14. People and Communities - Effects on All Travellers

This chapter assesses the impact of the Proposed Scheme on non-motorised users (NMUs) (i.e. cyclists, pedestrians and equestrians), on vehicle travellers and on public transport users.

There are ten designated paths both within the 500m study area and with direct path linkage to the study area. There is also footpath provision along the A7 North and the A6106 North. There are no National Cycle Network (NCN) routes within the study area however there are a number of local cycle routes both via on-road marked cycle lanes (A7 North and B6392 Gilmerton Road) and an off-road cycle lane (A6106 South and A772 Gilmerton Road). There is one community space, Dalkeith Country Park, within the study area that is connected to these paths.

An impact on journey length, accessibility and amenity of NMU routes has been assessed as part of this chapter. During construction, there may be slight adverse impacts on the journey lengths of NMUs using Core Paths (CEC4 and 4-34), the off-road paths on the A6106 South and the A7 North and on the wider on-road cycling and footpath provision. There are not expected to be any significant changes to NMU journey lengths during operation.

It is expected that there will be a moderate adverse impact on the amenity of all NMU routes during construction due to a variety of construction works activities. However, as the Proposed Scheme design incorporates shared off-road, at-grade embedded NMU provision, it has been assessed that there will be slight to large beneficial impacts on the NMU routes within the study area.

Impacts on driver stress and on views from the roads as a result of the Proposed Scheme have been assessed as impacts on vehicle travellers. It is expected that there will be temporary adverse impacts on views from the road during the Proposed Scheme construction due to a variety of construction works activities leading to slight adverse impacts for vehicle travellers on the A7 and A6106 and moderate adverse impacts for vehicle travellers on the A720 Edinburgh City Bypass. Due to the increased height of the A720 through the introduction of a flyover, there will be moderate beneficial impacts on views from the A720 and slight adverse impacts on views from the A6106 and A7 during operation.

Due to the current low speeds and high levels of traffic moving through the existing Sheriffhall Junction there will be a neutral impact on driver stress during construction. During operation there will be a moderate beneficial effect on vehicle travellers during peak periods. The Proposed Scheme will have a slight beneficial effect on vehicle travellers on the A6106 North and A7 North routes during peak periods; however, there will be a slight adverse impact on the A6106 South.

There will not be any impacts on public transport users as a result of the Proposed Scheme.

14.1 Introduction

14.1.1 This chapter of the Environmental Statement (ES) reports the findings of an assessment of the likely significant effects on all travellers as a result of the changes to the A720 Sheriffhall Roundabout (hereafter referred to as 'the Proposed Scheme').

14.1.2 Guidance presented in Design Manual for Roads and Bridges (DMRB) Volume 11, Interim Advice Note (IAN) 125/15 (Highways England, 2015), recommends that the Volume 11 three topic areas of 'Land Use', 'Pedestrians, Cyclists, Equestrians and Community Effects' and 'Vehicle Travellers' (Volume 11: Parts 6, 8 and 9 respectively) are considered under a single topic heading ('People and Communities').

14.1.3 As discussed in Chapter 6 – Overview of Assessment Process, it was agreed with Transport Scotland (TS) that this report would follow the new topic structure proposed in IAN 125/15. IAN 125/15 suggests that previous topics of 'Effects on all Travellers' and 'Community and Private Assets' be combined into one new 'People & Communities' Chapter.

14.1.4 Accordingly, and for ease of reference, the consideration of the 'People and Communities' topic for Proposed Scheme are reported in two chapters; this chapter (Chapter 14) will cover the effects on 'All Travellers' and the following chapter (Chapter 15) will cover the effects on 'Community and Private Assets and Human Health'.

14.1.5 New guidance covering the 'People and Communities' topics was published on 31 October 2019 under the heading LA 112 – Population and Human Health. This guidance aligns the DMRB assessment process more closely with the 2017 EIA Regulations.

14.1.6 It should be noted that the People and Communities assessments (Chapters 14 and 15) had been completed prior to the publication of this guidance. However, Highways England's Major Projects Instruction (MPI) 57 'Environmental Impact Assessment: Implementing the Requirements of 2011/92/EU as amended by 2014/52/EU (EIA Directive)', which was published on 16 May 2017, has been referred to as guidance on implementing the 2017 EIA Regulations.

14.1.7 A review of the new guidance, LA 112, has been undertaken and it is not anticipated that the application of the guidance would substantially alter the assessment results.

14.1.8 This chapter of the ES has been prepared by competent experts with relevant and appropriate experience. The technical lead for the All Travellers assessment has 15 years of relevant work experience and is a chartered member of the Royal Town Planning Institute (RTPI). Further details are provided in Appendix 1.2 – Table of Expert Competencies.

14.2 Approach and Methodology

Approach

14.2.1 This the DMRB Stage 3 Environmental Statement (ES) of the Proposed Scheme has been undertaken with specific reference to:

- DMRB Volume 11, Section 3, Part 8 'Pedestrians, Cyclists, Equestrians and Community Effects' (Chapter 9) (Highways England et al., 1993a) - but excludes the assessment of the community aspect of Part 8 which is covered in Chapter 15 of this ES 'Community and Private Assets and Human Health';
- DMRB Volume 11, Section 3, Part 9 'Vehicle Travellers' (Chapter 5) (Highways England et al.,1993b); and,
- The SNH Handbook on Environmental Impact Assessment (Technical Appendix 6 – 'Outdoor Access Impact Assessment').

Methodology

14.2.2 The methodology highlights a number of key considerations for existing receptors contained within, and in proximity to, the Proposed Scheme. The scope of effects considered for the DMRB Stage 3 assessment (during both the construction and operation phases) includes:

- Effects on existing non-motorised users (NMUs) (pedestrians, cyclists, equestrians) local journey routes including changes in journey lengths;
- Effects on ease of access to the outdoors including public recreational amenities and routes e.g. existing public Rights of Way (RoW), City of Edinburgh Council (CEC) and Midlothian Council (MLC) adopted core path networks, cycle-ways, and bridleways;
- Changes in traveller amenity which DMRB Volume 11 defines as 'views from the road' for vehicle travellers (Volume 11, Section 3, Part 9, Chapter 2) and 'the relative pleasantness of a journey' for NMUs (Volume 11, Section 3, Part 8, Chapter 4): and,

- Any stress experienced by a driver traversing the Sheriffhall section of the A720 Edinburgh City Bypass ('the A720')
- and associated road networks e.g. A7 North, A7 South, A6106 North (Millerhill Road) and A6106 South (Old Dalkeith Road).

14.2.3 The assessment approach has also been guided by reference to:

- Consultee responses to the Proposed Scheme;
- Site visit findings which are reported in the Section 14.5;
- The A720 Sheriffhall Roundabout, DMRB Stage 2 Scheme Assessment Report, Part 2 - Environmental Assessment: Volume 1 (AECOM, 2017); and,
- Desk-top documentation review and web-based information sources.

Assessment of Impacts on Non-Motorised Users

14.2.4 The impacts on NMUs that are assessed in this chapter are changes to the NMU journey length, accessibility to community land and changes to the amenity of the route itself.

14.2.5 To determine the overall significance of effect on NMUs, the significance in changes to journey lengths was considered along with changes to NMU amenity using professional judgement. The overall significance was determined based on the two factors having equal weighting.

Changes in Journey Length and Accessibility

14.2.6 The significance of effects on journey length and accessibility are determined from a combination of the sensitivity of the baseline receptors and the magnitude of the impact of the Proposed Scheme. The impact assessment involves three steps:

- Step 1: Assignment of receptor sensitivity;
- Step 2: Characterisation of the magnitude of impact on the receptor; and,
- Step 3: Determination of the significance of the effect on the receptor.

14.2.7 Sensitivity of receptors has been defined by professional judgement as to the importance or value of the receptor and its resilience to cope with change. Table 14-1 'Sensitivity of NMU Receptor Criteria' summarises the sensitivity criteria which has been applied. Due to the qualitative nature of the assessment professional judgement has been used to narrow the assessment three sensitivity categories: high, medium and low.

Table 14-1 Sensitivity of NMU Receptor Criteria

Sensitivity	Description
High	• Vindicated rights of way (routes declared to be rights of way by the courts or through another legal process). • Asserted rights of way (routes which have been accepted as rights of way by the landowner or where local authorities have indicated that they would take legal action to protect them if necessary). • Core paths/proposed Core Paths. • Designated National Cycle Routes (NCR).
Medium	• Claimed rights of way (other routes which appear to meet the common law conditions necessary to be regarded as rights of way, but which have not been formally vindicated or asserted). • Proposed Cycleways/Multi-User Paths.
Low	• Local routes/other paths out-with above categories. • Aspirational Cycleways/Multi-User Paths.

Source: Design Manual for Roads and Bridges, Volume II, Section 2, Part 5 'Assessment and Management of Environmental Effects' (HA205/08) (Highways Agency, 2008)

14.2.8 The scales and applied definitions which have been used to define the magnitude of an impact on NMU journey lengths and accessibility are listed in

14.2.9 Table 14-2 'Magnitude of Impact for Changes in Journey Length' below.

Table 14-2 Magnitude of Impact Criteria for Changes in Journey Length

Magnitude of Impact	Definition
Major	• 500m or greater change, loss or closure of an NMU route. • Alteration to a route regularly used by vulnerable users.
Moderate	• 250m to <500m of change, loss or closure of an NMU route.
Minor	• 100m to <250m of change, loss or closure of an NMU route.
Negligible	• <100m of change, loss or closure of an NMU route.
No Change	• No change, loss or closure of an NMU route.

14.2.10 Table 14-3 'Determination of Significance of Effect' below shows how the determination of the Significance of Effect on NMU journey length has been reached, by considering both the magnitude of impact and sensitivity of the receptor. The impacts significance can include those that are positive (beneficial) or negative (adverse).

Table 14-3 Determination of Significance of Effect

Sensitivity of Receptor	Magnitude of Impact				
	Major	**Moderate**	**Minor**	**Negligible**	**No Change**
Very High	Very Large	Large/Very Large	Moderate/Large	Slight	Neutral
High	Large/Very Large	Moderate/Large	Slight/Moderate	Slight	Neutral
Medium	Moderate/Large	Moderate	Slight	Neutral/Slight	Neutral
Low	Slight/Moderate	Slight	Neutral/Slight	Neutral/Slight	Neutral
Negligible	Slight	Neutral/Slight	Neutral/Slight	Neutral	Neutral

Source: Design Manual for Roads and Bridges, Volume II, Section 2, Part 5 'Assessment and Management of Environmental Effects' (HA205/08) (Highways Agency, 2008)

14.2.11 Significant effects typically comprise residual effects that are within the moderate, large or very large categories.

14.2.12 The approach to assigning significance of effect relies on reasoned argument, professional judgement and taking on board the advice and views of appropriate organisations. Predicted effects may also be compared with quantitative thresholds and scales in determining significance. Table 14-4 'Descriptors of Significance of Effect' summarises the assessed significance of effect descriptors used for the assessment of effects on all travellers' receptors.

