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# ROSEBURN TO LEITH WALK CYCLE STUDY EDINBURGH

Route Options Feasibility Assessment & User Impact Appraisal  
The City of Edinburgh Council

26/03/2014

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# Quality Management

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# Roseburn to Leith Walk Cycle Study Edinburgh

## Route Options Feasibility Assessment & User Impact Appraisal

26/03/2014

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The City of Edinburgh Council

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# 1 Introduction

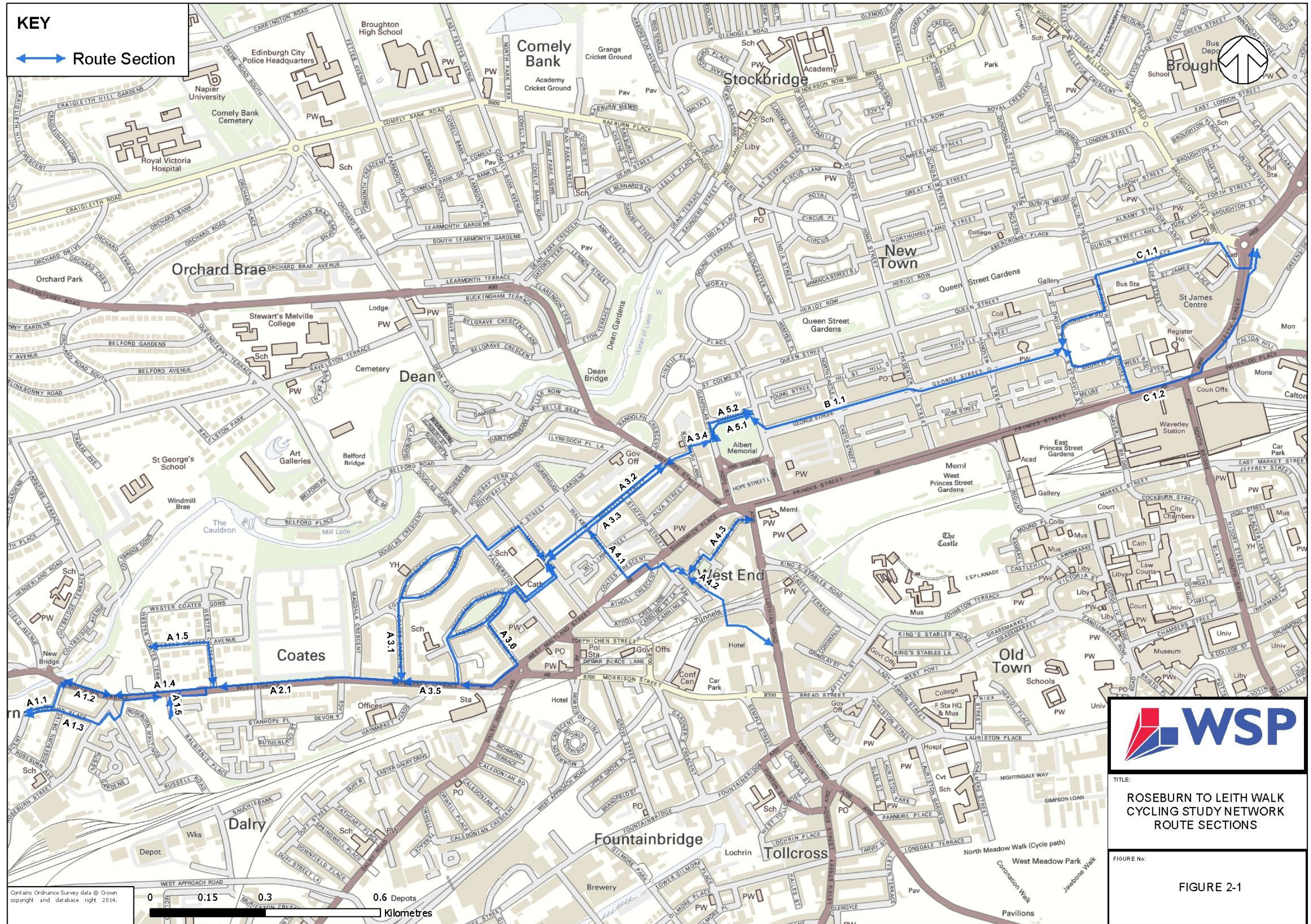
- 1.1.1 WSP UK Limited (WSP) have been commissioned by The City of Edinburgh Council (CEC) to prepare this study as a high-level route options feasibility assessment and road user impact appraisal in relation to the proposed cycling infrastructure improvements across central Edinburgh.
- 1.1.2 The proposals for improving the existing cycling infrastructure are designed to create a continuous, quality cycling corridor from the West Edinburgh Family Cycle Route at Roseburn Park to the proposed Leith Walk cycle infrastructure improvements starting at the Picardy Place roundabout. The route options also include potential linkages onto Lothian Road to maximise connectivity through the city centre.
- 1.1.3 This study is set out into the following sections:
- Project Background;
  - Study Methodology;
  - Feasibility Assessment and User Impact Appraisal Outputs;
  - Summary and Conclusions.
- 1.1.4 This report has been prepared in accordance with instructions from CEC on the above project details. No liability is accepted for the use of all or part of this report by third parties.

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## 2 Project Background

- 2.1.1 CEC have set out within their Active Travel Action Plan (ATAP) a commitment to increase walking and cycling levels in the city significantly by 2020. One of the main cycling actions to help achieve this is the development of an Edinburgh Cycle Route Network, which is commonly referred to as the 'Family Network'.
- 2.1.2 ATAP Action C2 sets out the requirement to: Fill key gaps in core/national cycle network routes and link network to key destinations; including the requirement for a National Cycle Network route 1 (NCN1) upgrade between Roseburn and the city centre.
- 2.1.3 Therefore CEC have commissioned a number of associated tasks including an initial design and infrastructure costings exercise and route options assessments to allow them to take forward the necessary design and consultation works required to deliver on the objectives of Action C2.
- 2.1.4 This report therefore presents a high-level feasibility assessment and road user impact appraisal for the agreed study route sections.
- 2.1.5 The proposals for improving the existing cycling infrastructure cover the route sections shown in Figure 2-1 and are designed to create a continuous, quality cycling corridor from the West Edinburgh Family Network at Roseburn Park to the proposed Leith Walk cycle infrastructure improvements starting at the Picardy Place roundabout. The route options also include potential linkages onto Lothian Road to maximise connectivity through the city centre.

Figure 2-1: Roseburn to Leith Walk Cycling Study Network Route Sections



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## 3 Study Methodology

### 3.1 Introduction

- 3.1.1 This section sets out the approach taken to record the existing conditions on the study area and the methodology for undertaking the route option feasibility assessment and user impact appraisal.

### 3.2 Information Gathering

#### Site Surveys

- 3.2.1 In order to record the existing conditions for the route options included in the study area WSP undertook two separate site surveys.
- 3.2.2 The first survey involved a walkover survey of the full study area to visually assess the existing conditions on all the roads and paths under consideration. During this survey relevant measurements were taken as well as photographs to document key route sections.
- 3.2.3 The second survey involved a cycling survey of the routes under consideration. This allowed an initial assessment to be made of the existing conditions from a cyclist's point of view. This survey was particularly important in informing an understanding of the perception of safety and attractiveness of the routes based on the current quality of cycling infrastructure provision as well as the road traffic conditions.

#### Infrastructure Objectives

- 3.2.4 CEC provided WSP with a clear brief of their objectives for new cycling infrastructure on the study network. This included outline proposals for high-quality public realm improvements on key route sections as well as draft proposals for trial cycling priority measures on George Street.
- 3.2.5 This briefing focused the production of proposals for the full route section to create links that were suitable for a wide range of users including children.

#### Personal Injury Accident Data

- 3.2.6 CEC provided WSP with Personal Injury Accident (PIA) data for the last five available full years (2008 to 2012) covering the study area. This PIA data has been sorted to extract out PIAs involving cyclists and then plotted using ESRI ArcGIS 10 Geographical Information System (GIS) software to geographically represent the PIA location onto the study route sections.
- 3.2.7 Once imported into GIS, the PIA results were then plotted by three degrees of accident injury severity: slight, serious and fatal to inform the safety section of the Route Option Feasibility Assessment.

#### Information Gaps

- 3.2.8 Due to the high level nature of the commissioned works, there were some information classes which were not available to inform the study. These are presented here to inform future studies and design work to be undertaken on this project, as necessary:
- Traffic volume data;
  - Traffic speed data;
  - Cycling volume data;



- Cyclist questionnaire responses;
- Pedestrian volume data; and
- Utilities / services information.

### 3.3 Route Option Feasibility Assessment

- 3.3.1 The methodology for undertaking the Route Option Feasibility Assessment has been adapted from the route option assessment approach presented in *Cycling by Design* (Transport Scotland, 2010 revised 2011).
- 3.3.2 This approach includes presenting the infrastructure proposals and indicative construction costs as determined in the initial costings exercise undertaken by WSP. These proposals have then been assessed against a number of key cycling objectives which each route option should aim to achieve. These objectives are:
- Coherence and Directness;
  - Attractiveness;
  - Safety;
  - Accessibility and Socio-economic impact; and
  - Implementability.
- 3.3.3 The extent to which the proposals for each route section meet or contradict the five objectives has been scored on an arbitrary scale of -3 to +3 for both qualitative as well as quantitative factors (where supporting data was available) according to the following levels:
- -3 = Major Contradiction;
  - -2 = Moderate Contradiction;
  - -1 = Minor Contradiction;
  - 0 = No Effect
  - +1 = Minor Compliance;
  - +2 = Moderate Compliance; and
  - +3 = Major Compliance.
- 3.3.4 The results for each objective were combined to provide an overall score for the Route Option Feasibility Assessment for each route section. The full assessment results for each route section are presented in Chapter 4 of this report.

