# **Appendix B - TN50 Active Travel Review**

Prepared for: Transport Scotland



| Project:       |  | A720 Sheriffhall Roundabout   | Job No: | 60572241   |  |  |
|----------------|--|-------------------------------|---------|------------|--|--|
| Subject:       |  | TN50 – Active Travel Review   |         |            |  |  |
| Prepared by:   |  | AR Date:                      |         | 17/10/2020 |  |  |
| Checked        | d by:                                      | JI                            | Date:   | 27/10/2020 |  |  |
| Approved by:   |  | RH                            | Date:   | 06/11/2020 |  |  |
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### 1. Introduction

#### 1.1 Scheme Background

The A720 Sheriffhall Roundabout scheme (hereafter referred to as the Proposed Scheme) will upgrade the Sheriffhall Roundabout to a grade separated junction which will include:

- A720 City of Edinburgh Bypass realigned over a length of 1.6km.
- Sheriffhall Roundabout enlarged to become a 8-arm roundabout.
- All side roads to be realigned to tie into the enlarged roundabout.
- Grade separated routes for Non-Motorised Users (NMU) provided to allow safe crossing of the junction.

The Proposed Scheme has undergone Design Manual for Roads and Bridges (DMRB) Scheme Assessment Stages 1, 2 and 3. Following completion of the DMRB Stage 3 Scheme Assessment, draft (Road and Compulsory Purchase) Orders and an Environmental Statement (ES) were published in December 2019. Public Exhibitions were subsequently held in December following the publication of the ES and draft Orders. A substantial number of representations were received, including objections; the statutory process is ongoing.

The Proposed Scheme plan layout is shown in drawing 60572241-ACM-HGN-SW\_RB\_000\_Z-SK-CH-0004 included in Appendix A.

#### 1.2 Purpose of Review

Following the representations (including objections) received, and the Edinburgh and South-East Scotland City Region Deal (ESESCRD) meeting attended by Transport Scotland in February 2020, it was agreed:

- The Proposed Scheme would be reviewed to see whether further improvements to active travel and public transport facilities would be feasible, whilst not creating additional impacts for local landowners, residents and businesses; and
- A technical stakeholder workshop would be held to discuss the findings of the review, with technical officers from all local authority City Region Deal partners in attendance.



### 2. Existing Active Travel Provision

#### 2.1 Existing Active Travel Facilities

As part of the DMRB Stage 3 Scheme Assessment process, and in line with the requirements of DMRB HD 42/17 'Walking, Cycling & Horse-Riding Assessment and Review', a 5km radius has been used to define the study area for the assessment. The existing NMU facilities in the study area are outlined below and shown in Image 2.1.

#### 2.1.1 Footways

Footways are provided along the A7 North, the A6106 Millerhill Road and the A6106 Old Dalkeith Road. Although there are footways on the approaches to Sheriffhall Roundabout, there is no dedicated traffic signal phase to allow crossing of the roundabout arms, instead users are required to cross the roundabout arms on the traffic signal phasing for vehicles. There are also several designated Core Paths located within a wider study area, as shown on drawing 60572241-ACM-ENM-SW NM 000 Z-SK-CH-5000 included in Appendix A.

#### 2.1.2 Cycling provision

There is a network of local cycle routes within the immediate 500m vicinity of the Proposed Scheme:

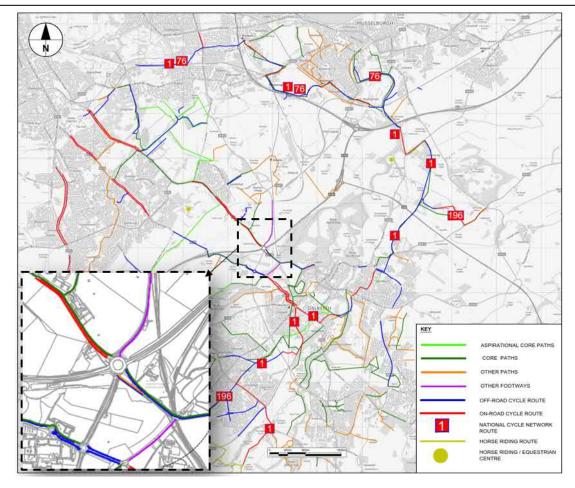
- A7 North on-road cycle lanes on both sides of the carriageway;
- A6106 South (Old Dalkeith Road) shared cycleway/footway on the east side of the A6106 between Sheriffhall Roundabout and Melville Gate Road. There is also a short shared cycleway/footway on the west side of the A6106 linking to the south side of the Sheriffhall Roundabout; and
- A772 Gilmerton Road shared cycleway/footway on the north side of the A772 from the A7 South across the Gilmerton Junction with off-road access across the A720 Gilmerton Junction over-bridge.