Table 14-4 Descriptors of Significance of Effect

Significance Category	Typical Descriptors
Very Large	Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Large	These beneficial or adverse effects represent key factors in the Proposed Scheme decision-making process.

Significance Category	Typical Descriptors
Moderate	These beneficial or adverse effects may be important but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
Slight	These beneficial or adverse effects are unlikely to be critical in the Proposed Scheme decision-making process but are important in enhancing the subsequent design of the project.
Neutral	Proposed Scheme effects that are beneath levels of perception, equating to no/minimal changes to the baseline conditions.

Source: Design Manual for Roads and Bridges, Volume II, Section 2, Part 5 'Assessment and Management of Environmental Effects' (HA205/08) (Highways Agency, 2008)

Changes to Amenity

14.2.13 DMRB Volume 11, Section 3, Part 8 'Pedestrians, Cyclists, Equestrians and Community Effects' defines amenity as *"the relevant pleasantness of a journey"* (Pg. 4/1). DMRB note various factors which impact the amenity of an NMU route. These include:

- Changes in NMUs exposure to traffic (noise and air quality);
- Visual intrusion from the Proposed Scheme (and changes in the quality of landscape); and,
- Changes in traffic flow adjacent to NMU routes.

14.2.14 Full Landscape and Visual (Chapter 8), Noise (Chapter 12) and Air Quality (Chapter 13) assessments are included within their respective chapters.

14.2.15 The DMRB assessment of change to amenity on NMU routes does not use the standard methodology of sensitivity or magnitude criteria, or an assessment matrix to determine significance of effect. In this case the significance of effect is determined qualitatively using professional judgement and the guidance provided in DMRB Volume 11, Section 3, Part 8.

14.2.16 The significance of effect criteria for changes to NMU amenity are described in Table 14-5 'Significance of Effect on NMU Amenity' below.

Table 14-5 Significance of Effect on NMU Amenity

Significance	Characteristics
Very Large	Where there is a substantial change in the existing view and/or air quality and/or a major change in noise levels and/or Major change in traffic flows resulting in change in safety
Large	Where there is a major change in the existing view and/or air quality and/or a major change in noise levels and/or Major change in traffic flows resulting in change in safety
Moderate	Where there is moderate or noticeable change in the existing view and/or air quality and/or a moderate change in noise levels and/or moderate change in traffic flows resulting in change in safety.
Slight	Where there is slight or barely perceptible change in the existing view and/or air quality and/or a slight change in noise levels and/or slight change in traffic flows resulting in change in safety.
Neutral	Very little or no discernible change from baseline conditions equating to a no-change situation.

Assessment of Impacts on Vehicle Travellers

14.2.17 As stated in Section 14.2.2 the impacts on Vehicle Travellers that are assessed in this Chapter are changes to views from the road and driver stress.

Changes to Views from the Road

14.2.18 DMRB Volume 11, Section 3, Part 9 'Vehicle Travellers', states that *"views from the road should be assessed taking into assessment wide differences between route options, landscape character and quality and any especially good or bad potential views along the route"* (Pg. 2/1).

14.2.19 Based on the DMRB guidance and professional judgement, the following criteria have been identified to define the sensitivity of views from the road. These criteria are set out in Table 14-6 'Sensitivity Criteria for the Existing Views from the Road' below. Due to the qualitative nature of the assessment professional judgement has been used to narrow the assessment to three sensitivity categories: high, medium and low.

Table 14-6 Sensitivity Criteria for the Existing Views from the Road

Sensitivity	Criteria
High	The road user experiences open views of high quality and unique scenery/landscape character/prominent feature/s of particular interest and prominence.
Medium	The road user experiences intermittent views of high quality and distinct scenery/landscape character/prominent feature of particular interest and prominence. OR The road user experiences open views of medium quality and distinct scenery/landscape character/feature/s of particular interest.
Low	The road user experiences restricted views of medium quality and distinct scenery/landscape character/feature/s of particular interest. OR The road user experiences views of low quality and unremarkable scenery/landscape character.

14.2.20 The criteria used to define the magnitude of impact on the views from the road are defined in Table 14-7 'Magnitude of Impact Criteria for Changes to the Views from the Road' below.

Table 14-7 Magnitude of Impact Criteria for Changes to the Views from the Road

Magnitude	Criteria
Major	A major alteration in views from the road such that the driving experience is significantly affected.
Moderate	A minor alteration in views from the road such that the driving experience would be diminished or enhanced
Minor	A minimal alteration in views such that there would be a perceptible change.
Negligible	Very little appreciable change in views.
No Change	No change in views,

14.2.21 Table 14-3 'Determination of Significance of Effect' has also been used to determine the significance of effect on changes to the views from the road has been reached, by considering both the magnitude of impact and sensitivity of the receptor.

Driver Stress

In accordance with DMRB Volume 11, Section 3, Part 9 'Vehicle Travellers', driver stress is assessed under three main components: frustration, fear of potential accidents and uncertainty relating to the route being followed. These factors are all heavily influenced by the flow and speed of the vehicles on the road during construction and operation. The following tables give guidance on driver stress levels, on single and dual carriageways, using the speeds and flows during peak hours for at least a kilometre of a route.

14.2.22 Table 14-8 'Significance of Driver Stress Levels on Single Carriageways' and Table 14-9 'Significance of Driver Stress Levels on Dual Carriageways' provide a three-point descriptive scale of low, moderate and high driver stress.

Table 14-8 Significance of Driver Stress Levels on Single Carriageways

Average peak hourly flow per lane (flow per hour)	Average Journey Speed (km/h)		
	Under 50	**50 - 70**	**Over 70**
Under 600	High[1]	Moderate	Low
600 - 800	High	Moderate	Moderate
Over 800	High	High	High

Table 14-9 Significance of Driver Stress Levels on Dual Carriageways

Average peak hourly flow per lane (flow per hour)	Average Journey Speed (km/h)		
	Under 60	**60 - 80**	**Over 80**
Under 1200	High[1]	Moderate	Low
1200 - 1600	High	Moderate	Moderate
Over 1600	High	High	High

Source: Design Manual for Roads and Bridges, Volume II, Section 3, Part 9 'Vehicle Travellers' (Highways Agency, 2007)

14.2.23 Forecast traffic composition and speeds was derived from the Paramics Traffic Model as discussed in the DMRB Stage 3 Engineering, Traffic and Economic Assessment (AECOM). This utilises the SEStran Regional Model (SRM12), which was developed separately by TS and covers the South East Scotland area. This was used to derive an estimate of future growth based on the traffic related effects of proposed changes in land use over both the local and the wider regional area and Transport Model for Scotland (TMfS14) growth rates. The additional traffic was added to the 2024 Paramics matrices in yearly increments to establish the level of growth that the Paramics model network could accommodate considering the AM, Inter-Peak and PM periods separately.

14.2.24 Driver stress has been considered for the worst year in the first fifteen after opening; which is 2039 and has been compared with the baseline opening year of 2024.

Assessment of Impacts on Public Transport Users

14.2.25 An assessment of the impact on public transport users has been carried out due to the Proposed Scheme impacting both bus and rail users within the study area. The assessment has been carried out in line with general DMRB environmental assessment guidance. The sensitivity of receptor, the magnitude of impact and the significance of effect have all been determined based on professional judgement.

14.2.26 All the public transport receptors area determined to be of medium sensitivity due to their regional provision (Edinburgh/Lothians/Borders).

14.2.27 Table 14-10 'Magnitude of Impact Criteria for Public Transport Users' below summarises the magnitude of impact criteria for the assessment of impact on public transport users.

Table 14-10 Magnitude of Impact Criteria for Public Transport Users

Magnitude of Impact	Definition
Major	500m or greater change or loss of Public Transport Infrastructure.
Moderate	250m to <500m of change or loss of Public Transport Infrastructure.

[1] Moderate in an urban area

Magnitude of Impact	Definition
Minor	100m to <250m of change or loss of Public Transport Infrastructure.
Negligible	<100m of change or loss of Public Transport Infrastructure.
No Change	No change or loss of Public Transport Infrastructure.

14.2.28 Table 14-3 'Determination of Significance of Effect' has also been used to determine the significance of effect on public transport users has been reached, by considering both the magnitude of impact and sensitivity of the receptor.

Limitations to the Assessment

14.2.29 It is likely that the Proposed Scheme will be procured by means of a Design and Build (D&B) type contract. Under the terms of this contract type, the Contractor will undertake both the detailed design and construction of the Proposed Scheme

14.2.30 It is expected that the construction work would take place within the Scheme Extents as shown on Figure 1.2 'The Proposed Scheme'. The Scheme Extents have informed the land take calculations undertaken for assessment purposes in this ES. The land within the Scheme Extents will be purchased under a Compulsory Purchase Order (CPO).

14.2.31 It is possible that the Contractor may require construction compounds to be located out with land identified in the CPO. Should construction compounds be located out with the Scheme Extents it will be the responsibility of the Contractor to assess the environmental impacts of the construction compounds and seek to mitigate these where possible.

14.2.32 The construction assessment is based on the construction information that is currently available, with advice being provided by the Highway Design Team. As with all construction assessments, the exact details of construction activities would not be fully known before a specific contractor is appointed to complete the works who would determine their exact construction methods and programme during the detailed design stage.

14.2.33 As the Proposed Scheme is developed at detailed design any refinements to the design should be subject to environmental review to ensure that the residual effects would not be greater (or significantly different) than those reported in this ES. The findings of any such review should be subject to approval by TSand where necessary opinions should be sought from the statutory bodies.

14.2.34 A number of assumptions have been made as part of the assessment, these include:

- Referenced baseline information and data which has been accessed from a variety of publicly available sources is correct at the time of publication;
- Information arising from consultations with affected public transport providers (e.g. bus operators and ScotRail) has been utilised in assessing the potential impacts of the Proposed Scheme on traveller service operations;
- As reported in Paragraph 14.5.8, the Land Reform (Scotland) Act 2003 (Scottish Parliament, 2003) grants statutory rights of responsible access on and over most land. It is therefore acknowledged that additional areas of privately-owned land within the study area may be used informally by NMUs; and,
- The nature of the scope of the chapter topic requires objective and subjective (qualitative) assessments to be made of predicted impacts although quantitative assessment methods have been used where practicable.

14.3 Legislative and Policy Framework

14.3.1 The national, regional and local planning policies and plans relevant to the assessment of the effects of the Proposed Scheme on all travellers are set out below.

