMU route sensitivity

Sensitivity	Criteria descriptions
Very High	Very high level of use Significant proportion of vulnerable users Key route to important facilities such as hospital/school/GP surgery No alternative available

Sensitivity	Criteria descriptions
High	High level of use Considerable proportion of vulnerable users Route to important facilities such as hospital/school Very few alternatives available
Medium	Medium level of use Reasonable proportion of vulnerable users Route to important facilities, alternatives available Some alternatives available
Low	Low level of use Low proportion of vulnerable users No important facilities accessed along route. Several alternatives available
Negligible	Very low level of use Negligible proportion of vulnerable users No important facilities accessed along route. Many alternatives available

12.3.31 Where travel patterns are likely to be affected, qualitative considerations are made, in terms of both distance and time, of any changes in journey length likely to be experienced. The magnitude of impact of the scheme on the journey length and access to community facilities is then quantified according to the scale provided in the DMRB Volume 11, Section 3, Part 8, Chapter 6 (Ref 12.2). This is designed to show the extent to which any new severance is experienced, dictated by changes in journey lengths, and the extent to which new obstacles have to be negotiated. The scales of impact magnitude along with a description of the impact are shown in Table 12-9. Once sensitivity and magnitude are established, Table 2.3 is then used to determine significance of effect.

Table 12-9: Criteria for assessing magnitude of impacts on NMUs

Impact Magnitude	Criteria
Major	Adverse - Permanent loss/significant alternation of resource resulting in considerable hindrance to pedestrians and others travel patterns, for example: increased journey distance for pedestrians by 500m or greater; or pedestrian at-grade crossing subject to a new road carrying over 16 000 vehicles per day (AADT) in the opening year; or three or more of the hindrances set out under 'minor' or two or more set out under 'moderate'.
	Beneficial - Large scale or major improvement of route quality, extensive restoration or enhancement. Proposed route is substantially safer and more pleasant for use by pedestrians and others.
Moderate	Adverse - Impact results in partial alteration to Pedestrian, Cyclist, Equestrian or Community facilities such that the experience is diminished to a noticeable degree, for example: increased journey distance for pedestrians by 250-500m; or pedestrian at-grade crossing subject to a new road carrying between 8 000 – 16,000 vehicles per day (AADT) in the opening year; or two or more of the hindrances set out under 'minor' applying to a single trip. Some users, particularly children and elderly people, are likely to be dissuaded from travelling.
	Beneficial - Moderate improvement/addition of key characteristics, features or elements positively enhancing user experience.

Minor	Adverse - Some measurable change from baseline conditions considered unlikely to impact existing travel patterns but may cause some hindrance to movement, for example: increased journey distance for pedestrians by up to 250m; or a new bridge to climb or a subway to traverse; or pedestrian at-grade crossing subject to a new road carrying below 8 000 vehicles per day (AADT) in the opening year.
	Beneficial - Minor benefit to or addition of one (possibly more) key characteristics, features or elements, providing a small beneficial improvement for pedestrians and others.
Negligible	Very minor alterations but will not impinge on use by pedestrians, cyclists or equestrians. Existing travel patterns are unlikely to be altered.
No Change	No loss or alteration of key characteristics features or elements for pedestrians, cyclists or equestrians, therefore no impact.

Journey Amenity

12.3.32 Amenity is defined according to the DMRB Volume 11 Section 3, Part 8 (Ref 12.3) as “the relative pleasantness of the journey” and is the extent to which NMUs are exposed to traffic, noise and dirt as well as feelings of fear derived from footpath width, distance from traffic and the existence of barriers/fences. The pleasantness of the surrounding landscape may also be relevant. For cyclists and equestrians, provision of safe crossing points is of paramount importance in addition to similar safety issues felt by other NMUs such as proximity to traffic.

12.3.33 The DMRB (Volume 11, Section 3, Part 8) does not provide a specific means by which the sensitivity of journey amenity and the magnitude of impact can be assessed, rather it states that a descriptive approach should be taken in assessing journey amenity, making sure to reference expected changes in traffic flows and the number of journeys affected. However, for the assessment of journey amenity to be consistent with other assessments in this report, an assessment of route sensitivity and impact magnitude have been carried out. Sensitivity as outlined in Table 12-10 is related to the importance of a resource. In the case of journey amenity, this importance, or value, is derived from the experience of the user when using the given route. For example, a high level of amenity may be experienced as a result of the combined effect of pleasant views, a well-maintained footway and good lighting. The scale over which this value has influence should also be taken into account, derived from the number of people likely to experience the route and where they are likely to have come from.

Table 12-10: Journey amenity route sensitivity

Sensitivity	Description
Very High	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale and limited potential for substitution
Medium	High or medium importance and rarity, regional scale, limited potential for substitution

Sensitivity	Description
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

12.3.34 The magnitude of any impact in line with Table 12-11, is derived from loss, addition or enhancement of any of the key features which contribute to the amenity value of the route to its users. For example, an improvement in the surfacing of a footway enhances the visual amenity of that route and may contribute to the safety of the users.

12.3.35 By combining the overall level and importance of amenity along a given route and the extent to which it is expected to change, the overall significance of an impact can be determined. This is done using the matrix shown in table 2.4 in HA205/08.

Table 12-11: Journey amenity impact magnitude

Magnitude of impact	Description
Major	Adverse - Loss of resource and/or quality and integrity of receptor, severe damage to key characteristics, features or elements
	Beneficial - Large scale or major improvement of receptor quality, extensive restoration or enhancement, major improvement of attribute quality
Moderate	Adverse - Loss of resource, but not affecting integrity, partial loss of /damage to key characteristics, features or elements
	Beneficial - Benefit to or addition of key characteristics, features or elements. An improvement of attribute quality
Minor	Adverse - Some measurable change in attributes, quality or vulnerability, minor loss of or alteration to one (possibly more) key characteristics, features or elements
	Beneficial - Minor benefit to or addition of one (possibly more) key characteristics, features or elements, some beneficial impact on attribute or a reduced risk of a negative impact occurring
Negligible	Adverse - Very minor loss or detrimental alteration to one or more characteristics, features or elements
	Beneficial - Very minor benefit to or positive addition of one or more characteristics, features or elements
No Change	No loss or alteration of characteristics, features or elements, no observable impact in either direction

Vehicle Travellers

12.3.36 Two subject areas are assessed for impacts on vehicle travellers, these are:

- o Views from the road and;
- o Driver stress.

12.3.37 In accordance with Volume 11 of the DMRB Section 3, Part 9: Vehicle Travellers (Ref. 12.4) views from the road are defined as the extent to which travellers, including drivers, are exposed to different types and quality of scenery that they may pass along the route.

12.3.38 In accordance with the DMRB ‘driver stress’ can be defined as the adverse mental and psychological effects experienced by a driver traversing a road network. The levels of stress vehicle travellers will experience can vary depending on the road layout, surface riding characteristics, junction frequency, and speed and flow per lane. Driver stress has three main components:

- o Frustration,
- o Fear of potential accidents, and
- o Uncertainty relating to the route being followed.

