





## ***Appendix C – Detailed Analysis of Off-Route Alternatives***

### ***Documentation of Site Visits on 25<sup>th</sup> and 26<sup>th</sup> March 2009***

<b>Route Name:</b> Southern end of Roseburn Path, (NCN Route 1), east to Eglinton Crescent and west to Roseburn Park path.
<b>Date &amp; Time of Visit:</b> Wednesday 25 <sup>th</sup> March 2009
<b>By:</b> Andy Mayo (Local Transport Projects) and Neil Anderson (TPi)
<b>Summary of Route:</b> NCN Route 1 currently descends South on Coates Gardens, then turns L onto Haymarket Terrace before making a sharp R down Haymarket Yards (with access to Haymarket Station), using a short section of off-road route and part of Balbirnie Place before linking with a ramp to the South end of the Roseburn Path (NCN 1). Following the installation of the tram, the section on Haymarket Yards is likely to be uncomfortable for cyclists due to the narrow corridor available, and the acute angle at which the rails will cross the carriageway. . It is understood that cycling will still be permitted along Haymarket Yards but it is not considered suitable as part of the NCN. Our investigation was designed to evaluate alternatives to Haymarket Yards, using roads in the Coates Gardens area, onto Haymarket/West Coates and links onto the Roseburn Path, through to Russell Road, Russell Gardens and Roseburn Park (off-road cycle route). The route to Roseburn Terrace (from Roseburn Gardens), East onto West Coates was also investigated. Also the use of Balbirnie Place and the ramp at the northern end onto the Roseburn Path was investigated.
<b>Methodology:</b> The route was cycled. All issues were discussed on site, photographed and then discussed further during a follow-up meeting.


Map Ref	Location	Picture	Issues	Recommendations
1	NCN Route 1 at Haymarket Yards	No picture	The carriageway and footway widths in this area are very restricted, and Haymarket Yards is not considered suitable for the NCN Route 1	Use western end of Haymarket Terrace and West Coates for NCN Route 1 in both directions. See later for recommendations for specific routings in each direction
2	Junction of Coates Gardens with Haymarket Terrace		Left turn out of Coates Gardens followed by right turn into Haymarket Yards would be difficult for cyclists with the proposed new layout due to the angle of the tram tracks and the narrowness of the available corridor. Magdala Crescent runs parallel to Coates Gardens approximately 110m to the west and would form a useful alternative as it is relatively wide with an asphalt surface (rather than the cobbles on Coates Gardens). (See NCN 1 Central Section for details).	Divert NCN Route 1 from Coates Gardens to use Eglington Crescent and Magdala Crescent instead. It was noted that Magdala Gardens is currently one way northbound, though this appears to be a temporary arrangement as part of the tram works. It also has a temporary 20mph speed limit in place. It is recommended that this limit is retained as a permanent feature to help provide an enhanced environment for cycling.
3	Haymarket Terrace in vicinity of Coates Gardens		Loading and parking and the narrow bus / cycle lanes make cycling on the section of Haymarket Terrace east of Magdala Crescent uncomfortable. Bus lane in operation Mon-Fri 7.30-9.30am and 4.00-6.30pm.	Divert NCN Route 1 onto Magdala Crescent (see above)



Map Ref	Location	Picture	Issues	Recommendations
4	West Coates between Magdala Crescent and Balbirnie Place		<p>This section has bus / cycle lanes along the full length which were well parked up at the time of the site visit. However they appear to be of adequate width to enable cycling to still take place wholly within the bus lane even when cars are parked, with some protection from passing traffic afforded by the bus lane marking.</p> <p>Approximately 1.5m of green coloured bus lane is generally available and parking turnover does not appear to be high, meaning conflict with parked vehicles and vehicle doors opening is unlikely to be an issue.</p> <p>There are a number of carriageway surface defects along West Coates which could constitute a hazard for cyclists. These include sunken gullies / service covers and spalling / surface failure. It was noted that some remedial surfacing works has been carried out recently.</p>	<p>Divert NCN Route 1 onto West Coates / Magdala Crescent (see above)</p> <p>Carry out remedial works to carriageway surface and service covers to provide smooth running surface for cyclists.</p>
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Map Ref	Location	Picture	Issues	Recommendations
5	Access to NCN route 1 via West Coates and Balbirnie Place and ramp		<p>Options to access NCN Route 1 from West Coates were examined in both directions. The right turn off West Coates into Wester Coates Road or Wester Coates Terrace is not good for cyclists so this option was discounted. It is, however, a useful route in the eastbound direction.</p> <p>Travelling along West Coates in a westbound direction, the preferred option to access the Roseburn Path NCN route is to turn left onto Balbirnie Place then use the ramp up to the path.</p>	<p>Amend NCN route signing westbound to indicate West Coates / Balbirnie Place up to NCN Route 1. It was noted that there is a profusion of NCN temporary signing in the area at present and the old signing, including temporary stickers, should be removed as part of the signing amendments.</p>




Map Ref	Location	Picture	Issues	Recommendations
6	Access from NCN 1 (Roseburn Path) via Wester Coates Ave, Wester Coates Road and L onto West Coates		These streets form a lightly trafficked and direct route for cyclists travelling from the Roseburn Path eastbound to West Coates.	The route eastbound should be clearly signed, with destination. Signage throughout route should be checked for consistency in both directions.



