Emergency Active Travel Fund Tranche 1 Review

Emergency Active Travel Fund Tranche 1 Review

B2309001/001 | 0

11 January 2021

Birmingham City Council

Emergency Active Travel Fund Tranche 1 Review

Project No:	B2309001
Document Title:	Emergency Active Travel Fund Tranche 1 Review
Document No.:	B2309001/001
Revision:	0
Document Status:	FINAL
Date:	11 January 2021
Client Name:	Birmingham City Council
Client No:	
Project Manager:	Ciaron Morgan
Author:	Dan Byles
File Name:	Emergency Active Travel Fund Tranche 1 Review Report

Jacobs House
Shrewsbury Business Park
Shrewsbury
Shropshire SY2 6LG
United Kingdom
T +44 (0)174 328 4800

www.jacobs.com

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
0	11/01/21	Initial version for client	DB	CM	PB	PB
A	26/03/21	BCC comments updated	DB	CM	PB	PB

Contents

Executive Summary i
1.1 Social-distancing measures in local centres i
1.2 Local road closures and other restrictions in residential areas to create low-traffic neighbourhoods i
1.3 Measures in a city centre ii
1.4 Pop-up cycle facilities ii
2. Introduction 1
3. Social-distancing measures in local centres 3
3.1 Moseley Local Centre Transport Space Allocation 3
3.1.1 Site Observations 3
3.1.2 Findings 4
3.1.3 Summary of observations and findings 4
3.2 Stirchley Local Centre Transport Space Allocation 6
3.2.1 Site Observations 6
3.2.2 Findings 6
3.2.3 Summary of observations and findings 7
4. Local Road Closures 8
4.1 Lozells Low Traffic Neighbourhood 8
4.1.1 Site Observations 8
4.1.2 Findings 9
4.1.3 Summary of observations and findings 10
4.2 Kings Heath Low Traffic Neighbourhood 10
4.2.1 Site Observations 12
4.2.2 Findings 12
4.2.3 Summary of observations and findings 13
4.3 Places for People (Bournville and Castle Vale LTNs) 14
4.3.1 Site Observations 14
4.3.2 Findings 15
4.3.3 Summary of observations and findings 16
5. City Centre Traffic Cells 18
5.1 Jewellery Quarter 18
5.1.1 Site Observations 18
5.1.2 Findings 19
5.1.3 Summary of observations and findings 21
5.2 Snow Hill and Newtown 22
5.2.1 Site Observations 22
5.2.2 Findings 23
5.2.3 Summary of observations and findings 24
5.3 A38 Bristol Street 25

5.3.1 Site Observations 25
5.3.2 Findings 26
5.3.3 Summary of observations and findings 27
6. Pop-up cycle facilities 29
6.1 City Centre to Small Heath (A45 Corridor) 29
6.1.1 Site Observations 29
6.1.2 Findings 30
6.2 Summary of observations and findings 30
6.3 Selly Oak to Northfield (A38 Corridor) 31
6.3.1 Site Observations 31
6.3.2 Findings 32
6.4 Summary of observations and findings 33
6.5 City Centre to Fort Dunlop (A47 Corridor) 33
6.5.1 Site Observations 33
6.5.2 Findings 34
6.6 Summary of observations and findings 35
6.7 City Centre to City Hospital via Jewellery Quarter 35
6.7.1 Site Observations 35
6.7.2 Findings 36
6.8 Summary of observations and findings 37
6.9 Bradford Street Cycle Lanes 37
6.9.1 Site Observations 37
6.9.2 Findings 38
6.10 Summary of observations and findings 39
6.11 A38 to A34 City Centre Connection 40
6.11.1 Site Observations 40
6.11.2 Findings 40
6.12 Summary of observations and findings 41

Appendix A. Social-distancing measures in local centres
Appendix B. Local Road Closures (LTN's and Places for People)
Appendix C. City Centre Traffic Cells
Appendix D. Pop-up cycle facilities

Executive Summary

Birmingham City Council have commissioned Jacobs to undertake a review of the Emergency Active Travel Fund (EATF) Tranche 1 schemes designed and implement in the summer of 2020 in response to considering whether to make the schemes more permanent or to amend/ remove them.

Birmingham City Council has recently delivered a number of temporary and experimental schemes under the EATF Tranche 1 programme, including pop-up cycle lanes, low-traffic neighbourhoods (LTN's), and social-distancing measures in local centres.

BCC has secured additional funding from DfT and have been allocated £2M to assess, review and consider changes to the EAFT1 measures as part of EATF 2 which looks to make the temporary measures semi-permanent and consider improvements, modifications and upgrades to the EATF 1 measures.

Jacobs have visited 12 scheme sites which aim to provide social-distancing measures in local centres, LTN's, city centre highway network reconfiguration and pop-up cycle facilities including light-segregated cycle lanes and other measures. Following this review Jacobs have reviewed the operation and performance of the EATF 1 measures and have produced this report, to identify and recommend subsequent measures that satisfy the national guidance and BCC's standards.

Summary of Findings by Type of Social Distance Measure

The following summaries provide a review of the 12 schemes that were investigated:

1.1 Social-distancing measures in local centres

Moseley Local Centre Transport Space Allocation

It was noted that the EATF1 measures were well maintained and the temporary measures were being respected. Therefore, it is recommended that the existing temporary measures are considered for permanent implementation and or implemented as a modified version of the existing layout.

Stirchley Local Centre Transport Space Allocation

It was noted that the EATF1 measures were well maintained and the temporary measures were being respected. Therefore, it is recommended that the that the existing temporary measures are considered for permanent implementation and or implemented as a modified version of the existing layout with improved drainage and signing.

1.2 Local road closures and other restrictions in residential areas to create low-traffic neighbourhoods

Lozells Low Traffic Neighbourhood

It was noted that the modal filter planters on Finch Road have not been implemented to a high standard, with missing markings in the carriageway hatching and insufficient cycle signage to promote the contraflow cycle lane.

The one-way gyratory system for Church Street, Graham Road, Anglesey Street and Nursery Road was observed to not be respected by drivers, with vehicles travelling northbound on Anglesey Street. The cycle measures in this area are also poor, due to parked vehicles blocking the cyclist and forcing them to cycle between parked cars on each side of the road, facing oncoming vehicles.

Kings Heath Low Traffic Neighbourhood

It was noted that the modal filter planters, as part of the EATF1 measures, were mostly well positioned with clear forward visibility and consistent identification with reflective stripes and a central, removable bollard. The Places

for People signs attached to some of these planters also provide a positive message to all users and helps to promote the use of the LTN for pedestrians, children, disabled and cyclists. However, they were not being universally respected, with signs of them being bypassed, if sufficient space was available to manoeuvre a vehicle past the planters on the footway and/or grass verge. The existing layout of the LTN has also generated numerous complaints from businesses and residents.

Therefore, it is recommended that an alternative layout of modal filters is pursued, which moves the York Road filters to west of the York Road / Waterloo junction, moves the Grange Road filter to west of the Grange Road / York Road junction, moves the Station Road filter to both west and north of the Station Road / York Road junction and adds another filter on South Road, south of the South Road / Grange Road junction. These amendments will create three distinct cells, which will ensure the traffic impact is distributed more evenly among the access points and allowing for vehicular access to remain to the shops on York Road. It is also recommended that York Road becomes one-way to allow for a greater streetscape to be created whilst still allowing for vehicle access.

Places for People (Moseley, Bournville and Castle Vale LTNs)

It was noted that the modal filter planters, as part of the EATF1 measures, were well positioned with clear forward visibility and consistent identification with reflective stripes and a central, removable bollard. However, the carriageway markings at the junctions are not clear, as they have not been updated since prior to the roads being closed. The signage has also not been clear or has been misleading, such as the incorrect “No through road” signs for westbound traffic on Yatesbury Avenue or the missing “Road Open To” sign at Oak Tree Lane. The measures have also not been respected by drivers, with evidence of motorists contravening the measures by bypassing the modal filter on Cosford Crescent by driving over the verge and footpath from Tangmere Drive.

1.3 Measures in a city centre

City Centre Traffic Cells

It was noted that the EATF1 measures in the Jewellery Quarter in some places have not been fully implemented in accordance with the proposed designs, with parking bays being retained in place of the proposed cycle lanes, or parking bays preventing the closure of a carriageway in one direction. There are also some locations where the temporary signs have either not been implemented, implemented incorrectly or removed, as well as old signage and infrastructure being retained which are now incorrect due to the changes.

It was noted that some of the EATF1 measures in Snow Hill and Newtown have not been fully implemented in accordance with the proposed designs, such as the bus gate, the advanced signing on St Chads Queensway and the destination signing at Lancaster Circus, or are being ignored by drivers, such as the road closure on Lower Loveday Street and the turn into Brearley Street.

It was noted that some of the EATF1 measures on the A38 Bristol Street were being ignored by motorists, such as the closed left turn into Bromsgrove Street. It was also noted that there may be issues with tourist routing to destinations such as the Hippodrome, once they reopen after the Covid-19 lockdown, if the access from Essex Street is closed.

1.4 Pop-up cycle facilities

City Centre to Small heath (A45 Corridor)

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements, such as the light segregation measures and crossing facilities, of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route.

Selly Oak to Northfield (A38 Corridor)

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements, such as the light segregation measures and crossing facilities, of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route.

City Centre to Fort Dunlop (A47 Corridor)

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements, such as the light segregation measures and crossing facilities, of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route.

City Centre to City Hospital (via Jewellery Quarter)

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists and pedestrians. There was evidence of some measures being tampered with causing gaps in the segregation that are being used by construction vehicles to park.

The formalising of some of the elements, such as the light segregation measures and crossing facilities, of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route.

Bradford Street Cycle Lanes

The measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow, the scheme could benefit from continuous cycle connection through the signalisation junctions using a separate stage, but this would need to be assessed for performance using modelling. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements, such as the light segregation measures and crossing facilities, with consideration of minor alterations to the route and some additional protection shall ensure enforcement of traffic regulations and improve provision for cyclists along the route.

A38 to A34 City Centre Connection

The measures which have been implemented, provide less protection than the other routes and may discourage less abled riders from travelling this route. Whilst the measures are easily understood by cyclists, pedestrians, and motorists some additional signage near the end of the route could be beneficial to cyclists.

The formalising of some of the elements, such as the light segregation measures and crossing facilities, with consideration of minor alterations to the route and some additional protection shall ensure enforcement of traffic regulations and improve provision for cyclists along the route.

2. Introduction

Birmingham City Council has This commission is for a technical review of 13 temporary and experimental schemes recently implemented as part of Emergency Active Travel Fund (EATF) Tranche 1, as part of a wider project review before decisions are made on whether to make the schemes more permanent or to amend / remove them.

Birmingham City Council has recently delivered a number of temporary and experimental schemes under the EATF Tranche 1 programme, including pop-up cycle lanes, low-traffic neighbourhoods, and social-distancing measures in local centres.

Further funding has now been secured through EATF Tranche 2 to further improve these measures and to make them more permanent. As part of the development of Tranche 2 a review is to be carried out of the schemes delivered under Tranche 1. The full review will include strands covering technical aspects, public comments and responses, and equality issues. This commission covers the technical aspects of the review.

The Tranche 1 schemes to be reviewed are listed below:

1. Moseley Local Centre Transport Space Allocation
2. Stirchley Local Centre Transport Space Allocation
3. Lozells Low Traffic Neighbourhood
4. Kings Heath Low Traffic Neighbourhood
5. Places for People (Moseley, Bournville and Castle Vale LTNs)
6. City Centre Traffic Cells
7. NOT REQUIRED
8. City Centre to Small Heath (A45 Corridor)
9. Selly Oak to Northfield (A38 Corridor)
10. City Centre to Fort Dunlop (A47 Corridor)
11. City Centre to City Hospital via Jewellery Quarter
12. Bradford Street Cycle Lanes
13. A38 to A34 City Centre Connection

Schemes 1 and 2 relate to social-distancing measures in local centres. Schemes 3 to 5 are local road closures and other restrictions in residential areas to create low-traffic neighbourhoods, and Scheme 6 covers similar measures in a city centre context. The remaining schemes 8 to 13 are pop-up cycle facilities including light-segregated cycle lanes and other measures.

The technical review is to determine what further measures would be desirable in order to improve the schemes if they are made more permanent as part of Tranche 2. ‘More permanent’ in this context would mean (for example) replacing temporary barriers and light-segregation wands with bolt-down kerbs which provide more protection and require less on-going maintenance.