Vehicle travellers – view from the road

12.3.39 The extent to which travellers can perceive the landscape through which they are passing will vary with the relative level of the road and its surrounding ground and vegetation. The criteria recommended from the DMRB has been modified using the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition 2013 (Ref 12.30), Table 12-12 below shows the five-point scale used to assess the sensitivity of views from the road.

Table 12-12: Sensitivity of views from the road

Sensitivity	Views from the Road
Very High	The traveller experiences extensive views of high-quality unique landscape. The area is of National importance. e.g. National Scenic Area
High	The traveller experiences extensive views of high-quality landscape, area of unique landscape or prominent features of particular interest.
Medium	The traveller is exposed to partial/intermittent views of a high-quality landscape (or extensive views of a moderate quality landscape), area of unique/distinctive landscape character or features of interest.
Low	The traveller is exposed to views of an area of low-quality landscape/unremarkable or degraded landscape character or heavily restricted views/no view of the surrounding landscape.
Negligible	The traveller is exposed to views of no particular importance at a local level. Alteration to such views would not be noticeable.

12.3.40 The magnitude of impact to the views experienced from the road are set out in Table 12-13 and relate to the degree of change to views.

Table 12-13: Magnitude of impact on view from road

Magnitude	Views from the Road
Major	A major alteration such that the view experienced from the road is completely altered either adversely or beneficially
Moderate	An alteration such that views experienced from the road would be diminished or enhanced to a noticeable degree.
Minor	Small changes in views from the road but these are not considered noticeable
Negligible	Very little appreciable change in views from the road

Driver Stress

12.3.41 The relationship between the numerous contributory factors to stress and experienced stress levels are not sufficiently robust or well understood to allow for finely graded assessments of impact magnitude or receptor sensitivity. As such, the DMRB suggests a three-point descriptive scale is used (low-moderate-high) to assess driver stress, taking into account the characteristics of the road in question which may contribute to driver stress. Existing and predicted levels of driver stress have been determined using the ratings stated within the DMRB as indicated in Table 12-14. Accordingly, Table 12-14 is used to draw approximate conclusions on driver stress levels based on available traffic data. The assessment of driver stress has been carried out following this methodology.

Table 12-14 Driver stress levels on dual carriageways

Average peak hourly flow per lane, in flow Units/1 hour*	Average Journey Speed Km/hr		
	Under 60	60-80	Over 80
Under 1200	High **	Moderate	Low
1200-1600	High	Moderate	Moderate
Over 1600	High	High	High

(* A car or light van equals one flow unit. A commercial vehicle over 1.5tns, unladen weight, or public service vehicle equals 3 flow units. ** Moderate in urban areas)

12.4 Baseline Conditions

Private property

- 12.4.2 Land to the west of the existing A90 is dominated by the town of Laurencekirk; a predominantly built up area, with many commercial and private residential properties, centred around a linear main street running north to south, and parallel with the trunk road. There are private residential properties to the east of the existing A90, with most of the land comprised of arable farmland adjacent to the southbound carriageway. West Lodge is the closest property to the scheme at approximately 570m to the south. Johnston Lodge has a strip of land containing an access road bordering the Gaugers Burn and intersecting onto the A937 at Gaugers Bridge. Additional access to the Lodge is granted by Frain Drive and the B9120 to the east and north of the property, and an access road that intersects the A90 to the northwest of the property.

Public utilities

- 12.4.3 The DMRB does not refer to public utilities within the Community and Private Assets guidance, but these are important to consider where changes of land use are possible and could be considered as a community amenity. Therefore, although there is no formalised method of assessment, consultation has been undertaken with the relevant public utility providers with a brief overview provided.
- 12.4.4 Public utility companies were consulted in November 2017 following guidance outlined in Interim Advice Note IAN 59/04 in accordance with The New Roads and Street Works Act (NRSWA) 1991 preliminary inquiry. This consultation is undertaken to inform an understanding of the nature and position of utility apparatus in the locality of the proposed works with a view to creating proposed diversion routes. The following companies were consulted:
- BP Pipelines
 - EasyNet
 - ES Pipelines
 - Fujitsu Telecom Europe Ltd
 - Instalcom Ltd
 - National Grid Gas
 - NTL Plant Protection
 - Virgin Media
 - Orange (3E)
 - Scottish Water

- Scottish Gas Network
- Thus
- Vodafone
- British Telecom

12.4.5 These services are shown in **Figure 14.1**. Any required diversions of public utilities will be carried out as part of the construction programme and in agreement with the utilities providers. The assessment of utilities is therefore scoped out of further assessment.

Community land

12.4.6 Areas of community land within the study area are limited to Kinnear Square and Memorial Park as seen in **Figure 12.1** Community Land Use. Laurencekirk contains a number of community facilities, most of which are located on the high street. Table 12-15 identifies the key community land and facilities within the study area. The catchment areas for local schools are shown in **Figure 12.2**.

Table 12-15: Community assets

Facility type	Facility name	Details of use
Community Centre	Mearns Academy Community Campus	Provides sports, theatre, conference, educational and IT facilities on a nightly basis.
	The Venue – Laurencekirk Youth and Community Venture	Provides space for weekly meeting for various community groups.
	Dickson Community Hall	As above, in addition to providing meeting, conference and community event facilities.
	Mearns Community Centre	Weekly community classes and clubs
Public transport infrastructure	Laurencekirk railway station	Hourly services to and from , Aberdeen and Edinburgh, with a daily service to Glasgow. There were 95,848 users in 2017/2018
	6 southbound bus stops	Hourly bus services operated to and from Montrose, Stonehaven, Brechin, Stracathro and Arbroath.
	3 northbound bus stops	
Emergency services	Laurencekirk Fire Station	N/A
	Laurencekirk Police station	
School	Mearns Academy	School role: 649
	Laurencekirk primary school and nursery	School role: 312 Nursery: 70
Nursing home	Eastview Nursing Home	Maximum of 57 residents
	Burnside Nursing Home	
Local Authority Sheltered Housing	Mearns Court	39 flats
	Mearns Drive	22 bungalows
Age Exclusive Housing	Castlehill Housing Association (Garvock Court)	7 cottages

Facility type	Facility name	Details of use
	Mearns Walk (Local Authority)	6 bungalows
Post office	Laurencekirk Post Office	Small proportion of Laurencekirk population No detailed level of use available.
Place of worship	Laurencekirk Parish Church	
	Saint Laurence’s Episcopal Church	
	Unidentified place of worship	
Recreation	Kinnear Square	No detailed level of use available.
	Memorial Park	
Burial ground	Laurencekirk cemetery	No detailed level of use available.
Library	Mearns Community Library	

Development land

12.4.7 Laurencekirk is considered an important service centre for the surrounding rural communities within the lower Mearns area. Laurencekirk is also a key settlement in the Drumlithie to Laurencekirk strategic growth area and as such plays an important role in delivering both strategic housing and employment allowances. The resolution of significant road infrastructure issues within the local area, in particular pertaining to safe access to and from the A90 are frequently highlighted within the LDP as essential to future development.