National Cycle Network (NCN) routes 1, 76 and 196 are also located within the wider 5km radius study area.

#### 2.1.3 Equestrian Facilities

There are no dedicated equestrian trails or centres within the immediate 500m vicinity of the proposed scheme. However, Tyne Esk Equestrian Trails and several riding centres are located within the wider 5km radius study area.





**Image 2.1 - Existing Active Travel Facilities** 

#### 2.2 Existing NMU flows

Cyclist counts were undertaken as part of the October 2013 and October 2014 traffic survey programmes. Pedestrian and cyclist counts were also undertaken at Sheriffhall Roundabout as part of the May 2017 survey programme. A summary of the outcome of these surveys is set out in the Walking, Cycling & Horse-Riding Assessment report, and count data from the 2017 surveys are summarised below.

#### 2.2.1 2017 Cyclist Counts

On Wednesday 10 May and Thursday 11 May 2017, cyclist counts were undertaken at 15-minute intervals between 06:00 and 20:00 hours to provide a record of 14-hour turning movements.

Within the A720 corridor, the highest number of cyclists was recorded at Straiton Junction where a total of 188 cyclists were observed using the junction. A further 148 cyclists were recorded at Gilmerton Junction, while only 43 cyclists were recorded at Sheriffhall Roundabout.

The A7 North was recorded as the most used cycle route on the north side of the A720 Edinburgh City Bypass while the A7 South and A6106 South (Old Dalkeith Road) experienced similar usage levels to the south.

In the surrounding area, the highest number of cyclists was recorded at Gilmerton Road Roundabout on the A7 South where a total of 210 cyclists were observed using the junction. A further 194 cyclists were also recorded at the A772 / Gilmerton Station Road roundabout north of Gilmerton Junction.



The observed 14-hour cyclist movements recorded at Sheriffhall Roundabout are shown in Image 2.2.

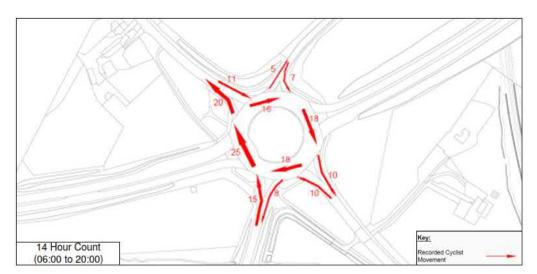


Image 2.2 - May 2017 cyclist survey counts

#### 2.2.2 2017 Pedestrian Counts

On Wednesday 10 May 2017, pedestrian counts were undertaken at Sheriffhall Roundabout between 06:00 and 20:00 hours. Approximately 47 pedestrians were observed crossing the arms of the roundabout during the 14-hour survey period.

The data collected shows the majority of pedestrian users moving between the A6106 South (Old Dalkeith Road) and the A7 North, and crossing on the eastern side of the roundabout. Of the pedestrians recorded, 17 approached Sheriffhall Roundabout from the A6106 South (Old Dalkeith Road) while 20 approached the roundabout from the A7 North. Similarly, 21 pedestrians were recorded leaving the junction on the A6106 South (Old Dalkeith Road), and 20 on the A7 North.

The observed 14-hour pedestrian movements recorded at Sheriffhall Roundabout are shown in Image 2.3.

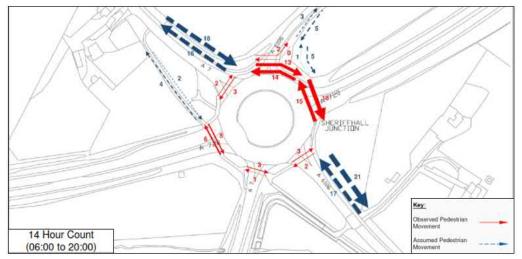


Image 2.3 - May 2017 pedestrian survey counts



### 3. Proposed Active Travel Provision

#### 3.1 Design Assessment Background

The development and assessment of NMU routes included in the Proposed Scheme was undertaken in accordance with the following DMRB standards and industry best practice guidance:

- Transport Scotland Design Guidance;
  - Roads for All Good Practice Guide for Roads (2013); and
  - o Cycling by Design (2010)
- Design Manual for Roads and Bridges (DMRB);
  - TD27 'Cross Sections and Headrooms' (recently superseded by CD 127);
  - TD36 'Subways for Pedestrians and Pedal Cyclists Layout and Dimensions' (recently superseded by CD 143 'Designing for walking, cycling and horse-riding');
  - TA90 'The Geometric Design of Pedestrian, Cycle and Equestrian Routes' (recently superseded by CD 143 'Designing for walking, cycling and horse-riding'); and
  - HD42 'Walking, Cycling & Horse-Riding Assessment and Review' (WCHAR) (now superseded by GG 142).