National Policy

National Planning Framework 3 (Scottish Government, 2014a)

14.3.2 The National Planning Framework (NPF 3) sets out the Scottish Government's development priorities over the next 20-30 years. 'A Connected Place' is one of four themes of the NPF3. It states that *"the road network has an essential role to play in connecting cities by car, public transport and active travel"*. Although the proposed upgrading of the A720 Sheriffhall Roundabout is not a specific NPF3 development project, NPF 3 acknowledges its importance to the future economic development of Edinburgh in the statement on Page 13 – *"Road network capacity, including the A720 where interventions are being taken forward at Sheriffhall Roundabout, has particular implications for future development"*.

Scottish Planning Policy (Scottish Government, 2014b)

14.3.3 Scottish Planning Policy (SPP 2014) sets out national planning policies which reflect the Scottish Ministers' priorities for the operation of the planning system and for the development and use of land.

14.3.4 The SPP states that *"the case for a new junction will be considered where the planning authority considers that significant economic growth or regeneration benefits can be demonstrated. New junctions will only be considered if they are designed in accordance with DMRB and where there would be no adverse impact on road safety or operational performance"* (Para. 278, Pg. 63). The SPP also supports optimising the use of existing infrastructure and providing safe and convenient opportunities for walking and cycling for both active travel and recreation.

The National Walking Strategy (Scottish Government, 2014c)

14.3.5 The National Walking Strategy 'Let's Get Scotland Walking' outlines the Scottish Government's vision of a Scotland where everyone benefits from walking as part of their everyday journeys and where places are well designed and managed to encourage easy, convenient and safe independent mobility for all users.

A Long-Term Vision for Active Travel in Scotland 2030 (Transport Scotland, 2014)

14.3.6 This TS report sets out the longer-term vision for active travel in Scotland and covering all user groups.

14.3.7 Key aspirations for Scotland in 2030, as outlined in the report, include:

- Services and main trip attractors and generators which are all accessible by foot and by bicycle;
- Segregated cycling provision or high quality direct, safe and pleasant alternatives on all main roads into town centres;
- Crossings which prioritise people and give confidence to users;
- Well-lit and with active/natural surveillance on routes to increase the perception of safety; and,
- Integration with public transport to provide an attractive alternative to car use for longer journeys.

Cycling Action Plan for Scotland 2017 – 2020 (Transport Scotland, 2017)

14.3.8 The Cycling Action Plan for Scotland 2017 – 2020 outlines TS's commitment to achieve the vision that 10% of everyday journeys in 2020 will be made by bike. The strategy outlined the commitment to continue to deliver and

maintain high quality, local infrastructure to encourage people to choose active travel for short journeys and to improve integration with public transport, through partnership working with ScotRail, bus/coach operators and Regional Transport Partnerships.

Regional Policy

South East Scotland Strategic Development Plan (SDP) (SESplan, 2013)

14.3.9 The South East Scotland Strategic Development Plan (SESplan) sets out a spatial strategy which recognises existing development commitments and promotes a sustainable pattern of growth across the City of Edinburgh, East Lothian, Fife, Midlothian, Scottish Borders and West Lothian Council areas. The strategy promotes the development of strategic transport and infrastructure networks to support economic growth and to meet the needs of communities. Paragraph 45 of SESplan states that the South East Edinburgh Strategic Development Area (SDA) is served by the A720 and Sheriffhall Roundabout "*which are operating close to capacity and are severely congested at peak times*" and that the upgrading of Sheriffhall Roundabout has been identified as an intervention within TS's Strategic Transport Projects Review (STPR) whilst the expansion of park and ride facilities at Sheriffhall and a potential new park and ride facility to the north of the A68/A720 junction are important to the "*Regional Core"*. Paragraph 74 of SESplan identifies the grade separation of the Sheriffhall Roundabout as a *"key transport infrastructure project*" within the Midlothian/Borders Sub-Regional Area.

Proposed South East Scotland Strategic Development Plan (SDP2) (SESplan, 2016)

14.3.10 The Proposed Strategic Development Plan (SDP2) highlights improvements to the A720 including 'Sheriffhall Junction – Junction Upgrades' as a potential strategic cross-boundary transport project supporting the vision for the Plan of a 'better connected place'. SDP2 also supports provision for non-car travel, including walking and cycling.

14.3.11 As discussed in Chapter 2 - Need for the Scheme, the Proposed SDP was rejected by the Scottish Ministers on 16 May 2019; however, the proposed plan has still been considered within this ES as a draft plan.

Local Policy

Edinburgh Local Development Plan (City of Edinburgh Council, 2016)

14.3.12 The Proposals Map included in the adopted 2016 CEC's Local Development Plan (LDP) contains a number of 'Transport Proposals and Safeguards' (Table 9, Page 39) and includes a direction on the Sheriffhall Junction Upgrade (Ref: T13) which states "*Grade separation of existing roundabout junction on the city bypass should incorporate bus priority and safe crossing of the bypass for pedestrians and cyclists*" (Page 39). The LDP also notes through Policy Tra 10 (New and Existing Roads) that Planning Permission will not be granted for development which would prejudice the proposed new roads and road network improvements listed in Table 9 and shown indicatively on the Proposals Map (Page 131).

Midlothian Local Development Plan (Midlothian Council, 2017)

14.3.13 Upgrading Sheriffhall Roundabout (Grade Separation) is included in the adopted Midlothian Council's adopted LDP under Policy TRAN2: Transport Network Interventions. A park and ride extension at Sheriffhall is also identified under this policy (Page 28). Policy TRAN3: Strategic Transport Network further supports the upgrading of Sheriffhall Roundabout and states that "*The Council supports the early implementation of the grade separation of the A720 Sheriffhall Junction*" (Page 29). The Settlement Statement for the SE (Shawfair) Strategic Development Area (Section 8.1) states that "*There will be a need to upgrade the A720 Sheriffhall Junction*" (Page 83, paragraph 8.1.6).

14.4 Consultations

14.4.1 This section provides a summary of the DMRB Stage 2 and Stage 3 consultation responses to the Proposed Scheme in relation to issues affecting All Travellers that needed to be considered during the DMRB Stage 3 Proposed Scheme Assessment. Table 14-11 'Summary of Consultation Responses' below summarises these responses.

14.4.2 In addition to the above, a series of NMU workshops were organised and hosted by AECOM on the 30 August 2017, the 11 October 2017, and on the 14 August 2018 to inform the development of NMU provision as an integral part of the Proposed Scheme design. These workshops included participation by representatives from TS, the CEC, Midlothian Council, Scottish Natural Heritage (SNH), SEStran, Sustrans, the British Horse Society (BHS) and Spokes (the Lothian Cycle Campaign group).

14.4.3 A full summary of all the DMRB Stage 3 consultation responses and the three NMU workshop discussions is provided in Chapter 7 - Consultation and Scoping and consultations are provided in full in Appendix 7.1 – Copies of Consultation Responses.

Table 14-11 Summary of Consultation Responses

Consultee	Summary of Responses
British Horse Society (BHS)	Throughout Stage 2 and Stage 3, BHS have shown support for the Proposed Scheme and expressed a desire for the provision of off-road multi-use paths (02/2015 & 11/2016). At Stage 3, BHS provided their support for the NMU provision and attended the NMU Workshops.
Buccleuch Estates	Throughout Stage 2 and Stage 3, Buccleuch have been in support of the Proposed Scheme both in relation to Dalkeith Country Park and their wider land ownership vehicles. Buccleuch are keen to explore the opportunity to provide directional signage to Dalkeith Park from the junction (03/2015) and request that a number of factors be taken into consideration (at the DMRB Stage 3 Scheme Assessment stage) for the Sheriffhall South landholding/allocated development site (in Buccleuch ownership) – including the impact on the site from NMU provision as part of the Proposed Scheme design (05/2017). Buccleuch also noted that the provision of cycle-paths on both sides of the A7 North and South and the A6106 South must tie-in with NMU provision further afield (01/2019).
City of Edinburgh Council (CEC)	CEC note that the improvements will address the existing conditions and the associated problems at Sheriffhall. However, clearly scope for this capacity to be filled with additional, relocated and time shifted traffic. As a result of this CEC recommend that additional measures to be introduced to assist public transport. The A720 Edinburgh City Bypass currently acts as a barrier to sustainable transport modes suppressing cycle, pedestrian and horse rider demand across the bypass and at Sheriffhall Roundabout. Cycle and pedestrian facilities must be continuous, consistent, suitably located and clear to users. This will require design to be included within the overall design and provision must be of sufficient standard, both in terms of design and construction. The construction phase is likely to cover an extended period and there is considerable potential for traffic to divert on to other routes, with adverse consequences. Any diversion routes must be fit for purpose and not significantly add to journey length. CEC also note an aspiration that TS would commit to enhancing public transport and invest into the park and ride. Intelligent signage could provide car users with up to date information on public transport (05/2017). At Stage 3, CEC provided their support for the NMU provision and attended the NMU Workshops.
East Lothian Council (ELC)	ELC noted concern that the Proposed Scheme would result in increased queuing of A1 southbound traffic exiting at the Old Craighall Junction to join the A720 Edinburgh City Bypass leading to increased queue lengths back onto the East Lothian Council section of the A1 with the potential for vehicle collisions and request that this is modelled (03/2015). ELC also previously noted concern about a perceived lack of provision for NMUs during Stage 2 specifically the lack of a clear, prioritized shared use (walking/cycling) route providing safe access across the A720 into the west of East Lothian and recommend connectivity with the surrounding path/active travel network should also be explored (12/2016).
Lothian Buses	Lothian Buses support the proposal to create a grade separated junction at Sheriffhall as it should improve journey time for its services that operate between the A7 North and A6106 South and state that traffic signals would assist in the southbound flow of traffic. The consideration of the effect of the A720 Edinburgh City Bypass on north-south traffic flows needs to be extended to the Lasswade Junction because of the high proportion of traffic that currently uses it to avoid Sheriffhall junction and congestion

