Transport and Environment Committee

10.00am, Thursday, 2 February 2023

Edinburgh Cycle Hire Scheme – Options Appraisal

Executive/routine	**Executive**
Wards	**All**
Council Commitments	

1. Recommendations

1.1 Transport and Environment Committee is asked to note:

1.1.1 The options available for a new Edinburgh Cycle Hire Scheme as set out in this report and in Appendix 1; and

1.1.2 The financial information at paragraph 6.3 in respect of funding for a new Edinburgh Cycle Hire Scheme.

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Report

Edinburgh Cycle Hire Scheme – Options Appraisal

2. Executive Summary

2.1 On 11 November 2021, Committee approved the establishment of a project team to prepare a detailed assessment of options for a new Edinburgh Cycle Hire Scheme in the medium to long term.

2.2 This report sets out the options available with a view to informing Committee's decision making on the next steps.

3. Background

3.1 On 19 August 2021 (held on 9 September 2021), Committee considered a report providing detail on the closure of the Edinburgh Cycle Hire Scheme (ECHS) on 17 September 2021, following the end of the concessionary contract between Serco and Transport for Edinburgh.

3.2 On 11 November 2021, Committee agreed the objectives of a new scheme and the establishment of a project team to take forward a detailed assessment of options available in the medium to long term.

3.3 Committee also agreed to progress short-term, mitigating actions that could be implemented while the medium and longer-term options were assessed and developed.

3.4 To support Council officers in developing and analysing the available options, Turner & Townsend were commissioned in December 2021.

3.5 The purpose of this report is to provide the detail and outcome of this work to inform decision making moving forward. The full report is attached at Appendix 1.

4. Main report

Objectives

4.1 Initial objectives for a new ECHS were approved by Committee on 11 November 2021.

4.2 As part of the option appraisal, these objectives were reviewed and refined by Council officers, in consultation with a range of stakeholders, including at a

workshop with Committee members in February 2022. The final objectives are set out below.

Alignment with City Mobility Plan

Improve access to bikes and e-bikes to help facilitate modal shift to cycling and contribute towards the objectives of the City Mobility Plan:

- To improve health, wellbeing, equality and inclusion;
- To support inclusive and sustainable economic growth and respond to climate change; and
- Protect and enhance our environment.

Inclusive

- Improve access to bikes and e-bikes to help facilitate an increase in cycling amongst low participant groups
- Ensure that communities have the opportunity to input before any scheme is implemented and throughout its operation
- Provide access to e-cargo bikes and ensure the scheme is aligned with other adaptive bike schemes
- Ensure scheme data is made available to the public

Integrated with public transport provision in Edinburgh

- Aspire for the scheme to be part of an integrated public transport offering, with a similar aesthetic to the other modes (for the user) and the ability to link into the (future) integrated ticket of Lothian Buses and Edinburgh Trams
- Ensure the scheme is aligned with the Active travel network being developed in the City

Financially Sustainable

- Ensure costs of any scheme are covered by the funding provided by the Council, external funding bodies, sponsorship and trip revenue
- Aspire to reduce any operational subsidy over the life of the Contract

Secure

- Maintain access to bikes by giving due consideration to the impacts of potential vandalism and theft, ensuring all scheme infrastructure designed to mitiagte levels of vandalism and theft experienced in the UK
- Any scheme should be supported with community outreach resources to engage with local communities and instill a sense of community ownership

4.3 Further details on these objectives are provided in Section 5 of Appendix 1. Based on these, several scheme options were identified.

Options

Dockless Bike System

4.4 Early in 2017, Transport for Edinburgh recognised the risk of a dockless bike system and procured a cycle hire scheme, predominantly docked, but with a controlled dockless capability. This decision was based on advice from Transport for London (TfL), and in discussions with Council service areas (Legal, Transport and others), partners (TfL, Sustrans, CoMoUK and Bikeplus) and stakeholders (Living Streets, Access Panel, Cockburn Association and others).

4.5 Following this, a Code of Conduct for Dockless Cycle Hire schemes was developed and issued, which was aimed at operators to make clear the city's expectation from any dockless scheme, especially around security and street clutter.