This technical review aims to identify safety issues which need to be addressed, any further measures which are needed for the schemes to comply with current guidance for permanent schemes (including LTN 1/20, Guidance on Use of Tactile Paving etc), and any other desirable improvements which would make the schemes more convenient, such as increasing segregation between pedestrians and cyclists and removing locations where cyclists may have to dismount at crossing points.

The review shall consider the needs of all road users in accordance with the City Council's road hierarchy, including cyclists, pedestrians, passengers at bus stops, essential loading and servicing to frontages, and emergency service routes.

The review should also identify any equalities issues within the current scheme layouts, which will feed into the separate Equalities part of the overall review.

3. Social-distancing measures in local centres

The following sites have been assessed that relate to social-distancing measures in local centres and to determine what further measures would be desirable in order to improve the schemes if they are made more permanent as part of Tranche 2.

1. Moseley Local Centre Transport Space Allocation
2. Stirchley Local Centre Transport Space Allocation

3.1 Moseley Local Centre Transport Space Allocation

Social distance measures have been provided within Moseley, through the implementation of footway widening from the southern extents at the junction of Salisbury Road, north on Alcester Road to the crossroads with Chantry Road and Woodbridge Road.

The footway on the eastern side of Alcester Road has been widened through the provision of temporary barriers in the nearside southbound lane, from outside Cafephilia, north to Woodbridge Road south to King Edward Road. This section of social distancing includes for an in-line bus stop and accommodates the existing controlled crossing. Throughout the length of the widening, ramps have been provided to allow pedestrians to transit between the footway and carriageway level. Opposite Cafephilia, the existing northbound bus stop has been built out to provide social distance for pedestrians in and around the bus shelter and for passing pedestrians.

Footway widening has also been provided by converting the northern parking bay on Saint Mary's Row, with the taxi bay on the southern side amended to allow loading.

The Consultant drawings which have been received for review are as follows:

3. B2309001-SDM-MOSE-03, Sheet 2 of 3 showing Alcester Road
4. B2309001-SDM-MOSE-03, Sheet 3 of 3 showing St Marys Row

3.1.1 Site Observations

The following site observations were captured:

- Alcester Road
    - It was noted that the provision of temporary barriers and ramps at the northbound stop, at the junction of Chantry Road (Stop ID: nwmajtdg), provide a large area of extended footway for pedestrians to pass the existing shelter, located on an existing relatively narrow footway. The barriers are in good condition and have maintained their positioning, leading passing traffic and buses up to the tarmac boarding point.
    - It was noted that "Covid-19 Keep apart" markings painted on the footway in the vicinity of the bus stops are worn and are not clearly visible.
    - It was noted that the temporary barriers outside Cafephilia provide positive guidance to southbound traffic, to more across from the nearside lane. It was noted though that the temporary "keep right" signs and A-frames were damaged.
    - It was noted that the footway widening from the junction of Woodbridge Road to King Edward Road, provides additional social distance space for passing pedestrians and that the barrier alignment has not been altered.
    - It was noted that's the ramps between the footway and carriageway level provide access for mobility impaired users and have been installed at a gradient of 1 in 12, which is the maximum that may be

used as any greater than this will cause difficulties for manual wheelchair users. They also allow drainage to the rear, although it was noted that leaves from the adjacent trees had blocked the carriageway channels and blocked the drains to the rear of the ramps, the leaves left a slippery surface that pedestrians could slip on.

- It is noted that the existing controlled crossing is operating from the original signal poles and call buttons. On the eastern side of the crossing, pedestrians were observed to walk in front of waiting pedestrians, coming within 2m.

- It was noted that the temporary the bus stop outside the Co-Op (Stop ID: nwmajtda) operated well, with buses pulling up to the relocated, tarmac, boarding point. This provided space for passengers to wait and also disembark from the buses.

- St Marys Row

  - Consideration is to be given to maintaining the footway widening measures on St Marys Row, in order to provide greater footway width and to incorporate a streetscape area which would tie in with the Farmers Market.

3.1.2 Findings

It was noted that the measures which have been implemented provided a safe environment for pedestrians to walk whilst also allowing the traffic to flow. The measures were easily understood by both pedestrians, cyclist and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of the social distance measures shall allow other road users in accordance with the City Council's road hierarchy to benefit:

- Cyclists,
  - There is not any additional provision for cyclists along Alcester Road.
- Pedestrians,
  - The widened footway shall allow pedestrians greater space to pass. Also, the dropped accesses, shall improve mobility for wheelchairs users and the visually impaired, as it shall be easier to cross the road and identify the crossing points.
- Passengers at bus stops,
  - The bus stops on Alcester Road shall have greater boarding point areas, due to the greater footway width and this allows more space for pedestrians to wait and maintain social distance, as well as allow access and egress from buses by passengers.
- Essential loading and servicing to frontages,
  - Liaison with shop owners on Alcester Road shall be required to ensure that access is provided for deliveries to the properties, particularly the large stores, such as Co-op and Sainsburys.
- Emergency service routes,
  - Ensure that the streetscape does not impact on the ability for emergency services to operate safely.

3.1.3 Summary of observations and findings

It is observed that the EATF1 measures were well maintained and the temporary measures were being respected. Therefore, it is recommended that the following further measures are considered for implementation and or modification of the existing layout in order to improve the schemes if they are made more permanent as part of Tranche 2:

1. Through discussions with BCC consider the layout of the northbound stop at the junction of Chantry Road (Stop ID: nwmajtdg), and the requirement to provide social distance measures. It is recommended that to provide increased footway width for pedestrians and waiting passengers that the stop is maintained and made permanent with the shelter relocated to the front of footway.

2. It is recommended that the "Covid-19 Keep apart" markings on the footway are reinstated with a hard-wearing paint, throughout the scheme and are located at pinch points and at the commencement of footways i.e. after crossings, at bus stops and cash point.

3. It is recommended that the social distance widening outside Cafephilia is maintained and consideration is given to widening the existing footway with black cast effect bollards (with reflective stripes), to protect pedestrians and prevent off street parking.

4. Consideration is to be given to maintaining the footway widening measures from the junction of Woodbridge Road south to the junction of King Edward Road, in order to provide greater footway width. Provide protection for pedestrians through the specification of black cast effect bollards (with reflective stripes) to restrict vehicles from parking on the footway. Revise the lining and signing at the crossroads to tie in with the footway widening. Revise the carriageway lining to reflect the remaining available carriageway width and reduction of lanes.

5. Consideration is to be given to reducing the pedestrian crossing distance, in line with the new footway width on the eastern side of Alcester Road. Review the existing signal equipment i.e. loop positions, timings etc. along with the relocation of the western signal pole.

6. Consideration is to be given to formalising the bus stop outside the Co-Op (Stop ID: nwmajtda) with a relocated shelter position at the front of footway and the provision of new cage markings.

7. On St Mary's Row consideration is to be given to maintaining the footway widening measures, in order to provide greater footway width and to incorporate a streetscape area which would tie in with the Farmers Market.

8. It is recommended that traffic modelling is undertaken to help better understand the current and the future effects of the new road layout and the long term impact of permanently reducing the capacity of the Alcester Road, particularly for southbound traffic and the operation of the Salisbury Road junction.

3.2 Stirchley Local Centre Transport Space Allocation

Social distance measures have been provided within Stirchley, through the implementation of footway widening from the southern extents at the junction of Pershore Road, north on Hazlewell Street to the access to Stirchley Park (at the junction to Farm Foods). Hazelwell Street has been reduced to a single lane through the provision of temporary bolt down bollards and the widening of the eastern footway. Ramps have been provided to allow pedestrians to transit between the footway and carriageway level.

The junction of Bournville Lane and Hazlewell Street has had a new traffic island implemented with tactile paving, to allow pedestrians refuge when crossing the Bournville Road junction.

The Consultant drawings which have been received for review are as follows:

- 419867-MMD-L01-XX-DR-D-0101, Sheet 1 of 3, showing Hazelwell Street
- 419867-MMD-L01-XX-DR-D-0101, Sheet 2 of 3, showing Pershore Road south of Hunts Road
- 419867-MMD-L01-XX-DR-D-0101, Sheet 3 of 3, showing Pershore Road south of Mayfield Road

3.2.1 Site Observations

The following site observations were captured:

- Hazelwell Street
    - It was noted that's the ramps between the footway and carriageway level are 700 mm wide, by 100 mm deep, over a length of 1.8 m, have been installed at a gradient of 1 in 7, which is greater than the maximum 1 in 12 therefore restricting mobility for manual wheelchair users. The ramps require increasing in size with adequate drainage provision to eliminate ponding.
    - At the junction of Hazelwell Street and Bournville Lane there is standing water collecting in the kerbing of the pedestrian island which needs drainage. Redesign the traffic island to provide a raised crossing point with adequate signing, drainage and tactile provision. Include bollards at the leading edge of the traffic island to denote its presence.
    - Provide an improved crossing facility at the junction of Bournville Lane for all users, with adequate space for cyclists and reducing conflict with pedestrians.
    - Standing water at tactile crossing 3.6m wide. The carriageway surface is breaking up, therefore undertake resurfacing measures in line with the junction improvements.
    - From No. 70 Hazelwell Street formalise the footway widening, through the provision of a cycle facility and provide measures to prevent informal parking.
- Pershore Road
    - Parklets by Ash Tree Road have not been installed.

3.2.2 Findings

It was noted that the measures which have been implemented provided a safe environment for pedestrians to walk whilst also allowing the traffic to flow. The measures were easily understood by both pedestrians, cyclist and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of the social distancing layout would provide improved pedestrian facilities. Although consideration would need to be given to installing measures to prevent vehicles parking on the widened footway, particularly between No. 72 Hazelwell Street through to Bournville Lane, due to the adjacent shops.

The formalising of the social distance measures shall allow other road users in accordance with the City Council's road hierarchy to benefit:

- Cyclists,
    - oThere shall be improved facilities and the widened footway shall allow cyclists to leave the carriageway.
- Pedestrians,
    - oThe widened footway shall allow pedestrians greater space to pass. Also, the dropped accesses, shall improve mobility for wheelchairs users and the visually impaired, as it shall be easier to cross the road and identify the crossing points.
- Passengers at bus stops,
    - oThe bus stop adjacent to No. 72 Hazelwell Street has greater footway width and allows more space for pedestrians to wait and maintain social distance, as well as allow access and egress from buses by passengers.
- Essential loading and servicing to frontages,
    - oLiaison with shop owners on Hazelwell Street shall be required to ensure that access is provided for deliveries to the properties.
- Emergency service routes,
    - oEnsure that the streetscape does not impact on the ability for emergency services to operate safely. The proposed road layout could create a restriction between No. 72 Hazelwell Street through to Bournville Lane, should measures be implemented to prevent parking, although the provision of double yellow lines would prohibit indiscriminate parking along this section of carriageway.

3.2.3 Summary of observations and findings

It is observed that the EATF1 measures were well maintained and the temporary measures were being respected. Therefore, it is recommended that the following further measures are considered for implementation and or modification of the existing layout in order to improve the schemes if they are made more permanent as part of Tranche 2:

- The ramps between the footway and carriageway are lengthened to create a gradient of 1 in 12, to allow wheelchair and pedestrians access.
- Consideration is to be given to providing a cycle facility from No. 72 Hazelwell Street through to Morrisons supermarket, utilising the widened footpath area. This shall allow cyclists and pedestrians to travel with increased safety due to less risk of being struck by vehicles.
- Redesign the traffic island at the junction of Hazelwell Street and Bournville Lane, to provide a safe crossing point for pedestrians and cyclists. Consider a raised crossing point with adequate signing, drainage and tactile provision. Include bollards at the leading edge of the traffic island to denote its presence.
- Provide carriageway drainage at the junction with Bournville Lane and Hazelwell Street, to eliminate the ponding adjacent to the 3.6m wide tactile crossing.
- Undertake a review of the carriageway and footway surfaces, to ensure that footways and carriageways are undertake where necessary resurfacing measures in line with the junction improvements.
- From No. 70 Hazelwell Street formalise the footway widening, through the provision of a cycle facility and provide measures to prevent informal parking.
- Undertake a review of the existing lining and signing, to ensure the existing and proposed lining is correct and that sign clutter is reduced.