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## 3.4 Route Option User Impact Appraisal

3.4.1 The methodology for undertaking the User Impact Appraisal for the route options has been agreed with CEC to confirm the range of road users which should be included; these are:

- Pedestrians;
- Disabled Pedestrians;
- Bus;
- Tram;
- Rail;
- Taxi;
- Service Vehicles;
- Private Cars;
- Vehicle Loading / Parking; and
- Disabled Persons' Parking.

3.4.2 The impact scoring is consistent with the approach described above for the Feasibility Assessment with the extent to which the proposals for each route benefit or impair the requirements of each road user scored on scale of -3 to +3 with the following ratings:

- -3 = Major Negative Impact;
- -2 = Moderate Negative Impact;
- -1 = Minor Negative Impact;
- 0 = No Impact Predicted
- +1 = Minor Benefit;
- +2 = Moderate Benefit; and
- +3 = Major Benefit.

3.4.3 The results for each user group were combined to provide an overall score for the User Impact Appraisal for each route section. The full appraisal results for each route section are presented in Chapter 4 of this report.

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## 4 Feasibility Assessment and User Impact Appraisal Outputs

- 4.1.1 This chapter presents the full Route Option Feasibility Assessment and User Impact Appraisal outputs for each route section within the study area. The outputs are collated and summarised in Chapter 5 along with GIS plans of the summary outputs.
- 4.1.2 Please refer to Figure 2-1 to cross-reference the route section numbers with its location.

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 1.1		
Option location	Roseburn Park to Roseburn Terrace (via Roseburn Gardens)	Estimated capital cost of option	£ 119,883.96
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Create build-out junction between Roseburn Place and Roseburn Park to prevent cars blocking access.</li> <li>&gt; Retain shared carriageway arrangements on Roseburn Place with new road markings to indicate direction of cycleway.</li> <li>&gt; New traffic and pedestrian signals, and cycle crossing onto eastbound carriageway on Roseburn Terrace.</li> <li>&gt; Bus priority signals on eastbound lane of Roseburn Terrace.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Connection to Roseburn Path and western Family Network routes. Most direct link between eastern end of the Roseburn Path and Roseburn Terrace.	Minimal delay at Roseburn Path / Roseburn Place junction. Minimal delay at Roseburn Place / Roseburn Gardens junction. Significant delay at proposed signalised junction. Minimal gradient on Roseburn Place. Minor gradient on Roseburn Gardens. Detour Factor = 1.14	+2
Attractiveness	Roseburn Place and Roseburn Gardens are quiet residential streets suitable for cyclists of all ages and abilities. The proposed signalised junction would provide a safe crossing onto Roseburn Terrace.	No evidence available.	+1
Safety	Suitable traffic calming in place on Roseburn Gardens and Roseburn Place. The proposed signalised junction would provide a safe crossing onto Roseburn Terrace.	One Serious PIA recorded on route section last five years (Roseburn Gardens / Roseburn Terrace junction). Signalisation of the existing priority junction is predicted to reduce accident rate.	+2
Accessibility and Socio-economic impact	Most direct link between eastern end of the Roseburn Path and Roseburn Terrace. Creates link to shops on Roseburn Terrace.	Access to approx. 30 shops and businesses on Roseburn Terrace.	+2
Implementability	Requires major modifications to existing Roseburn Gardens / Roseburn Terrace junction. Potential impacts on eastbound bus services on Roseburn Terrace and loading bays on north side of Roseburn Terrace.	(Technical design studies and stakeholder consultation required.)	-1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+6
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Negligible impact predicted.		0
Disabled Pedestrians	Negligible impact predicted.		0
Bus	Possible minor increased journey times due to increase red phase time at signals. Bus priority signals to reduce impact.		-1
Tram	N/A		0
Rail	N/A		0
Taxi	Minor increased journey times due to increase red phase time at signals.		-1
Service Vehicles	Minor increased journey times due to increase red phase time at signals.		-2
Private Cars	Minor increased journey times due to increase red phase time at signals.		-1
Vehicle Loading / Parking	Negligible impact predicted.		0
Disabled Persons' Parking	Negligible impact predicted.		0
User Impact Rating (Max. = +30; Min. = -30)			-5

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 1.2	Estimated capital cost of option	£ 151,987.50
Option location	Roseburn Terrace (Roseburn Gardens junction to Roseburn Street junction)		
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Two-way segregated cycle lane on northern lane of eastbound carriageway.</li> <li>&gt; New dedicated cycle lane signals at Roseburn Terrace / Roseburn Street Junction.</li> <li>&gt; Modifications to existing junction to accommodate new cycle lane and signals.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Most direct possible link between Roseburn Gardens and Roseburn Street junctions on Roseburn Terrace.	Minor uphill gradient for eastbound cyclists. Moderate delay at Roseburn Terrace / Roseburn Street signalised junction. Detour factor = 1.0	+3
Attractiveness	High volumes of two-way traffic including high proportion of buses and HGVs. Segregation will significantly increase the attractiveness of the route section for cyclists.	No data available.	+2
Safety	Segregated cycle route and dedicated signals at Roseburn Terrace / Roseburn Street junction would significantly increase cyclist's perception of safety.	No existing PIAs recorded on route section. Proposal expected to improve existing road safety conditions.	+2
Accessibility and Socio-economic impact	This option provides a directly link past approx 30 shops and businesses. Potential for increase patronage.	No data available.	+2
Implementability	Concerns / objections expected from bus operators, taxi groups and local business.	Technical studies and consultation required.	-1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+8
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Negligible effect predicted.		0
Disabled Pedestrians	Negligible effect predicted.		0
Buses	Potential increase in journey times due to loss of bus lane and amendments to signal phasings. Bus priority measures proposed to minimise delay.		-1
Trams	N/A		0
Rail	N/A		0
Taxis	Potential increase in journey times due to loss of bus/taxi lane and amendments to signal phasings.		-2
Service Vehicles	Removal / relocation of loading bays on Roseburn Terrace would impact on deliveries to business.		-2
Private Cars	Potential increase in journey times due to loss of bus/taxi lane and amendments to signal phasings.		-1
Vehicle Loading / Parking	Removal / relocation of existing loading bays on north side of Roseburn Terrace.		-2
Disabled Persons' Parking	Removal / relocation of existing loading bays on north side of Roseburn Terrace.		-2
User Impact Rating (Max. = +30; Min. = -30)			-10

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 1.3	Estimated capital cost of option	
Option location	Roseburn Park to Roseburn Terrace (via Roseburn Place)	£ 145,556.46	
Infrastructure Proposals	<p>&gt; Create build-out junction between Roseburn Place and Roseburn Park to prevent cars blocking access.            &gt; Retain shared carriageway arrangements on Roseburn Place with new road markings to indicate direction of cycleway.            &gt; Resurface existing cycleway on east side of Street</p> <p><i>Route for west to east journeys at Roseburn Street crossing:</i>            &gt; Use northern central refuge to cross Roseburn St. onto existing shared cycle / footway from Roseburn Place.</p> <p><i>Route for east to west journeys at Roseburn Street crossing:</i>            &gt; Use southern central refuge to cross Roseburn St. from existing shared use footway onto Roseburn Place.            &gt; Use existing shared cycle/pedestrian way on Roseburn St and Russell Road.            &gt; Create new toucan crossing on Russell Road to connect end of shared cycle/pedestrian way on south side of Russell Road with off-road link.            &gt; Give-way line at north end of off-road link due to reduced visibility.</p> <p>&gt; Segregated cycle lane on south side of Roseburn Terrace to Balbirnie Place junction.</p>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Indirect route. Requires robust signage strategy to make route clear to users.	Moderate delay at new toucan crossing on Russell Road. Minor uphill gradient on Roseburn Street northbound. Detour factor = 1.2	-1
Attractiveness	Roseburn Place is quiet residential street suitable for cyclists of all ages and abilities. Route off-carriageway from Roseburn Street to Roseburn Terrace, and segregated on Roseburn Terrace.	No data available.	+1
Safety	Traffic calming in place on Roseburn Place. Route off-carriageway from Roseburn Street to Roseburn Terrace, and segregated on Roseburn Terrace.	No existing PIAs recorded on route. Proposal expected to improve existing road safety conditions.	+2
Accessibility and Socio-economic impact	Route bypasses approx. 30 shops and businesses on Roseburn Terrace.	No data available.	-2
Implementability	Toucan crossing Russell Road may result in vehicles queuing through Roseburn Terrace / Roseburn Street junction.	Modelling of Roseburn Terrace / Roseburn Street junction required including toucan crossing on Russell Road to assess impact implementing proposals.	-1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			-1
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Potential conflict on shared pedestrian / cycle way linking Roseburn Terrace and Russell Road at blind junction with Roseburn Terrace footway.		-2
Disabled Pedestrians	Potential conflict on shared pedestrian / cycle way linking Roseburn Terrace and Russell Road at blind junction with Roseburn Terrace footway.		-2
Buses	Loss of westbound bus lane on Roseburn Terrace would impact on bus service journey time.		-1
Trams	N/A		0
Rail	N/A		0
Taxis	Loss of westbound bus/taxi lane on Roseburn Terrace would impact on journey time.		-1
Service Vehicles	Minor increase in journey times due to toucan crossing on Russell Road and potential blocking of Roseburn Terrace / Roseburn Street junction by queuing traffic.		-1
Private Cars	Minor increase in journey times due to toucan crossing on Russell Road and potential blocking of Roseburn Terrace / Roseburn Street junction by queuing traffic.		-1
Vehicle Loading / Parking	Negligible impact predicted.		0
Disabled Persons' Parking	Negligible impact predicted.		0
User Impact Rating (Max. = +30; Min. = -30)			-8