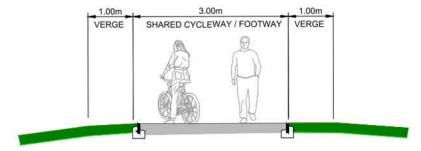
A three-part Wider Stakeholder Workshop was held in August 2017, October 2017 and August 2018 with representatives from City of Edinburgh Council, East Lothian Council, Midlothian Council, Sustrans, SEStran, Spokes, Scottish Natural Heritage, British Horse Society, Scotways and Cycling UK in attendance, to discuss stakeholders' aspirations and concerns for the NMU facilities proposed as part of the scheme. Design objectives, opportunities and methodology were discussed and agreed at the workshops and several NMU options were assessed accordingly.

The proposed network of NMU facilities included in the Proposed Scheme is a result of the design, assessment and consultation process summarised above. Full details are set out in the Walking, Cycling & Horse-Riding Assessment report.

#### 3.2 Proposed Active Travel Facilities

The Proposed Scheme includes low-level grade-separated NMU links under the Sheriffhall Roundabout with five subways connecting to off-carriageway shared pedestrian/cycle routes on the A7 North, A7 South, A6106 Millerhill Road and A6106 Old Dalkeith Road.

The NMU cross section adopted for the Proposed Scheme is shown in Image 3.1 and includes a 3m wide shared cycleway/footway with 1m wide verges on either side. The 5m total cross section width is retained through the subways to maximise visibility and attractiveness to users.



**Image 3.1 - Proposed NMU Cross Section** 



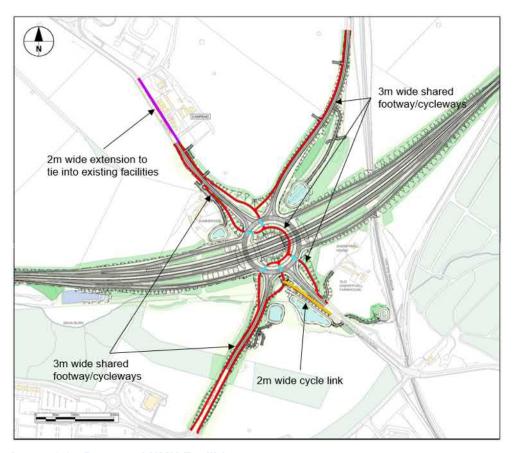
This cross section applies to NMU routes provided within the central island of the roundabout, along the A7 North and A7 South, on the west side of the A6106 North and east side of the A6106 South.

Due to the limited space available, NMU facilities linking the existing provision on the east side of the existing A7 North to the new facilities (shown purple on Image 3.2) are 2m wide. The NMU route on the west side of the A6106 South (shown yellow on Image 3.2) is also 2m wide. This was included, at the request of the CEC, to provide a link from the existing on-road cycle facilities on the A6106 South to the new NMU facilities through Sheriffhall Junction.

As required by 'Cycling by Design', where the shared cycleway/footway runs adjacent to a live carriageway with speed limit in excess of 40 mph, a desirable minimum clearance of 1.5m (including any hard strips) is provided. In cases where the carriageway speed limit is less than 40mph, the required clearance is reduced to 0.5m.

Five subways will provide a minimum 2.8m headroom and an open-aspect cross section of 9m, accommodating the 5m combined width of the NMU facilities and adjacent verges.

The proposed NMU routes are shown in Image 3.2 and a plan layout drawing (60572241-ACM-ENM-SW\_NM\_000\_Z-SK-CH-5001) is included in Appendix A.



**Image 3.2 - Proposed NMU Facilities** 



#### Active Travel Review

#### 4.1 Potential Enhancements Considered

The active travel facilities included in the Proposed Scheme have been reassessed to determine whether further improvements would be feasible, whilst not creating additional impacts for local landowners, residents and businesses.

Considering the Active Travel provision already included in the Proposed Scheme, as described in section 3.2, the following potential further enhancements have been identified and assessed:

- Widening of shared footway/cycleway routes
- Provision of additional NMU routes/subway
- Extending NMU provision
- Signing and Lighting

The assessment outcome for each of the options listed above is included in the following sections.