4. Local Road Closures

The following sites have been assessed with regard to the provision of Low Traffic Neighbourhoods (LTN)'s in which the aim is to provide areas of residential housing that create attractive, safe and healthy places for people, and to reduce the impact of traffic, which comes from vehicles using the streets to travel to another destination.

1. Lozells Low Traffic Neighbourhood
2. Kings Heath Low Traffic Neighbourhood (including Moseley Places for People)
3. Places for People (Bournville and Castle Vale LTNs)

4.1 Lozells Low Traffic Neighbourhood

Modal filters and one-way systems have been introduced in various locations in Lozells, to create Low Traffic Neighbourhoods (LTNs). Modal filters are present on Finch Road to convert it to one-way eastbound for vehicles but maintaining two-way movement for cyclists. The modal filters take the form of wooden planters in the carriageway and supplemented with appropriate advanced signage.

The measures also involve converting Church Street, Graham Road, Anglesey Street to one-way, creating a one-way gyratory system with these three roads and Nursery Road to the south, but maintaining two-way movements for cyclists with contraflow cycle lanes.

The Consultant drawings which have been received for review are as follows:

- 04965-PM-L-C-01-01, showing the junction of Archibald Road and Lozells Road
- 04965-PM-L-C-02-00, showing an overview of Finch Road
- 04965-PM-L-C-02-01, showing the junction of Finch Road and Archibald Road
- 04965-PM-L-C-02-02, showing the middle section of Finch Road
- 04965-PM-L-C-02-03, showing the junction of Finch Road and Roland Road
- 04965-PM-L-C-03-00, showing an overview of Church Street, Graham Road, Anglesey Street and Nursery Road
- 04965-PM-L-C-03-01, showing the junction of Church Street and Nursery Road
- 04965-PM-L-C-03-02, showing the junction of Church Street and Graham Street
- 04965-PM-L-C-03-03, showing the middle of Anglesey Street
- 04965-PM-L-C-03-04, showing the junction of Anglesey Street and Graham Street
- 04965-PM-L-C-03-05, showing the junction of Anglesey Street and Nursery Road
- 04965-PM-L-C-04-00, showing an overview of Hunters Road

4.1.1 Site Observations

The following site observations were captured:

- Finch Road
    - At the eastern end of Finch Road (junction with Roland Street), ancillary markings are missing from within the hatched-out area of carriageway on the approach to the planters. Sufficient keep left markings are also missing, to forewarn cyclists and motorists of the obstruction, as evidenced by the scratch marks on the southern planter.
    - At the western end of Finch Road (junction with Archibald Street), the modal filter is lacking any signage to promote the presence of the cycle route.

- Hunters Road
    - The planned measures on Hunters Road were not implemented on the day of the site visit.
- Graham Street
    - There are no pedestrian crossing facilities at the junction with Church Street
    - The lorry tyre planters are not painted like the others in the area and are not aesthetically pleasing.
    - Westbound cyclists are currently required to cycle between parked cars on each side of the road, facing oncoming vehicles.
- Anglesey Street
    - Northbound cyclists are currently required to cycle between parked cars on each side of the road, facing oncoming vehicles.
    - It was observed on site that vehicles are parking on the zigzags outside Anglesey Primary School.
    - Vehicles are observed to able to drive north on Anglesey Street due to the large width of the northbound cycle lane at the junction with Nursery Road.
- Archibald Road
    - Cyclists travelling northbound along Archibald Road are faced by oncoming traffic and bounded by parked cars on both sides of road.

4.1.2 Findings

If the planters on Finch Road are to be made permanent, it is recommended that the signing and lining in this area is revisited to ensure that the appropriate hatched markings are used on the approach to planters as well as appropriate cycle signage.

Due to parked vehicles posing an obstruction to cyclists, and meaning cyclists are forced cycle between parked cars on each side of the road, facing oncoming vehicles, it is recommended that double yellow lines are installed in the following locations:

- On the southern side of Graham Street
- On the western side of Anglesey Street
- On the western side of Archibald Road

To prevent vehicles from driving against the southbound one-way system on Anglesey Street, it is recommended that the northbound cycle lane is restricted in width by increasing the size of the kerbed island.

The lorry tyre planters at the junction of Graham Street and Church Street should either be upgraded to bollards or painted in a manner to match others in the area.

The formalising of the measures shall allow other road users in accordance with the City Council's road hierarchy to benefit:

- Cyclists
    - The one-way systems with dedicated cycle facilities create quieter and safer streets for cyclists to travel along.

- Pedestrians
    - The one-way systems create quieter streets for pedestrians and improve safety as it will be easier for pedestrians to cross a single lane of traffic.
- Passengers at bus stops
    - No bus stops are affected by the measures at Lozells
- Essential loading and servicing to frontages
    - The one-way systems access from Lozells Road slightly restrict parking and loading opportunities for the high street shops. Liaison with shop owners shall be required to ensure that sufficient access is provided for deliveries to the properties.
- Emergency service routes
    - Access to all areas within Lozells is maintained for emergency service access, due to the one-way system not closing off any areas.
    - Ensure full access is maintained through communication with the emergency services.

4.1.3 Summary of observations and findings

It is observed that the modal filter planters on Finch Road have missing markings in the carriageway hatching and insufficient cycle signage to promote the contraflow cycle lane.

The one-way gyratory system for Church Street, Graham Road, Anglesey Street and Nursery Road was observed to not be respected by drivers, with vehicles travelling northbound on Anglesey Street. The cycle measures in this area are also poor, due to parked vehicles blocking the cyclist and forcing them to cycle between parked cars on each side of the road, facing oncoming vehicles.

The planned measures on Hunters Road were not implemented on the day of the site visit and therefore cannot be commented on.

Therefore, it is recommended that in order to improve the schemes if they are made more permanent as part of Tranche 2 the following are considered:

- The signing and lining on Finch Road are revisited to ensure the correct hatching markings are used and sufficient cycle signage is introduced.
- Double yellow lines are installed on Graham Street, Anglesey Street and Archibald Road to prevent parked vehicles from blocking cyclists.
- The width of the cycle lane at the junction of Anglesey Street and Nursery Road is reduced, to prevent vehicles travelling northbound in the cycle lane.
- The lorry tyre planters at the junction of Graham Street and Church Street are upgraded to bollards or painted in a manner to match others in the area.

4.2 Kings Heath Low Traffic Neighbourhood

Modal filters have been introduced in various locations in Kings Heath, to create Low Traffic Neighbourhoods (LTNs). The location of modal filters includes Station Road, Poplar Road, Cambridge Road, Grange Road, York Road, Silver Street, Highbury Road, All Saints Road, Hazlehurst Road and Colmore Road. They are designed to prevent vehicles from passing through but keep the road open to pedestrians and cyclists, with the aim of converting these streets to ‘Places for People’ to encourage active travel and recreation.

The modal filters take the form of wooden planters in the carriageway, with a central removable bollard between the planters. In some places, there have also been further bollards placed in the footway or grass verge to prevent vehicles bypassing the planters.

In the case of York Road, multiple sets of modal filters have been introduced at each end of the road to create a pedestrianised streetscape outside the local shops.

The modal filters have been supplemented with appropriate advanced signage indicating where the road is closed (except for cyclists).

The Consultant drawings which have been received for review are as follows:

- 04965-PM-KH-C-01-01, showing the junction of High Street and Station Road
- 04965-PM-KH-C-01-02, showing the junction of High Street and Grange Road
- 04965-PM-KH-C-01-03, showing the junction of High Street and Bank Street
- 04965-PM-KH-C-01-04, showing the junction of High Street and York Road
- 04965-PM-KH-C-01-05, showing the middle of Silver Street
- 04965-PM-KH-C-01-06, showing the junction of Highbury Road and Grange Road
- 04965-PM-KH-C-01-07, showing the junctions of Grange Road, York Road, Station Road and Bank Road
- 04965-PM-KH-C-01-08, showing the junction of Highbury Road and Silver Street
- 04965-PM-KH-C-01-09, showing the junction of Silver Street and Fairfield Road
- 04965-PM-KH-C-01-10, showing the junction of High Street and Silver Street
- 04965-PM-KH-C-01-11, showing the junction of Grange Road and York Road
- 04965-PM-KH-C-01-12, showing the junction of Grange Road and Bank Street
- 04965-PM-KH-C-02-01, showing the junction of Poplar Road and Woodville Road
- 04965-PM-KH-C-02-02, showing the junction of Poplar Road and High Street
- 04965-PM-KH-C-04-01, showing the junction of Colmore Road and Howard Road
- 04965-PM-KH-C-04-02, showing the junction of Hazlehurst Road and Howard Road
- 04965-PM-KH-C-04-03, showing the junction of All Saints Road and Howard Road
- 04965-PM-KH-C-04-04, showing an overview of All Saints Road
- 04965-PM-KH-C-04-05, showing the junction of Vicarage Road and Colemore Road
- 04965-PM-KH-C-04-06, showing the junction of Vicarage Road and Abbots Road
- 04965-PM-KH-C-05-01, showing the junction of Cambridge Road and School Road
- 04965-PM-KH-C-05-02, showing the junction of School Road and Greenhill Road
- 04965-PM-KH-C-05-03, showing the junction of Cambridge Road and Clarence Road
- 04965-PM-KH-C-05-04, showing the junction of School Road and Cotton Lane
- 04965-PM-KH-C-05-05, showing the junction of School Road and Oxford Road
- 04965-PM-KH-C-Advanced Signage Layout Northern #1, showing an overview of Station Road, Grange Road, Bank Street
- 04965-PM-KH-C-Advanced Signage Layout Northern #1 – Amended design, showing an amended version of the above
- 04965-PM-KH-C-Advanced Signage Layout Central #2, showing an overview of York Road, Silver Street and Highbury Road

- 04965-PM-KH-C-Advanced Signage Layout Southern #3, showing an overview of All Saints Road, Hazelhurst Road and Colemore Road

4.2.1 Site Observations

All the modal filter planters within the Kings Heath LTN were observed to be well positioned with clear forward visibility. The planters have consistent identification with reflective stripes to guide cyclists through the central gap, which has a central, removable bollard. The Places for People signs attached to some of these planters also provide a positive message to all users and helps to promote the use of the LTN for pedestrians, children, disabled and cyclists.

There are various locations throughout the Kings Heath LTN in which the temporary signage has been mounted within large concreate blocks positioned in the footway, which reduce the available footway width to less than the minimum acceptable or desirable width. In other locations, the signage has been placed centrally within the modal filter planters, which therefore maintains the existing footway provision.

In addition, the following individual site observations were captured:

- Highbury Road / Grange Road junction
    - The lining and signing are not accurate to the existing nature of the junction with the modal filter on Grange Road.
- York Road
    - Three pairs of planters are located within the carriageway signifying the Pedestrian and Cycle Zone between the junction of Waterloo Road and the junction with High Street. But motorists are able to drive along the footway to either pass the restriction or park outside shops.
- Grange Road
    - It was observed that Grange Road has parking on both sides from its junction of High Street to the junction of York Road, leaving a reduced carriageway width. Consideration is to be given to providing an area of carriageway in the vicinity of York Road to allow vehicles to turn around, such post vans accessing the adjacent post box, refuse lorries and emergency vehicles etc.
- Poplar Road
    - It is noted that the “No through road” sign located on the northern side of Poplar Road at the junction with High Street has been moved and blocks the footway.
- All Saints Road
    - It is noted that the planters positioned at the southern extents of All Saints Road at the junction with Howards Road have been bypassed by vehicles driving over the verge. The subsequent implementation of bollards and Sustrans water filled plastic seating has prevented further access.

4.2.2 Findings

It is recommended that all required signage for the LTN measures are either relocated onto permanent posts at the back of the footway or incorporated into the modal filter planters where these are present. This will ensure sufficient space is maintained for pedestrians, especially disabled users and the visually impaired.

In locations where the modal filters have changed the priorities of the junction, such as at the Highbury Road / Grange Road junction, it is recommended that the lining and signing associated with a permanent closure are reviewed and that the existing give-ways markings and signing are removed.

In areas where there is sufficient space in the footway and/or grass verge to bypass the modal filters, it is also recommended that additional bollards are implemented to block these routes. This is the case on the southern side of York Road, to prevent motorists driving along the footway to either pass the restriction or park outside shops, and on All Saints Road where vehicles were driving over the verge (but a subsequent Sustrans water filled plastic seating has prevented further access).