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 1.4	Estimated capital cost of option	
Option location	Roseburn Terrace (From Roseburn Street junction to Wester Coates junction)	£	214,168.50
Infrastructure Proposals	> Two-way segregated cycle lane on north side of Roseburn Terrace between Roseburn Street and Wester Coates Road junctions. > Two-way segregated cycle lane on south side of West Coates between signalised crossing and Balbirnie Place junction. > Alter pedestrian crossing on West Coates to toucan crossing.		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Most direct link for journeys between Roseburn and West Coates towards Haymarket. Minor detour required to link to from Roseburn Path (south) via Balbirnie Place.	Moderate delay at toucan crossing to access link to / from Balbirnie Place. Moderate uphill gradient eastbound. Detour factor Roseburn Terrace towards Haymarket = 1.0 Detour factor to connect to / from Balbirnie Place = 2.0	+2
Attractiveness	Segregated cycle route with toucan crossing suitable for a wide range of cycling abilities.	No data available.	+2
Safety	Proposal creates safe connections between east-west and north-south strategic cycle routes. Markings at priority junctions required to ensure that through cycle movements do not conflict with turning movements.	No existing PIAs recorded on route. Proposal expected to improve existing road safety conditions.	+3
Accessibility and Socio-economic impact	Potential to increase access to local shops and businesses in Roseburn.	No data available.	+1
Implementability	Concerns / objections expected from bus operators and taxi groups.	Technical studies and consultation required.	-1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+7
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Disabled Pedestrians	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Buses	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops. Loss of eastbound bus lane and short section of westbound bus lane expected to impact on journey times.		-2
Trams	N/A		0
Rail	N/A		0
Taxis	Loss of eastbound bus/taxi lane and short section of westbound bus/taxi lane expected to impact on journey times.		-2
Service Vehicles	Minor increase in journey time caused by buses waiting on carriageway.		-1
Private Cars	Minor increase in journey time caused by buses waiting on carriageway.		-1
Vehicle Loading / Parking	Loss of bus lane parking/ loading bays. These currently operate close to capacity during permitted daytime hours.		-2
Disabled Persons' Parking	Loss of bus lane parking bays.		-2
User Impact Rating (Max. = +30; Min. = -30)			-12

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 1.5	Estimated capital cost of option	
Option location	Roseburn Path Links to West Coates	£	108,919.44
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Formal priority junctions between Roseburn Path and public road connections.</li> <li>&gt; New road markings</li> <li>&gt; Raised table treatment at Wester Coates Road / West Coates junction to connect to segregated cycle lane.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Clear links between Roseburn Path and Roseburn - Haymarket segregated cycle route. Moderate detour required for trips between Roseburn Path and Roseburn.	Moderate uphill gradient on West Coates northbound. Detour factor Roseburn Path (north) towards Haymarket = 1.4 Detour factor Roseburn Path (north) towards Roseburn = 3.3 Detour factor Balbirnie Place = 1	+1
Attractiveness	Route sections are on quiet residential streets.	No data available.	+2
Safety	Junction onto West Coates provide access to segregated cycle routes, therefore increase safety compared to current conditions.	No existing PIAs recorded on route. Proposal expected to improve existing road safety conditions.	+1
Accessibility and Socio-economic impact	Potential to increase access to local shops and businesses in Roseburn.	No data available.	+1
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies required.	+1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+6
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Negligible impact predicted.		0
Disabled Pedestrians	Negligible impact predicted.		0
Buses	Negligible impact predicted.		0
Trams	N/A		0
Rail	N/A		0
Taxis	Negligible impact predicted.		0
Service Vehicles	Negligible impact predicted.		0
Private Cars	Negligible impact predicted.		0
Vehicle Loading / Parking	Negligible impact predicted.		0
Disabled Persons' Parking	Negligible impact predicted.		0
User Impact Rating (Max. = +30; Min. = -30)			0



Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 2.1	Estimated capital cost of option	£ 193,693.50
Option location	West Coates (From Wester Coates Road junction to Coates Gardens junction)		
Infrastructure Proposals	> Two-way segregated cycle lane on north side of carriageway to Coates Gardens. > Create bus stop boarding kerbs across cycle lane. Cycle lane gives way to alighting bus passengers.		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Most direct link for journeys between Roseburn and West Coates towards Haymarket.	Moderate uphill gradient eastbound on Haymarket Terrace. Detour factor = 1.0	+2
Attractiveness	Segregated cycle route with toucan crossing suitable for a wide range of cycling abilities.	No data available.	+2
Safety	Proposal creates safe connections between east-west and north-south strategic cycle routes. Markings at priority junctions required to ensure that through cycle movements do not conflict with turning movements.	Four PIAs recorded on route section including two at Haymarket Terrace / Coates Gardens junction. Proposal expected to improve existing road safety conditions at junction.	+1
Accessibility and Socio-economic impact	Route connects Roseburn to west end and city centre, increasing access to shops and businesses by cycle.	No data available.	+1
Implementability	Concerns / objections expected from bus operators and taxi groups.	Technical studies and consultation required.	-2
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+4
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Disabled Pedestrians	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Buses	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops. Loss of eastbound bus lane and short section of westbound bus lane expected to impact on journey times.		-2
Trams	N/A		0
Rail	N/A		0
Taxis	Loss of eastbound bus/taxi lane and short section of westbound bus/taxi lane expected to impact on journey times.		-2
Service Vehicles	Minor increase in journey time caused by buses waiting on carriageway.		-1
Private Cars	Minor increase in journey time caused by buses waiting on carriageway.		-1
Vehicle Loading / Parking	Loss of bus lane parking/ loading bays. These currently operate close to capacity during permitted daytime hours.		-2
Disabled Persons' Parking	Loss of bus lane parking bays.		-2
User Impact Rating (Max. = +30; Min. = -30)			-12

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 3.1	Estimated capital cost of option	£ 573,390.72
Option location	Coates Gardens to Manor Place / Chester Street junction		
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Alterations to traffic signals at Eglinton Cres. / Palmerston Place &amp; Palmerston Place / Chester St. junctions.</li> <li>&gt; New signalised junction at Chester St. / Manor Place junction.</li> <li>&gt; Segregated cycle lanes on Palmerston Place, Chester St. &amp; Manor Place.</li> <li>&gt; New signalised junction at Melville St / Manor Place junction with toucan crossing facility.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Route options follows the existing NCN Route 1. However, route takes users off the most direct route into the city centre (via Shandwick Place).	Moderate uphill gradient on Coates Gardens northbound. Moderate delay at new signalised junctions. Detour factor = 1.6	-1
Attractiveness	Cobbles on Coates Gardens often unattractive to cyclists with narrow wheeled cycles. Coates Gardens and Eglinton / Glencairn Crescent are quiet residential streets. Palmerston Place and Chester Street are well trafficked streets. Signalised crossings and segregated routes will increase attractiveness for cyclists.	No data available.	-1
Safety	Signalised crossings and segregated routes will increase attractiveness for cyclists.	Two slight PIAs recorded including one at Manor Place / Melville Place junction. Toucan crossing facility at this location would increase safety.	+1
Accessibility and Socio-economic impact	Route option bypasses approx. 25 shops and businesses on Haymarket Terrace.	No data available.	-1
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies required.	+1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			-1
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Minor potential conflict related to cyclists using short sections of footway to access Manor Place Melville toucan crossing. However pedestrian movements are expected to be low at this location.		-1
Disabled Pedestrians	Minor potential conflict related to cyclists using short sections of footway to access Manor Place Melville toucan crossing. However pedestrian movements are expected to be low at this location.		-1
Buses	Negligible impact predicted.		0
Trams	Cycles diverted off the A8 prior to start of on-road tram section therefore no impact predicted.		0
Rail	Route option does not create a direct link to Haymarket Station, therefore does not support an integrated transport strategy.		0
Taxis	Potential increase in journey times due to amendments to signal phasings.		-1
Service Vehicles	Potential increase in journey times due to amendments to signal phasings.		-1
Private Cars	Potential increase in journey times due to amendments to signal phasings.		-1
Vehicle Loading / Parking	Loss of approx. seven Pay & Display spaces on Manor Place to accommodate segregated cycle lane.		-1
Disabled Persons' Parking	Loss of approx. seven Pay & Display spaces on Manor Place to accommodate segregated cycle lane. St Mary's Cathedral provides parking spaces accessible from Manor Place for disabled users.		-1
User Impact Rating (Max. = +30; Min. = -30)			-7

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 3.2		
Option location	Melville Street - Design Option 1 (Full Public Realm Treatment at Walker Street junction)	Estimated capital cost of option	£ 1,718,230.50
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Relocation of central parking spaces.</li> <li>&gt; Segregated two-way cycle lane along centre of street using high-quality materials.</li> <li>&gt; Public square at Melville Street / Walker Street junction formed of high quality materials.</li> <li>&gt; Modifications to existing Melville St. / Queensferry St. junction to accommodate new cycle lane and signals.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Most direct link between Manor Place and Queensferry Street.	No significant gradient. Negligible delay. Detour factor = 1.0	+2
Attractiveness	Proposals would significantly enhance the existing conditions with the potential to create an iconic new West End urban design solution.	No data available.	+3
Safety	Segregated cycle routes and reduce vehicle speeds related to reduced carriageway allocation is expected to increase cyclist safety.	One slight PIA at Melville Street / Walker Street junction. New shared surface treatment at this location would reduce vehicle speeds and rebalance the hierarchy of travel modes in favour of active travel including cycling.	+2
Accessibility and Socio-economic impact	Provides a direct link to the shops and businesses in the vicinity of Queensferry Street.	No data available.	+1
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies and consultation required.	+1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+9
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Major enhancement to existing conditions expected to lead to a reduction in vehicle speeds and an increased opportunity for pedestrians to cross Melville Street and negotiate the Melville Street / Walker Street junction.		+3
Disabled Pedestrians	Major enhancement to existing conditions expected to lead to a reduction in vehicle speeds and an increased opportunity for pedestrians to cross Melville Street and negotiate the Melville Street / Walker Street junction.		+3
Buses	Negligible impact predicted.		0
Trams	N/A		0
Rail	N/A		0
Taxis	Possible increase delay due to reduced road space and requirement to wait behind buses at bus stops.		-1
Service Vehicles	Possible increase delay due to reduced road space and requirement to wait behind buses at bus stops.		0
Private Cars	Possible increase delay due to reduced road space and requirement to wait behind buses at bus stops.		-1
Vehicle Loading / Parking	Relocation of parking to outside of carriageway required to accommodate central cycle route. Possible reduction in the total number of available spaces.		-1
Disabled Persons' Parking	Relocation of parking to outside of carriageway required to accommodate central cycle route. Total number of dedicated disabled spaces should remain.		0
User Impact Rating (Max. = +30; Min. = -30)			+3