12.4.8 Development land as outlined by the Aberdeenshire Local Development Plan 2017 (Ref 12.11) is shown in **Figure 12.3**. There are three areas of development land – identified as Opportunity Sites in the 2017 LDP - within the study area. None of these sites has the potential to interact directly with the proposed scheme, in terms of land-take and access arrangements. The proposed developments are described below.

Opportunity site 1

12.4.9 A Development Framework and masterplan were agreed by Kincardine and Mearns Area Committee in November 2013 for Mixed Use Extension Including Housing, Employment Land, Community Facilities and Services. It is noted that the provision of appropriate vehicular access is a key consideration as part of future developments at this site.

12.4.10 As depicted in **Figure 12.3**, part of Conveth Mains Farm, this area of development land is located adjacent to Laurencekirk’s northernmost A90 junction. The masterplan for this development produced on behalf of the developer, outlines plans for the construction of 885 residential properties, along with 11ha of employment land and 16ha of strategic reserve employment land. This is expected to take place in three phases, with construction beginning in the north-western corner of the plot. Planning permission has been granted for 310 homes in this area while a decision on a further 247 is pending. Although no further information is available on the phasing of the housing scheme, there is potential that the construction of the junction and the construction of the houses may coincide.

- 12.4.11 Opportunity site 1 (OP1) is the largest development area within Laurencekirk and is development land of high importance having been imposed at a regional scale. This is combined with the Scottish Governments vision for Aberdeenshire's economic growth and the emphasis within the LDP on improved transport provision.

Opportunity site 2

- 12.4.12 This site is located to the south west of Laurencekirk off Blackiemuir Ave/East of Westmuir. The site was granted full planning permission in October 2012 for 210 homes. This site has subsequently changed hands and a different developer is taking it forward in a series of phased developments, with planning permission having been granted for some. Phase 1 is now complete with 40 new dwellings erected, with phases 2,3 and 4 to be completed, with a total of 116 dwelling planned. Further information on the stages of development are available in chapter 15 Cumulative Effects. It should also be noted that there is a core path which runs along the southern boundary of the site adjacent to Railway Road and there is potential for these construction works to coincide with the junction works, however there is no freely available information on the timescale of proposed works.

- 12.4.13 Opportunity site 2 (OP2) is the second largest area within the Laurencekirk area. This site does not interface directly with the A90 currently, although enhanced transport provision is a key consideration of the development.

Opportunity site 3

- 12.4.14 Opportunity site 3 (OP3) is located to the north of Garvocklea Gardens from which future access would be obtained. This site has been granted planning permission for 13 homes and associated road access as of August 2009. It is expected that two affordable houses will be provided on-site by the developer. This site was previously allocated in the 2012 LDP, as of the 2017 LDP no progress has been made and no further information or a proposed timetable for the development has been made available.

Agricultural land

- 12.4.15 Most land immediately to the east of Laurencekirk within the study area is categorised by the James Hutton Institute, as having a land capability for agriculture (LCA) of classification 2. This identifies the land as high quality able to grow a wide range of crops in an area of minor physical limitations. To the south of Laurencekirk there is a narrow parcel of woodland adjacent to Gaugers Burn with a land classification of 3.2 Land Capability for Agriculture (LCA), identifying that it is suitable for growing a moderate range of crops with a potentially high yield of grasses and arable crops. This is illustrated in **Figure 13.3** in the Geology and Soils assessment. Land farther to the east of the A90 is characterised by a noticeably steeper gradient and is of mixed capability (ranging from grade 3.1 to 5.1) predominately classed as Less Favoured Area (LFA).

- 12.4.16 The DMRB (Volume 11, Section 3, Part 6) (Ref 12.2) states that Environmentally Sensitive Areas (ESAs) designated (exclusively or in part) due to agriculture factors should be included within this assessment. No ESAs are located either partially or wholly, within any of the areas likely to be affected by the scheme, and accordingly are scoped out of the assessment.
- 12.4.17 Agricultural practices are varied within the study area. Although predominantly arable, various forms of animal husbandry have also been identified. Farming of cattle, pigs and sheep were all recorded during consultation with farm owners, while the keeping of horses is also common. Information on the range of arable crops cultivated were obtained via questionnaire and are included under the relevant farms below.
- 12.4.18 Of note are a few field access points directly off both the north and southbound carriageways of the A90. Additionally, access to Johnston Mains Farm from the centre of Laurencekirk is provided via an underpass.
- 12.4.19 Details of the way in which the land is used are described below, along with information gathered through the questionnaire for the Stage 2 assessment.

Agricultural Land – Johnston Mains Farm

- 12.4.20 An interview was carried out with the land owner on 18 October 2017. The farm covers an area of approximately 224ha of land east of the A90 and Laurencekirk, extending to and including parts of Garvock Hill. Of this land, 50% is used for arable crops (winter wheat and spring barley), while the other 50% is classed as Less Favoured and predominately used for grazing beef cattle.
- 12.4.21 The farm primarily utilises the B9120 for ingress and egress, as well as using the underpass located under the A90.
- 12.4.22 Johnston Mains is a large farm, with land class 2 used for arable crops.

Agricultural land – Mains of Newton

- 12.4.23 An interview was carried out with the land owner on the 18th October 2017. Mains of Newton is comprised of approximately 202 hectares of predominantly prime arable land to the south of Laurencekirk. The farm employs six full time workers, with an additional 3 part-time workers employed between harvest, typically March to August.
- 12.4.24 The Mains of Newton is used as the main steading for several of the farms in the area, with most of the agricultural traffic using the Laurencekirk southern junction and A937 for access.
- 12.4.25 The Mains of Newton is a large farm, with land take potentially in areas of predominantly high quality (LCA class 2) land; an area indicated and observed to be used for intensive arable agriculture.

Agricultural land owned by Kincardineshire Investments Company Ltd

- 12.4.26 Kincardineshire Investment Company (Holdings) Limited is currently in ownership of agricultural land adjacent to Denlethen Wood, north of the southern junction at Laurencekirk. During the site walkover, this land was observed to be used for arable farming. The total area of land owned by KIC is not known. Land take is potentially in areas of predominantly high quality (LCA class 2) land in an area observed to be used for intensive arable agriculture.

Non-motorised Users (pedestrians, cyclists and equestrians)

- 12.4.27 Given the sparsely populated nature of the study areas identified for community facility use it can be deduced that community facilities within Laurencekirk will be used predominantly by residents of Laurencekirk itself. Key journeys will therefore be those connecting the residential areas of Laurencekirk with local services and facilities.
- 12.4.28 The Aberdeenshire Council Core paths plan identifies a number of routes within the study area, while the local development plan highlights a local cycle route, the Fettercairn Circular, both of which are shown in **Figure 12.4**. These routes, along with a number of footways within the town, and numerous crossing points along the A90, are considered to be key NMU routes in this assessment.