The current layout of the LTN modal filters to the west of High Street are generating complaints from locals due to the impact it is having on access to shops and the concentration of traffic on the Highbury Road access into the estate. York Road has modal filters set out at each end, creating a pedestrianised area which is beneficial for the streetscape of the area. However, this is restricting access to the shops on York Road and businesses have complained due to a decrease in custom this may be causing. The current layout of the modal filters puts all residential traffic to/from the north on High Street via Highbury Road, as this becomes the fastest available route.

It is recommended that an alternative layout of modal filters is pursued:

i. Move the York Road filters to west of the York Road / Waterloo junction

ii. Move the Grange Road filter to west of the Grange Road / York Road junction

iii. Move the Station Road filter to both west and north of the Station Road / York Road junction

iv. Add another filter on South Road, south of the South Road / Grange Road junction

These amendments will create three distinct cells, which will ensure the traffic impact is distributed more evenly among the access points. It will also allow for vehicular access to remain to the shops on York Road. There is the potential to make York Road one-way to maintain access to shops but also provide wider footways for an improved streetscape.

The formalising of the LTN measures (as per the existing or alternative layout) shall allow other road users in accordance with the City Council's road hierarchy to benefit:

- Cyclists
  - The modal filters allow for cyclists to pass through whilst preventing vehicles from doing so, hence creating quieter streets for cyclists to travel along.
- Pedestrians
  - The modal filters prevent vehicles from rat running through the residential areas of King Heath, creating quieter and safer environments for pedestrians.
- Passengers at bus stops
  - No bus stops are affected by the LTN measures at Kings Heath
- Essential loading and servicing to frontages
  - Under the alternative layout recommended above, access to York Road is maintained from High Street which allows for the loading and servicing to frontages. Otherwise, access is maintained if loading vehicles are granted access via the removable bollards.
- Emergency service routes
  - Access to all areas within Kings Heath is maintained for emergency service access, via both diverted routes and via the removable bollards at the modal filters.
  - Ensure that the streetscape does not impact on the ability for emergency services to operate safely.

4.2.3 Summary of observations and findings

It is observed that the modal filter planters, as part of the EATF1 measures, were well positioned with clear forward visibility and consistent identification with reflective stripes and a central, removable bollard. The Places for People signs attached to some of these planters also provide a positive message to all users and helps to promote the use of the LTN for pedestrians, children, disabled and cyclists. However, they were not being universally respected, with signs of them being bypassed if sufficient space was available to manoeuvre a vehicle

past the planters on the footway and/or grass verge. The existing layout of the LTN has also generated numerous complaints from businesses and residents.

Therefore, it is recommended that an alternative layout of modal filters is pursued, which moves the York Road filters to west of the York Road / Waterloo junction, moves the Grange Road filter to west of the Grange Road / York Road junction, moves the Station Road filter to both west and north of the Station Road / York Road junction and adds another filter on South Road, south of the South Road / Grange Road junction. These amendments will create three distinct cells, which will ensure the traffic impact is distributed more evenly among the access points and allowing for vehicular access to remain to the shops on York Road. It is also recommended that York Road becomes one-way to allow for a greater streetscape to be created whilst still allowing for vehicle access.

It is also recommended that in order to improve the schemes if they are made more permanent as part of Tranche 2 the following are considered:

- All required signage for the LTN measures are either relocated onto permanent posts at the back of the footway or incorporated into the modal filter planters where these are present.
- Additional bollards are implemented at the All Saints Road modal filter to prevent vehicles bypassing the filter by driving over the grass verge, replacing the temporary water filled Sustrans plastic seating.
- The lining and signing associated with a permanent closure in various locations are reviewed and that the existing give-ways markings and signing are removed is no longer required.
- Consideration is given to excavating the carriageway and creating verges with trees and bollards to restrict onward passage by motorists.

4.3 Places for People (Bournville and Castle Vale LTNs)

Modal filters have been introduced in various locations in Bournville and Castle Vale, to create Low Traffic Neighbourhoods (LTNs). The location of modal filters includes Franklin Road and Oak Tree Lane in Bournville and Yatesbury Avenue and Cosford Crescent in Castle Vale. They are designed to prevent vehicles from passing through but keep the road open to pedestrians and cyclists, with the aim of converting these streets to 'Places for People' to encourage active travel and recreation.

The modal filters take the form of wooden planters in the carriageway, with a central removable bollard between the planters and have been supplemented with appropriate advanced signage indicating where the road is closed (except for cyclists).

The Consultant drawings which have been received for review are as follows:

- 13020-D-GA-01-00-05, showing the junction of Yatesbury Avenue and Cosford Crescent in Castle Vale
- 13020-D-GA-01-00-06, showing the junction of Tangmere Drive and Cosford Crescent in Castle Vale
- 13020-D-GA-01-00-07, showing the junction of Franklin Road and Linden Road in Bournville
- 13020-D-GA-01-00-08, showing the junction of Oak Tree Lane and Woodbrooke Road in Bournville
- 13020-D-GA-01-00-09, showing advanced signs on Tangmere Drive in Castle Vale
- 13020-D-GA-01-00-10, showing advanced signs on Yatesbury Avenue in Castle Vale
- 13020-D-GA-01-00-11, showing advanced signs on Franklin Road in Bournville
- 13020-D-GA-01-00-12, showing advanced signs on Oak Tree Lane in Bournville

4.3.1 Site Observations

The following site observations were captured:

- Franklin Road (Bournville)
    - Planters are easily observed with reflective strips, bollards in footway and a removable bollard located in the centre of the carriageway between the planters.
    - The carriageway markings at the junction are not clear, as they have not been updated since prior to the road being closed
    - The additional set of planters set back from the junction were not installed
- Oak Tree Lane (Bournville)
    - The carriageway markings at the junction are not clear, as they have not been updated since prior to the road being closed
    - A green “Road Open To” sign facing traffic on Woodbrooke Road was not present on the eastern planter for cyclists etc from that direction
- Yatesbury Avenue (Castle Vale)
    - The carriageway markings at the junction with Cosford Crescent are not clear, as they have not been updated since prior to the road being closed
    - The route along Yatesbury Avenue is not a cul-de-sac as motorists are able to loop around Yatesbury Avenue via Cosford Crescent. Therefore, the “No through road” signs for westbound traffic are incorrect.
- Cosford Crescent (Castle Vale)
    - Vehicles are bypassing the modal filter and travelling between Cosford Crescent and Tangmere Drive by driving over the verge and footpath
    - In order to prevent vehicles travelling between Cosford Crescent and Tangmere Drive, by driving over the verge and footpath, install additional reflective bollards to prevent access. Also raise the existing dropped kerb heights from the dropped crossing level, which promotes the use of the shortcut.

4.3.2 Findings

At both Franklin Road and Oak Tree Lane in Bournville, consideration should be given to formalising the road closure through the removal of the give-way lining and providing continuous edge of carriageway lining on the major road (the A4040 and Woodbrooke Road respectively). Also consider the location of permanent regulatory signs, to replace the temporary installations.

An additional green “Road Open To” sign facing traffic on Woodbrooke Road on the eastern planter at Oak Tree Lane should also be installed.

In Castle Vale, it is recommended to re-line the carriageway with priority for vehicles to travel from Cosford Crescent onto Yatesbury Avenue (at the eastern end), through the removal of the junction give way markings on Cosford Crescent. Provide an indication of the bend through the implementation of bollards and/or signs.

Consideration is to be given to turn the existing mini roundabout at the junction of Cosford Crescent and Yatesbury Avenue into a defined bend (at the western end). On Yatesbury Avenue, provide a give-way on the eastbound approach to the junction, with the junction redesigned to promote the bend through the use of build

outs on Yatesbury Avenue and the verge being widened on the northern side of the junction. Include appropriate signing and bollards to inform motorists of the new road alignment and to dissuade them from continuing straight along Yatesbury Avenue. Provide greater signing to promote that the ahead road is not a through road.

It is also recommended that the two new "No through road" signs for westbound traffic from the junction of Manby Road are removed, as the measures on Yatesbury Avenue do not create a cul-de-sac due to the route via Cosford Crescent.

In order to prevent vehicles travelling between Cosford Crescent and Tangmere Drive, by driving over the verge and footpath, it is recommended to install additional reflective bollards to prevent access. It is also recommended to raise the existing dropped kerb heights from the dropped crossing level, which promotes the use of this shortcut.

The formalising of the Places for People measures shall allow other road users in accordance with the City Council's road hierarchy to benefit:

- Cyclists
    - The modal filters allow for cyclists to pass through whilst preventing vehicles from doing so, hence creating quieter streets for cyclists to travel along.
- Pedestrians
    - The modal filters prevent vehicles from rat running through the residential areas of Bournville and Castle Vale, creating quieter and safer environments for pedestrians.
- Passengers at bus stops
    - No bus stops are affected by the Places for People measures at Bournville or Castle Vale.
- Essential loading and servicing to frontages
    - Front access by vehicles to all properties is maintained for essential purposes.
    - There are no retail units directly affected by the Places for People measures at Bournville or Castle Vale.
- Emergency service routes
    - Access to all areas within Bournville or Castle Vale is maintained for emergency service access, via both diverted routes and via the removable bollards at the modal filters.
    - Ensure that the streetscape does not impact on the ability for emergency services to operate safely.

4.3.3 Summary of observations and findings

It is observed that the modal filter planters, as part of the EATF1 measures, were well positioned with clear forward visibility and consistent identification with reflective stripes and a central, removable bollard. However, the carriageway markings at the junctions are not clear, as they have not been updated since prior to the roads being closed. The signage has also not been clear or has been misleading, such as the incorrect "No through road" signs for westbound traffic on Yatesbury Avenue or the missing "Road Open To" sign at Oak Tree Lane. The measures have also not been respected by drivers, as vehicles are bypassing the modal filter on Cosford Crescent by driving over the verge and footpath from Tangmere Drive.

Therefore, it is recommended that in order to improve the schemes if they are made more permanent as part of Tranche 2 the following are considered:

- The road closures are formalised through the removal of the give-way lining and providing continuous edge of carriageway lining.
- Consideration is given to the location of permanent regulatory signs, to replace the temporary installations.

- The “No through road” signs for westbound traffic on Yatesbury Avenue needs to be removed.
- An additional “Road Open To” sign promoting the LTN network for children, pedestrians, wheelchair users and cyclists should be installed on the eastern planter at Oak Tree Lane, facing Woodbrooke Road.
- Consideration is given to excavating the carriageway and creating verges with trees and bollards to restrict onward passage by motorists.
- Install additional reflective bollards to prevent access over the footpath and grass verge between Tangmere Drive and Cosford Crescent.
- Consideration is to be given to turn the existing mini roundabout at the junction of Cosford Crescent and Yatesbury Avenue into a defined bend, through the use of build outs on Yatesbury Avenue and the verge being widened on the northern side of the junction.

5. City Centre Traffic Cells

The following sites have been assessed with regard to the provision of cycle lanes through the reallocation of road space within the highway boundary. The following review considers whether the provision of the cycle infrastructure is achieved by reallocating carriageway space and not by reducing the level of service for pedestrians.

1. The Jewellery Quarter
2. Snow Hill and Newtown
3. A38 Bristol Street

5.1 Jewellery Quarter

Cycle infrastructure has been implemented within the Jewellery Quarter, through the closure of roads at junctions, the implementation of on-carriageway cycle lanes, reallocation of on-street parking and new signing.

The Consultant drawings which have been received for review are as follows:

- 104130-PF-100-C1-DR-TR-001, showing the junctions of Pope Street with Moreton Street and Albion Street
- 104130-PF-100-C1-DR-TR-002, showing the junction of Sand Pits and Summer Hill Street
- 104130-PF-100-C1-DR-TR-003, showing Newhall Hill and its junction with Sand Pits
- 104130-PF-100-C1-DR-TR-004, showing the junctions of Parade with Charlotte Street and Fleet Street
- 104130-PF-100-C1-DR-TR-005a, showing the traffic diversion signs along Newhall Street

5.1.1 Site Observations

The following site observations were captured:

- Moreton Street
    - The proposed cycle lane on Moreton Street has not been implemented in full and the parking outside Moreton House, remains in situ (seven parking spaces). These parking spaces shall require removal.
    - The proposed contraflow cycle sign is missing opposite Michael House, this shall require locating on lamp column number three.
- Albion Street
    - There are vehicles parking within the permit holders only parking bay on the southern side of Albion Street opposite the junction of Pope Street. This is preventing the closure of Albion Street for westbound traffic, due to the narrow remaining carriageway space between parking bays and cycle lane.
    - Some contraflow cycle signs are incorrectly orientated (lamp column number one on Albion Street) or missing (on the approach to the cycle lane on Albion Street for westbound cyclists and traffic).
- Newhall Hill
    - The existing flag type signs mounted on lamp column number eight, are incorrect as George Street is now closed except for cycles.