Map Ref	Location	Picture	Issues	Recommendations
7	Access from NCN 1 (Roseburn Path) into Roseburn Park and from Balbirnie Place into Roseburn Park	 <p>The 'Picture' column contains four photographs. The top photo shows a paved path (Roseburn Path) running alongside a road, with a stone wall and trees in the background. The second photo shows a junction where a path crosses a road, with a silver car parked on the left. The third photo shows a path leading through a garden area with hedges and a fence. The bottom photo shows a street scene with a car parked on the right and buildings in the background.</p>	<p>Ramp at southern end of Roseburn Path gives access to Russell Road and Balbirnie Place (and also to current NCN 1 from Haymarket Yards). There is a wide footway on Russell Road that would be suited to conversion to segregated cycle track / footway. Past the Post Office depot, a small cut-through gives access to Russell Gardens. Not clear if this is adopted highway, though lighting columns were noted. Needs drop kerb at junction between cut-through and Russell Gardens.</p> <p>Route from Russell Gardens onto Roseburn Place (for access to Roseburn Park) could be via shared-use path on E side of Roseburn Street, with crossing enabled using existing refuge</p>	<p>Investigate status of cut-through from Russell Road to Russell Gardens, and ensure cyclists can use it legally. Provide flush kerb at Russell Gardens end of cut-through from Russell Road. Provide clear signage of route between southern end of Roseburn Path and the north eastern end of the Roseburn Park cycle track.</p> <p>Detailed design of a shared-use path on Roseburn Street (East side) is required. The footway is approximately 7m wide, but there is an 'end-on' parking bay over part of the length. It may be possible to reduce the width of the parking bay slightly in order to provide a 4m wide segregated cycle track / footway, linking Russell Gardens with Roseburn Place, utilising the central refuge island near Roseburn Place in order to provide a safe crossing of Roseburn Street.</p>



Map Ref	Location	Picture	Issues	Recommendations
8	Access to Haymarket Station from NCN Route 1	No Picture.	The diverted NCN route would no longer pass Haymarket Station. Vehicles will be prohibited from making a right turn from Haymarket to Haymarket Station.	A spur to Haymarket Station from the southern end of Magdala Crescent will be required, for NCN Route 1. This will need to run along Haymarket Terrace. An ASL will be required on the eastbound approach to the Haymarket Yards signal junction to facilitate the right turn for cyclists, (no ASL is shown on Drawing ULE90130-02-TMG-001 Rev 3). Either a cyclists exception to the right-turn ban into Haymarket Station. Alternatively the route could use Haymarket Yard (on the tram tracks) then the new access road to the car park
9	West Coates junction with Magdala Crescent		The current temporary traffic management arrangements require cyclists wishing to continue eastbound along Haymarket Terrace to ride in the narrow single offside lane, mixing with buses and general traffic.	Review temporary lane markings and signing arrangements to allow eastbound cyclists to use the left hand lane in order to continue eastward after Magdala Crescent.
10	Donaldson's School		Redevelopment of Donaldson's School will give opportunity to provide an off-road route for NCN 1 (both directions) through the site from Magdala Crescent to Wester Coates Avenue, avoiding West Coates.	Ensure that this is built into the conditions attached to any planning application

<b>Route Name:</b> NCN 1 and NCN 75 from Haymarket to St Andrews Square
<b>Date &amp; Time of Visit:</b> Wednesday 25 <sup>th</sup> March 2009
<b>By:</b> Andy Mayo (Local Transport Projects) and Neil Anderson (TPi)
<b>Summary of Route:</b> As in previous route, NCN 1 (and NCN 75) uses Coates Gardens before turning L onto Haymarket to Haymarket Station and Haymarket Yards. Our recommendation is to use Magdela Crescent to access Haymarket, turning R onto West Coates as described in the previous route. <b>NA TO CHANGE</b>
<b>Methodology:</b> The route was cycled. All issues were discussed on site, photographed and then discussed further during a follow-up meeting.




Map Ref	Location	Picture	Issues	Recommendations
11	Magdala Crescent		<p>Magdala Crescent (unlike Coates Gardens) is not cobbled.</p> <p>Using Magdala Crescent Eastbound gives right of way over traffic on Coates Gardens</p> <p>Magdala Crescent is currently a temporary one-way street (North-bound) during the tram works. It is assumed that it will revert to 2-way on completion of this section</p> <p>Although some Magdala Crescent residents clearly ignore the one-way arrangements, it would not be safe for cyclists to do this, approaching the Magdala Crescent/Haymarket junction contra-flow</p> <p>During the time that Magdala Crescent is one-way, NCN Route 1 will need to be routed on Coates Gardens or on its current route.</p>	<p>Change NCN Routes 1/75 from Coates Gardens to Magdala Crescent and carry out suitable signing / mapping amendments.</p> <p>Check that Magdala Crescent will revert to 2-way on completion of the current phase of works</p> <p>Agree with CEC/tie the phasing of the works to determine the best timing for switching NCN Route 1 from its current route to its eventual route, possibly with an interim solution using Coates Gardens</p> <p>Ensure signage is put in place and that forthcoming route changes are signed and publicised in advance</p> <p>Ensure adequate consultation with Sustrans on all the above</p>