Consultee	Summary of Responses
	on the A720 Edinburgh City Bypass. Lothian Buses recommended that an objective for this scheme should be to encourage modal shift from car by improving the attractiveness of public transport and other non-car modes (01/2017). It is Lothian Buses opinion that the level of traffic flows using Gilmerton Station Road in Edinburgh to avoid the bypass has increased significantly, since 2017, and that its service No. 31 is delayed as city-bound traffic gives way to traffic turning right from Gilmerton Station Road. Lothian Buses also state that *"it is noticeable that traffic is leaving the A720* Edinburgh City Bypass *at Sheriffhall Junction and using Gilmerton Station Road to rejoin the A720 at Straiton"*. With the housing developments on Gilmerton Station Road now being occupied and the other major developments in the area at various stages of construction, Lothian Buses believe that *"this is only going to get worse"* (12/2018).
Midlothian Council (MLC)	MLC welcome the improvement works and note that Sheriffhall is not the most pedestrian or cyclist friendly road traffic junction. Any replacement design should incorporate safer facilities and safer access for these groups (03/2015). In respect of Active Travel, emphasis is required to be given to the Council's aspirations to create Green Networks linking Midlothian north and south of the A720 Edinburgh City Bypass. These Green Networks contain travel links (footways/cycleways) as well as linking and providing open space, and often making provision for SuDS (05/2017). At Stage 3, MLC provided their support for the NMU provision and attended the NMU Workshops.
Road Haulage Association (RHA)	RHA are happy for improvements provided by the Proposed Scheme and note the road freight sector is trialling longer articulated vehicles to some 18.5 metres which may well become standard 'kit' at some stage in the future, which may affect stability when entering and exiting roundabouts, and the future possibility of increased lorry speed limits on single and dual carriageways (03/2015).
Scottish Natural Heritage (SNH)	SNH welcomes the commitment to improve active travel provision across the A720 Edinburgh City Bypass (02/2015 & 12/2016) and notes the lack of an active travel route from Sheriffhall along the north side of the A720 East and advocate that there would be significant benefits to creation of a route linking Sheriffhall to existing and proposed green networks *"in and around the nexus of Midlothian, East Lothian and City of Edinburgh local authority areas"* (12/2018). SNH also noted that a Core Path crosses Sheriffhall Roundabout from the A7 in the north onwards to the A6106 in the south and recommended consideration of maintaining access along this Core Path during the Scheme construction (02/2015 & 05/2017). At Stage 3, SNH provided their support for the NMU provision and attended the NMU Workshops.
Scottish Rights of Way and Access Society (Scotways)	During Stage 2, Scotways expressed their concern about a lack of apparent NMU provision (12/2016 & 05/2017) and noted there is an opportunity here to make a huge difference to the relative accessibility of the areas either side of the bypass, whether this be for non-motorised commuter journeys or for other reasons such as recreation. Scotways also noted concern that access to the Right of Way (LM97) is maintained during both the construction and operation of the chosen revised option (following Stage 3 assessment). Scotways provided a "marked-up" map highlighting LM97. This RoW is also a Midlothian Council Core Path (section 4-8) and runs north-east from the A7 North between Campend and the Sheriffhall Park & Ride site (12/2016). At Stage 3, Scotways provided their support for the NMU provision and attended the NMU Workshops.
South East of Scotland Transport Partnership (SEStran)	At Stage 2, SEStran highlighted several issues for consideration: bus priority through the upgraded junction; and, improving the efficiency of bus linked to the Park & Ride and segregated cycle links across the bypass. It's also noted that SEStran is carrying out a study looking at the missing links to the Strategic Cycle Network and initial findings mark Sheriffhall Roundabout as a missing link (03/2015). At Stage 3, SEStran acknowledged AECOM's consideration of its previous comments and had no further comments to add (12/2018). SEStran also attended the Stage 3 NMU Workshops.
Spokes	Spokes state that "we are confident overall that the planned active travel provision at the project site is a huge improvement on what was proposed originally, and we thank you very much for the consultations and considerations which have led to this position" (11/2018). However, Spokes still have several concerns: ▪ Provision for cyclists to and from the roundabout "between significant origins and destinations is very intimidating" and mostly involves 'A' road travel. Spokes urge that the City/Region Deal project becomes an integrated one which includes high quality cycling connections "to and from the roundabout as well as at it". ▪ Spokes believe that "it is vital" that an underpass to the east side of the A6106 North is included in the proposed Scheme design, for without this, all pedestrians and cyclists travelling north-east from Sheriffhall will have to cross over the A6106 North. Without an underpass, Spokes consider that the proposed Scheme design "is not future-proof" with regards to potential future developments ▪ Spokes state that earlier plans showed the existing A6106 North "repurposed as a cycleway" and seeks clarification as to why this has been dropped from the current plans. ▪ Spokes also requested clarification as to whether the structure carrying the A720 Edinburgh City Bypass over the Borders Railway has been widened in order to future-proof it for the

Consultee	Summary of Responses
	Edinburgh Orbital. Spokes attended the NMU Workshops and appreciated being included in what they felt was "a very constructive event". Spokes stated that it was apparent from all the NMU options that were presented that "a huge amount of work and consideration" had been put into creating viable active travel routes across the Sheriffhall Roundabout, which are both direct and segregated from motor traffic (09/2017).
Strategic Development Planning Authority for Edinburgh and South-East Scotland (SESplan)	SESplan note that major development is planned in northern Midlothian, East Lothian and southern Edinburgh and the congestion and delay at Sheriffhall will hamper connectivity between these developments (03/2015) and act as a major barrier to active travel between Midlothian and southern Edinburgh. Any design must include safe dedicated solutions to allow crossing of the A720 Edinburgh City Bypass. There is significant potential for modal shift to cycling from Midlothian to Edinburgh. Active travel and public transport options require further consideration. Neither should be treated as secondary objectives in the study (03/2017).
Sustrans	Sustrans Scotland feel demand for walking and cycling is supressed by current conditions at the Sheriffhall Roundabout and that it is important that new paths are included across and around the junction linking all the roads leading to/from it (with the exception of the A720 Edinburgh City Bypass, on which cycling and walking are prohibited) and express a keenness to discuss the designs of active travel infrastructure in the Sheriffhall project with AECOM and TS, as it progresses towards construction (01/2017). Following the publication of the Stage 2 Report, Sustrans considers that the preferred Scheme Option *"is very poor for active travel"* believes that the preferred Scheme Option *"will discourage walking and cycling between Dalkeith and Edinburgh, not to mention the new residents of the development planned for Shawfair and Gilmerton"* (05/2017).
Transport Scotland	TS's Stage 3 consultation response includes confirmation that the Newton Farm planning application (for housing) has been submitted and the link road connection to the A68 would be formed during the build-out of the development should the application be consented (11/2018).
VisitScotland	The national tourism body is pleased that the following are being considered as part of the scheme objectives: minimising intrusion of the new works on the natural environment, cultural heritage and people whilst enhancing the local environment where opportunities arise. Facilitating integration for different modes of transport along and across the A720 Edinburgh City Bypass corridor. VisitScotland also noted AECOM's awareness of the Borders Railway project. In terms of access to Edinburgh from the A720 and to the East and Midlothian from Edinburgh/ the A720, VisitScotland suggests that clear directional signage is a key component and some consideration should be given if there is opportunity for tourism signage that does not distract from the main directional signage and traffic regulation signage (02/2015).

14.4.1 These consultations have informed the design of the Scheme as well as additional mitigation measures as discussed in Section 14.7.

14.5 Baseline Conditions

Establishment of Study Area Baseline

14.5.1 The baseline conditions for this chapter have been considered within a 500m study area around the Proposed Scheme Extents which has been refined from the 1km study area used at Stage 2. This is illustrated in Figure 14.1 'All Travellers - Baseline'. The 1km study area radius baseline conditions which were previously reported in the Stage 2 Environmental Assessment Report (April 2017) have been reviewed and retained for the DMRB Stage 3 assessment to provide the wider baseline conditions context.

14.5.2 A site visit was undertaken on 11 December 2018, to review and update baseline information generated from the previous site visits on 22 October 2014 (Stage 1), 29 January 2017 (Stage 2) and 12 February 2019 (Stage 3). The baseline conditions were also confirmed through a review of the following:

- Ordnance Survey (OS) Explorer Maps 345 and 350 (OS Ltd., 2006);
- Midlothian Core Paths Plan (Midlothian Council, 2009);
- Edinburgh Core Paths Plan (City of Edinburgh Council, 2008);
- National Catalogue of Rights of Way paths record (Scotways in partnership with SNH) (Scotways, N.D.); and,

- Desk-top documentation review and web-based information sources.

Non-Motorised Users (NMUs)

14.5.3 The following section provides the baseline NMU provision within the Study Area. For further information see Appendix 14.1 – Walking, Horse-Riding and Cycling Assessment and Review

Path Network

14.5.4 In the immediate vicinity of Sheriffhall Roundabout, there are off-road sections of paths allowing for NMUs to cross each of the six arms of the Sheriffhall Roundabout at-grade; however, there are no controlled crossings for NMU users. NMUs must wait until the traffic signals for vehicles allow them to do so.

Designated Paths

14.5.5 Both the CEC and MLC were required to prepare a Core Path Plan for their area under the Land Reform Act (Scotland) 2003 (Scottish Parliament, 2003). There are several designated Core Paths (Edinburgh City and Midlothian Councils) located within the 500 m study area radius around the Proposed Scheme. The Edinburgh City Council Core Path (CEC4) links with the MLCCore Path section (4-34) through the Sheriffhall Roundabout which then connects to the MLC core path section (4-35a) at the A6106 South/Melville Gate Road junction. MLC Core Path (6-0) provides a pedestrian link from the A772 Gilmerton Road (south of the A720) to the Gilmerton Junction. Pedestrian access continues along the A772 Gilmerton Road (north of the A720).

14.5.6 Table 14-12 'Paths Network within 500m Study Area and Direct Path Linkages Beyond' lists paths network (including Core Paths, aspirational core paths and other council paths) within the 500m study area radius around the Proposed Scheme alignment - including path linkages outside the study area. This path network is also shown in Figure 14.1 'All Travellers - Baseline'.

Table 14-12 Paths Network within 500m Study Area and Direct Path Linkages Beyond

Council Area	Route Reference	Route Details
Edinburgh City Council	Core Path CEC 4	Along the A7 from Edinburgh in the north to Sheriffhall Roundabout.
Midlothian Council	Core Path 4-8 (Note this Core Path is also a Right of Way (LM 97))	Begins on the A7 south of the Sheriffhall Park and Ride and continues northwards along 'The Kaimes' towards Newton Village. Connects Danderhall Path Network with on-road cycle route to Edinburgh and Dalkeith.
	Core Path 4-34	Off-road, and parallel to, the A6106 heading southwards from Sheriffhall Roundabout.
	Core Path 4-35a	Continues core path 4-34 southwards along A6106 South.
	Core Path 6-0	Foot/Cycleway running alongside A772 connecting A772/B6392 roundabout with Midlothian and Edinburgh boundary.
	Core Path 6-4	The east end of the Core Path 6-4 connects with MLC Core Path 4-34 via the Melville Gate Road footpath whilst the west end of Core Path 6-4 connects with Core Path 6-3 running along River North Esk through Melville Castle Estate.
	Other Path 4-5	From Old Craighall Road northwards to Millerhill.
	Other Path 4-6	Part of Danderhall path network; connects to Core Path 4-8.
	Other Path 6-2	Heads southwards from Burnside to the west of the Gilmerton Junction on the A772.
	The Penicuik-Dalkeith Walkway/Cycleway	Developed along a 9.5 mile section of the former Edinburgh to Peebles railway track bed. However, access to a section of the Cycleway/Walkway, north of the Melville Gate Road/A6106 South junction, has been permanently severed since it was reclaimed as part of the re-opened Borders Railway line. A locked gated access from the A6106 South to the former Walkway/Cycleway provides Network Rail maintenance access to the Borders Railway track.