#### 4.2 Widening of shared footway/cycleway routes

The proposed cross section for shared NMU facilities (3m wide) complies with Cycling by Design requirements for routes with expected flows of up to 300 users per hour.

| Shared cycleway or cyclepath | Pedestrian<br>and cycle<br>space | Desirable<br>Minimum | 3.0   | Typically regarded as the minimum acceptable for combined flows of up to 300 per hour.   |
|------------------------------|----------------------------------|----------------------|-------|--|
|                              | ораас                            | Absolute<br>Minimum  | 2.0** | Can operate for combined flows of up to 200 per hour but will require cycles and pedestrians to frequently take evasive action to pass each other. |

Image 4.1 - Extract from Cycling by Design Table 6.2

#### 4.2.1 Cross section width

Given that, in line with guidance included in Cycling by Design, the proposed facilities are suitable for up 300 users per hour, they already cater for a potential significant increase in demand, when compared to the existing demand observed during the cyclists and pedestrian surveys detailed in section 2.2 (43 cyclists and 47 pedestrians observed during the total 14 hours survey period). Further widening is therefore not deemed necessary. Furthermore, due to the close proximity to properties, widening would require additional land take in places and realignment of any affected accesses, therefore requiring republication of the relevant Orders as well as ES considerations.

#### 4.2.2 A6106 South, northbound verge

As detailed in Section 3.2, a 2m wide cycle link west of the A6106 South was introduced at the request of the City of Edinburgh, to provide a direct link from the existing on-road cycle facilities to the new NMU facilities through the Proposed Scheme. Due to the limited space available at this location, widening these facilities is not deemed feasible as it would have an impact on access provisions as well as the Sustainable Drainage System (SuDS) ponds. This would require redesign/assessment and therefore republication of the relevant Orders as well as ES considerations.



#### 4.2.3 A7 North, southbound verge

A 2m wide footway/cycleway on the east side of the A7 North was introduced to connect to existing facilities whilst minimising impact on land. Due to the close proximity to properties, further widening of these facilities is not considered feasible as it would require additional land take in places, redesign of affected accesses and republication of the relevant Orders.

#### 4.3 Provision of additional NMU routes/subway

The Proposed Scheme includes NMU provision on both sides of the A7 North, A7 South and A6106 South (Old Dalkeith Road), and on the west side of the A6106 North (Millerhill Road).

The provision of an NMU subway east of the A6106 North (Millerhill Road), indicatively shown with a dotted red line in Image 4.2, was considered during design development and assessment of NMU options. However, as discussed at the Stage 3 Wider Stakeholder Workshop (Part 3, August 2018), an additional NMU route and associated subway at this location would present drainage issues due to the subway being located at the drainage network low point, and would therefore require a pumped solution. Furthermore, this NMU route is not included in the draft Road Orders published in December 2019. Its introduction would therefore require their re-publication. Due to the technical challenges and reasons above this option was discounted.

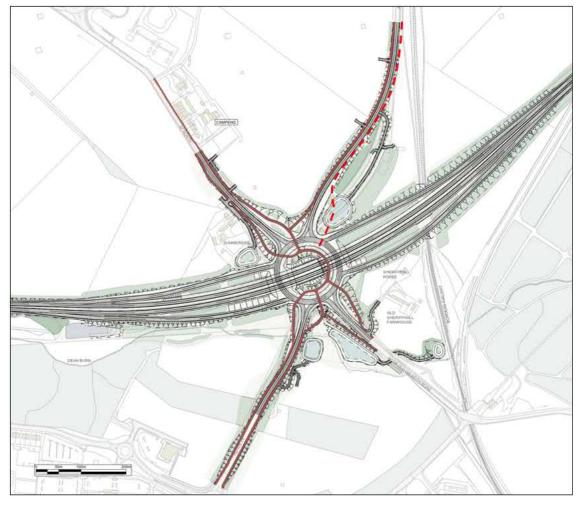


Image 4.2 - Potential additional NMU route



#### 4.4 Extending NMU provision

As detailed in Section 3.2, the NMU routes included in the Proposed Scheme provide significantly improved facilities for NMUs, compared to the existing facilities. The proposed active travel facilities also connect to existing facilities on the A7 North, A7 South and A6106 South (Old Dalkeith Road). An at-grade crossing is provided at the north-end of the realigned section of the A6106 North (Millerhill Road) to tie into existing NMU facilities.

Furthermore, extended NMU provision (shown in blue in Image 4.3) is already provided, beyond the extents of the proposed scheme, on the A7 North and A7 South to connect the new NMU routes to existing facilities.