Map Ref	Location	Picture	Issues	Recommendations
12	Magdala Crescent to Haymarket / West Coates junction		Right turn onto West Coates no more difficult than that for Coates Gardens and likely to be less affected by traffic queuing back from the Haymarket Yards traffic signals.	As above – use Magdala Crescent for NCN Route 1. Place 'Beware of Cyclists' On Haymarket Terrace
13	Eglington Crescent / Glencairn Crescent		One way (temporary?)	The final layout, once the temporary traffic management is removed, should clearly sign the NCN route between Magdala Crescent and Palmerston Place.



Map Ref	Location	Picture	Issues	Recommendations
14	Eglington Crescent near junction with Palmerston Place		Uneven cobbles provide a poor running surface for cycling.	Improve surface.
15	Eglington Crescent/ Palmerston Place junction		ASLs are provided at the Eglington Crescent and Chester Street junctions with Palmerston Place, to facilitate cycle movements.	None.






Map Ref	Location	Picture	Issues	Recommendations
16	Chester Street/Manor Place priority junction (current NCN 1/75 route)		There is no specific facility to aid the right turn for cyclists from Chester Street into Manor Street and Chester Street is quite heavily trafficked, leaving cyclists exposed.	Amend route to continue south along Palmerston Place to cut-through along southern boundary of St Mary's cathedral (see below).

Map Ref	Location	Picture	Issues	Recommendations
17	Cut-through between Palmerston Place and Manor Place, (southern boundary of St Mary's Cathedral)		<p>Site observations revealed this to be already used informally by cyclists. The legal status of the path is not clear, (though it is noted that the SPOKES Cycle Map indicates a way through for cyclists). The width of the path is considered too narrow in its existing form to allow safe shared (unsegregated) use by pedestrians and cyclists.</p> <p>No drop kerb at Palmerston Place end and railings currently make cycle access difficult.</p> <p>Poor path surface in places.</p> <p>Cars exiting car park may not expect to see cyclists.</p> <p>Modelling suggests that Palmerston Place will have an increase in traffic</p>	<p>Determine legal status and amend if required in order to permit cycle use.</p> <p>Widen path to a minimum of 3m where possible.</p> <p>Install drop kerb at Palmerston Place end</p> <p>Remove railings at Palmerston Place end</p> <p>Carry out remedial surfacing works</p> <p>Place warning signs at exit from private car park</p>



Map Ref	Location	Picture	Issues	Recommendations
18	Left turn onto Manor Place, Right onto Melville St		No particular issues identified with these movements for cyclists – they are considered preferable to the existing NCN route.	Ensure the proposed route is clearly signed.
19	Melville St/Queensferry Road junction		ASL worn / unclear. The existing arrangement may form part of the temporary traffic management layout.	Ensure the junction has clear ASLs marked.

Map Ref	Location	Picture	Issues	Recommendations
20	Randolph Place and cut-through at Randolph Lane to Charlotte Sq		Randolph Place is cobbled though the running surface is considered acceptable. Cut-through needs drop kerbs in place at both ends.	Check legal status of cut-through, (it is shown as a recommended cycle route on the SPOKES Cycle Map and has NCN route signs in place).

Map Ref	Location	Picture	Issues	Recommendations
21	Charlotte Square		<p>Difficult and intimidating at present due to diverted traffic and need for lane changes (left from cut through from Randolph Place, round North end, past wide junction with Glenfinlas St, then take R lane to make signalised R turn onto South Charlotte St)</p> <p>Charlotte Square is one-way at present</p>	<p>Check proposed final layout for this area for cycle-friendliness.</p> <p>Are proposed one-way arrangements permanent?</p>
22	George Street		<p>George Street is considered suitable for continued use as NCN route, though the final layout of George Street and the turn from South Charlotte Street into George Street is not clear.</p> <p>If Princes Street is closed and buses and other traffic continue to use Princes Street, may need a new NCN 1/75 route, using Princes Street and South Charlotte Street</p>	<p>It is recommended that the 20mph speed limit currently in place along George Street is retained following completion of the tram works in order to provide a more cycle friendly environment.</p> <p>Revise NCN route if Princes Street is permanently closed to buses and other traffic.</p>


Map Ref	Location	Picture	Issues	Recommendations
23	St Andrews Square	No picture.	Right turn from George Street to South Sth Andrews Square is marked as buses only.	<p>Drawing No. ULE90130-01-TMG-00017 Rev 5 shows an ASL at the eastern end of George Street, but no right turn for cyclists (buses only) into St Andrew's Square. The Safety Audit recommends that cyclists are permitted to perform this right turn. It is recommended that cyclists are permitted to perform this turn, and that the ASL layout is amended to provide a central stub to facilitate right turns (as per the similar layout observed at Roseburn Terrace / Roseburn Street junction).</p> <p>The Traffic Regulation Order should be amended to permit cyclists to turn right and the traffic signal detection reviewed to ensure cyclists wishing to turn right will be detected adequately.</p>