Key NMU routes

Route 1: B9120 pedestrian crossing of the A90 at centre junction.

- 12.4.29 This key route links individual properties and farms from the east of the A90 carriageway to Laurencekirk and incorporates a designated NMU crossing. The route east of the A90 follows the line of the B9120 in a westerly direction to the A90, with no footway available. Once at the A90, NMUs are required to cross a total of six lanes of live traffic via a signed crossing point, close to the central junction of the A90. There is a short section of footpath provision along the northbound carriageway from the crossing point to a gated access onto Cairn Gardens. The route then continues westward toward the centre of the town along the B9120 Garvock Road and Alma Terrace, a residential street with footways on either side. This route is key to connecting residents on the eastern side of the A90 with community facilities within the town itself.

Route 2: Frain drive, A90 underpass and core paths

- 12.4.30 Route 2 overlaps with a section of core path and connects the east and west of the A90 via an underpass. The importance of this route is primarily a result of the connectivity it provides to the properties and farms on the eastern side of the A90 at this location. NMU's can cross under the A90 without having to interact with the road itself. Overall, there is a lack of alternative routes to the south of Laurencekirk. To a large extent this path connects people to community facilities

such as local shops like the Mace Convenience Store, Laurencekirk Primary School, Mearns Community Centre, and public parks.

Route 3: Blackiemuir Avenue/Gardenston Street and Denlethen Woods

- 12.4.31 Route 3 is also part of Aberdeenshire Council's core paths plan and incorporates a loop around Denlethen Woods as well as sections of track and footway. As part of the core paths network, this route extends as far north as the railway station and as far south as Gardenston Street along Railway Road, at which point the route follows a track connecting to the northern edge of Denlethen Woods. The Fettercairn circular cycle route can be accessed along this route via Blackiemuir Avenue. This route is likely to be primarily recreational in use due to the availability of alternative, more direct routes to connect to community facilities within the town itself. This route lacks connectivity to the A90 and has few alternative routes.

Route 4: Laurencekirk High Street

- 12.4.32 Route 4 is the most used route as it connects Laurencekirk High Street with most community facilities and local services located nearby or along the route itself. Facilities along this route include; amenities like bus stops, but no pedestrian crossing points. It is the main thoroughfare connecting the north to south of Laurencekirk and serves as the concentration point of community facilities along or near the route.

User numbers

- 12.4.33 The NMU survey counts at each location shown in **Figure 12.5** are provided in Table 12-16. Some of these locations are relevant to the key routes identified in paragraphs 12.4.29 to 12.4.32 and this is shown in the last column of the table.

Table 12-16: Total NMU counts

Total NMU Counts									
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total	Route
J1	10	10	24	6	11	24	16	101	1
J2	487	505	526	418	474	99	132	2,641	Corepath
J3	1,158	1,170	1,336	1,141	1,340	1,098	714	7,957	4
J4	1,006	660	687	603	762	453	375	4,546	4
J5	422	409	435	375	418	450	327	2,836	Cyclepath/Corepath
J6	497	523	539	453	576	462	261	3,311	Cyclepath
J7	88	114	98	101	112	113	132	758	Cyclepath/Corepath
J8	62	60	61	59	83	68	58	451	3
J9	6	4	19	5	3	20	16	73	-
J10	9	12	13	9	12	27	19	101	-

- 12.4.34 As seen in Table 12-16 the Route 4 – Laurencekirk High Street consistently has the highest number of users, surveyed at points J3 and J4, this is expected due to the majority of community facilities such as the Scotmid Co-operative and Laurencekirk Post Office being located along this route. Route 1 – B9120 pedestrian crossing was surveyed at point J1 and had a small number of users compared to J2 which is a potential destination for NMUs using Route 2, potentially highlighting the preferred use of the underpass to cross the A90. The survey point J8 is directly adjacent to the works and saw consistent use, Route 3 can be accessed from this junction and leads to the Denlethen woods, potentially highlighting this route use as predominantly recreational.
- 12.4.35 Although an important route connecting properties and facilities east and west of the A90, the small number of residents within walking or cycling distance on the eastern side of the road mean Route 1 is seldom used. The NMu survey recorded a total use of 101 NMUs over one week on this route (J1 in **Figure 12.5**). It may be that the need to cross the A90 is a contributory factor to the low numbers using it, but it is clear, as evidenced by the encroachment of vegetation over the footway that it is not used often.
- 12.4.36 Routes 2 and 3 play a predominantly recreational role. A site walkover confirmed that these routes are well worn and used frequently, particularly by dog-walkers. Evidence of equestrian use of Route 3 was also identified on site and it is likely, given the prevalence of horses in surrounding fields, that this is common throughout the area. Route 4 is the most heavily used with 7,957 total NMUs over a seven day period. This is due to the concentration of residential properties, local services and community facilities, in the vicinity of the route. A proportion of these users on this route are considered to be vulnerable users.
- 12.4.37 According to the National Records of Scotland, approximately 20% of the population in Laurencekirk is aged over 65 years old, while 20% are aged 15 and under. Overall this represents 40% of the population which could be classed as vulnerable. Accounting for the location of community facilities most likely to be used by vulnerable users such as playing fields, retirement homes and schools, there is potential for all routes to be used by vulnerable members of the local community.

Journey amenity

Route 1: B9120 pedestrian crossing of the A90 at centre junction

- 12.4.38 Route 1 is limited by the lack of a footway to the east of the A90, although the road is straight and, on a slope, allowing good visibility of any approaching traffic. The route then requires NMUs to cross the A90 using an uncontrolled crossing. The route to the west of the A90 connects to a short section of footway, passing through a gated access to Cairn Gardens before running adjacent to the cemetery for approximately 100m. The route then connects to Garvock Road/Alma Terrace, passing an area of amenity grassland and eventually joining High Street.

Footways on this section are narrow in places but of good quality and available on both sides of the road. The route to the east of the A90 follows the line of the B9120 westwards, with no footway available.

Route 2: Frain drive and core paths

- 12.4.39 The section of this route which runs perpendicular to the A90 provides access to a number of individual properties and links farmland on either side of the A90 via an underpass. The route is surfaced with aggregate and traffic is very limited (besides farm machinery and vehicles belonging to a small number of property owners). The core path then turns northwards, parallel with Laurencekirk High Street and the A90. Lined by trees along much of its length, this section of the route is unsurfaced; its primary purpose being to provide field access.

Route 3: Blackiemuir Avenue/Gardenston Street and Denlethen Woods

- 12.4.40 Route 3 is predominantly a woodland walk and is used frequently by dog-walkers. It is comprised of a versatile network of paths linking Laurencekirk with the surrounding countryside. Except for the small section of pathway protruding from the north east of Denlethen Wood, all paths on this route are exclusively for use by NMUs. The quality of path varies; ranging from rougher muddy sections to gravel surfaced footways. Views within the wood are limited, however sections of the route beyond this area offer extensive views of the wider landscape in all directions. This route also incorporates a pedestrian level crossing and passes along the residential Gardenston Street before meeting High Street.