Any further extension for NMU routes is not deemed feasible as it would also increase impact on land, requiring republication of the ES, CPO and Road Orders

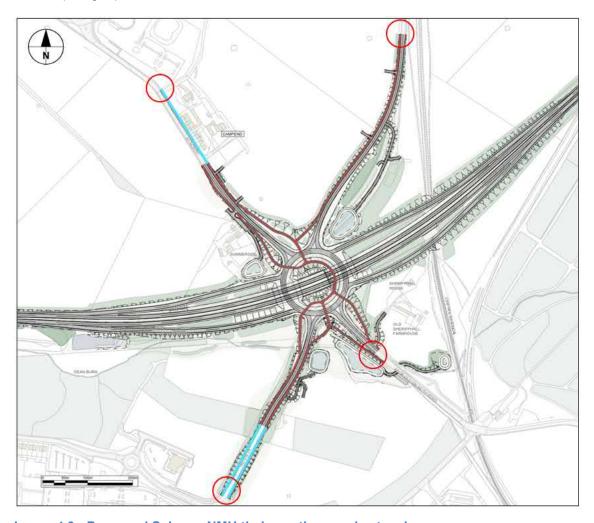


Image 4.3 - Proposed Scheme NMU tie-in sections and extensions

#### 4.5 Signing and Lighting

A preliminary lighting design to illuminate the Proposed Scheme was undertaken in accordance with the DMRB and specific Transport Scotland requirements. This includes the provision of lighting throughout the dedicated NMU route network, which will also extend to sections adjacent to lit carriageways. The proposed lighting on NMU routes will also extend through all the subways within the scheme extents.

Technical Note AECOM

A signing strategy for the Proposed Scheme was also developed as part of the Stage 3 design process, in accordance with the Traffic Signs Regulations and General Directions 2016 (TSRGD) and the Traffic Sign Manual (TSM), and relevant industry best practice. Directional, regulatory and warning signs will be provided as appropriate throughout the NMU network.

Visualisation examples of the signing and lighting provision included in the Proposed Scheme are presented in Image 4.4.



Image 4.4 - Visualisation examples of signage and lighting

Given the comprehensive level of signing and lighting provision included in the Proposed Scheme, further provision is not deemed necessary.



#### Conclusion

The proposed NMU facilities are compliant with standards and were developed in line with the WCHAR process detailed in Section 3.1, in consultation with all relevant stakeholders.

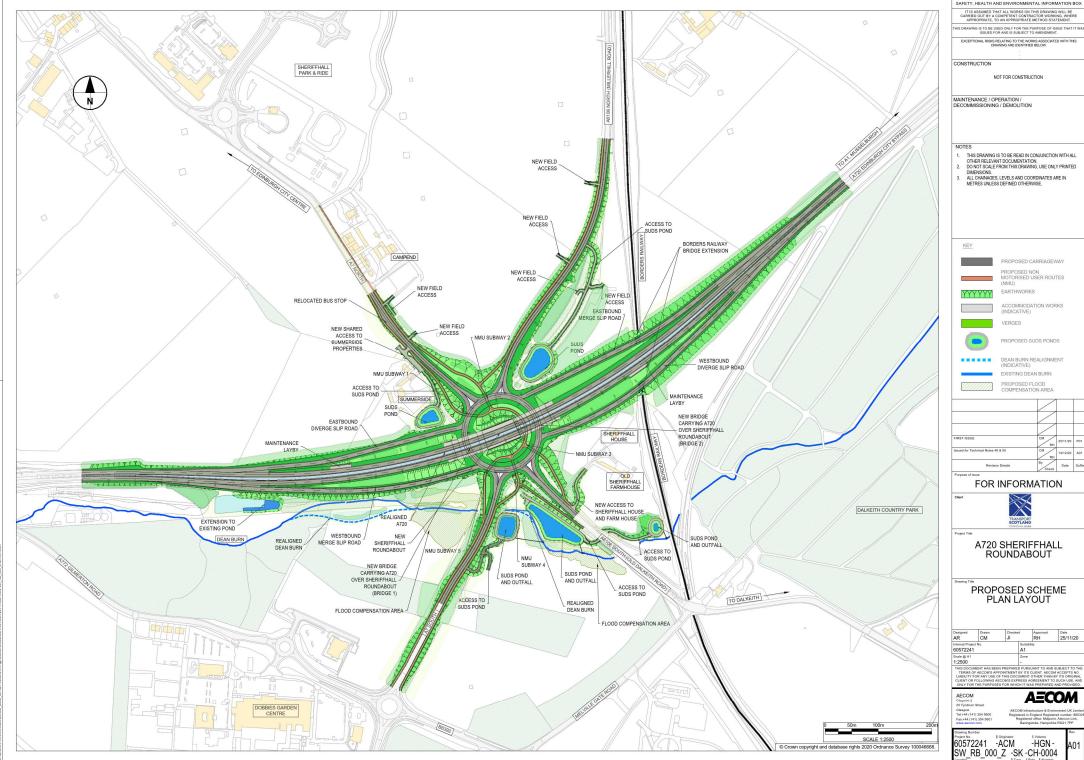
Further widening of the NMU routes was considered as part of this review. The cross section width incorporated in the Proposed Scheme is based on NMU flows which are suitable for accommodating a combined total of up to 300 users per hour. In comparison with the existing count data, where in a 14-hour period the existing flows were in the order of 43 cyclists and 47 pedestrians. It is clear that even allowing for a potential significant increase in demand further widening is not deemed necessary. Furthermore, widening the proposed facilities is not considered feasible as it would require redesign and/or have an impact on adjacent land/properties in places, therefore requiring republication of ES, CPO and Road Orders.