Source: Midlothian Council Core Paths Plan (Map 1) (2009) and City of Edinburgh Council Core Paths Plan (2008)

Other Paths

14.5.7 There are also a number of MLC "Other Paths" (4-18, 4-20 and 4-21) which are shown on the MLC's Core Paths Plan (Map No.1), and which fall within the 500m study area radius. However, all three of these "Other Paths" are contained within the boundaries of Dalkeith Country Park and are therefore not relevant considerations for the DMRB Stage 3 assessment of the Proposed Scheme as they will not be affected by the Proposed Scheme.

14.5.8 There is also footpath provision along the A7 North, the A6106 North and the A6106 South. In addition, a significant part of the land around the Proposed Scheme will be affected by the Land Reform (Scotland) Act 2003 legislation. Under Part 1 of the Land Reform (Scotland) Act 2003 the public have statutory access rights for recreational purposes on most land and inland water in Scotland – provided these rights are exercised responsibly and regardless of whether an identified path or track exists or not. Section 13 of the 2003 Act reinforces the duty of all Scottish local authorities to assert, protect, and keep open and free from obstruction or encroachment any route by which access may reasonably be exercised (including Rights of Way).

Crossing Points and Accesses

14.5.9 In May 2017, a one-day pedestrian count was undertaken at the A720 Sheriffhall Roundabout (during a weekday 14-hour period, 6am to 8pm). Approximately 47 pedestrians were observed crossing the arms of the roundabout during the 14-hour survey period with the majority of pedestrian users moving between the A6106 South and A7 North and crossing on the eastern side of the roundabout.

14.5.10 Within the 500m study area there is only one path access network connecting to a community space (e.g. local parks and playing fields). This is the access to Dalkeith Country Park which is also MLC Core Path 4-34.

Cycle Paths/Other Shared Routes

Cycle Paths

14.5.11 There are no National Cycle Network (NCN) routes located within the 500m study area radius around the Proposed Scheme. The closest NCN route is the Whitecraig to Bonnyrigg sections of the National Cycle Route 1 (NCR1) which is over 1km from the Proposed Scheme. This route follows to the south of the A720 Sheriffhall Roundabout through Dalkeith. NCR1 has been included on Figure 14.1 'All Travellers – Baseline' for illustrative purposes only.

14.5.12 There is a network of local cycle route options within the 500m study area radius around the Proposed Scheme alignment:

- A7 North – Both Sides: On-road marked cycle lanes from Sheriffhall Roundabout north-west towards Edinburgh.
- A772 (Gilmerton Road) – East Side: Off-road cycle lane from the A7 South north towards Edinburgh.
- B6392 (Gilmerton Road) – Both Sides: On-road marked cycle lanes from A7 South to Lasswade Road.

14.5.13 The A7 South between Gilmerton Road Roundabout and Hardengreen Roundabout is designated in the Midlothian's Active Travel Strategy 2018 – 2021 (Midlothian Council, 2018) and the Midlothian Local Development Plan (Midlothian Council, 2017) as the Proposed 'A7 Urbanisation' Cycleway. The A7 Urbanisation Scheme is further discussed in Chapter 19 – Cumulative Assessment and the location of the scheme is shown on Figure 19.1 'Cumulative Impacts'.

14.5.14 Cyclist counts were carried out at Sheriffhall Roundabout, Gilmerton Junction and Millerhill Junction in October 2013 and 2014, and in May 2017. The results are summarised below in Table 14-13 'Cyclist Count Survey Results' below.

Table 14-13 Cyclist Count Survey Results

Location	2013 (Weekday, 12-hr, 07:00-19:00)	2014 (Weekday, 12-hr, 07:00-19:00)	2017 (Weekday 14-hr, 06:00-20:00)
Gilmerton Junction	86	87	148
Sheriffhall Roundabout	14	16	43
Millerhill Junction[2]	0	N/A	N/A

Other Shared Routes

14.5.15 The east side of the A6106 South provides off-road segregated shared pedestrian/cyclist path between Sheriffhall Roundabout and Melville Gate Road.

14.5.16 In addition to the above and in line with Midlothian's Active Travel Strategy 2018 – 2021, there are a number of designated aspirational cycleway/multi-user paths. These are located on the east side of the A7 North; on both sides of the A7 South and on the west side of the A6106 North. A number of these designated aspirational cycleway/multi-user paths are being created as NMU linkages to/from the Shawfair and South Danderhall development sites. This includes the recent restoration of a section of the former railway line between South Danderhall/Shawfair Park and Danderhall (part of the Edinburgh Orbital Route) which also carries NMUs on a bridge above the A7 North and on to Loanhead and Roslin.

14.5.17 There are also segregated shared pedestrian/cyclist paths around Sheriffhall Roundabout that allow NMU users to traverse between each leg of the roundabout without being on the roundabout itself. However, there are no controlled crossings for the NMUs to safely cross the individual arms of the roundabout. These paths are visible below in Plate 14-1 'View of the Existing Roundabout looking North'.

[2] Junction was closed during cyclist count period in 2014 and not included in the count in 2017.

Plate 14-1 View of the Existing Roundabout looking North

Equestrian Routes

14.5.18 There are no dedicated equestrian paths or trails within the 500m study area radius around the Proposed Scheme. The nearest riding centres are:

- The Edinburgh and Lasswade Riding Centre which is located approximately 3.3km south west of Sheriffhall and offers indoor and outdoor riding facilities. Outdoor riding activities from the centre generally follow the old railway line, tracks and forest paths with occasional organised activities in Dalkeith Country Park.
- The Drum Riding for the Disabled Centre based at the Drum Estate, Gilmerton is located less than 3.4km north-west of the Sheriffhall Roundabout but is accessed from the A772 Gilmerton Road (on the north side of the A720). The Centre provides riding therapy for over 250 riders from schools and adult learning centres across Edinburgh and the Lothians.
- The Edinburgh Equestrian Centre is based at Home Farm north-east of Dalkeith. Although the Centre is located approximately 4.9km east of the Sheriffhall Roundabout it manages horse riding activities within the boundaries of Dalkeith Country Park and part of its advertised 'Round Estate' riding trail fall within the 500m study area radius.

14.5.19 The statement made in Paragraph 14.5.8 regarding the Land Reform (Scotland) Act 2003 is also applicable for public recreational access rights to horse riding in, and around, the study area.

14.5.20 For the purposes of the DMRB Stage 3 assessment, any impacts identified for NMUs are considered to include equestrians.

Vehicle Travellers

14.5.21 The A720 Sheriffhall Roundabout is connected to a network of six roads - the A7 (North and South), the A6106 (North and South), and the A720 (East and West) is shown in Figure 14.1 'All Travellers – Baseline'.

Views from the Road

14.5.22 The A7 through the Sheriffhall Roundabout forms part of the 89 mile long Borders Historic Route (Edinburgh to Carlisle) – one of VisitScotland's 13 promoted scenic visitor 'Driving Routes' however much of the views within the Proposed Scheme Extents, from the A720, A6106 and A7, are blocked by the surrounding woodland and scrubland.

A720 East and West

14.5.23 Views are focused along the road corridor, with only occasional glimpses to the surrounding landscape. To the east of Sheriffhall roundabout the road corridor is elevated above the surrounding land, allowing some open views north and west. A double line of overhead line (OHL) towers is a notable detracting element in these views. On the westbound approach to Sheriffhall Roundabout, there are some glimpsed, distant views toward the Pentland Hills further to the west. Views south are largely restricted by mature woodland which forms the boundary of Dalkeith Country Park.

14.5.24 The value of the view from the A720 is low, as a result of the focus being along the road in the direction of travel and the fact that outward views are largely limited and/or include notable detracting features.

A7 North

14.5.25 Views are largely screened by surrounding trees and adjacent buildings. The foreground of the views includes the A7 corridor and associated traffic and signage.

14.5.26 Looking northwest several built elements including large buildings at Shawfair Park, OHL towers and the A7 road corridor are prominent features within the mid-distance. To the southwest traffic on the A720 is partially visible where there are gaps in the vegetation belt that bounds the road corridor. A large woodland block beyond the A720 forms the backdrop of the view and limits more distant views in this direction. The Pentland Hills are a distant feature of views looking west, where not restricted by foreground vegetation.

14.5.27 This view is typical of the area and contains a number of detracting elements and is therefore considered to be of low value.

A7 South

14.5.28 Views are focused along the road corridors and are relatively short range due to the adjacent woodland which restricts visibility. The road corridors of the A772 and A7, including the associated traffic, signage and lighting columns, are prominent features within the foreground. There are some narrow longer distance views along the A7 corridor leading towards Sheriffhall Roundabout. These include signage and lighting columns and OHL towers in the fore and mid-ground and the Firth of Forth and Fife in the distance.

14.5.29 The restricted nature of visibility and prevalence of detracting features results in an overall low value of the view from this location.

A6106 North

14.5.30 Vegetation in the mid-distance contains views looking south, whereas views north extend further into the distance. Views are often restricted by adjacent buildings or topography and vegetation, although some more open views are

possible. Manmade infrastructure including the A6106, Borders Railway line and OHL towers exert a strong influence on many of the outward views from these receptors. The A720 road corridor and associated traffic is also often visible within the middle distance.

14.5.31 Views are variable and tend to include a number of detracting features and are typical of views in this area. Taking all of this into account, the value of the view is low.

A6106 South

14.5.32 Views are narrow, filtered and focused along the road corridor north towards Sheriffhall Roundabout by the adjacent boundary vegetation. Closer to Sheriffhall Roundabout a combination of intervening landform and vegetation limits views, although gaps in vegetation provide glimpses to the adjacent fields and traffic on the A7 South, to the east.

14.5.33 The strong influence of the road corridor and the associated traffic, lighting columns and signage are detracting features along this route and therefore the overall value is low.

Driver Stress

14.5.34 The current baseline for driver stress has been assessed using the Paramics model as discussed in Section 14.2 above. Table 14-14 'Baseline Driver Stress for the Year 2024' and Table 14-15 'Baseline Driver Stress for the Year 2039' shows the predicted baseline driver stress for the Years 2024 (opening year) and 2039 (worst year in 15) under the 'do-minimum' scenario. The figures used to carry out this assessment have been provided in Appendix 14.2 - Driver Stress Assessment Data.