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 3.3	Estimated capital cost of option	£ 666,288.00
Option location	Melville Street - Design Option 2 (Semi-Public Realm Treatment at Walker Street junction)		
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Relocation of central parking spaces.</li> <li>&gt; Segregated two-way cycle lane along centre of street using high-quality materials.</li> <li>&gt; Reduced scale public realm treatment at Melville Street / Walker Street junction including vehicle crossing points.</li> <li>&gt; Modifications to existing Melville St. / Queensferry St. junction to accommodate new cycle lane and signals.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Most direct link between Manor Place and Queensferry Street.	No significant gradient. Negligible delay. Detour factor = 1.0	+2
Attractiveness	Proposals would enhance the existing conditions.	No data available.	+2
Safety	Segregated cycle routes and reduce vehicle speeds related to reduced carriageway allocation is expected to increase cyclist safety.	One slight PIA at Melville Street / Walker Street junction. New surface treatment at this location would reduce vehicle speeds and rebalance the hierarchy of travel modes in favour of active travel including cycling.	+2
Accessibility and Socio-economic impact	Provides a direct link to the shops and businesses in the vicinity of Queensferry Street.	No data available.	+1
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies and consultation required.	0
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+7
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Enhancement to existing conditions expected to lead to a reduction in vehicle speeds and an increased opportunity for pedestrians to cross Melville Street and negotiate the Melville Street / Walker Street junction.		+1
Disabled Pedestrians	Enhancement to existing conditions expected to lead to a reduction in vehicle speeds and an increased opportunity for pedestrians to cross Melville Street and negotiate the Melville Street / Walker Street junction.		+1
Buses	Negligible impact predicted.		0
Trams	N/A		0
Rail	N/A		0
Taxis	Possible increase delay due to reduced road space and requirement to wait behind buses at bus stops.		-1
Service Vehicles	Possible increase delay due to reduced road space and requirement to wait behind buses at bus stops.		0
Private Cars	Possible increase delay due to reduced road space and requirement to wait behind buses at bus stops.		-1
Vehicle Loading / Parking	Relocation of parking to outside of carriageway required to accommodate central cycle route. Possible reduction in the total number of available spaces.		-1
Disabled Persons' Parking	Relocation of parking to outside of carriageway required to accommodate central cycle route. Total number of dedicated disabled spaces should remain.		0
User Impact Rating (Max. = +30; Min. = -30)			-1

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 3.4	Estimated capital cost of option	
Option location	Randolph Lane / Queensferry St junction to Charlotte Square	£	341,515.44
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Retain existing shared on-carriageway cycling arrangement.</li> <li>&gt; Relay setts on Randolph Place &amp; Randolph Lane to create improved running surface.</li> <li>&gt; Improve junction with shared pedestrian / cycle path (north side of West Register House).</li> <li>&gt; Relay paving on shared path (north side of West Register House).</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	More direct link between Queensferry Street and Charlotte Square than available to motor vehicles. Uses existing NCN route 1. Improved signage expected to increase route choice.	Moderate delays at signalised junction. Detour factor = 1.0	+2
Attractiveness	Resetting of Randolph Place / Lane to improve running surface. Randolph Place / Lane has low traffic speeds and volumes.	No data available.	+2
Safety	Signalised junction at Melville Street / Queensferry Street junction to provide dedicated crossing phase for cyclists. Randolph Place / Lane has low traffic speeds and volumes.	No data available.	+2
Accessibility and Socio-economic impact	Provides a direct link to the shops and businesses in the vicinity of Queensferry Street.	No data available.	+1
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies and consultation required.	+1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+8
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Potential for minor conflict between pedestrians and cyclists on off-road section between Randolph Place and Charlotte Square.		-1
Disabled Pedestrians	Potential for minor conflict between pedestrians and cyclists on off-road section between Randolph Place and Charlotte Square.		-1
Buses	Potential increase in journey times due to amendments to signal phasings.		-1
Trams	N/A		0
Rail	N/A		0
Taxis	Potential increase in journey times due to amendments to signal phasings.		-1
Service Vehicles	Potential increase in journey times due to amendments to signal phasings.		-1
Private Cars	Potential increase in journey times due to amendments to signal phasings.		-1
Vehicle Loading / Parking	No impact predicted.		0
Disabled Persons' Parking	No impact predicted.		0
User Impact Rating (Max. = +30; Min. = -30)			-6

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 3.5	Estimated capital cost of option	£ 405,779.22
Option location	Haymarket Terrace (From Coates Gardens to Melville St - via Roseberry Cres)		
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; New traffic signals at Grosvenor Cres / Palmerston Place junction with segregation for cyclists.</li> <li>&gt; Widened footway on east side of Palmerston Place.</li> <li>&gt; Relocate street furniture on Palmerston Place footway currently located close to footpath entrance.</li> <li>&gt; Create shared use area on existing footpath, grassed area and private road.</li> <li>&gt; Segregated two-way cycle lane on Manor Place to Melville Street junction.</li> <li>&gt; New signalised junction at Melville St / Manor Place junction with toucan crossing facility.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	More direct route option than Coates Gardens (Part 3.1) and uses a route used by majority of commuting cyclists through West End towards Roseburn. Proposal would increase signage on this route to make it clearer for new users.	Moderate uphill gradient for 150 m on Rosebery Crescent. Moderate delay at signals at Grosvenor Crescent / Palmerston Place junction. Detour factor = 1.4	+1
Attractiveness	Route is already used by significant numbers of cyclists. Improve to safety and signage expected increase use.	No data available.	+1
Safety	Proposed signalised junction and toucan crossing expected to improve road safety conditions.	One serious and three slight PIAs on route, no clusters. Introduction of signals at Palmerston Place junction predicted to reduce accident rate.	+1
Accessibility and Socio-economic impact	Bypasses approximately five shops and business on Haymarket Terrace.	No data available.	-1
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies and consultation required.	+1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+3
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Proposal would reduce existing conflicts between cyclists and pedestrians on Bishop's Walk Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		+1
Disabled Pedestrians	Proposal would reduce existing conflicts between cyclists and pedestrians on Bishop's Walk Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		+1
Buses	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops. Loss of eastbound bus lane and short section of westbound bus lane expected to impact on journey times.		-1
Trams	Cycles diverted off the A8 prior to start of on-road tram section therefore no impact predicted.		0
Rail	Route option does not create a direct link to Haymarket Station, therefore does not support an integrated transport strategy.		0
Taxis	Potential increase in journey times due to amendments to signal phasings.		-1
Service Vehicles	Potential increase in journey times due to amendments to signal phasings. Loss of loading bays on Haymarket Terrace.		-2
Private Cars	Potential increase in journey times due to amendments to signal phasings.		-1
Vehicle Loading / Parking	Loss of loading bays on Haymarket Terrace.		-1
Disabled Persons' Parking	Loss of loading bays on Haymarket Terrace.		-1
User Impact Rating (Max. = +30; Min. = -30)			-5

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 3.6	Estimated capital cost of option	
Option location	Haymarket Terrace (From Coates Gardens to Melville St - via Grosvenor St)	£	521,100.72
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Alteration to traffic signals at Haymarket Terrace / Grosvenor Street junction to allow connection to segregated cycle lane.</li> <li>&gt; Widen footway on east side of Palmerston Place.</li> <li>&gt; Relocate street furniture on Palmerston Place footway currently located close to footpath entrance.</li> <li>&gt; Create shared use area on existing footpath, grassed area and private road.</li> <li>&gt; Segregated two-way cycle lane on Manor Place to Melville Street junction.</li> <li>&gt; New signalised junction at Melville St / Manor Place junction with toucan crossing facility.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	More direct route than via Coates Gardens (Part 3.1) but less direct than via Rosebery Crescent.	Significant delay at Haymarket Terrace / Morrison Street junction. Detour factor = 1.5	+1
Attractiveness	Haymarket Terrace / Morrison Street junction heavily trafficked. Remainder of route on residential streets and off-carriageway section.	No data available.	+1
Safety	Segregated route through Haymarket junction would significantly increase the perception of safety for cyclists. There are currently no cycle lane of ASL facilities on this section of the route.	Four slight PIAs on route, no clusters. Introduction of signals at Palmerston Place junction and segregated lane on Haymarket Terrace predicted to reduce accident rate.	+2
Accessibility and Socio-economic impact	Route option creates a complete direct segregated route from Haymarket Station.	No data available.	+2
Implementability	Loss of traffic lane required for segregated cycle lane presents significant concern over impact on the operation of Haymarket Terrace / Morrison Street junction.	Further detailed technical studies and consultation required.	-3
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+3
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Proposal would reduce existing conflicts between cyclists and pedestrians on Bishop's Walk Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		+1
Disabled Pedestrians	Proposal would reduce existing conflicts between cyclists and pedestrians on Bishop's Walk Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		+1
Buses	Loss of bus lane on Haymarket Terrace. Potential increase in journey times due to amendments to signal phasings and loss of traffic lane.		-3
Trams	Short section of route run parallel to tram line however segregation would prevent potential conflict.		0
Rail	Create direct cycle route to Haymarket from west Edinburgh in support of CEC's integrated transport policy objective.		+3
Taxis	Loss of bus/taxi lane and taxi rank on Haymarket Terrace. Potential increase in journey times due to amendments to signal phasings and loss of traffic lane.		-3
Service Vehicles	Potential increase in journey times due to amendments to signal phasings and loss of traffic lane.		-2
Private Cars	Potential increase in journey times due to amendments to signal phasings and loss of traffic lane.		-3
Vehicle Loading / Parking	Loss of loading bays on Haymarket Terrace.		-1
Disabled Persons' Parking	Loss of loading bays on Haymarket Terrace.		-1
User Impact Rating (Max. = +30; Min. = -30)			-8