- Existing parking bay signing is on the eastern side of Newhall Hill, but these parking bays have been relocated to the other side of the carriageway to make space for the cycle lane. The signs are therefore on the wrong side of the carriageway.
- At the junction with Graham Street, the existing signing, the temporary keep left bollards and 'ahead only' sign causes confusion due to vehicles being able to turn right onto Graham Street.
- The cycle lane on Legge Lane has a bollard within a small kerbed island that restricts pedestrian passage and would be a trip hazard for the visually impaired.
- The public transport infrastructure, such as the bin and the flag post, for the bus stop opposite Sytner Birmingham is no longer needed as the bus stop has been removed.

- Charlotte Street
  - Due to the road closure the one-way traffic signs, controlled zone and 20mph terminals at the junction of Charlotte Street and Parade are no longer needed.
  - A 'no through road' sign requires erecting on Charlotte Street at the junction with Holland Street.
- Fleet Street
  - The 'except cycles' plate has been removed from the banned left sign on the Parade as you approach Fleet Street.

5.1.2 Findings

It is recommended that the various temporary signs on A-frames through the measures are made permanent on either new poles at the back of the footway or, ideally, incorporated into other existing poles where possible to reduce sign clutter.

In addition, the following measures are recommended on a site-by-site basis:

- Moreton Street
  - The parking spaces need to be removed for the cycle lane to be properly implemented.
- Albion Street
  - It is recommended that the parking bays opposite the junction of Pope Street are removed and build outs are constructed on Albion Street to enforce the change of priority.
  - Correct the contraflow cycle sign on lamp column number one on Albion Street. Contraflow cycle sign also requires erecting on the approach to the cycle lane on Albion Street for westbound cyclists and traffic.
- Summerhill Street
  - Consideration may be given to blanking off the permanent signs signing to City Centre and A457 Bromsgrove.
- Newhall Hill
  - The existing flag type signs mounted on lamp column number eight are required to be taken down as George Street is now closed except cycles.

- Realign the entry splays to the roundabout to formalise the changes, based on the number of entry and exits paths on the roundabout.

- It is recommended that the junction of George Street and Newhall Hill is remodelled to accommodate the right turn only as a thoroughfare. Provide a curved footway adjacent to the roundabout and towards the junction of George Street for pedestrians walking along the dual carriageway. Maintain priority for cyclists traveling south on Newhall Hill as they join the footpath, having crossed the junction of George Street. Remove the dropped kerb outside car show room to provide uniform level footway.

- Consideration is to be given to providing shared or segregated cycle / footway provision from Newhall Hill to Charlotte Street and beyond on the Parade. This is to prevent cyclists descending Newhall Hill, joining the dual carriageway and then having to contend with a bus stop as they travel into the city.

- Take down existing parking bay signing and re-erect on western side of Newhall Hill adjacent to new parking bays.

- Correct the keep left bollards on traffic islands as TC 03-33 in place of the existing signing and the temporary keep left bollards. It is recommended that the 'no entry except cycles' sign is mounted on the traffic island facing north for vehicles on Legge Lane, Graham Street and Frederick Street. It is recommended that the island is relocated north or extended to include a pedestrian crossing point for pedestrians crossing from Legge lane to Graham Street; the benefit of this will promote the closure of Newhall Hill and provide an improved pedestrian crossing point.

- Provide a pedestrian crossing point and consider the visually impaired when crossing from Newhall Hill in a northbound direction on the western side of the road continuing onto Frederick Street. Consider improvements to all pedestrian crossing point at the crossroads.

- Erect 'left turn only' sign on lamp column number one on Frederick Street with distance plate. Erect sign with Sikh temple flag.

- Consider the requirement to remove the public transport infrastructure such as the bin and the flag post for the bus stop opposite Sytner Birmingham.

- Charlotte Street

  - Due to the road closure, take down the one-way traffic signs, controlled zone and 20mph terminals at the junction of Charlotte Street and Parade. A 'no through road' sign instead requires erecting on Charlotte Street at the junction with Holland Street.

  - Consider providing at grade footway across the junction of Charlotte Street for pedestrians walking along the Parade.

- Fleet Street

  - Redesign the junction with Fleet Street and the Parade to provide footway and cycleway facilities from Newhall Hill to the existing cycle facility on the Parade. Remove the off slip and redesign the signing as required i.e. remove 'one-way' signs 'no entry' signs etc. The provision of cycle facility all the way to Newhall Hill will allow cyclist traveling out of town to continue instead of being instructed that it is currently the end of route and to dismount.

The formalising of the City Centre measures in the Jewellery Quarter shall allow other road users to travel in safety, in accordance with the City Council's road hierarchy to benefit:

- Cyclists
    - Contraflow cycle lanes are being introduced on roads being made one-way for vehicles, which provide segregated facilities for cyclists and ensure direct routes are maintained.
    - A shared use or shared or segregated cycle / footway provision from Newhall Hill to Charlotte Street would prevent cyclists descending Newhall Hill, joining the dual carriageway and then having to contend with a bus stop as they travel into the city.
- Pedestrians
    - The one-way systems create quieter streets for pedestrians and improve safety as it will be easier for pedestrians to cross a single lane of traffic.
    - Improvements to pedestrian crossing facilities are proposed at various locations.
- Passengers at bus stops
    - The bus stop on Newhall Hill is being removed due to the one-way system, which results in a negative impact for bus passengers. Liaison will be needed with Transport for West Midlands to ensure the service is re-routed appropriately an adequate bus stop is introduced.
- Essential loading and servicing to frontages
    - Access to all areas within the Jewellery Quarter is maintained for loading and servicing due to the one-way system not closing off any areas.
- Emergency service routes
    - Access to all areas within the Jewellery Quarter is maintained for emergency service access, due to the one-way system not closing off any areas.
    - Ensure that the streetscape does not impact on the ability for emergency services to operate safely.

5.1.3 Summary of observations and findings

It is observed that the EATF1 measures in the Jewellery Quarter in some places have not been fully implemented, with parking bays being retained in place of the proposed cycle lanes, or parking bays preventing the closure of a carriageway in one direction. There are also some locations where the temporary signs have either not been implemented, implemented incorrectly or removed, as well as old signage and infrastructure being retained which are now incorrect due to the changes.

There is also a newly introduced small kerbed island on Legge Lane, at the junction with Newhall Hill, which poses a trip hazard to the visually impaired.

The various A-frame temporary signs often block the footway with excessive sign clutter.

Therefore, it is recommended that in order to improve the schemes if they are made more permanent as part of Tranche 2 the following are considered:

- The various temporary signs on A-frames are reviewed to ensure they are correct and comprehensive, and then made permanent on either new poles at the back of the footway or incorporated into other existing poles where possible. This includes parking signs on Newhall Hill.
- The following parking bays are removed:

    - North side of Moreton Street, to allow for the cycle lane to be properly implemented
    - East side of Albion Street, to allow for the change in priority to be better enforced
- The junction of George Street and Newhall Hill is remodelled as follows:
    - To accommodate the right turn only as a thoroughfare, with a curved footway adjacent to the roundabout and towards the junction of George Street.
    - Maintain priority for cyclists traveling south on Newhall Hill as they join the footpath, having crossed the junction of George Street.
    - Remove the dropped kerb outside car show room to provide uniform level footway.
- Provide a shared use or segregated cycle / footway provision from Newhall Hill to Charlotte Street and beyond towards the City Centre on the Parade.
- The island on Newhall Hill at the junction with Legge Lane and Graham Street is relocated north or extended to include a pedestrian crossing point for pedestrians crossing from Legge lane to Graham Street
- Provide a pedestrian crossing point and consider the visually impaired when crossing from Newhall Hill in a northbound direction on the western side of the road continuing onto Frederick Street
- The infrastructure associated with the bus stop on Newhall Hill is removed.
- Provide an at grade footway across the junction of Charlotte Street for pedestrians walking along the Parade.
- Redesign the junction with Fleet Street and the Parade to provide footway and cycleway facilities from Newhall Hill to the existing cycle facility on the Parade. Remove the off slip and redesign the signing as required.

5.2 Snow Hill and Newtown

The highway network has been modified in order to reduce the impact of traffic entering the city centre, through the implementation of a bus gate and redirecting traffic through the closure of roads through the provision of regulatory signing and changes to upstream direction signs.

Road closures have been implemented preventing traffic from turning off New Town Road, in order to increase cycle safety, to prevent northbound vehicles turning left into side roads and coming into conflict with cyclists travelling along the adjacent cycle path. Also, road closures have been implemented to reduce rat running and promote a safer highway network.

The Consultant drawings which have been received for review are as follows:

- 104130-PF-100-C1-DR-TR-006, showing an overview of Colmore Circus Queensway and St Chads Circus Queensway
- 104130-PF-100-C1-DR-TR-006b, showing the signage changes at Lancaster Circus and New Town Row
- 104130-PF-100-C1-DR-TR-007, showing an overview of Lower Loveday Street
- 104130-PF-100-C1-DR-TR-008, showing the junctions of New Town Row with Cecil Street, Lower Tower Street and Brearly Street

5.2.1 Site Observations

The following site observations were captured:

- Snow Hill

- It is noted on the southbound approach to Saint Chads that there are three lanes approaching the roundabout, which is wider than the proposed bus gates. The existing A.D.S and tourist destination signing cause confusion to motorists as at present vehicles are traveling straight on in confliction with the A.D.S. on the approach which states that vehicles should turn right to the A38 and all other routes. Upstream signing has similar issues.

- Lower Loveday Street
  - The road closure on this section is being ignored, with the barriers moved to the side if the carriageway
  - With the road closed, the existing weight limit regulatory signs are no longer required.
  - Advance signing is missing on the outer road network to warn motorists that Lower Loveday Street is closed.

- New Town Row
  - Drivers are observed to be ignoring the banned left turn into Brearley Street and Cecil Street.

- Lancaster Circus
  - It is noted on the flag sign exiting Lancaster Circus that all the destinations due to be blanked out have been done so. However downstream of that sign, and at various other locations, the Children's Hospital A&E has been preserved.

5.2.2 Findings

It is recommended that the various temporary signs on A-frames through the measures are made permanent on either new poles at the back of the footway or, ideally, incorporated into other existing poles where possible to reduce sign clutter.

- Snow Hill
  - It is recommended that a permanent traffic island is constructed at the northern end of the bus gate at Colmore Circus Queensway, to accommodate the regulatory sign associated with the bus gate.
  - It is recommended that the islands widths on St Chads Queensway be increased to assist in the promotion of the bus gate. The existing A.D.S and tourist destination signing (at the junction and upstream) should be removed in order to remove confusion to motorists. It is recommended that lane destination signing is provided outside pure gym to promote straight ahead to the bus gate and the offside lane to other routes.
  - The furthest upstream A.D.S signing to the St Chads bus gate should show Whitehall Street clinic on the sign and this would then mean that the existing black on white ADS could be taken down to remove street clutter.

- Lower Loveday Street
  - It is recommended that bollards are positioned across each end of Lower Loveday Street at the junction of Cleveland Street and Princip Street to prevent vehicles driving along this section of road. The regulatory signs and advanced signing also need correcting to enforce the closure.
  - The existing weight limit regulatory signs can be removed.

- New Town Row
    - It is noted that vehicles are banned from turning left into Cecil Street from New Town Row. Therefore, it is recommended that the junction is realigned to only allow vehicles to turn left out of Cecil Street as this would facilitate the reduction of the zebra and cycle crossing points to be a single lane on Cecil Street. Provides banned left regulatory signs on New Town Row in advance of the junction.
    - At the junction of Lower Tower Street, close the access from New Town Row so that the footway is continuous and at the same gradient. Lower Tower Street shall require unnecessary give way and regulatory signs to be removed. The temporary banned left turn sign on New Town Row shall not be required as there will no longer be an access road. Cyclists shall not need to be exempt as they will be on the cycle path. The route of the cycle path could be relocated if BCC deems appropriate as it is currently set to back to avoid conflict of vehicles entering Lower Tower Street.
    - It is recommended that the junction of Brealey Street and New Town Row is reduced in width so that vehicles can only exit turning left onto New Town Row. Reduce the cycle crossing points and provide at great footway in the space of the junction. Design the junction so that it is self-enforcing for vehicles looking to turn left into Brealey Street who are observed to be ignoring the banned left currently. As with Cecil Street, direct bollards to prevent vehicles parking on the footway or over running to gain access.