<p><b>Route Names:</b> NCN 75 from York Place/Dublin St to Goldenacre Path. Alternative off-route access (avoiding Picardy Place and Leith Walk), between York Place and Bonnington / west Leith area.</p>
<p><b>Date &amp; Time of Visit:</b> Wednesday 25<sup>th</sup> March 2009</p>
<p><b>By:</b> Andy Mayo (Local Transport Projects) and Neil Anderson (TPI), accompanied by Dave de Feu and Peter Hawkins of SPOKES</p>
<p><b>Summary of Routes Investigated:</b> From Waverley Station, via Princes Street, Leith Street, Picardy Place, then down Dublin Street and Scotland Street (NCN 75) to new cycle tunnel, linking to off-road section of NCN 75. Then to explore suitable off-route alternatives to Leith Walk, linking from Dublin Street (junction with York Place), and the Leith area, via Albany Street, Broughton Street, Mansfield Place, Bellevue Place, Green Street, Hopetoun Street, Dryden Terrace, Dryden Street, across Pilrig St to Cambridge Ave, Balfour Street, through Pilrig Park, Stanwell Street, Bonnington Road, Breadalbane Street, Bangor Road, The Quilts and over bridge onto path to join off-road section of NCN 75 for access to Scottish Executive and docks area</p>
<p><b>Methodology:</b> The route was cycled. All issues were discussed on site, photographed and then discussed further during a follow-up meeting.</p>



Map Ref	Location	Picture	Issues	Recommendations
24	Southern end of Dublin Street at junction with York Place		Level difference with implementation of tram will involve steps and ramp to access North St Andrews Street.	Ensure access from Dublin Street to North St Andrew Street via ramp and new Toucan crossing is satisfactory for cyclists.

Map Ref	Location	Picture	Issues	Recommendations
25	NCN 75 Dublin Street to Scotland Street, King George Park and tunnel to off-road section	 	<p>Dublin Street / Scotland Street is considered a suitable cycle link (currently forms NCN Route 75). Cobbles were noted on the northern section.</p> <p>Clear signage to off-road NCN 75 via tunnel versus alternative on-road route (see below) towards Leith is required.</p> <p>Tunnel works almost completed on site at time of the site visit.</p>	Clear signage is required.

Map Ref	Location	Picture	Issues	Recommendations
26	Roundabout at Broughton Street/ London St junction (South bound and Northbound cyclists)		<p>It was agreed that the recommended cycle route should run from York Place, north along Dublin Street to Albany Street, then east to Broughton Street. The route should then follow Broughton Street north, straight across at the London Street Roundabout, to Bellevue Place. The roundabout is not particularly 'cycle friendly' due to wide single running lane and relatively high circulatory speeds.</p> <p>Cyclists going straight on from Mansfield Place to Broughton Street at risk from traffic turning left from Mansfield Place into East London Street.</p> <p>There is an advisory cycle route sign which appears to be redundant and could be confusing.</p>	Design a suitable road marking scheme to reduce entry / circulatory vehicle speeds and improve the north-south straight ahead movement for cyclists at the roundabout. Remove sign.




Map Ref	Location	Picture	Issues	Recommendations
27	Right turn from Broughton Street into Albany Street (South-bound cyclists)		<p>Queuing traffic on Broughton Street making right turn into Broughton Street difficult.</p> <p>Protection of cyclists making right turn into Broughton Street.</p> <p>Signage to guide cyclists away from Picardy Place.</p>	<p>Provide a 1.5m right-turn lane on Broughton Street to facilitate movements into Albany Street immediately south of the existing pedestrian refuge. The refuge will provide protection for waiting cyclists performing the right turn.</p> <p>Clear signing of route in both directions is required.</p>
28	Right turn from Dublin Street to Albany Street (North-bound cyclists)		<p>Cyclists may miss the recommended right turn</p>	<p>Clear signage, possibly using advisory lane markings on the road to guide cyclists</p>



Map Ref	Location	Picture	Issues	Recommendations
29	Mansfield Place to Bellevue Place (right turn for Northbound cyclists)		<p>Clear signage of route required.</p> <p>Road markings for the right turn and red coloured surfacing within cycle lane are badly worn.</p>	<p>Clear signage is required.</p> <p>Investigate amended road marking layout to improve conditions for right turning cyclists, to be implemented with road marking maintenance scheme.</p>



Map Ref	Location	Picture	Issues	Recommendations
30	Bellevue Place, Green Street, Hopetoun Street, to Dryden Terrace		This forms a good quiet street route for cycling, and is traffic calmed.	Good quality route signing is required.
31	Ramp down to Dryden Street		Looks like a dead end where path goes down to Dryden Street Modelling suggests that McDonald Road will become busier. Consideration may be needed for crossing facilities or traffic calming.	Signage is required at south western end of Dryden Terrace to indicate that a through route is available for cyclists. Crossing facilities or traffic calming on McDonald Road.