The extents of NMU routes and provision of additional NMU routes / subways were considered as part of this review. The Proposed Scheme provides significantly improved facilities for NMUs that connect to existing facilities on all side roads. The introduction of additional NMU routes/subways and the provision of other extended/widened facilities is therefore not deemed necessary or feasible due to deliverability issues (drainage issues, land constraints and republication of Orders).

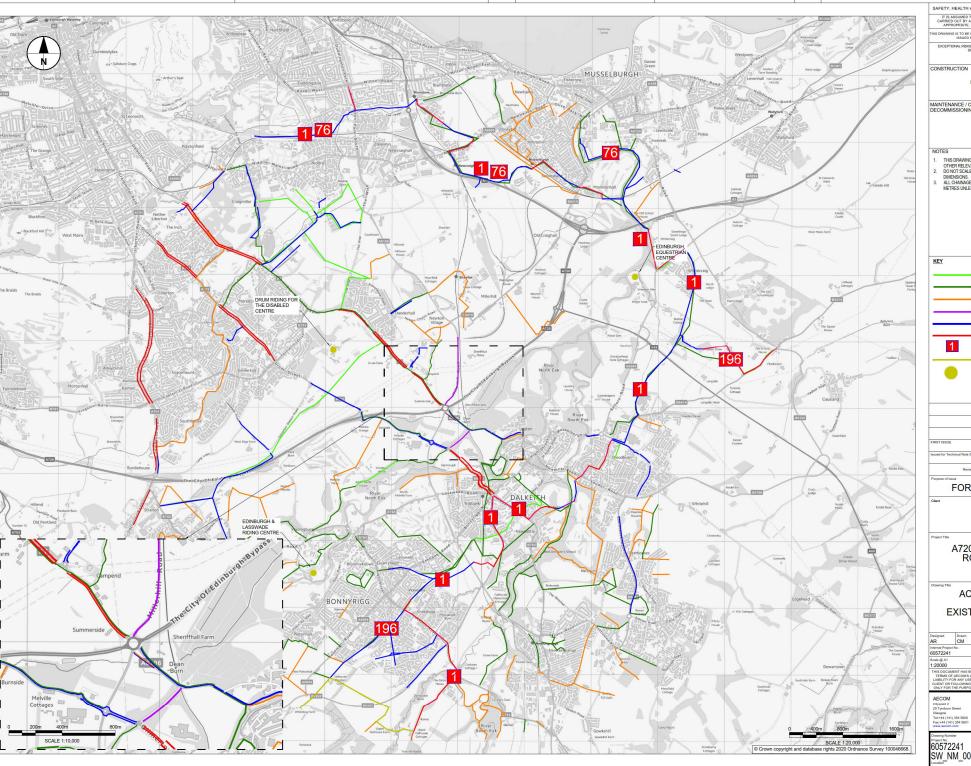
The Proposed Scheme includes the provision of signage and lighting throughout the dedicated NMU route network, including subways, and further provision is not deemed necessary.