Table 14-14 Baseline Peak Driver Stress for the Year 2024

Corridor	Direction	Average Peak-Hourly Flow per Lane Category (Flow Unit/ Hour)	Average Peak Speed Category (km/h)	Peak Driver Stress
Single Carriageways				
A6106 North	Two-Way	Under 600	Under 50	High
A6106 South	Two-Way	Under 600	50 - 70	Moderate
A7 North	Two-Way	600 - 800	Under 50	High
A7 South	Two-Way	Under 600	Under 50	High
Dual Carriageway				
A720 Edinburgh City Bypass	Two-Way	Under 1200	Under 60	High

Table 14-15 Baseline Peak Driver Stress for the Year 2039

Corridor	Direction	Average Peak-Hourly Flow per Lane Category (Flow Unit/ Hour)	Average Peak Speed Category (km/h)	Peak Driver Stress
Single Carriageways				
A6106 North	Two-Way	Under 600	Under 50	High
A6106 South	Two-Way	Under 600	50 - 70	Moderate
A7 North	Two-Way	600 - 800	Under 50	High
A7 South	Two-Way	Under 600	Under 50	High
Dual Carriageway				

Corridor	Direction	Average Peak-Hourly Flow per Lane Category (Flow Unit/ Hour)	Average Peak Speed Category (km/h)	Peak Driver Stress
A720 Edinburgh City Bypass	Two-Way	Under 1200	Under 60	High

14.5.35 Due to the high levels of traffic travelling low speeds at the existing signal-controlled junction there is currently assessed to be high levels of stress on the majority of the routes during the AM and PM peak periods.

Public Transport Users

Scheduled Bus Service Travellers

14.5.36 The Sheriffhall Park & Ride facility is located to the north of the Sheriffhall Roundabout and provides a number of bus connections. There are 14 other bus stops within the study area as shown on Figure 14.1 'All Travellers - Baseline'. Two of these bus stops located on the A7 North, at Summerside and Campend, are located within the Proposed Scheme lay-out footprint.

14.5.37 A summary of the scheduled bus services within the Study Area are provided in Table 14-16 'Scheduled Bus Services Located within the A720 Sheriffhall Roundabout Study Area' below.

Table 14-16 Scheduled Bus Services Located within the A720 Sheriffhall Roundabout Study Area

Operator	Service Number	Service Route	Via Sheriffhall Roundabout	Via Gilmerton Junction
Lothian Buses	3	Clovenstone to Mayfield (via Gilmerton/ Eskbank/Dalkeith) and vice versa		✓
	N3 (nightime only)	Haymarket to Birkenside (via Gilmerton/ Eskbank/Dalkeith) and vice versa		✓
	29	Silverknowes to Gorebridge (via Gilmerton) and vice versa		✓
	X29	Muirhouse to Gorebridge Express (via Gilmerton Crossroads) and vice versa		✓
	33	Baberton to Dalkeith (via the Sheriffhall P&R) and vice versa	✓	
	X33	Mayfield to Edinburgh (via the Sheriffhall P&R) and vice versa	✓	
	49	The Jewel to Rosewell (via the Sheriffhall P&R) and vice versa	✓	
Borders Buses	51/52	Edinburgh to Jedburgh/Kelso (via Danderhall) and vice versa	✓	
	X95	Edinburgh to Carlisle (via Eskbank Toll) and vice versa	✓	
Lothian Community Transport Services	R3	Dalkeith to The Jewel ASDA (via Danderhall-Newton-Millerhill) and vice versa	✓	

Source: Site Visit and reference to the Lothian Buses, Borders Buses and the Lothian Community Transport Services websites

Rail Travellers

14.5.38 ScotRail (operated by Abellio) currently provide passenger services on the Borders Railway line between Edinburgh Waverley and Tweedbank in the Scottish Borders. The scheduled service timetable (December 2018 to May 2019) shows Monday to Saturday services are half-hourly in each direction until approximately 20:00 from Edinburgh, and

approximately 19:30 from Tweedbank with an hourly service being provided between then and midnight. An hourly service (both directions) is provided all day on Sundays. The timetable allows charter train promoters to run special excursion services on the Borders Railway (e.g. the Scottish Railway Preservation Society's Sunday steam train excursions which ran in August 2018).

14.5.39 Between Millerhill and Eskbank, the Borders Railway passes below the A720 to the east of the A720 Sheriffhall Roundabout. A new station (Shawfair) with vehicle parking for approximately 60 cars has been constructed north of Newton Village (although this is located beyond the 500m study area radius).

14.6 Potential Impacts

Assessment Introduction

14.6.1 The potential impacts of the Proposed Scheme on All Travellers have been identified for the study area and are discussed below. These potential impacts are assessed prior to mitigation, with Section 14.8 taking account of the mitigation measures identified in Section 14.7. Potential impacts are described in general terms as they will depend on the detail and timing of activities undertaken by the Contractor under a Design and Build Contract.

14.6.2 Only those impacts assessed as 'moderate' or greater are considered potentially significant in the context of the EIA Regulations – and are specifically identified in the following sections.

Construction Impacts Assessment

Potential Construction Impacts on Non-Motorised Users

Journey Length and Accessibility

14.6.3 The Proposed Scheme construction creates the potential for disruption to a number of existing NMUs off-road footpaths/cycleways and on-road cycleways. Those potentially impacted are:

- Edinburgh City Council Core Path (CEC4);
- Midlothian Council Core Path (4-34);
- Off-road path sections on the west side of the A6106 South and the west side of the A7 North at the Sheriffhall Roundabout;
- Footpath provision on the east side of the A6106 North and A6106 South; and,
- On-road cycling A7 and A6106.

14.6.4 During the construction period the potential for NMU path/route disruption could be caused by factors such as:

- Temporary diversions of paths and cycleways which may increase journey distance;
- Removal of existing at-grade crossings;
- Creation of new shared footpath/cycleways; and,
- Construction traffic activity on local roads which may create busier crossing points.

14.6.5 It is not expected that there will be any change, loss or closure of NMU routes longer than 500m. Therefore, the worst-case scenario of between 250m and 500m (moderate impact) has been assessed. The significance of this potential effect on journey length varies in significance based on the NMU route as detailed in Table 14-17 'Impacts on NMU Journey Lengths during Construction'.

Table 14-17 Impacts on NMU Journey Lengths during Construction

Receptors	Route Type	Sensitivity	Magnitude of Impact	Significance of Effect
CEC4 and 4-34	Core Paths	High	Moderate	**Moderate Adverse**
Off-road paths on either side of the A6106 South and the A7 North	Claimed Rights of Ways	Medium	Moderate	**Moderate Adverse**
On-road cycling and footpath provision	Local Routes	Low	Moderate	**Slight Adverse**

Amenity

14.6.6 There is also the potential for temporary adverse amenity impacts on NMUs during the Proposed Scheme construction created by a variety of factors including construction works activities (such as structures, earthworks, road surfacing and ancillary works), construction materials on-site storage, and construction vehicle movements (including HGVs and other heavy plant), noise, and dust emissions. All these types of construction activities have the potential to temporarily impact upon the relative pleasantness of NMU journeys (A7 North/South, and A6106 North/South). The sensitivity of NMU provision is high, and the magnitude of impact is major resulting in a temporary **large adverse** effect.

Potential Construction Impacts on Vehicle Travellers

View from the Road

14.6.7 There will be temporary adverse impacts on views from the road during the Proposed Scheme construction created by a variety of factors including construction works activities such as structures, earthworks, road surfacing and ancillary works, construction materials on-site storage, construction vehicle movements (including HGVs and other heavy plant), noise, and dust emissions. These construction activities have the potential to have a major impact upon views from the road for vehicle travellers on the A720 (medium sensitivity) and A7 and A6106 (low sensitivity).This has been assessed as being of **slight adverse** significance for travellers on the A7 and A6106 and **moderate adverse** significance of effect for travellers on the A720.

Driver Stress

14.6.8 It is assumed that official vehicle speed limits on the A720, A6106 and the A7 will be reduced to 40 mph (64 km/h) during construction. As shown in Appendix 14.2 - Driver Stress Data this will have no impact on driver stress as the average speeds on the routes during the AM and PM peaks are already either below or around 64 km/h. There will therefore be a **neutral** effect on driver stress on all corridors at Year 2024 during construction.

14.6.9 Construction traffic is further discussed in Chapter 5 – The Proposed Scheme.

Potential Construction Impacts on Public Transport Users

14.6.10 In terms of public transport vehicle travellers, construction of the Proposed Scheme will impact on two baseline bus stops located on the A7 North (at Summerside and Campend) which would require their temporary relocation to maintain provision in the vicinity of these properties. This relocation is a negligible impact on receptors of medium sensitivity and is assessed to have a **neutral** effect.

14.6.11 In addition, there is potential to cause disturbance to the operation of the Borders Railway during construction of the extension of the existing A720 Borders Railway underbridge to accommodate the Proposed Scheme. Train services may be disrupted during construction however this is assessed to have a **neutral** effect as any construction works are expected to be programmed overnight

Operational Impacts Assessment

Potential Operational Impacts on Non-Motorised Users

Journey Length and Accessibility

14.6.12 Due to the provision of segregated subway routes as part of the Proposed Scheme it is not expected that any additional journey lengths would exceed 100m (negligible impact). This potential effect on journey length varies in significance based on the NMU route as detailed in Table 14-18 'Impacts on NMU Journey Lengths during Operation'.

Table 14-18 Impacts on NMU Journey Lengths during Operation

Receptors	Route Type	Sensitivity	Magnitude of Impact	Significance of Effect
CEC4 and 4-34	Core Paths	High	Negligible	Slight Adverse to Slight Beneficial
Off-road paths on either side of the A6106 South and the A7 North	Claimed Rights of Ways	Medium	Negligible	Neutral
On-road cycling and footpath provision	Local Routes	Low	Negligible	Neutral

14.6.13 Due to the layout of the Proposed Scheme the journey lengths of NMU's may receive beneficial or adverse effects depending on the route taken. Therefore, the significance of effect on NMU journey lengths during operation is assessed to be **neutral** for all users.

Amenity

14.6.14 As the Proposed Scheme design incorporates embedded NMU mitigation, it is on this basis that the following impacts on the amenity of the NMU routes have been considered:

- The Proposed Scheme retains the current Core Paths (CEC4 and 4-34) sections through Sheriffhall (with some minor re-alignments) and provides shared off-road, at-grade NMU paths connecting to the A7 and the A6106 – all below the elevated A720 and the enlarged Sheriffhall Roundabout. These potential impacts are expected to result in a **large beneficial** effect;
- Along both sides of the A7 South from Sheriffhall to the A7 Gilmerton Road Roundabout, new off-road NMU path sections will replace the current on-road cycling only provision. These potential impacts are expected to result in a **moderate beneficial** effect;
- A section of the A6106 North will be realigned including the provision of a new off-road NMU path along its west side, complementing the baseline path provision on the east side of the road and the current on-road cycling only provision. These potential impacts are expected to result in a **moderate beneficial** effect;
- Along the east side of the A6106 South from Sheriffhall, a re-aligned NMU path section will maintain the current off-road NMU provision. The current NMU off-road provision on the west side of the A6106 South will be maintained – but will now provide a direct linkage below the A720 to the A7 North and A6106 North and an at-grade link to the new off-road NMU provision on the east/west sides of the A7 South. These potential impacts are expected to result in a **slight beneficial** effect;
- Along both sides of the A7 North from Sheriffhall, new off-road NMU path sections will connect to the current NMU provision of cycle lanes (both sides) and pedestrian footpath (east side only). The potential effects have been assessed as **neutral**.