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 4.1	Estimated capital cost of option	
Option location	Melville Street / Walker Street Junction to Rutland Square	£	111,556.62
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Create raised table and cycle crossing into Shandwick Place Gardens from Walker Street.</li> <li>&gt; Widen footpath through gardens to accommodate cyclist to access signalised crossing on Shandwick Place.</li> <li>&gt; Convert signalised pedestrian crossing on Shandwick place to toucan crossing.</li> <li>&gt; New markings on footway to allow cyclists to link from east side of Shandwick Place to Canning Street.</li> <li>&gt; Mandatory contra-flow cycle lane on Canning Street and one-way section of Rutland Square.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Creates a connection from the West End towards Lothian Road. Contraflow section on Canning Street requires clear signage.	Moderate delays at Shandwick Place toucan crossing. Detour factor = 1.3	+2
Attractiveness	Route on lightly trafficked streets and off-road. Signalised crossing of Shandwick Place.	No data available.	+2
Safety	Route on lightly trafficked streets and off-road. Signalised crossing of Shandwick Place. Contra-flow on Canning Street should minimise potential for conflicts between cyclists and motor vehicles.	1 serious PIA at Canning Street / Shandwick Place junction. Proposed toucan crossing at this location would increase safety.	+2
Accessibility and Socio-economic impact	Link businesses around Rutland Square with Haymarket and west Edinburgh.	No data available.	+1
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies and consultation required.	
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+7
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Potential conflicts along Shandwick Place Gardens route and shared footway sections from toucan crossing on Shandwick Place to Canning Street.		-1
Disabled Pedestrians	Potential conflicts along Shandwick Place Gardens route and shared footway sections from toucan crossing on Shandwick Place to Canning Street.		-1
Buses	Introduction of toucan crossing is not expected to alter the signal phasing on Shandwick Place, therefore no delay to services.		0
Trams	Introduction of toucan crossing is not expected to alter the signal phasing on Shandwick Place, therefore no delay to services.		0
Rail	Potential improvements to connectivity between Haymarket station and Rutland Square.		+1
Taxis	Relocation / loss of three vehicle taxi rank on Canning Street.		-2
Service Vehicles	No impact predicted.		0
Private Cars	No impact predicted.		0
Vehicle Loading / Parking	No impact predicted.		0
Disabled Persons' Parking	No impact predicted.		0
User Impact Rating (Max. = +30; Min. = -30)			-3



Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 4.2	Estimated capital cost of option	
Option location	Rutland Square to Festival Square	£	4,059.72
Infrastructure Proposals	> Provide access for cyclists onto footway at Rutland Court and allow shared use. > Formalise shared pedestrian / cycle use of link and bridge across West Approach Road.		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Ramped section from Rutland Square to footbridge presents minor challenge to cyclists. Additional signage to improve coherence of route.	Moderate gradient on ramps and western approach to footbridge. Detour factor = 1.1	+1
Attractiveness	No traffic. Little activity on route section outside of business hours reduces passive security and perception of safety.	No data available.	+1
Safety	No motor traffic. Lack of passive security during less busy times (evenings and weekends).	Off-road, no PIA assessment possible.	+1
Accessibility and Socio-economic impact	Increase in passing trips for cafes on north-western side of Festival Square.	No data available.	+1
Implementability	Minimal additional works required.	Further detailed technical studies and consultation required.	+1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+5
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Potential conflicts between pedestrians and cyclists on narrow footbridge and approach sections.		-1
Disabled Pedestrians	Potential conflicts between pedestrians and cyclists on narrow footbridge and approach sections.		-2
Buses	N/A		0
Trams	N/A		0
Rail	N/A		0
Taxis	N/A		0
Service Vehicles	N/A		0
Private Cars	N/A		0
Vehicle Loading / Parking	N/A		0
Disabled Persons' Parking	N/A		0
User Impact Rating (Max. = +30; Min. = -30)			-3

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 4.3	Estimated capital cost of option	
Option location	Rutland Square to Lothian Road (via Rutland Street)	£	178,920.00
Infrastructure Proposals	> Create segregated cycle lane on Rutland Street to Lothian Road junction. > Alterations to existing signalised junction Lothian Road to allow cyclist to access southbound lane of Lothian Road.		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	More direct link to Lothian Road than via Festival Square (Part 4.2).	Significant delay at Lothian Road junction / toucan crossing.	0
Attractiveness	Cobbles on Rutland Street often unattractive to cyclists with narrow wheeled cycles. High numbers of taxis accessing and turning on Rutland Street.	No data available.	-1
Safety	Segregation of cyclist on Rutland Street and dedicated crossing onto Lothian Road expected to improve safety.	Cluster of six slight PIAs recorded at or in vicinity of Rutland Street / Lothian Road junction. Proposed signalised crossing would improve safety.	+2
Accessibility and Socio-economic impact	Creates key link between Lothian Road / Prince Street and route to Haymarket and west Edinburgh	No data available.	+2
Implementability	Creating space for segregated cycle lane and maintaining taxi movements expected to be a significant technical challenge.	Further detailed technical studies and consultation required.	-2
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+1
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Minor potential conflict if toucan crossing is created to allow access onto Lothian Road.		-1
Disabled Pedestrians	Minor potential conflict if toucan crossing is created to allow access onto Lothian Road.		-1
Buses	Potential increase in journey times due to amendments to signal phasings.		-1
Trams	Potential increase in journey times due to amendments to signal phasings.		-1
Rail	N/A		0
Taxis	Potential increase in journey times due to amendments to signal phasings. Potential loss of taxi rank spaces on Rutland Street.		-2
Service Vehicles	Introduction of segregated cycle lane would reduce available space for service vehicle access / loading.		-1
Private Cars	Potential increase in journey times due to amendments to signal phasings.		-1
Vehicle Loading / Parking	Introduction of segregated cycle lane would reduce available space for parking / loading.		-1
Disabled Persons' Parking	Introduction of segregated cycle lane would reduce available space for parking / loading.		-1
User Impact Rating (Max. = +30; Min. = -30)			-10

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 5.1	Estimated capital cost of option	
Option location	Charlotte Square - Option 1 (Planning Application - Public Realm Improvements)	ZERO COST	
Infrastructure Proposals	> Proposals as covered by consented planning application 11/03716/FUL.		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Proposal would create informal cycle route around north side of the square.	Detour factor = 1.6	+1
Attractiveness	Proposals would significantly enhance the existing conditions with the potential to create an iconic New Town urban design solution.	No data available.	+3
Safety	Permitting off-carriageway cycling is expected to increase cyclist safety.	No PIAs recorded on route around north side of Charlotte Square. New shared surface treatment at this location would reduce vehicle speeds and rebalance the hierarchy of travel modes in favour of active travel including cycling.	+2
Accessibility and Socio-economic impact	Creates improved link from West End to George Street and City Centre	No data available.	+2
Implementability	Planning permission granted.	Detailed design required.	+2
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+10
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Major enhancement to existing conditions expected to lead to a reduction in vehicle speeds and an increased opportunity for pedestrians to cross Charlotte Square. Minimal conflict with cyclist expected.		+3
Disabled Pedestrians	Major enhancement to existing conditions expected to lead to a reduction in vehicle speeds and an increased opportunity for pedestrians to cross Charlotte Square. Minimal conflict with cyclist expected.		+3
Buses	Negligible impact predicted.		0
Trams	N/A		0
Rail	N/A		0
Taxis	Negligible impact predicted.		0
Service Vehicles	Negligible impact predicted.		0
Private Cars	Changes to permitted vehicle movements around Charlotte Square expected to have negligible impact on journeys.		0
Vehicle Loading / Parking	Relocation of parking spaces with potential reduction in total number of spaces.		-1
Disabled Persons' Parking	Relocation of parking spaces with potential. Disabled parking provision should be maintained.		0
User Impact Rating (Max. = +30; Min. = -30)			+5

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section A Part 5.2	Estimated capital cost of option	£ 74,592.00
Option location	Charlotte Square - Option 2 (Without Taking Forward Planning Application 11/03716/FUL)		
Infrastructure Proposals	> Create segregated two-way cycle lane on north and west sides of the square.		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Proposal would create segregated cycle route around north side of the square which is clearer to cyclists than existing conditions.	Detour factor = 1.6	+1
Attractiveness	Proposals would enhance the existing conditions and encourage use by cyclists.	No data available.	+1
Safety	Segregated cycle lane is expected to increase cyclist safety.	No PIAs recorded on route around north side of Charlotte Square. Proposal expected to improve existing road safety conditions.	+2
Accessibility and Socio-economic impact	Creates improved link from West End to George Street and City Centre	No data available.	+2
Implementability	Considered technically feasible based on high level assessment.	Further detailed technical studies and consultation required.	+1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+7
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Negligible conflict with cyclist expected as cycle route is segregated from footway.		+1
Disabled Pedestrians	Negligible conflict with cyclist expected as cycle route is segregated from footway.		+1
Buses	Negligible impact predicted.		0
Trams	N/A		0
Rail	N/A		0
Taxis	Negligible impact predicted.		0
Service Vehicles	Negligible impact predicted.		0
Private Cars	Changes to permitted vehicle movements around Charlotte Square expected to have negligible impact on journeys.		0
Vehicle Loading / Parking	Relocation of parking spaces without reduction in total number of spaces.		0
Disabled Persons' Parking	Relocation of parking spaces without reduction in total number of spaces.		0
User Impact Rating (Max. = +30; Min. = -30)			+2