4.6 Based on stakeholder feedback during the review in 2022, it was agreed that a dock-based solution would be required to best meet the Principal Scheme Objectives and therefore the analysis has not assessed options for a dockless solution.

Other Options

4.7 The options detailed in Table 1 below were identified and assessed as part of the review. Committee is asked to note that:

4.7.1 Option B is effectively a continuation of the mitigations approved by Committee on 11 November 2021; and

4.7.2 The detail on options C to E is indicative to allow an understanding of funding requirements. These would need to be refined further should the Council decide to proceed into the design stage with any of these options.

Option B

4.8 Appendix 2 provides details of the funding provided for the interim schemes in 2022/23, with a summary of the achievements of each scheme while it has been operating.

4.9 The table in Appendix 2 also provides details of the funding required in 2023/24 should the Council decide to continue these schemes.

4.10 Further details on all of the identified options is provided in Section 6 of Appendix 1.

Table 1: Options

Option	Description	Docking Stations	Docking Points	Bikes	E-Bikes
A	Do Nothing	n/a			
B	Continue to support existing short-term interim measures on a long-term basis as detailed below. No specific cycle hire scheme implemented. Existing short-term interim measures include: **1. City Bike Club** Investigate a city bike club for businesses, working in partnership with retailers and other relevant organisations. **2. All-Ability Cycling** Funding to Thistle to deliver 240 sessions on the adaptive bikes with 160 new people started into the programme. **3. Break the Cycle (BTC)** Support offenders with skills and knowledge on bikes and bike repair. Funding has been used to undertake workshop improvements, pay for equipment, parts and increase staff training. **4. FEHE Cycle Training Programme and access to bikes** In partnership with the University of Edinburgh, the Council and the Energy Savings Trust, support a project which expands the current programme of cycle confidence training to be offered to all higher education institutions in the city. **5. University of Edinburgh – e-bike Project** Reusing the 60 e-bikes owned by ECHS to create access to e-bikes across three of their student accommodation sites. **6. Cargo Bike Movement** Increase capacity by funding additional staff and building space to be able to increase capacity in their work to normalise the use of cargo bikes.	n/a			
C	Implement and operate a cycle hire scheme in "Central" Edinburgh and parks.	35	700	280	105
D	Implement and operate a cycle hire scheme based on medium and high demand locations of the previous ECHS.	70	1,400	560	210
E	Implement and operate a more inclusive cycle hire scheme with wide coverage across Edinburgh.	140	2,800	1,120	420

Option Alignment with Principal Scheme Objectives

4.11 Each option was assessed against the Principal Scheme Objectives with the scoring mechanism detailed in Table 2 below. A summary of findings is shown in Table 3.

Table 2: Option Alignment Scoring

Alignment with Objective	Scoring
Not aligned and does not meet the objective	×
Limited alignment with the objective	✓
Partially meets the objective	✓✓
Fully meets the objective	✓✓✓

Table 3: Option Alignment with Principal Scheme Objectives

	Objectives				
Option	**Alignment with CMP**	**Inclusive**	**Integrated with public transport provision**	**Financially Sustainable**	**Secure**
A	×	×	×	✓✓✓	n/a
B	✓	✓	×	✓✓✓	✓✓✓
C	✓	✓	✓	✓✓	✓✓✓
D	✓✓	✓✓	✓✓	✓✓	✓✓✓
E	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓

4.12 For the purposes of the review and to ensure consistency, financial sustainability has been scored the same for Options C to E. This assumes that, should the Council decide to proceed with one of the three options, sufficient funding would be made available to meet the cost of the scheme and therefore it would be financially affordable.

4.13 Further details on option alignment with the Principal Scheme Objectives are provided in Section 6 of Appendix 1.

Operating Model

4.14 There are a number of different operating models utilised for cycle hire schemes in the UK. In assessing the options available, the operating model options considered included:

4.14.1 A managed service model that shares risk between the Local Authority and the Service Provider;

4.14.2 A model that transfers all risk to the Service Provider including capital funding;

4.14.3 A sub-set of the ‘all risk’ model, with the Local Authority providing capital funding; and

4.14.4 A concessionary model where all risk is transferred to the Service Provider and there is no payment of a service charge.