Map Ref	Location	Picture	Issues	Recommendations
32	Dryden Street to Pilrig Street		Poor road surface	Carry out remedial surfacing works to ensure smooth running surface for cyclists
33	Crossing Pilrig Street to Cambridge Avenue		Road closure appears to be permanent, despite the temporary nature of the barrier. Parking across end of Cambridge Avenue blocks access for cyclists	Confirm closure and consider more appropriate barrier including clear pedestrian/cycle access. Implement appropriate parking restrictions to ensure access through is kept clear of parked vehicles.
34	Pilrig Park (no alternative through routes could be found)		Good route through Pilrig Park. Is cycling permitted?	Investigate if cycling is permitted. Sign appropriately.

Map Ref	Location	Picture	Issues	Recommendations
35	Stanwell Street		Cobbled surface (though fairly even and short length).	None.
36	Breadalbane Street to Bangor Road and The Quilts		No through road sign Cobbles	Add 'Except Cycles' to the sign. Good cycle route signing is required in order to ensure route continuity through this section

Map Ref	Location	Picture	Issues	Recommendations
37	Bridge from The Quilts to West Bowling Green Street		Kerb at East end of bridge	Part of entry hump/kerb should be replaced with flush kerb

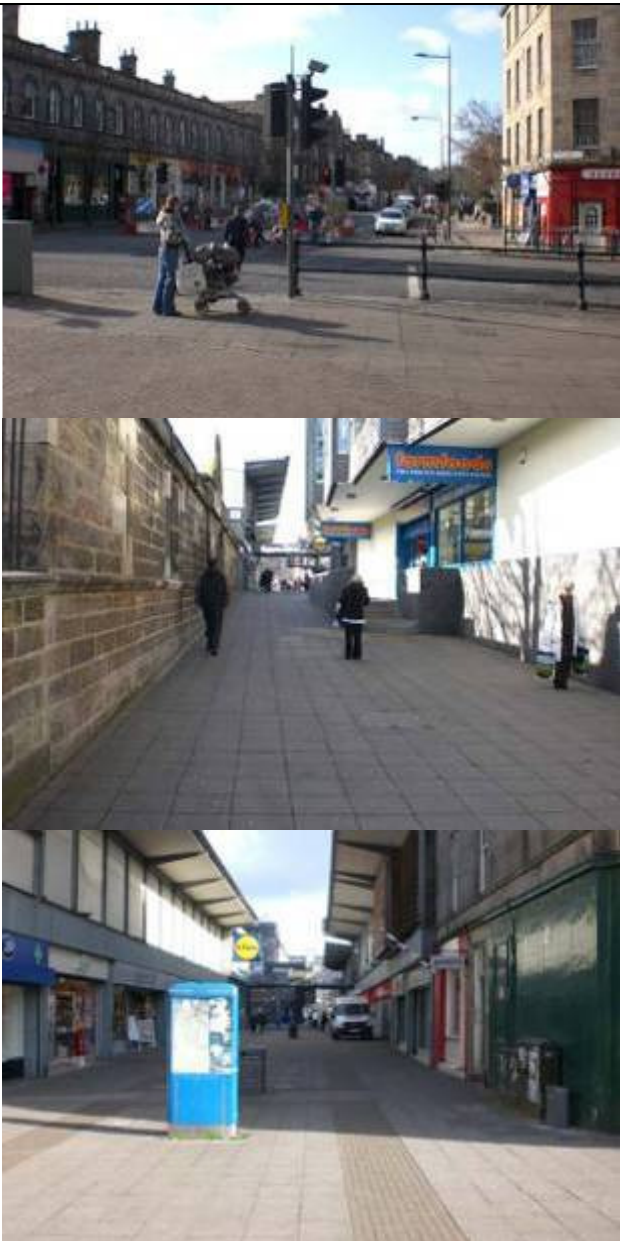



Map Ref	Location	Picture	Issues	Recommendations
38	Path from West Bowling Green Street to Warriston Path (off-road section of NCN 75) – third photo		No drop kerb to facilitate cycle access, or access for mobility impaired. Path width reduced slightly due to encroachment of adjacent vegetation, and uneven surface in places.	Provide flush kerb. Clear vegetation and mud from path and carry out minor repairs to path surface.





<b>Route Name:</b> Leith Walk, alternatives to Constitution Street, access around Leith Docks/Ocean Terminal area, and alternative routes to City Centre to East of Leith Walk (Easter Road)
<b>Date &amp; Time of Visit:</b> Thursday 26 <sup>th</sup> March 2009
<b>By:</b> Andy Mayo (Local Transport Projects) and Neil Anderson (TPI)
<b>Summary of Route:</b> From Picardy Place via Leith Walk and through New Kirkgate Shopping Centre and Giles Street to Henderson Street. Then alternatives routes (if Shopping Centre route not viable) via Great Junction Street and either Henderson Street/Henderson Gardens or Cables Wynd through to waterfront area. Returning via Ocean Terminal and Constitution Street to investigate alternatives to the section of Constitution Street which will be closed to cyclists, then reviewing wider alternatives to Leith Walk using Easter Road, (one-way alternative via Rossie Place, Carlyle Place, London Road, Abbey Lane), returning Abbeyhill, Abbey Mount and Easter Road to access Royal Mile area of Central Edinburgh.
<b>Methodology:</b> The route was cycled. All issues were discussed on site, photographed and then discussed further during a follow-up meeting.