Route 4: Laurencekirk High Street – A937

- 12.4.41 Route 4 is the most well used of all those being assessed and is characterised by narrow footways, many parked cars at the roadside and a generally busy street, lined mostly with small shops and local businesses. There are no formalised crossing points along High Street, although crossing patrols are in place close to the primary school during peak times. Views are limited by buildings along the length of the route. The western footway is lit for most of its length.

Vehicle Travellers

View from the road

- 12.4.42 The DMRB states that types of scenery, the extent to which travellers are able to view it and the quality of the landscape as well as any features of particular interest should be taken into account. Scottish Natural Heritage (SNH) designates the Landscape Character Types as Broad Valley Lowlands and Coastal Farm Ridges and Hills, in their Landscape Character Assessment (LCA) of South and Central Aberdeenshire (Ref 12.32) The agricultural land surrounding the scheme is fairly level and open in character with field boundaries of post and wire fences allowing open views. The landscape is distinguished by patchwork of intensive mixed agriculture with sparsely scattered woodland. The LCA notes the dynamic and atmospheric colourful

scenery created by varying crop patterns, often framed by a powerful sky resulting in a pleasing visual aesthetic.

12.4.43 From south to north the view on the left-hand side of the A90 is dominated by residential properties and is of low value. On the right, the landscape is dominated by farmland situated on the valley floor rising to Garvock Hill in the distance and is therefore of a higher quality. After this point, the view is largely open although there are no features of particular significance. According to DMRB Vol. 11, Section 3, Part 9, Chapter 2, the view from the road can be described as intermittent and the sensitivity, as described in Table 12-8, is therefore medium.

Driver Stress

12.4.44 The baseline for driver stress has been assessed for the do minimum scenario at the assumed year of opening in 2022. This scenario assumes the road layout will remain unchanged from current conditions, against which scheme comparisons can be made against traffic flows at the opening year.

12.4.45 The average speed of traffic along the A90, taking into account a number of side roads (A937, B9120) is 104km/hr. The average peak hourly flow for the base year (2022) is modelled at approximately 4901 vehicles per hour. However, when the HGVs (average of 9.6%) are weighted (equivalent to three flow units as part of the driver stress assessment matrix as seen in Table 12-14) this rises to approximately 5,371 vehicles per hour in both north and southbound directions. Therefore, in accordance with the DMRB, the general level of driver stress experienced by drivers along the A90 is considered to be high in both rural and urban environments.

12.4.46 As discussed in the methodology the driver stress assessment matrix is designed only to provide a guide to likely driver stress. It is likely that levels of driver stress are more nuanced than the assessment matrix would suggest.

12.4.47 The following existing issues relating to driver stress on the A90 were identified in the Access to Laurencekirk, Scottish Transport Appraisal Guidance (STAG), Part 1 – Initial Appraisal and Part 2 Detailed Appraisal (2015) (Ref 12.18). They help to provide a more comprehensive picture of driver stress in the area.

Access to and from junctions

- Access to and from side roads along the study area is a significant problem for both mainline A90 and side road traffic from the A937 and B9120.
- Queuing at peak times and high levels of delay are experienced by vehicles turning right onto the A90 and vehicles crossing the A90 to reach Laurencekirk.

- Issues are compounded by the high incidences of right turning traffic from the north and south junctions as recorded in a turning study conducted in March 2014.

A90 Road Safety

- A review of accident data indicated that accidents primarily occur at the junctions and most commonly involve right turn manoeuvres crossing the carriageway, in particular at the centre junction.
- Drivers feel pressure to accept small gaps in mainline traffic due to limited exiting opportunities. Originating from this pressure, frustration felt by the driver at the front of the queue is also shared by those behind.
- Overhanging of the central reserve by HGV’s due to the current substandard width of the central islands at all three junctions.

Speeding

- The 50mph speed limit introduced in 2005 is perceived to cause “Platooning” through the 1.35km section which covers the south junction. This results in fewer gaps to allow side road crossing, generating side-road delay and leading to increased driver frustration and stress. This aligns with findings from the A90 Laurencekirk Road Safety Monitoring Study (Ref 12.33)
- Instances of exceedance remain a problem on the wider A90 at Laurencekirk, although the 50mph section slows vehicles, instances of the speed limit being exceeded influence the perception of poor safety for drivers crossing and merging at the south junction.

Evaluation/Sensitivity of Receptors

12.4.48 Table 12-17 provides a summary of the sensitivity of the identified receptors.

Table 12-17: Receptor Sensitivity

Receptor	Sensitivity
Private Property – Johnston Lodge	High
Community land	High
Development land – OP1	Medium
Development land – OP2	Medium
Development land – OP3	Medium
Agricultural land – Johnston Mains Farm	High
Agricultural land – Mains of Newton	High
Agricultural land – Kincardine Investments Company	High

Receptor	Sensitivity
NMUs – route 1	High (for journey length) Medium (amenity)
NMUs – route 2	High (for journey length and amenity)
NMUs – route 3	Medium (for journey length and amenity)
NMUs – route 4	High (for journey length) Low (amenity)
Vehicle Travellers	Medium (view from the road)

12.4.49 Driver stress is assigned using the three-point scale as described previously and is assigned as high.

12.5 Impact Assessment

Construction - Land Use

Private and community land

Private Property

12.5.2 Access to the residential properties around Laurencekirk will be affected during construction; however, traffic management will ensure access to residents is maintained with minimal disruption. No land take will be required from residential land during construction, with the main impacts being because of disruption to access. As such, impact magnitude during construction has been assessed as minor resulting in an effect significance of slight.

12.5.3 The plans indicate the access road for Johnston Lodge will be re-routed to the existing Mains of Newton farmland access point on the A937, south of the new junction. However, as access is maintained throughout the construction phase via Frain Drive and the B9120 the temporary effects are minor, resulting in an effect significance of slight.

Community land

12.5.4 Access via the north and south junctions are likely to be disrupted during construction with traffic management and/or diversions in place. Although potential diversion routes are not confirmed at this stage, access to community facilities will be maintained for the duration of the construction period. These disruptions would not prevent access to the Laurencekirk. As this disruption will be temporary and access will still be maintained through diversions the magnitude of impact is negligible, resulting in an overall effect significance of slight.

Development landOpportunity site 1

- 12.5.5 As indicated in **Figure 12.3**, Opportunity Site 1 is located adjacent to the northern junction of the A90. Due to the scheme not requiring any land take from this site, the magnitude of impact is no change, with an effect significance of neutral.

Opportunity site 2 and 3

- 12.5.6 During construction, no land take will be required from either sites. As such the impact magnitude has been assessed as being no change, resulting in an overall effect significance of neutral.