Potential Operational Impacts on Vehicle Travellers

Views from the Road

14.6.15 The potential impacts on driver's views from the Proposed Scheme considering the A720 flyover and the A6106 and A7 (including the proposed roundabout) are assessed below.

14.6.16 For vehicle travellers on the proposed A720 flyover (medium sensitivity) the major beneficial impact on the views from the road have been assessed as being **moderate beneficial** effect due to the increased open aspect of the views from the flyover. For vehicle travellers on the A7 and A6106 (low sensitivity) through Sheriffhall the impact of the view change is anticipated to be major resulting in a **slight adverse** significance of effect.

Driver Stress

14.6.17 The Proposed Scheme design promotes the free-flow of A720 traffic through the introduction of grade-separation at Sheriffhall Roundabout. Local traffic (on the A7 and A6106) will also flow more freely with the removal of signal-controlled traffic junctions: reducing delays and the potential for driver stress. The driver stress assessment has been carried out based on the worst year in 15 after opening which is 2039. Table 14-19 'Significance of Effect on Peak Period Driver Stress for the Year 2039' shows the difference in driver stress during peak period between the 'do-minimum' scenario (Baseline Year 2039) and Proposed Scheme operation (Year 2039 during Operation).

Table 14-19 Significance of Effect on Peak Period Driver Stress for the Year 2039

Corridor	Direction	Baseline Year 2039	Operational Year 2039			Significance of Effect
		Driver Stress	**Average Hourly Flow per Lane (Flow Units/Hour) Category**	**Average Vehicle Speed (km/h) Category**	**Driver Stress**	
Single Carriageways						
A6106 North	Two-Way	High	*Under 600*	*50 - 70*	Moderate	**Slight Beneficial**
A6106 South	Two-Way	Moderate	*Under 600*	*Under 50*	High	**Slight Adverse**
A7 North	Two-Way	High	*600 – 800*	*Over 70*	Moderate	**Slight Beneficial**
A7 South	Two-Way	High	*600 – 800*	*Under 50*	High	**Neutral**
Dual Carriageway						
A720 Edinburgh City Bypass	Two-Way	High	*Under 1200*	*Over 80*	Low	**Moderate Beneficial**

14.6.18 The analysis of driver stress shows a **slight beneficial** effect on the driver stress of vehicle travellers across the A6106 North and A7 North routes during peak periods, however there will be a **slight adverse** effect on the A6106 South.

14.6.19 The A720 will see a **moderate beneficial** effect on driver stress during peak periods.

Potential Operational Impacts on Public Transport Users

14.6.20 In terms of public transport vehicle travellers (scheduled bus services and the Borders Railway), any potential effect created by the Proposed Scheme operation would be **neutral** due to the replacement of the two baseline bus stop locations on the A7 North.

Cumulative Impacts

14.6.21 There have been no cumulative impacts identified within this topic assessment. Chapter 19 - Cumulative Assessment assesses the potential for cumulative impacts resulting from the combination of impacts which have been identified as part of this ES which are likely to result in new or different likely significant effects, or an effect of greater significance than any one of the impacts on their own. It also considers impacts which in combination with impacts associated with other proposed development, are likely to result in an effect of greater significance, or a new or different likely significant effect, than the Proposed Scheme in isolation.

14.7 Mitigation

14.7.1 Mitigation measures for the Proposed Scheme in relation to All Travellers are detailed in Table 14-20 'Summary of Effects on All Travellers Mitigation Measures' and consider best practice, legislation, guidance and professional experience.

14.7.2 The development of mitigation is designed to meet the legislative requirements of the Equality Act 2010 and the Land Reform (Scotland) Act 2003. Under the Equality Act 2010, it is unlawful to treat disabled people less favourably than they would treat other people for a reason related to their disability, when offering public services and facilities (including paths and trails). Therefore, where any new path, underpass or access point forms part of the Proposed Scheme, embedded design mitigation has considered the requirements of the Equality Act 2010 and potential barriers to disabled people such as gradient, verge width, radius of bends and surfacing have been designed accordingly.

14.7.3 The Proposed Scheme design mitigation has also taken account of the need to maintain NMU access through and across the Sheriffhall Roundabout to avoid severance of NMU movements. Detailed consultation with CEC, MLC and local NMU representative groups has informed NMU infrastructure improvement opportunities leading to embedded design mitigation such as underpasses, and the provision of new and upgraded sections of shared off-road NMU paths. Embedded mitigation for road travellers comprises careful consideration of the route alignment, the form and extents of earthworks along the length of the scheme including those associated with the A720 slip road accesses/exits and the location of the SuDS ponds.

14.7.4 In addition, mitigation for other environmental impacts in some cases will have the additional benefit of ameliorating impacts on All Travellers, particularly NMUs, such as proposed landscape planting to provide screening, compensatory woodland planting, underpass wall treatments (e.g. the use of aesthetic wall surface materials, etc.) as well as specific measures employed to reduce potential noise levels and improve air quality.

Summary of Mitigation Measures

14.7.5 The following table, Table 14-20 'Summary of Effects on All Travellers Mitigation Measures', provides a summary of the All Travellers mitigation measures proposed. This table is also included within Chapter 20 – Schedule of Environmental Commitments which will be used to inform the commitments in the contract document.

Table 14-20 Summary of Effects on All Travellers Mitigation Measures

Mitigation Item	Location/ Approximate Chainage	Timing of Measure	Mitigation Measure	Mitigation Purpose/ Objective	Specific Consultation or Approval Required	Potential Monitoring Requirements
AT-1	Throughout Proposed Scheme	Pre-Construction & Construction	Formulation and implementation of a Project Construction Environmental Management Plan (CEMP) which will maintain NMU access through Sheriffhall at all times during the construction programme where possible to avoid temporary Non-Motorised Users (NMU) route severance and reduce disruption to NMUs.	To reduce disruption to NMU route journeys through, and around, Sheriffhall and avoid temporary NMU route severance (including the A6106 south NMU access to Dalkeith Country Park).	Any required temporary diversion due to construction needs would be agreed in advance with CEC or MLC as appropriate, (and Transport Scotland (TS)) with advance diversionary signage provided.	TS approval of the CEMP prior to implementation. Contractor recording and reporting of the CEMP implementation (including to TS).
AT-2	A7 north (Campend & Summerside bus stops)	Pre-Construction & Construction	Provision of temporary alternative bus stop locations in the baseline vicinity required during the proposed Scheme construction to maintain scheduled local bus services provision along the A7 north.	To maintain scheduled bus stop provision along the A7 North in the vicinity of the baseline Campend and Summerside bus stop locations.	Pre-Construction & Construction consultations with affected bus operators (Lothian Buses, Borders Buses and Lothian Community Transport Services).	Contractor recording and reporting of the affected bus operator consultations (including to TS).
AT-3	Borders Railway	Pre-Construction & Construction	The Proposed Scheme construction works in relation to the extension of the existing A720 Borders Railway underbridge (to accommodate the two new A720 Edinburgh City Bypass slip roads east of Sheriffhall) requires mitigation to minimise potential disturbance to the service operation of the Borders Railway.	To minimise disruption to Borders Railway scheduled passenger services (weekdays and weekends).	Pre-Construction & Construction consultations with Network Rail and the ScotRail to agree working methods e.g. overnight/ weekend line possessions to minimise temporary disruption to the Borders Railway timetable.	Contractor recording and reporting of the Network Rail and ScotRail consultations (including to TS).
AT-4	Throughout Proposed Scheme	Pre-Construction & Construction	The use of temporary traffic management measures defined in the CEMP aims to minimise Driver Stress (e.g. frustration, fear of potential accidents and route uncertainty) whilst traversing the A720 Sheriffhall Roundabout location during the Proposed Scheme construction phase.	To minimise Driver Stress whilst traversing the A720 Sheriffhall Roundabout location during the Proposed Scheme construction phase.	None required.	TS approval of the CEMP prior to implementation. Contractor recording and reporting of the CEMP implementation (including to TS).
AT-5	Throughout Proposed Scheme	Pre-Construction & Construction	The implementation of best practice construction measures including the preparation and implementation of the CEMP to reduce/offset adverse Amenity Change impacts (*relating to the relative pleasantness of a journey for NMUs and views from the road for Vehicle Travellers*) during construction of the Proposed Scheme.	To reduce/offset adverse Amenity Change impacts (relating to the relative pleasantness of a journey for NMUs and views from the road for vehicle travellers) during construction of the Proposed Scheme.	None required.	TS approval of the CEMP prior to implementation. Contractor recording and reporting of the CEMP implementation (including to TS).
AT-6	Throughout Proposed Scheme	Operation	The Proposed Scheme design provides safer, segregated off-road provision for NMUs with crossings below both the A720 Edinburgh City Bypass and the roundabout as embedded mitigation. It also provides new safer, segregated off-road shared	To provide enhanced, segregated (off-road) and safer NMU journeys through and around Sheriffhall - avoiding at-grade crossings.	None required.	None required.

Mitigation Item	Location/ Approximate Chainage	Timing of Measure	Mitigation Measure	Mitigation Purpose/ Objective	Specific Consultation or Approval Required	Potential Monitoring Requirements
			provision for NMUs along the A7 South and improved off-road shared provision for NMUs along the A7 North, the A6106 North and the A6106 South.			
AT-7	A7 north (Campend & Summerside bus stops)	Operation	The Proposed Scheme operation should restore the two baseline bus stop locations on the A7 north (at Summerside and Campend).	To maintain the baseline A7 bus stops at Summerside and Campend.	None required.	None required.
AT-8	Throughout Proposed Scheme	Operation	Once operational, the Proposed Scheme will promote reduction in Driver Stress (e.g. frustration, fear of potential accidents and route uncertainty) A720 traffic will be free flowing by the removal of traffic light-controlled junction and its replacement by a grade separation arrangement at Sheriffhall. Local traffic (A7 and A6106) should also flow more freely with the removal of signal-controlled junctions reducing delays and the potential for frustration. The Proposed Scheme operation will provide enhanced safety benefits for users of the A720 Edinburgh City Bypass as access will be via slip roads and all junctions will be designed to improve alignment and visibility.	To reduce Driver Stress by improving vehicle traffic flows, reducing congestion, and creating safer vehicle movements through and around Sheriffhall.	None required.	None required.

14.8 Residual Effects

14.8.1 The following table, Table 14-21 'Potential Effects on All Travellers Construction and Operation Impacts and Residual Effects' provides a summary of the effects on the All Travellers receptors and assessed the residual effects following the implementation of the mitigation measures as discussed in Table 14-20 above.