	Location	Picture	Issues	Recommendations
39	Leith Walk	No Picture	<p>Intimidating conditions for cyclists at present with significant traffic, buses, loading vehicles etc. The temporary traffic management arrangements associated with the statutory diversions works associated with the tram contributed to difficulties for cyclists at the time of the site visit.</p> <p>Poor road surface condition in places.</p>	<p>Leith Walk post tram implementation is being reviewed as a further part of this work.</p>



	Location	Picture	Issues	Recommendations
40	New Kirkgate Shopping Centre		<p>In order to provide a useful through route for cyclists at the north eastern end of Leith Walk, avoiding Great Junction Street, a potential cycle route through the Kirkgate Centre was investigated. As Constitution Street North of Duke Street is proposed to be tram only (no cycle access northbound), a parallel route through the shopping centre for cyclists would be extremely useful.</p> <p>Is the route through the centre part of the Public Highway?</p> <p>Could permission for a cycle route be obtained?</p> <p>Would improvements to street lighting be required?</p> <p>Is there sufficient width available to enable shared pedestrian / cycle use at peak times?</p>	<p>CEC to discuss access with Shopping Centre owners and tenants.</p> <p>Suitable signalling arrangements would be required at the Leith Walk / Duke Street junction in order to enable both north and south bound cyclists to travel between Leith Walk and the Kirkgate Centre route. The cycle route would also need to be adequately signed.</p>



	Location	Picture	Issues	Recommendations
41	At the northern end of shopping centre, passageway between houses gives access to Giles Street		This would provide a useful cut through to Giles Street and northwards to the Commercial Street area. However there are no drop kerbs at the Giles St end. Grating with wide-spaced bars parallel with cyclists travel.	Investigate the feasibility of introducing formal cycle use of this passage. Install drop kerb. Install appropriate cycle route signing. Replace grating with cycle friendly design.
42	Giles Street		Giles Street has a one-way circulatory arrangement, but this would not be a problem for cyclists as the distance involved is short. Part of the route is cobbled, but it avoids the majority of Henderson Gardens, which is a busy traffic route.	If cycle access can be provided through the Kirkgate Centre, sign an advisory cycle route northwards through Giles Street, Henderson Gardens (north eastern section) to tie into NCN Route 75.





	Location	Picture	Issues	Recommendations
43	Henderson Street		Congested with buses at time of site visit.	Check long-term arrangements for bus routes in this area. As buses are excluded from section of Constitution Street, will they continue to use Henderson Street?
44	Henderson Street to waterfront or Parliament Street to Coalhill	No Picture	Various routes available	Signage to key locations required, but there are various options for quiet street cycle routes in this area.
45	Great Junction Street/Henderson Street junction		If cycle access through the Kirkgate Centre is not possible, it would be necessary to route cyclists on the carriageway along Great Junction Street and into Henderson Street. If this was the case, Great Junction Street would benefit from some form of traffic calming in order to provide more favourable conditions for cycling and walking. As a minimum, a right turn lane into Henderson Street would help cyclists travelling northbound.	If Kirkgate Centre route is not achievable, consider traffic calming on Great Junction Street. As a minimum, provide right turn lane to NW of existing pedestrian refuge on Great Junction Street.



	Location	Picture	Issues	Recommendations
46	Docks area	 <p>The 'Picture' column contains three photographs. The top photo shows a wide street with a pedestrian crossing, a person walking, and a cloudy sky. The middle photo shows a view down a road with a green fence on the right and trees on the left. The bottom photo shows a view of a multi-story building with a road in the foreground.</p>	Maintenance of existing cycle routes post tram implementation and access to off-road routes.	Ocean Drive / Constitution Street post tram implementation is being reviewed as a further part of this work.


	Location	Picture	Issues	Recommendations
47	Constitution St		Maintenance of existing cycle routes post tram implementation and access to off-road routes.	Ocean Drive / Constitution Street post tram implementation is being reviewed as a further part of this work.
48	Constitution Street/Queen Charlotte St junction	No Photo	Queen Charlotte Street is cobbled. Ultimate layout of junction will change and will be part of 'on-route' analysis	Review the junction designs as part of the 'on-route' analysis
49	Constitution Street (alternative via New Kirkgate Shops)		A short section of Constitution Street north of Duke Street is proposed to be tram and bus only, southbound, due to the narrowness of the available corridor, (no cycles). Assuming the route through the Kirkgate Centre can be provided, a useful link through via Coalfield Lane appears to be available. This would enable southbound cyclists on Constitution Street to turn right before the cycle exemption, access the route through the Kirkgate Centre, then continue, via an appropriate signalling arrangement, southbound along Leith Walk.	See ref. 40 <b>CHECK</b>



	Location	Picture	Issues	Recommendations
50	Queen Charlotte Street and junction with John's Place		For those cyclists wishing to head south and east, avoiding Constitution Street, a viable alternative route exists in the form of Queen Charlotte Street / Duncan Place. Though Queen Charlotte Street is cobbled the running surface is acceptable for cycling. However there are few road markings at the junction with John's Place, making the right turn for cyclists difficult.	Improve road markings at Queen Charlotte Street / John's Place junction to ease right turn for cyclists.
51	John's Place / Duncan Place route		Traffic calming build-outs are uncomfortable for cycling.	Either introduce parking restrictions to keep entry and exit of build outs free of parked vehicle, or introduce speed cushions to reduce vehicle speeds to level more commensurate with cycling. Retain the 20mph speed limit (this appears to be temporary).