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section B Part 1.1	Estimated capital cost of option	
Option location	George Street (From Charlotte Square to St Andrews Square)	£ 1,163,350.44	
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Alterations to traffic signals at George Street / Charlotte Square junction including dedicated cycle signals.</li> <li>&gt; Cycle lane surface across George Street / Charlotte Square junction.</li> <li>&gt; Segregated two-way cycle lane on George Street using high-quality materials.</li> <li>&gt; Introduction or alteration of traffic signals on Castle Street, Frederick Street and Hanover Street.</li> <li>&gt; Alterations to traffic signals George Street / St Andrews Square junction to include cycle crossing.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Most direct link from West End to St Andrew Square.	Moderate delays at crossroad junctions. Detour factor = 1.0	+2
Attractiveness	Traffic-free route with dedicated signals at crossroad junctions is expected to be very attractive to cyclists and present a major public statement on the priority shift towards cycling in Edinburgh.	No data available.	+3
Safety	Traffic-free route with dedicated signals at crossroad junctions is expected improve the existing road safety conditions.	2 slight and 1 serious PIAs recorded on route section with no clusters. Proposal expected to improve existing road safety conditions.	+2
Accessibility and Socio-economic impact	Proposal would improve cycle access to major retail stores, cafes, restaurants on George Street and surrounding city centre as well as the improving the pedestrian amenity. The proposals would permit a more flexible use of the public space on George Street with the opportunities for outdoor bars / eateries and cultural events. Reduction in on-street parking and loading provision may reduce footfall to George Street.	No data available.	+1
Implementability	Technically possible however proposal is likely to have a major impact on traffic and bus routes.	Further detailed technical studies including and consultation required.	-2
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+6
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Proposals would reduce vehicular traffic on George Street which is expected to significantly improve conditions for pedestrians.		+3
Disabled Pedestrians	Proposals would reduce vehicular traffic on George Street which is expected to significantly improve conditions for pedestrians.		+3
Buses	Rerouting of bus services would required which is expected to impact on timetabling and congestion on roads where services are re-routed.		-2
Trams	Potential increase in bus traffic on Princes Street if services diverted off George Street may impact on shared tram / bus lanes.		-1
Rail	N/A		0
Taxis	Reduced route options if vehicle movements are prohibited on sections of George Street. Expected to increase delays and queuing on alternative routes. Reduced options for turning taxis on George Street. In addition delays at crossroad junctions on George Street expected where new signals (or amendment to phasing of existing signalised junctions).		-2
Service Vehicles	Reduced loading opportunities on George Street if access is prohibited on cycle lane sections.		-2
Private Cars	Reduced route options if vehicle movements are prohibited on sections of George Street. Expected to increase delays and queuing on alternative routes. In addition delays at crossroad junctions on George Street expected where new signals (or amendment to phasing of existing signalised junctions).		-2
Vehicle Loading / Parking	Reduction in parking and loading provision required to accommodate cycle lanes.		-1
Disabled Persons' Parking	Potential reduction in level of access from disabled parking to footways bordering cycle lanes.		-1
User Impact Rating (Max. = +30; Min. = -30)			-5

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section C Part 1.1	Estimated capital cost of option	
Option location	St Andrews Square to Picardy Place Roundabout (via York Place)		£ 1,015,270.20
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Segregated two-way cycle lane from St Andrews Square to Picardy Roundabout. Major works to existing footway required.</li> <li>&gt; Alterations to two-stage pedestrian crossing at Elder Street junction to accommodate cyclists.</li> <li>&gt; Extend footway at bus stops to create boarding kerbs. Ramp cycle lane to level of boarding area.</li> <li>&gt; Alterations to traffic signals at York Place / Broughton Street junction.</li> <li>&gt; Alterations to signalised crossing at Little King Street junction to accommodate cyclists.</li> <li>&gt; Carriageway realignment to accommodate cycle lane to linking to Leith Walk proposals.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Section between George Street and York Place is the existing signed Route 75. Proposal is the most direct route option to connect George Street with Leith Walk.	Moderate uphill gradient for 100m on North St Andrew Street for northbound cyclists. Moderate delay at up to six junctions / crossings. Detour factor = 1.3	+2
Attractiveness	Segregated cycle route on heavily trafficked road sections is expected to increase attractiveness to cyclists of all abilities and confidence compared to existing conditions.	No data available.	+2
Safety	Segregated cycle route is expected to greatly increase road safety along a corridor which currently has high traffic levels, including buses, HGVs and trams.	Four slight PIAs recorded on the route section, with no clusters. Proposals are expected to significantly reduce the existing accident rate.	+2
Accessibility and Socio-economic impact	Small number of shops, cafes and restaurants on route section. Increase in cycling activity on route is expected to have a minor benefit on local businesses.	No data available.	+1
Implementability	Proposal presents severe technical challenges due to level differences between footway and carriageway. Detailed assessment required to identify service and ground conditions along south side of York Place.	Further detailed technical studies including and consultation required.	-3
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+4
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Existing conflicts between pedestrians and cyclists on shared footway section on west side of North St Andrew Street. Potential conflicts on shared use footway sections at toucan crossings and north-west connection onto Cathedral Lane. Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Disabled Pedestrians	Existing conflicts between pedestrians and cyclists on shared footway section on west side of North St Andrew Street. Potential conflicts on shared use footway sections at toucan crossings and north-west connection onto Cathedral Lane. Any level changes between footway and cycleway need to be clearly demarked for visually impaired users. Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Buses	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Trams	The tramway is segregated from the vehicular carriageway and cycle lane for the majority of this route section. Where the tram crosses the carriageway and cycle route, the signals give priority to tram movements, therefore negligible impact on tram services are predicted.		0
Rail	N/A		0
Taxis	Increase in delay and queuing predicted due to lane width reduction and removal of running lane at the east end of York Place.		-2
Service Vehicles	Increase in delay and queuing predicted due to lane width reduction and removal of running lane at the east end of York Place.		-1
Private Cars	Increase in delay and queuing predicted due to lane width reduction and removal of running lane at the east end of York Place.		-2
Vehicle Loading / Parking	No loading / parking is currently permitted on the south side of York Place, therefore no impact predicted.		0
Disabled Persons' Parking	No loading / parking is currently permitted on the south side of York Place, therefore no impact predicted.		0
User Impact Rating (Max. = +30; Min. = -30)			-8

Project name: Roseburn to Leith Walk Cycle Routes Feasibility Study			
Name of promoter		City of Edinburgh Council	
Route section/ option	Section C Part 1.2	Estimated capital cost of option	
Option location	St Andrews Square to Picardy Place Roundabout (via Leith Street)	£ 1,019,741.94	
Infrastructure Proposals	<ul style="list-style-type: none"> <li>&gt; Alterations to traffic signals George Street / St Andrews Square junction to include cycle crossing.</li> <li>&gt; Segregated two-way cycle lane from east end of George Street to Picardy Roundabout.</li> <li>&gt; Extend footway at bus stops to create boarding kerbs. Ramp cycle lane to level of boarding area.</li> <li>&gt; Alterations to traffic signals at Leith Street / Princes Street junction.</li> <li>&gt; Bus gate on Leith Street southbound lane.</li> <li>&gt; Carriageway realignment to accommodate cycle lane to linking to Leith Walk proposals.</li> </ul>		
Feasibility Assessment Against Cycling Objectives			
Objective	Qualitative information	Quantitative information	Impact Score (+/-3)
Coherence and Directness	Route is less direct and coherent than York Place for connections onto George Street. However Leith Street is used regularly by cyclist connecting between Leith Walk and Princes Street.	Significant uphill gradient for 250m on Leith Street. Moderate delay at Princes Street / Leith Street junction. Detour factor = 1.6	+1
Attractiveness	Significant gradient on Leith Street is considered unsuitable for children and less physically capable cyclists. There is a high proportion of buses and HGVs that use Leith Street. Creating a segregated cycle route through this section is expected to significantly increase the attractiveness to cyclists.	No data available.	+1
Safety	There is currently a major perception that the route is not safe for cyclists. Creating a segregated route is expected significantly increase the perception and actual safety of cyclists.	Ten slight and one serious PIA recorded on the route section. Proposals are expected to significantly reduce the existing accident rate.	+2
Accessibility and Socio-economic impact	Small number of shops, cafes and restaurants on route section. Increase in cycling activity on route is expected to have a minor benefit on local businesses.	No data available.	+1
Implementability	Proposals are considered technically feasible, however proposed bus gate on Leith Street and routing of traffic onto Calton Road is expected to result in capacity problems elsewhere on the network.	Further detailed technical studies including and consultation required.	-1
Feasibility Assessment Rating (Max. = +15; Min. = -15)			+4
User Impact Assessment	Comments		Impact Score (+/-3)
Pedestrians	Loss of footway space required on Princes Street to accommodate new cycle lane. Potential conflict at shared pedestrian / cycle section on east side of Picardy Place roundabout. Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Disabled Pedestrians	Loss of footway space required on Princes Street to accommodate new cycle lane. Potential conflict at shared pedestrian / cycle section on east side of Picardy Place roundabout. Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		-1
Buses	Appropriate design of bus stop buildouts across cycle lane required to minimise conflict between cyclists and pedestrians at bus stops.		0
Trams	Cycle lane on South St Andrew Street would be segregated from tramway. No impact predicted.		0
Rail	N/A		0
Taxis	Restrictions on traffic movements on Leith Street northbound lane is expected to have a significantly negative impact on taxi routes currently linking between Leith Walk and Princes Street / Southside via Leith Street		-3
Service Vehicles	Restrictions on traffic movements on Leith Street northbound lane is expected to have a significantly negative impact on traffic movements between Leith Walk and Princes Street / Southside via Leith Street. Potential increase in journey times due to amendments to signal phasings.		-3
Private Cars	Restrictions on traffic movements on Leith Street northbound lane is expected to have a significantly negative impact on traffic movements between Leith Walk and Princes Street / Southside via Leith Street. Potential increase in journey times due to amendments to signal phasings.		-3
Vehicle Loading / Parking	No loading / parking is currently permitted on the route section, therefore no impact predicted.		0
Disabled Persons' Parking	No loading / parking is currently permitted on the route section, therefore no impact predicted.		0
User Impact Rating (Max. = +30; Min. = -30)			-11