Table 14-21 Potential Effects on All Travellers Construction and Operation Impacts and Residual Effects

	Predicted Impacts	Sensitivity of the Receptor	Magnitude of Impact	Significance of Effect	Mitigation Measures	Residual Effects (following the implementation of mitigation measures)
Non-Motorised Users						
Construction	Increased journey lengths on core paths CEC4 and 4-34 due to diversions during construction.	High	Moderate	Moderate Adverse	The Construction Environmental Management Plan (CEMP) will include maintained NMU access through Sheriffhall at all times where possible to avoid temporary NMU route severance and reduce disruption to NMUs[3].	Slight Adverse
	Increased journey lengths on off-road paths on the west side of the A6106 South and the A7 North due to diversions during construction.	Medium	Moderate	Moderate Adverse		Slight Adverse
	Increased journey lengths on on-road cycling and footpath provision due to diversions during construction.	Low	Moderate	Slight Adverse		Slight Adverse
	General impact on the amenity of all NMU routes during construction.			Large Adverse	The implementation of best practice construction measures (including the preparation and implementation of the CEMP would seek to reduce/offset amenity change impacts on All Travellers during construction of the Proposed Scheme.	Moderate Adverse
Operation	Increased journey lengths on core paths CEC4 and 4-34.	High	Negligible	Neutral	No mitigation required.	Neutral
	Increased journey lengths on off-road paths on the west side of the A6106 South and the A7 North.	Medium	Negligible	Neutral		Neutral
	Increased journey lengths on on-road cycling and footpath provision due to diversions.	Low	Negligible	Neutral		Neutral
	Impact on the amenity of the NMU route sections through Sheriffhall Roundabout (Core Paths CEC4 and 4-34) due to the segregation of the routes through new subways beneath the junction linking the A6106 and the A7.			Large Beneficial		Large Beneficial

[3] Any required temporary diversion due to construction needs would be agreed in advance with City of Edinburgh Council or Midlothian Council as appropriate, and advance diversionary signage provided

	Predicted Impacts	Sensitivity of the Receptor	Magnitude of Impact	Significance of Effect	Mitigation Measures	Residual Effects (following the implementation of mitigation measures)
	Impact on the amenity of the NMU routes on both sides of the A7 South from Sheriffhall to the A7 Gilmerton Road Roundabout due to new off-road sections of path replacing current on-road cycling only provision.			Moderate Beneficial		Moderate Beneficial
	Impact on the NMU amenity of the route on the A6106 North due to the realigned A6106 including the provision of a new off-road NMU path along its west side.			Moderate Beneficial		Moderate Beneficial
	Impact on the amenity of NMU routes on both sides of the A6106 South due to the current off-road NMU provision being maintained with direct links to the new segregated subways linking the A6106 and the A7 routes.			Slight Beneficial		Slight Beneficial
	Impact on the amenity of NMU routes on the A7 North due to the current on-road NMU provision being maintained with direct links to the new segregated subways linking the A6106 and the A7 routes.			Neutral		Neutral
Vehicle Travellers						
Construction	Impact on views from the A720 Edinburgh City Bypass due to various construction works.	Medium	Major	Moderate Adverse	No mitigation required.	Moderate Adverse
	Impact on views from the A6106 and the A7	Low	Major	Slight Adverse		Slight Adverse
	Driver Stress for vehicle travellers on the A720, A6106 and the A7.			Neutral	The implementation of best practice construction measures (including the preparation and implementation of the CEMP would seek to reduce/offset amenity change impacts on All Travellers during construction of the Proposed Scheme.	Neutral
Operation	Impact on views from the A720 Edinburgh City Bypass	Medium	Major	Moderate Beneficial	No mitigation required.	Moderate Beneficial

	Predicted Impacts	Sensitivity of the Receptor	Magnitude of Impact	Significance of Effect	Mitigation Measures	Residual Effects (following the implementation of mitigation measures)
	Impact on views from the A6106 and the A7	Low	Major	Slight Adverse	Landscape design mitigation measures will be included in the Proposed Scheme (as discussed in Chapter 8), including screening from vegetation planting and trees.	Slight Adverse
	Driver stress for vehicle travellers during the peak periods on the A6106 North.			Slight Beneficial	No mitigation required.	Slight Beneficial
	Driver stress for vehicle travellers during the peak periods on the A6106 South.			Slight Adverse		Slight Adverse
	Driver stress for vehicle travellers during the peak periods on the A7 North.			Slight Beneficial		Slight Beneficial
	Driver stress for vehicle travellers during the peak periods on the A7 South.			Neutral		Neutral
	Driver stress for vehicle travellers during the peak periods on the A720 Edinburgh City Bypass.			Moderate Beneficial		Moderate Beneficial
Public Transport Users						
Construction	Two baseline bus stops located on the A7 north at Summerside and Campend have the potential to be impacted during construction.	Medium	Negligible	Neutral	Consultations (prior to the proposed Scheme construction) to be held with affected bus operators (Lothian Buses, Borders Buses and Lothian Community Transport Services) to agree temporary alternative bus stop locations in the baseline vicinity to maintain scheduled local bus services provision along the A7 north.	Neutral
	Construction works affecting the Borders Rail route are expected to be carried out at night.			Neutral	Pre-construction consultations with Network Rail and ScotRail to agree working methods ensure no disruption to the scheduled Borders Railway service timetable.	Neutral

	Predicted Impacts	Sensitivity of the Receptor	Magnitude of Impact	Significance of Effect	Mitigation Measures	Residual Effects (following the implementation of mitigation measures)
Operation	Two baseline bus stops located on the A7 north - at Summerside and Campend have the potential to be impacted as part of the Proposed Scheme.	Medium	Negligible	Neutral	Bus stops are to be restored as part of the Proposed Scheme	Neutral

14.9 Compliance with Policies and Plans

14.9.1 An assessment of the compliance of the Proposed Scheme in relation to the policies and plans previously set out in Section 14.3 is summarised below.

Strategic Compliance

14.9.2 In Section 14.3.9 of the SDP (SESplan, 2013), the proposed A720 Sheriffhall Roundabout upgrade is identified as a specific intervention within TS's Strategic Transport Projects Review. In addition, the strategic transport infrastructure improvement benefits of the proposed A720 Sheriffhall Roundabout upgrade to improving connectivity, supporting the growth of active travel and recreational access, and assisting future local community and economic growth are reflected in a number of policies and plans including NPF3 (2014); SPP (2014); SESplan (2013) and the proposed SDP2 (2016), the Edinburgh LDP (2016); and the Midlothian LDP (2017). The Proposed Scheme would therefore support the delivery of these stated plans and policies objectives.

Vehicle Travellers

14.9.3 The NPF 3 "Connected Places" theme recognizes that the Scottish road network has an essential role to play in connecting cities by car and public transport. It acknowledges that road network capacity, including the proposed A720 Sheriffhall Roundabout upgrade has implications for future development. SPP (2014) also supports the theme of "Connected Place" where significant economic growth or regeneration benefits can be facilitated by improved vehicle travellers transport infrastructure.

14.9.4 The Edinburgh LDP (2016) promotes the provision of bus priority provision as part of the A720 Sheriffhall Junction Upgrade whilst the Midlothian LDP (2017) attaches a high priority to the Sheriffhall Junction Upgrade for vehicle travellers and also supports the extension of the Sheriffhall Park & Ride as a transport improvement intervention.

14.9.5 The Proposed Scheme would therefore be compliant with these key policies and plans objectives for vehicle travellers.

Non-Motorised Vehicle Users (NMUs)

14.9.6 The NPF 3 'Connected Places' theme recognizes that the Scottish road network has an essential role to play in developing active travel opportunities and that road network capacity, including the A720 where interventions are being taken forward at Sheriffhall Roundabout, has particular implications for future development. SPP (2014) supports the use of existing infrastructure, and improved infrastructure in providing safe and convenient NMU opportunities for both recreation and active travel. Therefore, the proposed upgrade to the A720 Sheriffhall Junction is compliant with this SPP (2014) objective.

14.9.7 The Edinburgh LDP (2016) promotes the provision of safe pedestrian and cyclist crossing provision as part of the Sheriffhall Junction Upgrade whilst both the City of Edinburgh Core Paths Plan (2008) and the Midlothian Council Core Paths Plan (2009) contain core paths and other paths which pass through or are in proximity to the baseline A720 Sheriffhall Roundabout location.

14.9.8 The Cycling Action Plan for Scotland contains a commitment to continue to deliver and maintain high quality, local infrastructure to encourage people to choose active travel for short journeys and to improve integration with public transport whilst TS's long-term vision for active travel in Scotland includes aspirations to provide enhanced, high quality, and safe active travel provision which will encourage more people to participate in active travel. These aspirations complement the Scottish Government's National Walking Strategy vision that everyday walking journeys

are encouraged by places that are well designed and managed to encourage easy, convenient and safe independent mobility for all users.

14.9.9 The Proposed Scheme maintains and provides for improved/safer/more convenient NMU access around, and through the A720 Sheriffhall Roundabout – including new off-road, shared NMU path provision. The Proposed Scheme design would therefore be compliant with these key policies and plans objectives for NMUs.

14.10 Statement of Significance

Non-Motorised Users

14.10.1 There are expected to be general impacts on the amenity of all NMU routes during construction however the implementation of best practice measures through the Construction Environmental Management Plan (CEMP) reducing the effect of this impact to **moderate adverse**.

14.10.2 Following enhanced and new NMU provision embedded in the Proposed Scheme design, the residual impacts on NMUs during operation are anticipated to include the potential for significant effect on the amenity of core paths CEC4 and 4-34 (**large beneficial**) through the enhancement of the provision and through the new off-road NMU provision along the A6106 North and A7 South (**moderate beneficial**).

Vehicle Travellers

14.10.3 During the Proposed Scheme construction phase, it is anticipated that there will be temporary **moderate adverse** effects on the views from the A720 due to the works themselves, the associated traffic management and temporary signage.

14.10.4 During operation, due to the impact of the new raised elevation of the A720 there will be **moderate beneficial** effect on the views from the road. Using landscape screening through vegetation planting and trees the impact of the Proposed Scheme on the views from the A7 and the A6106 will be mitigated; reducing the effect to slight adverse.

14.10.5 Due to the levels of traffic on the existing signalled junction there will be a neutral effect on driver stress during construction. There will be **moderate beneficial** effects on driver stress on the A720 during the operation of the Proposed Scheme due to its free-flowing design which will allow for increased speeds and reduced traffic levels.

14.11 Monitoring

14.11.1 Potential significant adverse effects have been identified on the general amenity of NMU Routes and on views from the A720 during the construction period. The implementation of best practice construction measures (including the preparation and implementation of the CEMP would seek to reduce/offset amenity change impacts on All Travellers during construction of the Proposed Scheme. Given that such effects would be temporary, and that no further mitigation is possible, no monitoring of these effects is proposed.

14.11.2 The only other significant people and community effects associated with the Scheme are beneficial. As such, it is not considered necessary to undertake any associated monitoring.

14.12 References

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Scottish Government (2014b) Scottish Planning Policy (SPP) (Adopted June 2014)

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