	Location	Picture	Issues	Recommendations
52	Bypass of Constitution Street cycle exemption southbound via Laurie Street then Academy St		Reasonably short diversionary route, but partly cobbled and uneven surface.	Improve surface Signage (if used as alternative)
53	Academy Street/Duke St junction		Junction very busy, (possibly due to temporary traffic management, but also likely to remain busy post-tram). Road is narrow and building line very close	Options to improve the right turn out onto Duke Street for cyclists appear to be limited, short of signalling the junction. This is likely to be difficult due to it being only approximately 60m from the Leith Walk / Duke Street signal junction.


	Location	Picture	Issues	Recommendations
54	Duke St/Leith Walk junction		Angle on tram tracks will be very acute	The proposed layout of this junction is being reviewed as a further part of this work.
55	Roundabout Duke Street to Easter Road		Wide roundabout with no lane markings – not good for cyclists	Road marking amendments to improve the right turn movement for cyclists. Produce preliminary design for a road marking scheme to make the roundabout junction more cycle friendly.

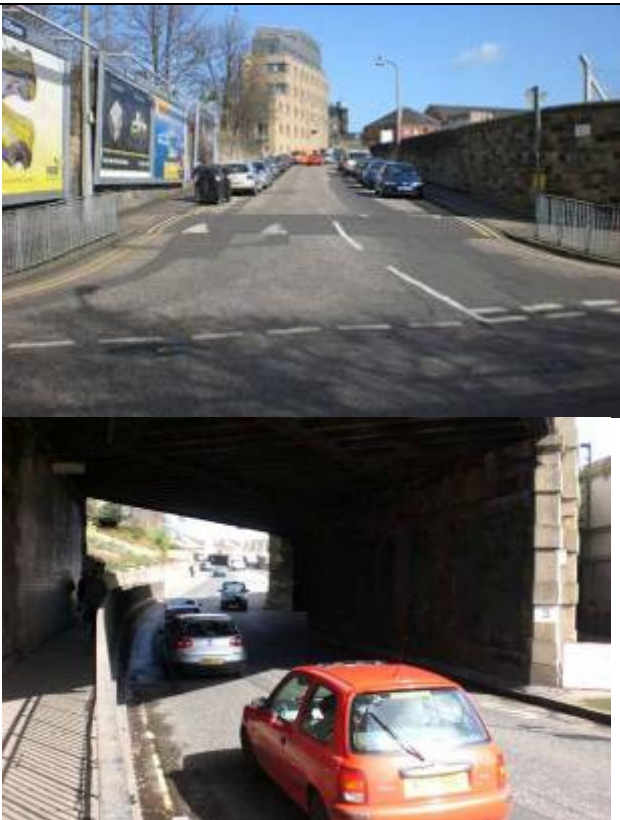
	Location	Picture	Issues	Recommendations
56	Easter Road		<p>Between Duke Street and Thorntree Street, Easter Road is very wide and good for cycling.</p> <p>Beyond Thorntree Street the carriageway narrows, with mostly 'echelon' parking, with vehicles driving into parking spaces forwards and reversing out. Possible issue with drivers reversing out into cyclists, though generally appears to be a fairly low speed environment. Check previous casualty record for this type of conflict.</p> <p>Easter Road narrows towards the southern end, with a 'mixed use' type of environment. Speeds appear relatively low, though the route is quite heavily trafficked.</p>	<p>Northern end would be suitable for advisory cycle lanes, but use likely to be limited given that there is only sufficient width for this treatment over a length of approximately 230m.</p> <p>Email from Chris Brace (CEC) 7/4/09 as follows:</p> <p><i>"The echelon parking starts from Dalmeny Street northwards and there don't appear to have been any accidents directly adjacent to it. However, similarly to Leith Walk I would expect fewer cyclists at this end of Easter Road. The two accidents at the junction of Dalmeny Street/Easter Road appear to be cars travelling east-west/west-east and failing to observe cyclists travelling north-south/south-north. The other accidents that have occurred on Easter Road have been 3 right turning cars striking cyclists who were proceeding along Easter Road, 1 nearside impact (both vehicles travelling same direction), 1 car door opening and 1 footway cyclist colliding with a car entering a car park."</i></p> <p>The route audit involved cycling along both Leith Walk and the Easter Road route. It is accepted that the Leith Walk route was difficult partly due to the temporary traffic management in place, but even so was very heavily trafficked and not pleasant to cycle along. The Easter Road route was comparatively pleasant to cycle along.</p>