Agricultural Land

- 12.5.7 The scheme will require temporary land take from agricultural areas for a works compound, temporary SuDs and temporary access works. At time of writing the location of the temporary compound was not known.
- 12.5.8 Approximately 258m² land take required is for the scheme from the Kincardineshire Investment Company Limited to re-grade the junction of the old A90 road and the Denlethen Wood Access track to enable them to intersect with the new A937 North road. The total area of land owned by Kincardineshire Investment Company in is not known, however within the study area they own approximately 1ha. Therefore, 258m² would only constitute less than 3% land take from the scheme location. Therefore, the magnitude of this impact is assessed as negligible, with an overall significance of slight.
- 12.5.9 Approximately 87,557m² land take is required for the scheme from the Mains of Newton, while substantial this only accounts for a total of 4.3% of the entire agricultural holdings for this unit. Therefore, as per Table 12-7, the magnitude of this impact is assessed as minor adverse with an overall significance of moderate.
- 12.5.10 The total amount of temporary land take is estimated to be approximately 22 521.0m². The impact of this assessed to be moderate adverse, with an effect significance of moderate. This potentially could change as the temporary compound location is not known and could cause an increase to the temporary land take.

Construction - Vehicle travellers***View from the road***

- 12.5.11 Views from the road, as described in the baseline, are likely to face a reduction in quality during construction due to visual intrusion by plant and machinery associated with road construction. Disturbance to existing ground, removal of vegetation and task lighting will be the main impacts

during construction with secondary impacts being the presence of construction activities and temporary signage within the construction corridor and adjacent areas. Removal of vegetation has the greatest potential to result in long term effects on visual receptors due to the removal, principally of trees, changing views. Task lighting is also likely to have effects on views due to the creation of more distinctly brighter areas across the landscape. Secondary effects will be temporary and of short duration and can be managed or mitigated, through considered siting and phasing. The magnitude of these impacts has been assessed as moderate adverse generating an effect significance of moderate adverse.

Driver stress

- 12.5.12 Driver stress is likely to temporarily increase during the construction phase, in the form of road works, diversions, road narrowing, temporary traffic management, reduced traffic speeds, increased uncertainty and reduced lighting to varying degrees during the construction phases of the scheme. Diversions and traffic management are likely to result in slightly increased journey times, increasing driver stress. Based on Table 12-14 driver stress is likely to remain high for the duration of construction.

Construction - Non-motorised users

Journey lengths

Route 1: B9120 pedestrian crossing of the A90 at middle junction

- 12.5.13 As a result of the scheme, the existing route will remain unaltered, resulting in an impact magnitude of no change, with an overall effect significance of neutral.

Route 2: Frain drive, A90 underpass and core paths

- 12.5.14 During construction, there is potential for minor impacts on users of this route from disruption as a result of the new access track along the fields tying into the path south of the underpass. It is unlikely to result in a change in journey length, the impact is assessed to be negligible adverse, of slight significance.

- 12.5.15 The core path network in and around Laurencekirk itself would not be impacted by construction.

Route 3: Blackiemuir Avenue/Gardenston Street and Denlethen Woods & Route 4: Laurencekirk High Street

- 12.5.16 Route 3 or 4 will experience minimal impacts during construction. The entrance to Denlethen Wood from the A937 will temporarily be blocked for the duration of construction. In relation to access to and from Denlethen Wood, this will not result in a significant change to journey length of more than 5 minutes due to the availability of alternative routes, as a result, the impact has been assessed as negligible adverse. Given that the sensitivity of the routes and its users are

regarded as medium and high, the significance of effect on journey length during construction for routes 3 and 4 is assessed as being of slight significance.

Journey amenity

- 12.5.17 Users of all routes will experience a reduction in journey amenity during construction due to impacts normally associated with construction sites, including increased levels of dust, noise, light and visual intrusion. In particular, users of the routes will need to travel in close proximity to the construction site. Overall, it is considered that the temporary impacts during construction to journey amenity are likely to be significant across some of these routes given the nature of the works and level of disruption.

Route 1: B9120 pedestrian crossing of the A90 at centre junction.

- 12.5.18 The increase in noise and dust from construction has the possibility to reduce the amenity of route 1. There will be the new path that connects Route 1 to Route 2 which has the potential to improve amenity by providing greater options for travellers and the choice to cross the A90 via underpass. Given that the sensitivity of the route is classified as medium the impact is assessed as minor adverse during construction of slight significance.

Route 2: Frain Drive, A90 underpass and core paths.

- 12.5.19 Route 2 will also experience an increase in noise, dust, and visual intrusion from the works and is in closer proximity to the works than Route 1. There will be the new path that connects Route 1 to Route 2 which has the potential to improve amenity by providing greater options for travellers. Given that the sensitivity of the route is regarded at high the impact is regarded as moderate adverse during construction, of moderate significance.

Route 3: Blackiemuir Avenue/Gardenston Street and Denlethen Woods.

- 12.5.20 The entrance to Denlethen Woods from the A937 will be blocked temporarily during construction and this has the potential to reduce journey amenity significantly. There are less options for travel along the route and delays may cause amenity to reduce. The route is in close proximity to the works and amenity will be affected from the increase in noise, dust, and visual intrusion from the works. Overall the impact will be moderate adverse on the journey amenity for this route of moderate significance.

Route 4: Laurencekirk High Street.

- 12.5.21 As this route is the most used route impacts from construction have the potential to affect the journey amenity of the most NMUs. While the route itself will experience no physical changes there will be a temporary increase in noise, dust, and visual intrusion from the construction. Given that the sensitivity of the route is assessed as low the impact has been assessed as being minor adverse of slight significance.

Community Severance

- 12.5.22 NMUs on routes 2 and 3 may also experience minor disruption to travel patterns because of traffic management arrangements and diversion during the construction process. The impact is anticipated to be minor adverse, with effect significance of slight.

Operation – Land use

Private and community land

Private Property

- 12.5.23 No demolition of private property will be required as a result of the scheme. Therefore, operational impacts are no change.

Community Land

- 12.5.24 There will be no permanent land take required as part of the scheme from community land. Therefore, there will be no change to the existing conditions of community land, meaning the overall effect significance will be neutral.

Development Land

- 12.5.25 There will be no permanent land take required as part of the scheme from development land. It is important to consider the scheme in the wider context of Laurencekirk. For all development areas, due to the A90 junction improvements, there would be measurable improvements to the overall viability of the proposed developments through improved access and amenity. Considering the importance of the sites in context of the overall feasibility of development, in particular, in relation to the transport infrastructure issues previously outlined, the impact magnitude is moderate beneficial and resultant effect significance post construction is assessed as moderate beneficial.

Agricultural Land

- 12.5.26 The key impact on agricultural land is permanent land take, primarily from the farm Mains of Newton. The loss of agricultural land will result in reduced productivity of the farm holding and field severance.
- 12.5.27 A total of 87557m² land take is required at Mains of Newton for the grade-separated junction, SuDs ponds and access track. This equates to approximately 4% of the land holding, resulting in an impact magnitude of minor adverse. This results in an overall significance of moderate, considering the severance to individual field units as well as the overall quality of agricultural land impacted.