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## 5 Summary & Conclusions

### 5.1 Output Results Summary

- 5.1.1 The summary output results for both the Route Option Feasibility Assessment and User Impact Appraisal are presented in Table 5-1 below. The results have been grouped in to colour categories to aid comparison between route sections.
- 5.1.2 The table includes the output total for the feasibility and user impact appraisal for each route section. In addition to this, Table 5-1 also includes a combined assessment of both separate reviews to help to identify those route options which both strongly meet the feasibility objectives and also have the least negative / most positive impact on other road users.
- 5.1.3 The summary output totals for the feasibility assessment for each route section have been mapped using GIS to visually represent the results. These results are shown in Figure 5-1.
- 5.1.4 The summary output totals for the user impact appraisal for each route section are shown in Figure 5-2.
- 5.1.5 Figure 5-3 graphically represents the totals for the combined assessment for both reviews for each route section.



Table 5-1: Feasibility Assessment and User Impact Appraisal Output Results Summary Table

Route Section	Option location	Feasibility Assessment Against Cycling Objectives						User Impact Assessment											Cycling Objectives versus User Impact [a]+[b]
		Coherence and Directness	Attractiveness	Safety	Accessibility and Socio-economic impact	Implementability	Total [a]	Pedestrians	Disabled Pedestrians	Bus	Tram	Rail	Taxi	Service Vehicles	Private Cars	Vehicle Loading / Parking	Disabled Persons' Parking	Total [b]	
Section A Part 1.1	Roseburn Park to Roseburn Terrace (via Roseburn Gardens)	+2	+1	+2	+2	-1	+6	0	0	-1	0	0	-1	-2	-1	0	0	-5	+1
Section A Part 1.2	Roseburn Terrace (Roseburn Gardens junction to Roseburn Street junction)	+3	+2	+2	+2	-1	+8	0	0	-1	0	0	-2	-2	-1	-2	-2	-10	-2
Section A Part 1.3	Roseburn Park to Roseburn Terrace (via Roseburn Place)	-1	+1	+2	-2	-1	-1	-2	-2	-1	0	0	-1	-1	-1	0	0	-8	-9
Section A Part 1.4	Roseburn Terrace (From Roseburn Street junction to Wester Coates junction)	+2	+2	+3	+1	-1	+7	-1	-1	-2	0	0	-2	-1	-1	-2	-2	-12	-5
Section A Part 1.5	Roseburn Path Links to West Coates	+1	+2	+1	+1	+1	+6	0	0	0	0	0	0	0	0	0	0	0	+6
Section A Part 2.1	West Coates (From Wester Coates Road junction to Coates Gardens junction)	+2	+2	+1	+1	-2	+4	-1	-1	-2	0	0	-2	-1	-1	-2	-2	-12	-8
Section A Part 3.1	Coates Gardens to Manor Place / Chester Street junction	-1	-1	+1	-1	+1	-1	-1	-1	0	0	0	-1	-1	-1	-1	-1	-7	-8
Section A Part 3.2	Melville Street - Design Option 1 (Full Public Realm Treatment at Walker Street junction)	+2	+3	+2	+1	+1	+9	+3	+3	0	0	0	-1	0	-1	-1	0	+3	+12
Section A Part 3.3	Melville Street - Design Option 2 (Semi-Public Realm Treatment at Walker Street junction)	+2	+2	+2	+1	0	+7	+1	+1	0	0	0	-1	0	-1	-1	0	-1	+6
Section A Part 3.4	Randolph Lane / Queensferry St junction to Charlotte Square	+2	+2	+2	+1	+1	+8	-1	-1	-1	0	0	-1	-1	-1	0	0	-6	+2
Section A Part 3.5	Haymarket Terrace (From Coates Gardens to Melville St - via Roseberry Cres)	+1	+1	+1	-1	+1	+3	+1	+1	-1	0	0	-1	-2	-1	-1	-1	-5	-2
Section A Part 3.6	Haymarket Terrace (From Coates Gardens to Melville St - via Grosvenor St)	+1	+1	+2	+2	-3	+3	+1	+1	-3	0	+3	-3	-2	-3	-1	-1	-8	-5
Section A Part 4.1	Melville Street / Walker Street Junction to Rutland Square	+2	+2	+2	+1	0	+7	-1	-1	0	0	+1	-2	0	0	0	0	-3	+4
Section A Part 4.2	Rutland Square to Festival Square	+1	+1	+1	+1	+1	+5	-1	-2	0	0	0	0	0	0	0	0	-3	+2
Section A Part 4.3	Rutland Square to Lothian Road (via Rutland Street)	0	-1	+2	+2	-2	+1	-1	-1	-1	-1	0	-2	-1	-1	-1	-1	-10	-9
Section A Part 5.1	Charlotte Square - Option 1 (Planning Application - Public Realm Improvements)	+1	+3	+2	+2	+2	+10	+3	+3	0	0	0	0	0	0	-1	0	+5	+15
Section A Part 5.2	Charlotte Square - Option 2 (Without Taking Forward Planning Application 11/03716/FUL)	+1	+1	+2	+2	+1	+7	+1	+1	0	0	0	0	0	0	0	0	+2	+9
Section B Part 1.1	George Street (From Charlotte Square to St Andrews Square)	+2	+3	+2	+1	-2	+6	+3	+3	-2	-1	0	-2	-2	-2	-1	-1	-5	+1
Section C Part 1.1	St Andrews Square to Picardy Place Roundabout (via York Place)	+2	+2	+2	+1	-3	+4	-1	-1	-1	0	0	-2	-1	-2	0	0	-8	-4
Section C Part 1.2	St Andrews Square to Picardy Place Roundabout (via Leith Street)	+1	+1	+2	+1	-1	+4	-1	-1	0	0	0	-3	-3	-3	0	0	-11	-7