4.15 The risk apportionment for each of the operating models is shown in Table 4 below.

Table 4 - Operating Model Risk Apportionment

Operating Model	Capital Funding	Asset Ownership	Payment of Service Charge to Service Provider	Trip & Sponsorship Revenue Risk	Vandalism / Lost & Stolen Risk	Third Party Damage Risk	Customer Public Liability Risk	Marketing / Comms / Community Outreach
1. Managed Service – Shared Risk	CEC	CEC	Yes	CEC	Shared	CEC	Shared	CEC
2.a) All Risk and Capital funding on Service Provider	Service Provider	Service Provider	Yes	Service Provider	Service Provider	Service Provider	Service Provider	Service Provider
2. b) All Risk on Service Provider, CEC provide Capital funding	CEC	CEC	Yes	Service Provider	Service Provider	Service Provider	Service Provider	Service Provider
3. Concession	Service Provider	Service Provider	No	Service Provider	Service Provider	Service Provider	Service Provider	Service Provider

4.16 Further details on Operating Model considerations are provided in Section 6 of Appendix 1.

Preliminary Capital Implementation Cost Estimates

4.17 Preliminary capital cost estimates for the implementation and operation of Options C-E have been calculated and are detailed in Table 5 below.

4.18 A more detailed breakdown of Preliminary Implementation Cost Estimates is included in Section 6 of Appendix 1. It is important to note that there is currently no provision for the capital cost of a cycle hire scheme within the Council's Sustainable Capital Budget Strategy.

Table 5: Preliminary Capital Implementation Cost Estimates

Option	Description	Operating Model	Estimated Implementation Timescales	Estimated Total Implementation Cost (Capital) (£m)
C	Implement and operate a cycle hire scheme in "Central" Edinburgh and Parks Docking Stations – 35 Docking Points – 700 Bikes – 280 e-Bikes – 105	1.Managed Service – Shared Risk	1 year from Contract Award	2.46
		2.a) All Risk and Capital funding on Service Provider		0.28
		2. b) All Risk on Service Provider, CEC provide Capital funding		1.91
D	Implement and operate a cycle hire scheme based on medium and high demand locations of previous scheme Docking Stations – 70 Docking Points – 1,400 Bikes – 560 e-Bikes – 210	1. Managed Service – Shared Risk	1 year from Contract Award	4.35
		2.a) All Risk and Capital funding on Service Provider		0.28
		2. b) All Risk on Service Provider, CEC provide Capital funding		3.21
E	Implement and operate a more inclusive cycle hire scheme with wide coverage across Edinburgh Docking Stations – 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes – 420	1. Managed Service – Shared Risk	2 years from Contract Award 1 year to implement 70 Docking Stations + 1 year to implement remaining 70 Docking Stations	8.36
		2.a) All Risk and Capital funding on Service Provider		0.28
		2. b) All Risk on Service Provider, CEC provide Capital funding		5.87

Preliminary Revenue Estimates

4.19 The preliminary revenue estimates which include both trip and sponsorship revenue are detailed in Table 6 below.

Table 6: Preliminary Revenue Estimates

Option	Description	Estimated Number of Trips p.a.	Estimated Total Number of Trips	Estimated Total Trip and Sponsorship Revenue (£m)
C	Docking Stations - 35 Docking Points - 700 Bikes - 280 e-Bikes - 105	187,793	751,170	1.67
D	Docking Stations - 70 Docking Points – 1,400 Bikes - 560 e-Bikes - 210	375,585	1,502,340	3.36

E	Docking Stations - 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes - 420	751,170	3,004,680	5.87

Preliminary Operational Cost and Operational Subsidy Estimates

4.20 The Preliminary Operational Cost Estimates and Operational Subsidy Estimates are detailed in Table 7 below and reflect the Preliminary Revenue Estimates detailed in Table 6 above.