The formalising of the City Centre measures in Snow Hill and Newtown shall allow other road users in accordance with the City Council's road hierarchy to benefit:

- Cyclists
    - The road closures will allow for cyclists to still access the route, providing quieter and safer sections to cycle along.
- Pedestrians
    - The road closures create quieter and safer routes for pedestrians, and the simplified junction on Newtown Row mean it is easier for pedestrians to navigate crossing the side roads.
- Passengers at bus stops
    - No bus stops are affected by these changes, but there are improvements to bus priority measures around Snow Hill which should result in shorter and more reliable journey times
- Essential loading and servicing to frontages
    - Access to all areas within Snow Hill and Newtown is maintained for loading and servicing, as there are alternative routes around any road closures and removable bollards would allow for certain vehicles to pass through the closures
- Emergency service routes
    - Access to all areas within Snow Hill and Newtown is maintained for emergency service access, as there are alternative routes around any road closures and the removable bollards at road closures would also allow for emergency access
    - Ensure that the streetscape does not impact on the ability for emergency services to operate safely.

5.2.3 Summary of observations and findings

It is observed that some of the EATF1 measures in Snow Hill and Newtown have not been implemented properly, such as the bus gate and advanced signing on St Chads Queensway and the destination signing at Lancaster Circus, or are being ignored by drivers, such as the road closure on Lower Loveday Street and the turn into Brearley Street.

The various A-frame temporary signs often block the footway with excessive sign clutter.

Therefore, it is recommended that in order to improve the schemes if they are made more permanent as part of Tranche 2 the following are considered:

- The various temporary signs on A-frames are reviewed to ensure they are correct and comprehensive, and then made permanent on either new poles at the back of the footway or incorporated into other existing poles where possible.
- A permanent traffic island is constructed at the northern end of the bus gate at Colmore Circus Queensway, to accommodate the regulatory sign associated with the bus gate.
- It is recommended that the islands widths on St Chads Queensway be increased to assist in the promotion of the bus gate. The A.D.S and tourist destination signing in the area should be corrected accordingly.
- Bollards should be positioned across each end of Lower Loveday Street at the junction of Cleveland Street and Princip Street. The regulatory signs and advanced signing also need correcting to enforce the closure.
- The existing weight limit regulatory signs on Lower Loveday Street can be removed.
- The Newtown Road / Cecil Street junction is realigned to only allow vehicles to turn left out of Cecil Street as and provide banned left regulatory signs on New Town Row in advance of the junction.
- At the junction of Lower Tower Street, close the access from New Town Row so that the footway is continuous and at the same gradient. The route of the cycle path could be relocated if BCC deems appropriate as it is currently set to back to avoid conflict of vehicles entering Lower Tower Street.
- The junction of Brearley Street and New Town Row is reduced in width so that vehicles can only exit turning left onto New Town Row. Design the junction so that it is self-enforcing for vehicles looking to turn left into Brearley Street who are observed to be ignoring the banned left currently. As with Cecil Street, direct bollards to prevent vehicles parking on the footway or over running to gain access.

5.3 A38 Bristol Street

Road closures have been implemented preventing traffic from turning left off Bristol Street into the adjacent side roads, this is to increase cycle safety and reduce the volume of traffic on the adjacent highway network.

The Consultant drawings which have been received for review are as follows:

- 104130-PF-100-C1-DR-TR-009, showing the junctions of Bristol Street with Essex Street, Bromsgrove Street and Wrentham Street

5.3.1 Site Observations

The following site observations were captured:

- Essex Street
    - It is noted that there is a tourist information flag sign signing to the Hippodrome and the National Trust attraction “Back to Backs”. These destinations would require alternative routes to be signed,

along with any other signs upstream from the Essex Street junction to be reviewed. It is also noted that there is a sign downstream from the junction of Bristol Street signing coaches to the Hippodrome as well as “Back to Backs”.

- Bromsgrove Street
    - Drivers are observed to be ignoring the banned left turn into Bromsgrove Street
- Wrentham Street
    - Remedial works to the footpath on Renton Street may be required through the removal of the old drop crossings, so that there is a smooth surface for pedestrians.

5.3.2 Findings

- Essex Street
    - It is considered, should Essex Street be closed for entry from Horse Fair, that the junction should be redesigned with the footway continuing along Bristol Street. The 20 mph regulatory signs and the controlled zone no loading signs would no longer be required and could be removed.
    - Consideration should be given to reviewing whether Essex Street is to be closed and what affect an alternative route to the Hippodrome would have, particularly in respect to loading and buses.
    - Consideration should be given to re-signing and lining on Bristol Street from the Pagoda roundabout through to south of the Essex Street junction as the current nearside lane is a dedicated lane leading into Essex Street which is not needed if Essex Street is closed. Provide additional parking and bollards to prevent access into Essex Street.
- Bromsgrove Street
    - Consideration is given to providing a traffic island to prevent vehicles turning left into Bromsgrove Street from Bristol Street. Provide sufficient signing and bollards to warn vehicles of the restriction and to prevent inappropriate use and access. Review the existing signing of the 20 mph and control zone.
- Wrentham Street
    - Consideration is given to providing the closure of Wrentham street by extending the Bristol Street footway through to the existing cycle route. Design the closure to incorporate a build out from the adjacent galley on Bristol Street to the kerb line of Bristol Street and also to allow pedestrians and cyclists to gain access to the footpath and cycleway.
    - Review the terminal and controlled zone signs on Wrentham Street.
    - At the junction of Henstead Street and Wrentham Street, sign Wrentham Street with 'no entry' signs and provide 'left turn only' sign opposite Henstead Street.
    - Provide bollards on the existing cycle barriers to inform the vehicle users as to the hazards of striking them during the hours of darkness.
    - Consideration should be given to undertaking remedial works to the footpath on Renton Street through the removal of old drop crossings so that there is a smooth surface for pedestrians.

The formalising of the City Centre measures the A38 Bristol Street shall allow other road users in accordance with the City Council's road hierarchy to benefit:

- Cyclists
    - The road closures will allow for cyclists to still access the route, providing quieter and safer sections to cycle along.
- Pedestrians
    - The road closures create quieter and safer routes for pedestrians, and the simplified junctions mean it is easier for pedestrians to navigate crossing the side roads.
- Passengers at bus stops
    - No bus stops are affected by these changes.
- Essential loading and servicing to frontages
    - Access to all areas is maintained for loading and servicing, as there are alternative routes around any road closures.
    - Liaison is recommended to be undertaken with local businesses and residents, regard the closure of the Essex Street junction, and the potential impact of its closure.
- Emergency service routes
    - Access to all areas is maintained for emergency service access, as there are alternative routes around any road closures.
    - Ensure that the streetscape does not impact on the ability for emergency services to operate safely.

5.3.3 Summary of observations and findings

It is observed that some of the EATF1 measures on the A38 Bristol Street were being ignored, such as the closed left turn into Bromsgrove Street. It was also noted that there may be issues with tourist routing to destinations such as the Hippodrome, once they reopen after the Covid-19 lockdown, if the access from Essex Street is closed.

Therefore, it is recommended that in order to improve the schemes if they are made more permanent as part of Tranche 2 the following are considered:

- Consideration should be given to reviewing whether Essex Street is to be closed and what affect an alternative route to the Hippodrome would have
- Should Essex Street be closed for entry from Horse Fair, that the junction should be redesigned with the footway continuing along Bristol Street, and that consideration should be given to re-signing and lining on Bristol Street from the Pagoda roundabout.
- A traffic island should be provided to prevent vehicles turning left into Bromsgrove Street from Bristol Street, with sufficient signing and bollards to warn vehicles of the restriction and to prevent inappropriate use.
- Close Wrentham Street by extending the Bristol Street footway through to the existing cycle route.
- Review the signage at Wrentham Street, including:
    - The terminal and controlled zone signs.
    - Provide 'no entry' signs and 'left turn only' sign at the Henstead Street junction

- Provide bollards on the existing cycle barriers to inform the vehicle users as to the hazards of striking them during the hours of darkness.
- Consideration should be given to undertaking remedial works to the footpath on Renton Street through the removal of old drop crossings so that there is a smooth surface for pedestrians.

6. Pop-up cycle facilities

Jacobs have undertaken a technical review to identify safety issues and to determine if further measures are needed for the schemes to comply with recently released guidance (including Cycle Infrastructure Design LTN 1/20). The review also investigates any other desirable improvements which would make the schemes more convenient, such as increasing segregation between pedestrians and cyclists and removing locations where cyclists may have to dismount at crossing points.

The following sites have been considered in connection with the existing provision of pop-up cycle lanes, their effectiveness and proposals to improve the facilities on a more permanent basis:

1. City Centre to Small Heath (A45 Corridor)
2. Selly Oak to Northfield (A38 Corridor)
3. City Centre to Fort Dunlop (A47 Corridor)
4. City Centre to City Hospital via Jewellery Quarter
5. Bradford Street Cycle Lanes
6. A38 to A34 City Centre Connection

It is recommended for all pop-up cycle facilities that data collection is undertaken to determine the cycle lane usage and the impact on overall traffic flows throughout each scheme. The data should also be collected at each of the main junctions on the routes to understand the base situation and how possible cycle improvement may impact on the performance using traffic modelling.

6.1 City Centre to Small Heath (A45 Corridor)

The Consultant drawings which have been received for review are as follows:

- 419867-MMD-C04-XX-DR-D-0101 to 0107

6.1.1 Site Observations

The following site observations were captured and referred to on the plans in Appendix D:

- Low usage during site visit, although it should be noted that this was during the middle of the day.
- Maintenance required throughout the scheme to remove build-up of leaves and debris within the cycle lane.
- Signalised crossings within the scheme do not cater for cyclists (requiring cyclists to dismount) resulting in non-continuous provision and cyclist frustration.
- The contraflow cycle provision on Bedford Road is obscured by the presence of loading bays outside the business premises along the rail arches.
- Temporary surfacing has been provided along the desire line however this surface has been laid on uneven verge and during wet conditions the plastic surfacing becomes wet and muddy.
- Temporary footway widening has been proposed under the rail bridge; however, this widening has not been installed.
- The location of the 20 / 30 speed limit terminals at the Bolton Road / Small Heath Bridge junction results in a higher speed limit at the junction.
- It was observed that the no entry between Small Heath Bridge and Vann Close is being abused by motorists.

- It was observed that the section of shared use footway / cycleway between Bolton Road and Poets Corner measures 2.5m in width, however, this section is bound by fencing on each side which poses a safety concern for cyclists catching their handlebars.

- It was observed that the existing build out has been retained on Byron Road which required cyclists to ride with vehicles for a short section.

- It was observed that the section of cycle lane on Byron Road straddles the existing dropped kerb which provides a level difference for cyclists riding eastbound, as a result there is insufficient usable width for cyclist to ride comfortably.

- It was noted on Tennyson Avenue that the Shared Footway / Cycleway running parallel to on street parking, there is a risk that parked cars may open their doors into the path of cyclists. Furthermore, the dropped kerb to allow cyclists to leave the carriageway was blocked by a parked vehicle when visited.

- It was observed that the cycle route is currently affected by the ongoing works at Heybarnes Circus.

6.1.2 Findings

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route:

- Cyclists,
    - Off-peak daytime site visit observed limited cycle usage, it is recommended that monitoring is undertaken to observe usage.
- Pedestrians,
    - Limited pedestrian usage observed during off-peak daytime site visit, however there is sufficient adjacent pedestrian footway provision.
- Passengers at bus stops,
    - Limited interaction with bus stops, however there are locations on Coventry Road where there is potential for conflict between bus passengers and cyclists, however these sections of shared footway / cycleway have been highlighted with shared use space signing and corduroy tactile paving.
- Essential loading and servicing to frontages,
    - Limited impact on frontages.
- Emergency service routes,
    - Little to no impact on Emergency services.