Figure 5-1: Route Section Feasibility Rating

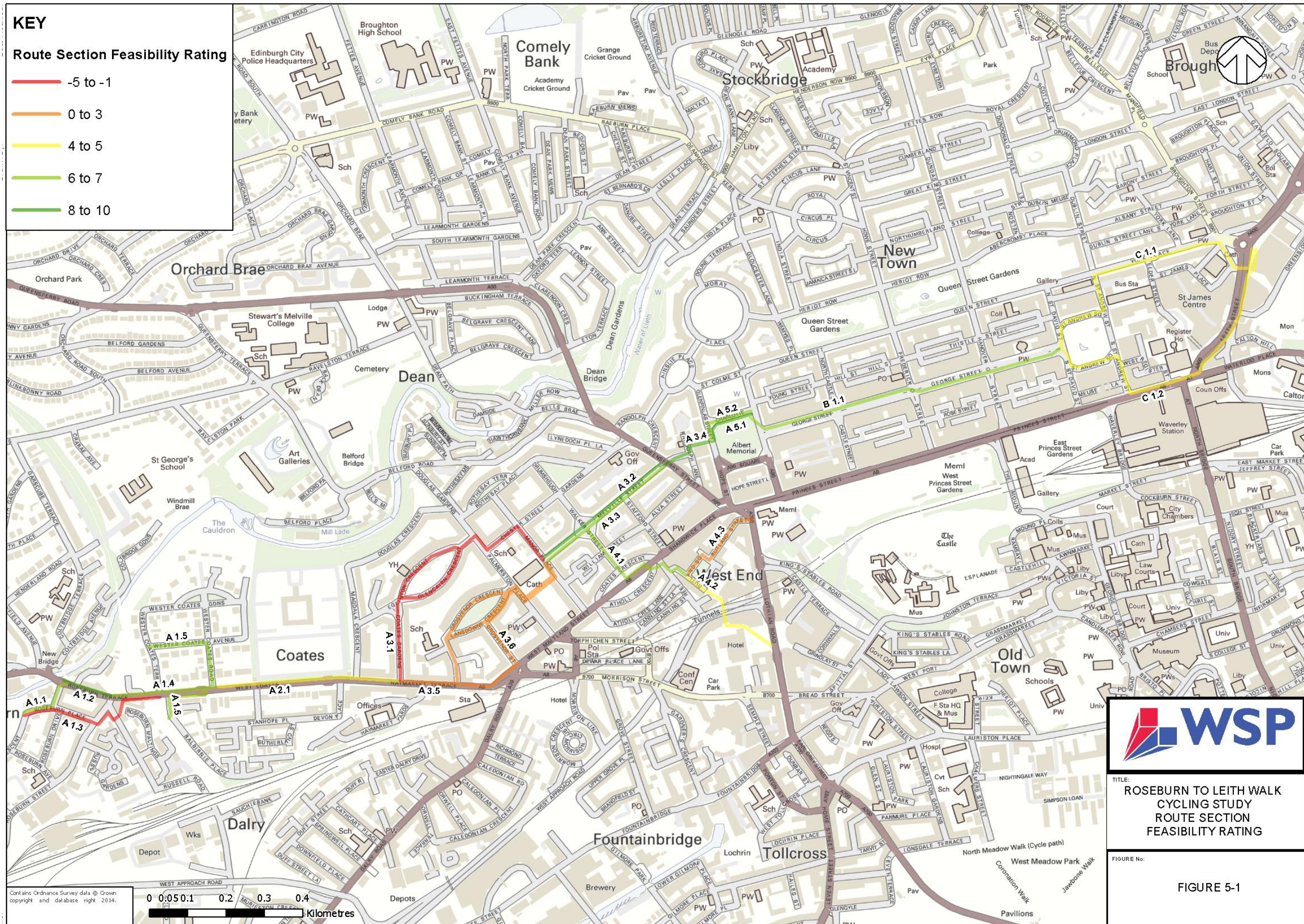
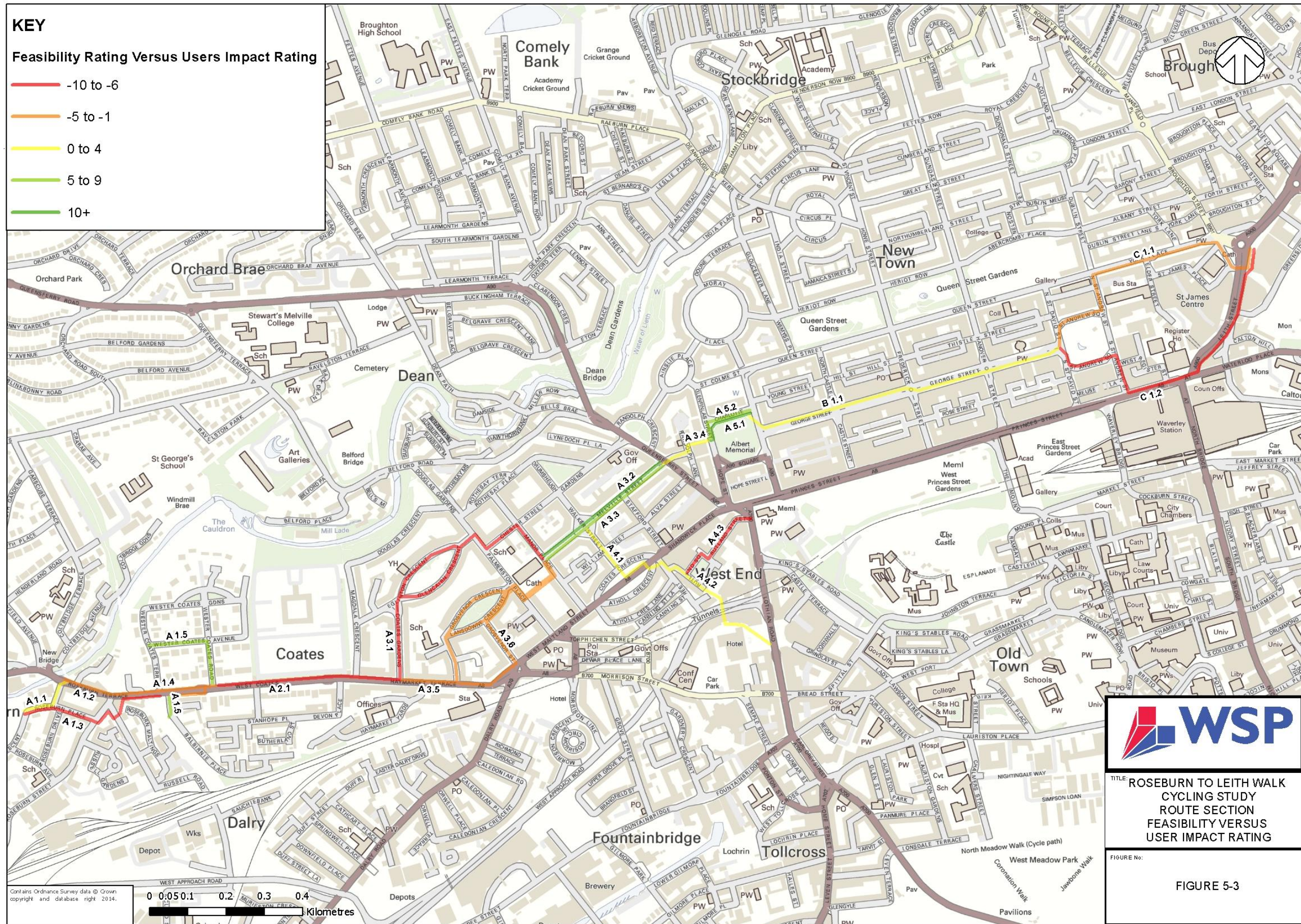




Figure 5-3: Route Section Feasibility Rating Versus User Impact Rating

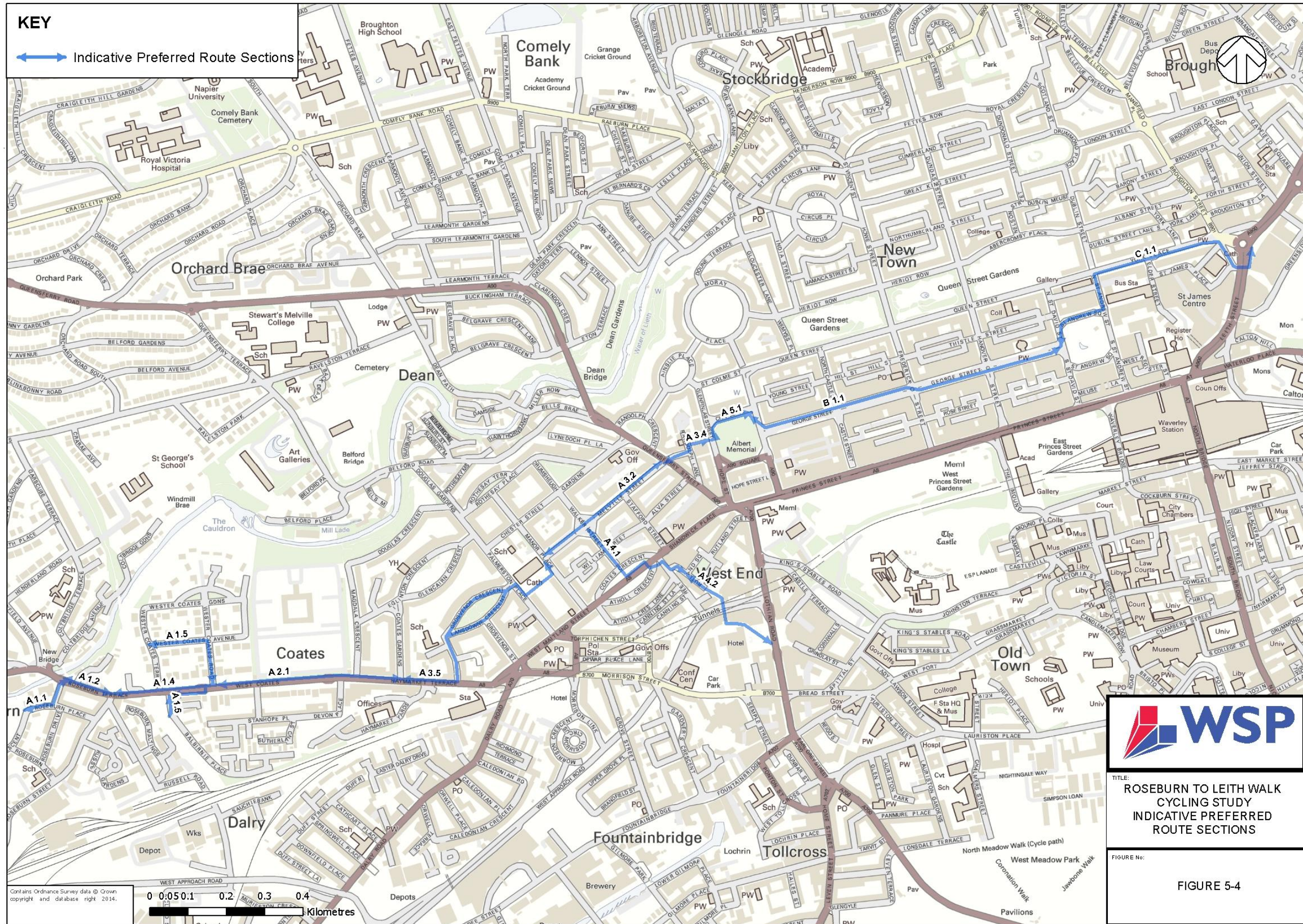


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## 5.2 Conclusions

- 5.2.1 The summary output results of the route options feasibility assessment indicate that there are a number of favourable routing options from Roseburn Park to Leith Walk.
- 5.2.2 The proposed section improvements which would provide the most benefit to cyclists are on:
- Roseburn Terrace;
  - Melville Street;
  - Randolph Place;
  - Charlotte Square; and
  - George Street.
- 5.2.3 The summary output results of the route options user impact appraisal indicate that the most significant negative impacts are predicted to be on:
- Roseburn Terrace / West Coates – primarily related to the loss of bus / taxi lane/s;
  - Haymarket Terrace / Grosvenor Street – related to the loss of a traffic lane and changes to the signal phasing;
  - George Street – related to the proposed restrictions on traffic movements;
  - Rutland Street – related to the technical restrictions on introducing a segregated cycle lane, impact on taxis and changes to the signal phasing's on Lothian Road / Princes Street;
  - York Place – related to the major technical difficulties expected to construct the required cycle infrastructure and impact on vehicle movements.
  - Leith Street – related to major impact of changes to traffic signals at the Prince Street junction and proposed restrictions on northbound traffic movements.
- 5.2.4 Based on the combined output results for both the feasibility assessment and user impact appraisal a potential best route option across the study network from Roseburn to Leith Walk has been derived. This indicative route is shown in Figure 5-4.
- 5.2.5 It is expected that detailed assessment work, including traffic model testing, will allow this route option to be revised to allow CEC to promote a preferred route solution.

Figure 5-4: Indicative Best Route Option from Roseburn to Leith Walk



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