Agricultural land owned by Kincardineshire Investments Company Ltd

- 12.5.28 The scheme will require approximately 258m² from land owned by KIC. There is approximately one hectare of land owned by KIC within the study area. Although the total area of land owned as part of this farm is not known, 258m² would only constitute a less than 3% land take from the area considered within the study area. Therefore, the impact magnitude has been assessed as negligible, with an overall effect significance of slight. The future validity for this farm unit is expected to remain unchanged.

Johnston Mains

- 12.5.29 Additional agricultural land will be required from the farm holding at Johnston Mains to provide a new farm and NMU access track from the B9120 to the A937. This is located at the edge of the fields parallel to the A90. As the track is located at the edge of the fields, it will not affect the productivity of the fields and will improve farm access. Overall, this is assessed to be a minor beneficial impact of slight significance. The future validity for this farm unit is expected to remain unchanged.

Operation – Non-motorised travellers

Key NMU routes – Journey length

Route 1: B9120 pedestrian crossing of the A90 at middle junction

- 12.5.30 Under the scheme there will be no change to the existing route resulting in an overall significance of effect of neutral. Maintaining crossings will result in no decrease to amenity and would result in this route remaining attractive to vulnerable groups.

Route 2: Frain drive, A90 underpass and core paths

- 12.5.31 Under the scheme there will be no change to the existing route resulting in an overall effect significance of neutral.

Route 3: Blackiemuir Avenue/Gardenson Street and Denlethen Woods & Route 4: Laurencekirk High Street

- 12.5.32 When the scheme is in place journey lengths for NMUs travelling along Route 3 will remain unchanged in both terms of time and distance. Additionally, the access to Denlethan Wood will be reinstated post-construction. Therefore, the impact is no change, with an effect significance of neutral.
- 12.5.33 Journey lengths for NMUs using Route 4 will also remain unchanged in terms of time and distance, so the impact is no change, with effect significance of neutral.

Journey amenity

Route 1: B9120 pedestrian crossing of the A90 at middle junction

- 12.5.34 There will be no change to the pedestrian crossing as a result of the scheme. However, the new access track running parallel to the A90 will connect with the B9120, providing an alternative pedestrian and cycle route. This will have a minor beneficial impact on journey amenity and improve NMU safety. This is due to the new route offering greater option to NMUs and improved infrastructure and accessibility and provides a traffic free route greatly improving journey amenity.

Route 2: Frain drive, A90 Underpass and core paths

- 12.5.35 The scheme will retain the underpass and provide additional connections to the new access track. This will have a minor beneficial impact on NMUs, of slight significance. The new access is beneficial to NMUs as it will provide greater option of travel along a traffic free route.

Route 3: Blackiemuir Avenue/Gardenston Street and Denlethen Woods & Route 4: Laurencekirk High Street

- 12.5.36 Journey amenity will remain unchanged post construction for NMU routes 3 and 4, therefore the effect significance has been assessed as neutral.

Community severance

- 12.5.37 No community severance will be experienced on a permanent basis by NMUs. Ultimately, accessibility to community facilities will be maintained, with an increased level of safety and amenity likely to be experienced with the creation of the new access track and a footpath over the grade separated junction. Overall, it is assessed the scheme will have a beneficial impact of minor magnitude on NMUs, of slight significance. NMUs will benefit as it will provide more options of travel around Laurencekirk, and greater access to recreational land and farmland near the Mains of Newton.

Operation - Vehicle Travellers

View from the road

- 12.5.38 Vehicle travellers on the junction will experience overall enhanced views. This is a result of an increased elevation through embanked on and off slips and an overbridge approximately 8m high, running perpendicular to the existing A90. Views will not be completely unobstructed however with 1.5m parapet fencing and lighting columns along the bridge deck. Overall enhanced views from the bridge and embankments will noticeably increase open views resulting in a beneficial impact magnitude of moderate. Therefore, the effect significance is assessed as moderate beneficial.

12.5.39 Due to the addition of new infrastructure such as the bridge, slip roads and lighting on the A90 where there was none before there will be a discernible change in the landscape on the approach to Laurencekirk. Motorists will experience a change of view from the realigned road, the overbridge and views of the realignment from the unaffected sections of road. The effect is assessed as being minor with the significance being assessed as slight adverse as the scheme will be seen in the context of other road infrastructure elements.

Driver stress

12.5.40 As previously outlined in the baseline, driver stress on the existing A90 is largely derived from substandard junction layouts, access to and from junctions and perceptions of road safety and risk in particular at the northern and southern junctions.

12.5.41 The scheme will have a beneficial impact upon driver stress levels as it incorporates the construction of a grade separated junction to current DMRB standards. Improvements at the junction will address issues pertaining to road safety, driver behaviour and efficiency of the network. Additionally, the scheme will include improved provision of shared use cycle and footways, providing an opportunity to significantly decrease the potential for interaction between traffic and NMUs, further reducing levels of stress. In addition, dropped kerb crossings with formalising crossing points are incorporated into the design, as well as increased lighting, increasing driver confidence.

12.5.42 In line with Table 12-14 driver stress will likely remain high as the numbers of traffic are not expected to reduce. The improved junction however will improve driver experience as a result of improved sightlines, and reduced interaction with NMUs.

12.6 Impacts on Policy and Legislation

12.6.1 Table 12-18 provides details of the relevant policy and legislation and also states if the scheme achieves the objectives of each.

Table 12-18: Impact of the scheme on policy

Legislation / Plan / Policy	Relevance to scheme	Achieves objectives (Y/N)
The Scottish Government Scottish Planning Policy 2014 (Ref 12.5)	<p>The scheme will incorporate provision of improved NMU routes, enhancing accessibility for all potential users and increasing opportunities for NMUs.</p> <p>The scheme will improve access to and from the area, enhancing the potential for growth of existing businesses and diversification.</p>	Y