# Appendix A - Active Travel Review Drawings



| AR<br>AR                         | CM | JI Checke: | RH Approved       | 25/11/20 |  |
|----------------------------------|----|------------|-------------------|----------|--|
| Internal Project No.<br>60572241 |    |            | Suitability<br>A1 |          |  |
| Scale @ A1<br>1:2500             |    |            | Zone              |          |  |



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| FIRST ISSUE                  | CM RH | 25/11/20 | P01    |
|------------------------------|-------|----------|--------|
| issued for Technical Note 50 | CM RH | 14/12/20 | A01    |
| Revision Details             | By    | Date     | Suffix |

#### FOR INFORMATION



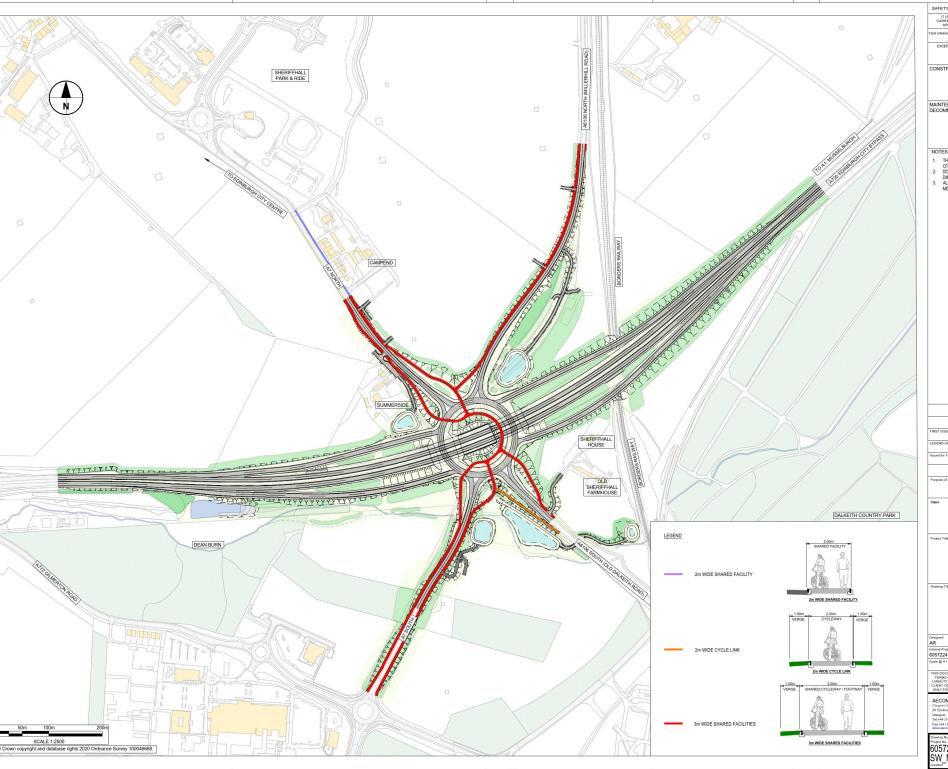
A720 SHERIFFHALL ROUNDABOUT

# ACTIVE TRAVEL REVIEW EXISTING PROVISION

| AR                   | CM            | JI                        | RH                                    | 25/11/20 |  |
|----------------------|---------------|---------------------------|---------------------------------------|----------|--|
| Internal Project No. |               |                           | Suitability                           |          |  |
| 60572241             |               |                           | A1                                    |          |  |
| Scale @ A1           |               |                           | Zone                                  |          |  |
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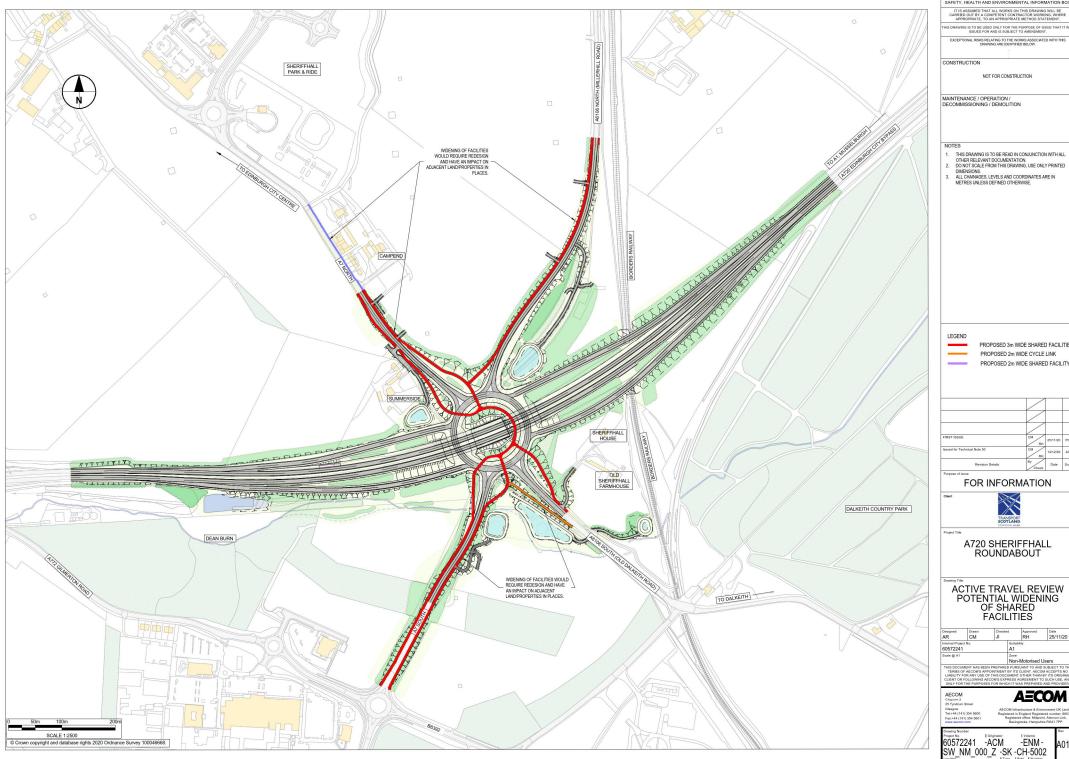