	Location	Picture	Issues	Recommendations
	Easter Road (continued)			Although opportunities to make the southern section of the Easter Road route more cycle friendly may be slightly restricted due to its mixed use nature and the strategic traffic function that it serves, it is considered that some form of traffic calming would be beneficial. As well as reducing vehicle speeds to those more in line with cyclists, traffic calming would also improve conditions for pedestrians and is likely to have wider casualty reduction benefits. Chapter 7 of the Scottish Executive's publication "Cycling by Design" outlines a number of potential traffic calming options that may be applicable. It is recommended that these are considered in further detail for the Easter Road route. It is noted that the traffic modelling carried out in relation to the tram shows an increase in traffic levels along Easter Road post tram. As the most direct route running parallel to Leith Walk to the east (indeed the only direct route) between Leith and the Canongate / Waverley Station area, it is likely to remain an important link for cyclists.
57	Easter Road/Albion Road junction		ASL worn and no lead-in cycle lane. Centre hatching narrows carriageway width, potentially squeezing cyclists.	Improve road markings, re-mark ASL, include lead-in lane. Remove centre hatching. Consider removing part of wide nearside kerb build-out to widen junction.



	Location	Picture	Issues	Recommendations
58	Easter Road/London Road junction		<p>Busy and narrow. Observed to be heavily used by cyclists. No ASLs on either Easter Road leg (though present on London Road).</p>	<p>Provide ASLs on Easter Road southbound and northbound approaches to London Road junction. Remove the build-out on the southbound approach to the junction (located approximately 12m north) and install advisory cycle lane up to ASL.</p>

	Location	Picture	Issues	Recommendations
59	Alternative route via Rossie Place, Carlyle Place, London Road and Abbey Lane to avoid climb and busy road along Abbey Mount (NB only recommended in southbound direction)		<p>Potential alternative route for southbound cyclists to avoid the busy London Road junction and steep gradient along Easter Road / Abbey Mount.</p> <p>Maryfield has 5 steps up from Rossie Place.</p> <p>Alva Place has no steps but is one way down from London Road to Rossie Place.</p> <p>Carlyle Place has 19 steps in 5 flights at the top, though involves least running on London Road.</p> <p>If a way through to the disused railway line can be found at the eastern end of Rossie Place, a good off road link for cyclists may be possible to the south.</p>	<p>The route utilising Carlyle Place is considered the most appropriate as this results in the requirement to cycle along only a very short section of London Road.</p> <p>Install wheeling ramp for cycles along the side of the steps. Provide a flush kerb at the southern end of Carlyle Place to enable cyclists to access London Road.</p> <p>There is an ASL in place on London Road to facilitate the right turn into Abbey Lane. It is recommended that an advisory cycle lane is provided on London Road eastbound between Carlyle Place and the ASL box on the eastbound approach to the London Road / Abbey Lane junction in order to provide a continuous route for cyclists, (approximately 30m in length).</p> <p>Due to the requirement to perform a right turn off London Road and also a very difficult right turn under the bridge off Abbey Mount into Abbey Hill in the reverse direction, this route is only considered suitable for southbound cyclists.</p> <p>Install an “except cycles” plate below the existing no through road sign at the western end of Rossie Place and suitable cyclist direction signing (“alternative quiet street route for cyclists to Waverley Station”) or similar.</p> <p>Investigate feasibility of providing a cycle link through eastern end of Rossie Place to railway line and providing cycle track to south.</p>

	Location	Picture	Issues	Recommendations
60	Abbey Lane, Abbey Hill and onto Canongate		<p>Abbeyhill to Abbey Lane junction (right turn under railway bridge) is unsafe in NE direction. Would need to use Abbey Mount and Easter Road.</p> <p>Southbound the Abbey Lane / Abbey Hill route is traffic calmed and provides a good quality route for cyclists avoiding the climb over the heavily trafficked Abbey Mount hill.</p>	<p>Sign alternative route for southbound cyclists and sign route as above.</p>

61	Easter Road (southern section London Road to Regent Road)		<p>The southern section of Easter Road and over Abbeymount was observed to be heavily used by cyclists, despite the severe gradient and heavy traffic. Site observations indicated that the Easter Road section of this route (London Road to Regent Terrace) should be of sufficient width to enable the introduction of cycle lanes in both directions. There may also be sufficient width available on Abbeymount to enable a cycle lane to be implemented in at least one direction (northbound uphill?) along here. This would provide cyclists with more room on this steep climb, and also provide route continuity.</p> <p>The junction at the top of Easter Road (with Regent Road and Abbeymount) gives access to the City Centre either via Abbeyhill (towards the Royal Mile) or via Regent Road (for Princes Street area). Improvements to this junction and the roads accessing it would be a key element in promoting these as alternatives to the tram route.</p>	<p>Carry out further preliminary design work to establish feasibility of introducing cycle lanes (either advisory or mandatory) along this section.</p> <p>Carry out similar feasibility work on the provision of ASLs and other features at the junction of Easter Road, Regent Road and Abbeymount.</p>
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