Legislation / Plan / Policy	Relevance to scheme	Achieves objectives (Y/N)
Scotland's National Transport Strategy (NTS) 2016 (Ref 12.6)	The scheme has the potential to improve journey times, network efficiency as well as increase overall road safety through the provision of a grade separated junction at either, or both the northern and southern junctions. Furthermore, decreased delays and standing traffic will reduce travel times as well as emissions from standing traffic.	Y
The Scottish Government Designing Streets: A Policy Statement for Scotland 2010 (Ref 12.7)	The landscape proposals for the scheme will help to soften the landscape impact of the scheme and ties in to the cultural heritage of the area, helping to generate a sense of place.	Y
Transport Scotland Cycling Action Plan for Scotland 2017-2020 (Ref 12.8)	The scheme will encourage the use of bicycles through the extensive provision of new and additional NMU infrastructure. In particular, a combined cycle footway will be included.	Y
Scottish Government Let's Get Scotland Walking: The National Walking Strategy 2014 (Ref 12.9)	The improvement of NMU infrastructure and greater ease and safety with which people are likely to be able to move across the A90 will encourage people to walk to a destination where they may previously have driven. Landscape proposals also afford the opportunity for an improved sense of place in the area and increased levels of amenity for all NMUs.	Y
Choosing Our Future: Scotland's Sustainable Development Strategy 2005 (Ref 12.10)	The scheme incorporates elements of each of the three pillars of sustainability, with the potential to benefit the economy through enhanced connectivity for communities on both sides of the A90 and the potential for social benefits resulting from opportunities for active travel and enhanced mobility for travellers generally.	Y
Aberdeenshire Council Local Development Plan 2017 (Ref 12.11)	Additional and improved infrastructure will be provided as a result of the scheme. The plan makes direct reference to the need for an improved junction on the A90 to the south of Laurencekirk, highlighting the far-reaching implications on the regions wider development, as well as development of the village itself.	Y
Aberdeenshire Council Local Transport Strategy (LTS) 2012 (Ref 12.12)	The scheme will help to connect communities through the increased provision of NMU infrastructure. The inclusion of a grade separated junction will mean the A90 is easier and safer to access. There is the potential for economic gains to be made through increased accessibility to and from the area by travellers of all types. Safety will be enhanced through the more effective separation of vehicle and NMU travellers. Uncertainty and driver stress at junction will also be subsequently reduced	Y

Legislation / Plan / Policy	Relevance to scheme	Achieves objectives (Y/N)
Aberdeenshire Council Walking and Cycling Action Plan 2009 (Ref 12.13)	The scheme will directly improve NMU provisions for both walkers and cyclists through the inclusion of a combined cycle footway. Connectivity, safety and amenity on both side of the A90 will be improved, encouraging walking and cycling where driving may have been the preferred alternative previously.	Y
Aberdeenshire South East Core Paths Plan (Ref 12.14)	The inclusion of enhanced and extended footways affords the opportunity to increase the current core paths network within and around Laurencekirk while improving current sections of the existing network.	Y
Equality Act 2010 (Ref 12.15)	Increased provision of NMU crossings and improved amenity will make the route both more attractive and suitable for vulnerable users.	Y
The Scottish Government National Planning Framework 3 (NPF3) 2014 (Ref 12.16)	The scheme will incorporate extensive improvements to NMU routes which will in many cases move users away from live traffic, enhancing safety. Many areas will also be more accessible to NMUs and landscaping in the area has the potential to enhance levels of amenity experiences by cyclists, pedestrians and equestrians.	Y

12.7 Mitigation Measures

During construction

Land use

12.7.2 During the construction process it is vital that communication between the contractor and those affected by the scheme is maintained. Community land will remain accessible for the duration of the works, and residents will be informed in advance of any disruptions to access. If an existing access point requires closure alternate access arrangements will be in place with improved safety and visibility.

12.7.3 Land owners will be informed well in advance.

Development land

12.7.4 No mitigation is required for development land.

Key NMU routes and Non-motorised travellers

12.7.5 Operational mitigation is included within the scheme design for the provision of a new footpath along the grade separated junction and access track from the B9120 to the A937. No additional mitigation is deemed necessary.

Vehicle travellers

12.7.6 No specific mitigation measures will be required in relation to driver stress. All reasonable steps to reduce driver stress have been taken and are inherent within the design. Although driver

stress is likely to remain high, the scheme has been designed to comply with contemporary safety standards, with improved sight lines, greater certainty of route and priority as well as enhanced crossing facilities for NMUs.

- 12.7.7 Landscaping will also play a role in the design of this space, providing year-round diversity and visual stimulation to road and footway user alike as well as increasing levels of amenity and taking the opportunity to maximise the sense of place produced by the scheme.

12.8 Residual Effects

Private and community land

- 12.8.2 Residual effects on private and community land are the same as existing and will not differ from the operational phase.

Development land

- 12.8.3 The inclusion of a grade separated junction is a major consideration in the progression of development around Laurencekirk. The overall impact would be beneficial due to enhancing the feasibility of the proposed developments. No land take will be required from designated development sites, and there would be measurable improvements to the overall viability of developments through improved access and amenity. Therefore, post construction residual effect significance has been assessed as moderately beneficial.

Agricultural land

- 12.8.4 Beyond the provision of alternative access arrangements during the construction phase, no specific actions can be applied to agricultural land, because land taken from prime agricultural areas will decrease the size of some field units. Land holdings at Denlethen Wood and Johnston Mains are not significantly impacted with the proportion of land take generally low. Impacts on Mains of Newton from land take remain moderately significant.

Key NMU routes

- 12.8.5 The scheme will provide improved infrastructure for active travel in the long term, and it will also improve safety and amenity as well as accessibility to vulnerable groups. Not only will this lead to a greater ability to make every day journeys by bicycle or on foot but provide access to open countryside for recreational purposes on both sides of the A90. As such, residual impact magnitude is minor beneficial, with an overall effect significance of slight.

Route 1: B9120 pedestrian crossing of the A90 at middle junction

- 12.8.6 The new access joining Route 1 and Route 2 will allow for a traffic free option to cross the A90 for the NMUs that use Route 1. There will be a residual impact magnitude of minor beneficial with an overall significance of slight. There will be no additional changes to the route.

Route 2: Frain drive, A90 Underpass and core paths

- 12.8.7 The new access joining Route 1 and Route 2 will provide a traffic free option to cross the A90 for the NMUs that use Route 1 as well as providing more route options for users of route 2. There will be a residual impact magnitude of minor beneficial with an overall significance of slight. There will be no additional changes to the route.

Route 3: Blackiemuir Avenue/Gardenston Street and Denlethen Woods & Route 4: Laurencekirk High Street

- 12.8.8 There will be no changes to Route 3 or Route 4 therefore there will be a residual impact magnitude of negligible with an overall significance of neutral.

Vehicle and Non-motorised travellers

- 12.8.9 Residual impacts will be positive in terms of both vehicle travellers and non-motorised users with increased NMU provision and a reduction in driver stress and improved views. Where vehicle travellers are concerned, overall network efficiency will be increased with improved safety and access to Laurencekirk. As mitigation is embedded within the design and improvements to both NMU provision and driver stress are inherent in the design, residual impacts will remain unchanged from the operational assessment.

12.9 Limitations

Land use

- 12.9.2 The DMRB does not outline any one preferred method on how to assess the land take from a farm, therefore a methodology had to be derived using professional judgement. Where information was gained, specifically from land owners, the detail was variable, which in turn may lead to inconsistencies in the accuracy of the assessment. This was largely the result of the level of information provided by land owners.

Key NMU Routes

- 12.9.3 With respect to journey amenity, the subjective nature of assessing the “relative pleasantness” of a resource is the main limitation.

12.10 Conclusion

- 12.10.1 With mitigation in place the residual effects of the scheme on NMUs or vehicle travellers are not significant and will result in a beneficial effect.
- 12.10.2 Effects on agricultural land remain of moderate significance due to the loss of high-quality agricultural land post construction.