Table 7: Preliminary Operational Cost and Operational Subsidy Estimates

Option	Description	Operating Model	Estimated Total Operational Cost (£m)	Estimated Total Operational Subsidy (£m)	Estimated Subsidy per Annum (£m)
C	Implement and operate a cycle hire scheme in "Central" Edinburgh and Parks Docking Stations - 35 Docking Points - 700 Bikes - 280 e-Bikes – 105	1.Managed Service - Traditional model	5.23	3.56	0.89
		2.a) All Risk and Capital funding on Service Provider	6.09	6.09	1.52
		2. b) All Risk on Service Provider, CEC provide Capital funding	3.05	3.05	0.76
D	Implement and operate a cycle hire scheme based on medium and high demand locations of previous scheme Docking Stations - 70 Docking Points – 1,400 Bikes - 560 e-Bikes - 210	1. Managed Service – Shared Risk	8.41	5.05	1.26
		2.a) All Risk and Capital funding on Service Provider	9.66	9.66	2.42
		2. b) All Risk on Service Provider, CEC provide Capital funding	5.17	5.17	1.29
E	Implement and operate a more inclusive cycle hire scheme with wide coverage across Edinburgh Docking Stations - 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes - 420	1. Managed Service – Shared Risk	14.19	8.32	2.08
		2.a) All Risk and Capital funding on Service Provider	18.07	18.07	4.52
		2. b) All Risk on Service Provider, CEC provide Capital funding	8.4	8.37	2.09

4.21 A more detailed breakdown of Preliminary Operational Cost and Revenue Estimates are included in Section 6 of Appendix 1.

4.22 The Preliminary Capital Implementation and Operational Cost Estimates for each option have been consolidated into Table 8 below.

Table 8: Consolidated Preliminary Cost Estimates

		CAPEX	OPEX (Revenue Costs)			
Option	**Operating Model**	**Estimated Total Implementation Cost (£m)*** ***Option C & D implemented over two years. Option E implemented over three years.**	**Estimated Total Operational Cost (£m)** - Exclusive of Revenue	**Estimated Net Total Operational Cost to CEC (£m) –** Inclusive of Revenue (Table 6)	**Estimated Net Operational Cost to CEC p.a. (£m) –** Inclusive of Revenue (Table 6)	**Total Cost to CEC (CAPEX plus OPEX inclusive of Revenue) (£m)**
B	n/a	0	0.3	0.3	0.3	0.3 (p.a.)
C	1	2.46	5.23	3.56	0.89	6.02
	2.a)	0.28	6.09	6.09	1.52	6.37
	2. b)	1.91	3.05	3.05	0.76	4.96
D	1	4.35	8.41	5.05	1.26	9.4
	2.a)	0.28	9.66	9.66	2.42	9.94
	2. b)	3.21	5.17	5.17	1.29	8.38
E	**1**	**8.36**	**14.19**	**8.32**	**2.08**	**16.68**
	2.a)	0.28	18.07	18.07	4.52	18.35
	2. b)	5.87	8.4	8.37	2.09	14.27

Conclusions

4.23 All cost estimates provided are subject to the assumptions contained within the report attached at Appendix 1. In particular, the cost estimates for options C – E are preliminary and further work will be required at the design stage to verify costs as part of the refinement of any recommended option.

4.24 The outcome of the options appraisal is that the scheme which best fits the objectives of the project is Option E1, which consists of 140 Docking Stations, 1,120

bikes and 420 e-bikes, and that a scheme is procured and operated on the basis of a Managed Service (Option 1). This is because Option E is best aligned with the Principal Scheme Objectives and is the most attractive option for a potential sponsor. While more expensive than Option E (2b), it provides the Council with significantly more control over areas such as docking station locations; sponsorship procurement and arrangements; tariff structure; and operational requirements and service levels.

4.25 Alternatively, the Council could decide to retain the interim schemes for a further year (the costs of this are set out in Appendix 2).

4.26 However, it is important to note that the findings of the options appraisal do not take account of financial deliverability and, in particular, the Council's forecast pressure on capital and revenue budgets. The current financial position in respect of revenue funding is set out in the financial impact section of this report (section 6). As noted above, there is no provision in the Council's Sustainable Capital Budget Strategy for a cycle hire scheme.