A720 SHERIFFHALL ROUNDABOUT

ACTIVE TRAVEL REVIEW PROPOSED NMU NETWORK

| Internal Project No.<br>60572241 | A1 Zone Non-Motorised Users |  |  |
|----------------------------------|-----------------------------|--|--|
| Scale @ A1                       |                             |  |  |

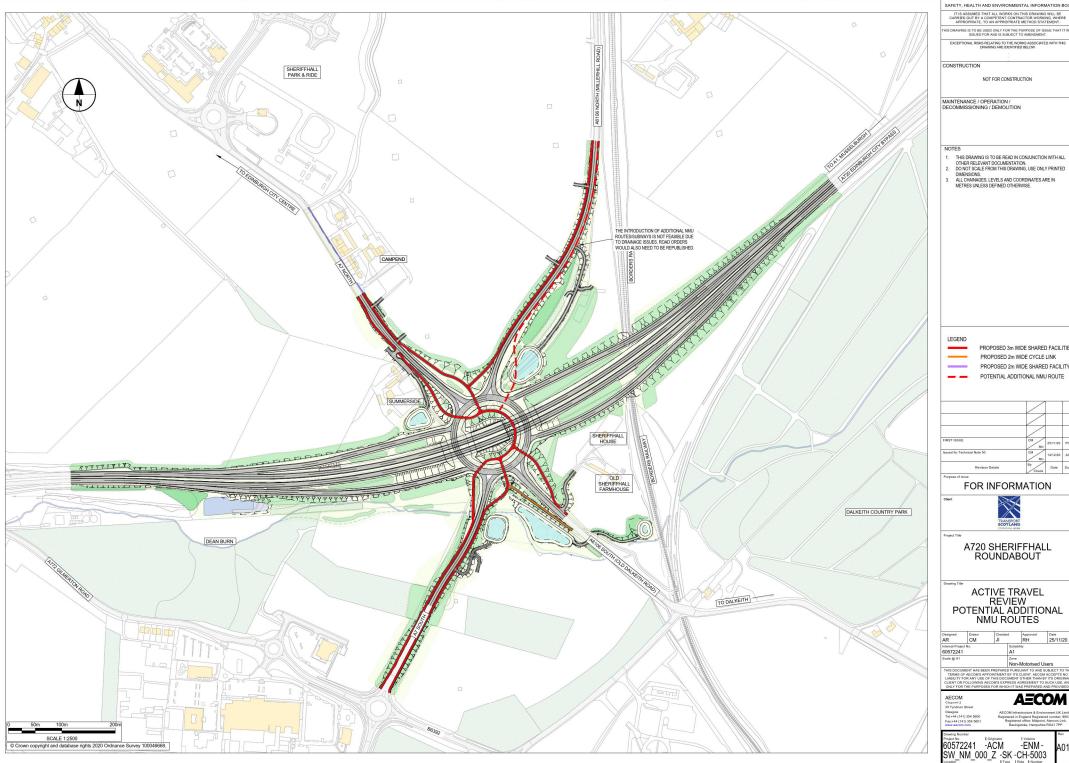
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PROPOSED 3m WIDE SHARED FACILITIES PROPOSED 2m WIDE CYCLE LINK

PROPOSED 2m WIDE SHARED FACILITY

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PROPOSED 3m WIDE SHARED FACILITIES PROPOSED 2m WIDE CYCLE LINK PROPOSED 2m WIDE SHARED FACILITY

POTENTIAL ADDITIONAL NMU ROUTE

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