6.2 Summary of observations and findings

It is observed that the EATF1 measures offer a good level of provision for cyclists, there were observed issues as outlined in section 6.1.1, therefore it is recommended that the following is implemented in order to improve the schemes if they are made more permanent as part of Tranche 2:, (also refer to the plans in Appendix D):

- Upgrade signals throughout the scheme to allow cycle only stages or toucan crossings to remove the requirement for cyclists to frequently dismount.

- A programme of maintenance is required to frequently remove built up leaves and debris.

- Consider an alternative provision on Bedford Street to maintain safe cycle provisions in both directions.
- Replace the temporary surfacing with full depth footway construction.
- Implement the proposed widening under the railway bridge to provide sufficient width for shared footway / cycleway.
- Relocate the 20mph speed limit terminals onto Small Heath Bridge and Jenkins Street to reduce the speed limit through the junction. It is recommended that the 20mph speed limits are introduced at the existing 30mph limit extents on each road to provide consistency with other local roads and reduce vehicle approach speeds to the junction.
- It is recommended that the kerb radii of the junction of Bolton Road and Vann Close is tightened to help self-enforce the no entry.
- It is recommended that one of the fences is removed along the shared footway / cycleway between Bolton Road and Poets Corner, to reduce the risk of cyclist's handlebars colliding with the fence.
- It is recommended that the build out on Byron Road is removed to provide a consistent cycle provision along Byron Road.
- It is recommended that the cycle lane is constructed to provide a level surface for cyclists.
- It is recommended that consideration be given to providing a cycle route through Small Heath Park to remove the conflict between cyclists and parked vehicles opening doors into the shared footway / cycleway on Tennyson Avenue. Furthermore, a no waiting at any time restriction should be provided at the dropped kerb at the southern extents of Tennyson Avenue to ensure that cyclists are able to leave the carriageway at a same location.
- It is recommended that consideration be given to rerouting the cycle provision around the northern side of Heybarnes Circus, if possible, providing a shared footway / cycleway.

6.3 Selly Oak to Northfield (A38 Corridor)

The Consultant drawings which have been received for review are as follows:

- 419867-MMD-C02-XX-DR-D-0101 to 0114

6.3.1 Site Observations

The following site observations were captured and referred to on the plans in Appendix D:

- It was observed that the cycle provision ends abruptly after the A38 Bristol Street junction with Grange Road, where cyclists continuing along the A38 must negotiate parked vehicle upon leaving the cycle facility.
- It was observed that there is a lack of route signing to inform cyclists of the most appropriate route for them to take when reaching decision points along the route.
- It was noted that buses and larger vehicles turning right from Dawlish Road straddle the oncoming eastbound traffic lane on Bristol Street.
- It was noted that during wet or icy conditions the blue surface treatment across the junctions becomes slippery, furthermore, there is an inconstancy throughout the route in that some junctions have blue surface treatment and others do not.

- Potholes were observed within the cycle lane between Heeley Road and Hubert Road
- It is unclear how cyclists travelling south-westbound are to cross the carriageway near Heeley Road to join the south-westbound cycle lane.
- It was noted that there is no Advanced Stop line for cyclists leaving the train station, it is recognised that there is likely a demand for cyclists using the rail network.
- It was noted that the arrow marking proposed as part of the original plans has not been installed at the end of the cycle lane on the south-westbound approach to The Dingle.
- It was observed that the shared footway / cycleway is only 2.0m wide on the south-westbound approach to The Dingle.
- It was noted that the access from the shared footway / cycleway to the south-west of Langleys Road to the bus. taxi and cycle lane are blocked by temporary barriers.
- It was noted that the bus, taxi and cycle lane has not been installed across Weoley Park Road as per the proposals.
- It was noted that there are leaves and debris covering the cycle ramps to the signalised crossing adjacent to Cob Lane.
- It was observed that the section of shared footway / cycleway to the rear of the bus stop near Maryland Drive has a width of 1.9m which is insufficient for a shared footway / cycleway. Furthermore, the shared footway / cycleway has not been signed at its south-western extents.

6.3.2 Findings

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route:

- Cyclists,
    - Off-peak daytime site visit observed limited cycle usage, it is recommended that monitoring is undertaken to observe usage.
- Pedestrians,
    - Limited pedestrian usage observed during off-peak daytime site visit, however there is sufficient adjacent pedestrian footway provision.
- Passengers at bus stops,
    - Limited interaction with bus stops, however there are locations where there is potential for conflict between bus passengers and cyclists, however these sections of shared footway / cycleway have been highlighted with shared use space signing and corduroy tactile paving, except for the location specifically highlighted in section 6.3.1.
- Essential loading and servicing to frontages,
    - Limited impact on frontages.
- Emergency service routes,
    - Little to no impact on Emergency services.

6.4 Summary of observations and findings

It is observed that the EATF1 measures offer a good level of provision for cyclists, there were observed issues as outlined in section 6.3.1, therefore it is recommended that the following is implemented in order to improve the schemes if they are made more permanent as part of Tranche 2, (also refer to the plans in Appendix D):

- A programme of maintenance is required to frequently remove built up leaves and debris.
- It is recommended that cyclists are advised of the end of route and the intended direction to join a continuation route at the end of the cycle provision via cycle direction signing.
- A vehicle tracking assessment should be undertake on the right turn out of Dawlish Road to ensure large vehicles can make the manoeuvre and if necessary, amend the cycle lane layout to ensure vehicles do not need to straddle the centreline of the A38 Bristol Street.
- It is recommended that the blue carriageway surfacing is replaced with a material that offers a greater level of friction especially in wet or icy conditions.
- It is recommended that potholes within the cycle provision are repaired.
- It is recommended that a crossing point is provided to the north-eastern side of Heeley Road to allow south-westbound cyclists riding in the shared footway / cycleway to cross over and join the segregated-on carriageway cycle lane.
- It is recommended that an Advanced Stop Line is provided for cyclists exiting the Selly oak Rail Station.
- It is recommended that the proposed arrow marking is provided at the end of the on-carriageway cycle provision. Furthermore, it would be of greater safety to cyclists if they were to cross to the opposite side of the carriageway to utilise the cycle facilities installed as part of the Selly oak Triangle redevelopment.
- It is recommended that all accesses to cycle facilities are opened to ensure ease of access to the cycle lane for users.
- It is recommended that a cycle lane is provided through the Weoley Park junction to ensure cyclists are protected from turning vehicles.
- Consideration should be given to widening the shared footway / cycleway to the rear of the bus stop near Maryland Drive to allow sufficient width for pedestrians and cyclists to use safely.

6.5 City Centre to Fort Dunlop (A47 Corridor)

The Consultant drawings which have been received for review are as follows:

- 419867-MMD-C03-XX-DR-D-0101 to 0107

6.5.1 Site Observations

The following site observations were captured and referred to on the plans in Appendix D:

- Signalised crossings within the scheme do not cater for cyclists (requiring cyclists to dismount) resulting in non-continuous provision and cyclist frustration.
- It was noted that the road markings installed at the start of the two way on segregated on carriageway cycle lane near the Junction of Jennens Road and the B4114 are not in accordance with the proposals and as such provide a misleading layout for cyclists.

- The built-out kerbs at the bus stop to the back of the Birmingham Ormiston Academy do not have any vertical features to advise motorists of the presence of the kerb line.
- It was noted that the zig-zag markings for the signalised crossing south-west of Howe Street are faded and require refurbishment.
- The “Stop Pedestrian Crossing” sign for cyclists approaching the signalised crossing south-west of Howe Street has not been installed.
- It was noted that cyclist dismount signs have not been installed at the crossing point north-east of Howe Street.
- It was observed that the cycle markings across the junction at Cardigan Street have not been installed for south-westbound cyclists.
- Maintenance required throughout the scheme to remove build-up of leaves and debris within the cycle lane.
- It was observed that the lane widths on the A47 Nechells Parkway are uneven with the nearside outbound lane narrower than the outside city bound lane.
- It was noted that there are large potholes within the cycle provision on the A47 Nechells Parkway between Rupert Street and Bloomsbury Street.
- It was observed that bus drivers have difficulty pulling into the bus boarding point at the bus stop north of Rupert Street, this results in buses leaving a gap between the bus and the boarding point due to the limited taper lengths on the bus cage marking.
- Temporary surfacing has been provided to allow cyclists to join the shared footway / cycleway upon leaving the on-carriageway facility, however this surface has been laid on uneven verge and during wet conditions the plastic surfacing becomes wet and muddy.

6.5.2 Findings

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route:

- Cyclists,
    - Off-peak daytime site visit observed limited cycle usage, it is recommended that monitoring is undertaken to observe usage.
- Pedestrians,
    - Limited pedestrian usage observed during off-peak daytime site visit; however, it was observed that some pedestrians were using the cycle lane to walk in both directions.
- Passengers at bus stops,
    - Limited interaction with bus stops, however there are locations on the A47 where the built-out bus stop locations do not allow the bus to pull up to the boarding point leaving a gap between the bus and the boarding point which may pose an issue to visually and mobility impair bus users boarding or alighting the bus at these stops.
- Essential loading and servicing to frontages,
    - Limited impact on frontages.

- Emergency service routes,
    - Little to no impact on Emergency services.

6.6 Summary of observations and findings

It is observed that the EATF1 measures offer a good level of provision for cyclists, there were observed issues as outlined in section 6.5.1, therefore it is recommended that the following is implemented in order to improve the schemes if they are made more permanent as part of Tranche 2, (also refer to the plans in Appendix D):

- Upgrade signals throughout the scheme to allow cycle only stages or toucan crossings to remove the requirement for cyclists to frequently dismount.
- A programme of maintenance is required to frequently remove built up leaves and debris.
- Install markings in accordance with the original proposals at the start of the cycle lane near the junction of Jennens Road and the B4114.
- Consideration should be given to providing built out bus stops that have sufficient taper to allow the busses to pull up to the boarding point, with the provision of vertical measures to highlight the built-out kerb to drivers.
- Refurbish the zig zag marks are the rear of the Birmingham Ormiston Academy.
- Consideration should be given to providing a cycle signal head to hold cyclists at a red signal when the pedestrian stage of the signals is active at all pedestrian crossing points throughout the scheme, replacing the need for the “Stop Pedestrian Crossing” signs.
- Provide cyclists dismount signs at the crossing point north-east of Howe Street.
- Consideration should be given to upgrading the signalised junction on Cardigan Street to allow cyclists to continue through the junction or upgrade the crossing to a toucan crossing to allow continuous provision for cyclists.
- It is recommended that cycle markings are provided across the junction of Cardigan Street.
- Consideration should be given to re-installing the cycle marking on the A47 Nechells Parkway to provide equal cycle lane widths,
- Consideration should be given to providing a cycle only stage of the signals at the Rupert Street Junction to allow cyclists to continue through the junction without having to negotiate crossings and remove any conflict with turning vehicles, this stage could run parallel with the ahead only stage for vehicles travelling southbound on the A47.
- It is recommended that potholes within the cycle provision are repaired.
- Replace the temporary surfacing with full depth footway construction.

6.7 City Centre to City Hospital via Jewellery Quarter

The Consultant drawings which have been received for review are as follows:

- 419867-MMD-C04-XX-DR-D-0101 to 0107

6.7.1 Site Observations

The following site observations were captured and referred to on the plans in Appendix D:

- It was of observed that the proposal to provide reflective banding on the concrete bollards on the corner of Clissold Street and Clissold Passage has not been undertaken, furthermore the bollards have been struck and damaged which could allow vehicular access to the shared footway / cycleway adjacent to the canal.
- It was noted that the road marking and marker wands on Clissold Street opposite the junction of Capstone Avenue have not been installed in accordance with the drawings, it is unclear how cyclists turning left out of Capstone Avenue are intended to join the route.
- Maintenance required throughout the scheme to remove build-up of leaves and debris within the cycle lane.
- It was noted that during wet or icy conditions the blue surface treatment across the junctions becomes slippery, furthermore, there is an inconstancy throughout the route in that some junctions have blue surface treatment and others do not.
- It was noted that the marker wands have been removed in some locations along the route (particularly Carver Street and Legge Lane) which allows construction vehicles to park within the cycle lane causing an obstruction.
- It was noted that vehicles travelling along Carver Street have to cross into the cycle lane to negotiate parked vehicles at the southern extent of Carver Street.
- It was noted that there is significant surface cracking in the cycle lane between the junction of George Street and Vittoria Street which make riding uncomfortable for cyclists.
- It was noted that the cycle lane starts suddenly on the bend from Newhall Street into Graham Street, as such cyclists may not know to enter the cycle lane and motorists may not be aware of the presence of the cycle lane.