4.27 This report and appendices are provided to assist and inform Committee as part of the budget setting exercise for financial year 2023/24 and beyond.

5. Next Steps

5.1 The next steps will depend on which option the Council decides to proceed with.

6. Financial impact

6.1 The option appraisal sets out a preferred option for a cycle hire scheme consisting of 140 docking stations, 1,120 bikes and 420 e-bikes (Option E) and that the scheme is procured and operated on the basis of a Managed Service (Option1). This would require initial capital investment of £8.36m and an annual revenue subsidy of £2.08m.

6.2 The loans charges associated with the capital investment over a 5-year period would be a principal amount of £8.36m and interest of £1.2m, resulting in a total cost of £9.56m based on an assumed loans fund interest rate of 4%. This represents annual loans charges of £1.92m, taking the total annual revenue requirement to £4.0m.

6.3 On 27 May 2021, the Council approved investment of £2.3m, over four years from 2021/22, to meet the cost of the then existing bike scheme. This was superseded when the scheme ended in September 2021 with the Transport and Environment Committee subsequently utilising part of that funding for the purposes set out in paragraph 3.3. The remaining funding includes one off allocations of £0.5m in 2023/24, £0.5m in 2024/25 and £0.210 in 2025/26 and this has been put forward by officers as a proposed revenue budget saving in the Revenue Budget Framework 2023-27 report to the Finance and Resource Committee on 7 February 2023.

6.4 If the above is approved, there will be no funding for a new scheme within the revenue budget framework or sustainable capital budget strategy. Therefore, should the Council seek to progress any option, provision would have to be made in both the capital and revenue budget setting process for Financial Year 2023/24 and beyond. As the project would commit the Council to significant costs for at least five years, any investment would be dependent on a balanced medium-term budget revenue budget.

6.5 Section 6.6 of Appendix 1 details potential external funding routes for the project based on engagement completed in February 2022, but these are unlikely to meet the full cost.

7. Stakeholder/Community Impact

7.1 Extensive stakeholder engagement was completed as part of the review. Section 4.2 of Appendix 1 details the approach and stakeholders engaged.

8. Background reading/external references

8.1 Emergency Motion by the Coalition - Edinburgh Cycle Hire Scheme, Transport and Environment Committee 19 August 2021.

9. Appendices

9.1 Appendix 1 – Cycle Hire – Options Identification and Analysis
9.2 Appendix 2 – Feedback on Mitigating Actions

Appendix 1

Cycle Hire Scheme Research

16 March 2022

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Cycle Hire Scheme Research

Client Name: City of Edinburgh Council
Project: Edinburgh Cycle Hire Scheme

Revision: 2
Document Status: Draft
Date: 16 March 2022

1 UK CYCLE HIRE SCHEMES 1

1.1 WEST MIDLANDS CYCLE HIRE 1
1.2 DUNDEE CYCLE HIRE 1
1.3 GREATER MANCHESTER BEE NETWORK CYCLE HIRE SCHEME 2
1.4 LONDON CYCLE HIRE SCHEME 3
1.5 GLASGOW CYCLE HIRE SCHEME 5
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1.10.1 EXISTING E-SCOOTER SCHEMES IN THE UK 17

1 UK Cycle Hire Schemes

In the UK there are approximately 42 cycle hire schemes currently in operation. As part of the research completed, a sample of six were selected for research and analysis.