6.7.2 Findings

It was noted that the measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow. The measures were easily understood by cyclists and pedestrians. There was evidence of some measures being tampered with causing gaps in the segregation that are being used by construction vehicles to park.

The formalising of some of the elements of the pop-up cycle lane shall ensure enforcement of traffic regulations and improve provision for cyclists along the route:

- Cyclists,
    - Off-peak daytime site visit observed limited cycle usage, it is recommended that monitoring is undertaken to observe usage.
- Pedestrians,
    - Limited pedestrian usage observed during off-peak daytime site visit, however there is sufficient adjacent pedestrian footway provision.
- Passengers at bus stops,
    - Limited interaction with bus stops,
- Essential loading and servicing to frontages,
    - Limited impact on frontages.
- Emergency service routes,
    - Little to no impact on Emergency services.

6.8 Summary of observations and findings

It is observed that the EATF1 measures offer a good level of provision for cyclists, there were observed issues as outlined in section 6.7.1, therefore it is recommended that the following is implemented in order to improve the schemes if they are made more permanent as part of Tranche 2, (also refer to the plans in Appendix D):

- A programme of maintenance is required to frequently remove built up leaves and debris.
- Upgrade signals throughout the scheme to allow cycle only stages or toucan crossings to remove the requirement for cyclists to frequently dismount.
- It is recommended that the damage bollards are replaced and reflectorised to prevent vehicular access to the shared footway / cycleway.
- It is recommended that the cycle lane markings are replaced to replicate the layout originally proposed to allow cyclists to turn left out of Capstone Avenue onto Clissold Street.
- Consideration should be given to extending the northbound cycle lane on Hingeston Street to the junction with Knightstone Avenue by commencing the central hatch markings further north on Hingeston Street, allowing for segregation of cyclists and vehicles until the point that cyclists leave Hingeston Street.
- At the junction of the A4540 Ickneild Street / Hingston Street, consideration should be given to providing a cycle only stage within the signals to allow cyclists to cross the junction while it is clear of other vehicles, this would provide a continuous safe cycle route that would accommodation the less confidence cyclists as the crossing distance is wide.
- It is recommended that the blue carriageway surfacing is replaced with a material that offers a greater level of friction especially in wet or icy conditions.
- It is recommended that a more rigid method of segregation is installed along the cycle lanes on Legge Lane and Carver Street to prevent the segregation method from being removed to allow construction vehicles access to park within the cycle lane.
- It is recommended that the parking bays at the south-eastern extent of Carver Street are removed to allow vehicles to approach the junction without needing to straddle the cycle lane.
- It is recommended that the cycle lane is resurfaced on Graham Street to provide a comfortable surface for users.
- It is recommended that cycle signing is provided at the start of the cycle facility to advise users, furthermore, it may be of benefit to advise motorists of the presence of cyclists using warning signing on Newhall Street.

6.9 Bradford Street Cycle Lanes

The Consultant drawings which have been received for review are as follows:

- 104130-PF-1200-3B-DR-TR-000b
- 104130-PF-1200-3B-DR-TR-001b
- 104130-PF-1200-3B-DR-TR-002b

6.9.1 Site Observations

The following site observations were captured and referred to on the plans in Appendix D:

- Low usage during site visit, although it should be noted that this was during the middle of the day.
- It was observed that throughout the scheme there are areas with a build-up of leaves and debris within the cycle lane. Also, potholes and poorly maintained surfaces were observed that could increase the likelihood of collision or falls.
- It was noticed that there are some locations where stick on tactile paving have come loose or broken which could increase the likelihood of collision or falls.
- The width of the shared pedestrian/cycleway is narrow on the south side of the B4100/Moat Lane central island creating conflict between faster moving cyclist and pedestrians. Consideration should be given to provide a separate provision on the carriageway at this location. Alternatively, improve directional signage to direct cyclist from Bradford Street to the north of the central island where there are wider footways and there is lower footfall.
- On Bradford Street near to the junction with Moat Lane, there is a temporary footway installed that has a steep gradient and an uneven surface finish which makes it uncomfortable to cycle along and could increase likelihood of falls from a bike.
- It is unclear where cyclists are to go once reaching the northern extents of Bradford Street, cycle direction signing should be provided to guide users through the most appropriate route.
- Outside 328 Bradford Road there is an existing parking bay being used by businesses as commercial space with vehicles parking to the rear of the parking bay on the hatched marking, partly blocking the cycle facility.
- Signalised junctions within the scheme do not cater for cyclists (requiring cyclists to dismount or mount the footway) resulting in non-continuous provision and cyclist frustration.
- At the junction of Rea Street/ Bradford Street there is a build-out that may not be particularly visible during the hours of darkness and vehicle may strike the ramp.
- The two-way cycle track on the south side of Bradford Street complies with the absolute minimum width 2m, the city bound cycle lane is 800mm which may increase the risk that cyclist straddle the oncoming lane, the lanes should be of equal width.
- The boarding point for buses were observed to be narrow, as such pedestrians may wait in the cycle lane, amendments to layout to accommodate the bus provision is required.
- At bus stops, the gradient of the ramp for the crossing to the bus boarding point is steep, which makes it uncomfortable ride for cyclist. There is also ponding which required drainage provision.
- There is evidence of ponding and debris at the built-out kerb lines, drainage provision is required at these locations.
- At the end of the route, it is unclear which flow is supposed to give way to who at the ramped section, it is advised that the eastbound flow should give way to the westbound flow.

6.9.2 Findings

The measures which have been implemented, generally provided a safe environment for cyclists to ride whilst also allowing the traffic to flow, the scheme could benefit from continuous cycle connection through the signalisation junctions using a separate stage, but this would need to be assessed for performance using modelling. The measures were easily understood by cyclists, pedestrians, and motorists and had not been damaged or moved, by malicious intent or by accident.

The formalising of some of the elements with consideration of minor alterations to the route and some additional protection shall ensure enforcement of traffic regulations and improve provision for cyclists along the route:

- Cyclists,
    - Off-peak daytime site visit observed limited cycle usage, it is recommended that monitoring is undertaken to observe usage.
- Pedestrians,
    - Limited pedestrian usage observed during off-peak daytime site visit, however there is sufficient adjacent pedestrian footway provision.
- Passengers at bus stops,
    - Limited interaction with bus stops, however there are locations on where there is potential for conflict between bus passengers and cyclists, due to narrow boarding points.
- Essential loading and servicing to frontages,
    - Limited impact on frontages.
- Emergency service routes,
    - Little to no impact on Emergency services.

6.10 Summary of observations and findings

It is observed that the EATF1 measures were a good level of provision for cyclists, there were observed issues as outlined in section 6.9.1, therefore it is recommended that the following is implemented in order to improve the schemes if they are made more permanent as part of Tranche 2, (also refer to the plans in Appendix D):

- A programme of maintenance is required to frequently remove built up leaves and debris.
- A programme is required to inspect the route on a frequent basis in order to identify damaged surfaces, potholes and sunken manhole covers to ensure repairs are made on a routinely to minimise the likelihood of collisions or falls.
- Consider possible amendments to the cycle route to avoid high footfall and narrow width of the shared pedestrian/cycleway on the south side of the B4100/Moat Lane central island. A possible alternative could be given to improve directional signage to direct cyclist from Bradford Street to the north of the central island where there are wider footways and there is lower footfall.
- It is recommended that the on Bradford Street near Moat Street that the temporary footway that has been installed that has a steep gradient and an uneven surface finish is replaced by a permanent hardstanding facility.
- Upgrade signals throughout the scheme to allow cycle only stages or toucan crossings to remove the requirement for cyclists to frequently dismount.
- At locations where there is evidence of ponding and debris at the built-out kerb lines, drainage provision is required.
- Reprofile the ramps at the bus stops to make shallower to minimise the discomfort to cyclists.
- To reduce the likelihood of bus passengers from waiting in the cycle track consider increasing the width of the bus boarder.
- The build-out at Rea Street/ Bradford that may not be particularly visible during the hours of darkness and vehicle may strike the ramp needs to be amended to make more visible.

- The two-way cycle track on the south side of Bradford Street has not been installed to provide best use of space, the overall width is 2m width, with the city bound cycle lane is 800mm, the lanes should be of equal width.

6.11 A38 to A34 City Centre Connection

The Consultant drawings which have been received for review are as follows:

- 104130-PF-100-C1-DR-TR-101 to 104

6.11.1 Site Observations

The following site observations were captured and referred to on the plans in Appendix D:

- Low usage during site visit, although it should be noted that this was during the middle of the day.
- Limited space between parking bays and marked cycle lanes on Smallbrook Queensway.
- Cycle lane on Smallbrook Queensway proposed 1.5m on scheme drawing, however measured 1.15m on site, below minimum standards.
- The shared cycle provision with buses on St Martins Queensway provides low protection and therefore may discourage use by less confident cyclist.
- At the Junction of St Martins Queenway/ Moor Street buses turning right could pinch cyclist against the kerb line.
- It was noticed that cyclist are required to mount the kerb during HS2 works currently being undertaken, there should be consideration for an interim solution provided through the junction of Moor Street Queensway and Carrs Lane.
- There is a steep gradient on Albert Street makes it difficult for less able cyclists to continue riding, consideration to provide a direct route should be given, this could follow the route along Moor Street Queensway to join James Watt Queensway more directly.
- Albert Street was congested during the day and there was limited space for cyclists to navigate past queuing cars / buses, this is intimidating to the less abled rider.
- It was noted that the steep gradient of Dale End may be prohibitive for less able cyclists, consideration should be given to extending the route along Moor Street Queensway to join James Watt Queensway more directly.
- There is limited cycle signing to identify the route for cyclists to use, this is especially noticeable at each end of the scheme.

6.11.2 Findings

The measures which have been implemented, provide less protection than the other routes and may discourage less abled riders from travelling this route. Whilst the measures are easily understood by cyclists, pedestrians, and motorists some additional signage near the end of the route could be beneficial to cyclists.

The formalising of some of the elements and some additional protection shall ensure enforcement of traffic regulations and improve provision for cyclists along the route:

- Cyclists,

- Off-peak daytime site visit observed limited cycle usage, it is recommended that monitoring is undertaken to observe usage.

- Pedestrians,
  - Limited pedestrian usage observed during off-peak daytime site visit, however there is sufficient adjacent pedestrian footway provision.
- Passengers at bus stops,
  - Limited interaction with bus stops, all facilities provided on carriageway
- Essential loading and servicing to frontages,
  - Limited impact on frontages.
- Emergency service routes,
  - Little to no impact on Emergency services.

6.12 Summary of observations and findings

It is observed that the EATF1 measures were a good level of provision for cyclists, there were observed issues as outlined in section 6.11.1, therefore it is recommended that the following is implemented in order to improve the schemes if they are made more permanent as part of Tranche 2, (also refer to the plans in Appendix D):

- Provide additional width to cycle lane on Smallbrook Queensway to meet minimum standards, alternatively consider the provision of a protected route which may require relocation of taxi bays or hardstanding between taxi bay and cycle lane.
- A programme of maintenance is required to frequently remove built up leaves and debris.
- Consider an alternative provision on St Martins Queensway possibly by providing a marked cycle lane to allow protection to cyclists and a level of perceived safety for less confident users.
- Introduce a short section of cycle only lane at the junction of St Martins Queensway/ Moor Street to provide protection to cycles which may be impeded by buses turning at the junction.
- During HS2 works currently being undertaken consider an interim solution through the junction of Moor Street Queensway and Carrs Lane, there is a wide footway which could accommodate off carriageway cycle facilities; however, the bus stops along this route are well utilised so any solution would have to consider interaction with bus passengers.
- The current cycle route via Albert Street is not direct and requires cyclists to negotiate steep gradients and congestion. Consideration to provide a direct route should be given, this could follow the route along Moor Street Queensway to join James Watt Queensway more directly.
- There is limited cycle signing to identify the route for cyclists to use, this is especially noticeable at each end of the scheme.

Appendix A. Social-distancing measures in local centres

Insert Drawings for the above here CM - DM

Appendix B. Local Road Closures (LTN's and Places for People)

Insert Drawings for the above here

CM - DM

Appendix C. City Centre Traffic Cells

Insert Drawings for the above here CM - DM

Appendix D. Pop-up cycle facilities

Insert Drawings for the above here DB - PN