1.1 West Midlands Cycle Hire

Table 1 - West Midlands Cycle Hire

Scheme	West Midlands Cycle Hire Scheme
Service Provider	Serco
Geographic Spread	Birmingham Coventry Sandwell Stourbridge Solihull Sutton Coldfield Walsall Wolverhampton
Scheme Volumes	1,500 bikes, 150 e-bikes and 200 fixed docking stations with approximately 2,300 docking points
Years of Operation	<1 year
Operating Model	Managed Service
Asset Ownership	TfWM
Station Density	3 docking stations per km²
Average Docking Points /Station	12
Dock to bike ratio	1.4:1
Vandalism / Lost & Stolen	Bike loss of approximately 10/year Replacement costs split 50/50 with supplier and capped up to an agreed amount

Design	 
Key Design Features	Cushioned saddles Three gears Mud and chain guards to protect clothing Laser lights for added safety Front storage Geo-fenced docking areas which can be moved to meet demand or for large scale events Geo-fenced bikes to prevent access to certain areas

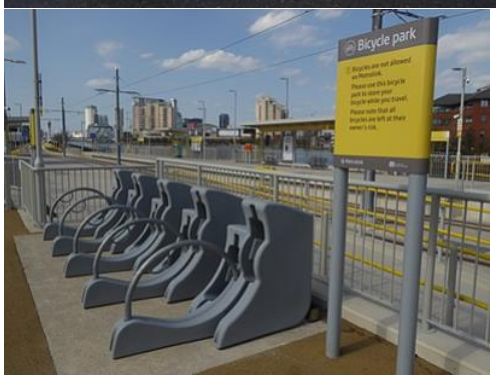
1.2 Dundee Cycle Hire

Table 2 - Dundee Cycle Hire

Scheme	Dundee
Service Provider	Ride On
Geographic Spread	Riverside Esplanade, near Dundee University, Ninewells Hospital and Broughty Ferry
Scheme volumes	16 -20 Docking stations, 140 e-bike Bikes, 280 docking points.
Years of Operation	<1 year
Operating Model	Concession
Asset Ownership	Service Provider
Station Density	2 docking stations per km²
Average Docking Points /Station	17
Dock to bike ratio	2:1
Vandalism / Lost & Stolen	Service Provider liable for replacing damaged bikes. No vandalism reported to date.
Design	 
Key Design Features	Smart docking stations Charging stations Modular so can be adapted to different directions etc. Linear approach requires more space

1.3 Greater Manchester Bee Network Cycle Hire Scheme

Table 3 - Greater Manchester Bee network Cycle Hire Scheme

Scheme	Greater Manchester Bee Network Cycle Hire Scheme
Geographic Spread	Manchester, Salford, and Trafford. Docking stations are spaced at 300-500m intervals
Service Provider	Beryl
Scheme Volumes	1,500 bikes and 300 e-bikes with a proposed 200 docking stations
Years of Operation	< 1 year not fully deployed
Operating Model	Managed service
Asset Ownership	TfGM
Station Density	Currently 5 docking stations per km²
Average Docking Points /Station	9
Dock to bike ratio	Currently 1.7:1
Vandalism / Lost & Stolen	Beryl takes on this risk and are responsible for replacement
Design	 

Key Design Features	Bee Network Cycle Hire branding Round tubing Unlocked by a smartphone Basket for bags/packages which also houses solar panel to power electrical systems Bike and E-bikes share design features so that they appear to be from the same family Scale on seat post to adjust height Three gears for city riding Back brake on left-hand side, front brake on the right Bell on left handlebar White LED light combined with signature green Laser light project for night time. This shines a green bike symbol five metres ahead of the bike to warn other road users. Back brake lights All lights work with a dynamo and come on automatically when pedalling begins Anti-puncture technology on tires All technology is in the bike **Technology** Virtual docking via GPS geo-fencing Data collection and management capability All IS systems to be design API-first to allow broad integration with other systems in the future

1.4 London Cycle Hire Scheme

Table 4 - London Cycle Hire Scheme

Scheme	London Cycle Hire Scheme – Santander Cycles
Service Provider	Serco
Geographic Spread	The scheme now includes central, east, west, and south-west London. Docking stations are spaced at 300 metre intervals.
Scheme Volumes	Over 785 docking stations and 11,500 bikes
Years of Operation	12 years
Operating Model	Managed Service
Asset Ownership	TfL
Station Density	7 docking Stations per km²
Average Docking Points /Station	26

Dock to bike ratio	1.8:1
Vandalism / Lost & Stolen	TfL funds replacement of lost / stolen and vandalised bikes
Design	 
Key Design Features	These bikes have been integrated with the Beryl Laser light

1.5 Glasgow Cycle Hire Scheme

Table 5 - Glasgow Cycle Hire Scheme

Scheme	Glasgow Cycle Hire Scheme - OVO Bikes
Service Provider	Next Bike
Geographic Spread	City wide
Scheme Volumes	The scheme offers 600 bikes and 96 docking stations
Years of Operation	8 years
Operating Model	Concession
Asset Ownership	Next Bike
Station Density	3 docks per km²
Average Docking Points /Station	7
Dock to bike ratio	1.2:1
Vandalism / Lost & Stolen	Next Bike own this risk
Design	 

1.6 Brighton and Hove Cycle Hire Scheme

Table 6 Brighton and Hove Cycle Hire Scheme

Scheme	Brighton & Hove Bikeshare
Geographic Spread	The existing BTN Bikeshare scheme covers 41 sq. km and serves the following areas: Southwick (in the bikeshare area but outside the city boundary so no docks) and the following areas, all within the unitary authority boundary for the City of Brighton & Hove: • Portslade by Sea • Hove • Brighton/ Rottingdean/ Saltdean • University of Sussex • Stanmer/ Falmer New scheme has option for parallel schemes in adjoining authorities combining to create one bikeshare area including the city plus Worthing Borough, Adur District and Lewes District (Coastal areas only). Other call offs from the new Framework to create separate schemes will be possible for LAs in southeast of England
Scheme Volumes	600 bikes and 86 hubs; 780 bikes and 100 hubs planned for relaunch of scheme; Parallel scheme to service Adur & Worthing with 322 bikes and 38 hubs in phase 1 (rising to 51 in phase 2), making a combined fleet of 1102 bikes with 60% being electric. This is due to launch in 2023
Years of Operation	4 years 5 months
Operating Model	Concession contract: with 50/50 surplus share with the supplier after agreed costs are met
Asset Ownership	Brighton & Hove Council owns all assets
Station Density	3 docks per km²
Dock to Bike Ratio	2:1
Av Dock/Station	12
Vandalism	The Council are liable for replacing damaged bike up until the end of the first two years of the contract. Bikes and docks are insured by the Council. No bikes have been replaced to date, but the fleet has been expanded from 450 up to 600 during the contract, of which 540 are still in service.

	The Council are liable for replacing damaged bike up until a stipulated period. Bikes and docks are ensured by the Council. Bikes and docks are ensured by the Council. No bikes have been replaced to date, but the fleet has been expanded
Design	 
Key Design Features	Lightweight durable alloy frames Adjustable saddle height Kick stand Electronic controller Locking mechanism capable of locking frame to the stand or bike to itself (immobilising it) and back-end software system GSM modem SIM card in each bikes built-in controller. This continuously tracks the bike's location and usage.

	Software system that allows for real time management of the fleet as well as data reports. Docked system, with flexible modular hubs. No terminals or ground power to hubs. Some on carriageway protected by civils; include signage but not branding due to need for planning permission. Additional Geo fenced docks New scheme will have ebikes with swappable batteries. Some charging hubs will be piloted at key strategic locations Option to add fleet of e-scooters to contract when legalised on public highway (not taking part in current trials).

1.7 Cycle Hire Scheme Tariffs

Table 7 Cycle Hire Scheme Tariffs

Scheme	Monthly/Annual/Bundle Membership Cost (Bike)	Monthly/Annual/ Bundle Membership Cost (e-Bike)	Pay as You Go Cost (Bike)	Pay as You Go Cost (e-Bike)
Transport for West Midlands	75p/15 m £1.50/30 m £3/hour	£2.25/15 m £3/30 m £4.50/hour	£1.75/15 m £2.50/30 m £4/hour	£3/15 m £4.50/30 m £7.50/hour
Dundee Cycle hire scheme	N/A	Monthly Membership £12/month + trips First 20 minutes – £0.60 Up to 2 hours – £1.20 per 20 minutes Over 2 hours – £3.60 per 20 minutes E-bike and dock bookings – £0.60/each Annual Membership £60/year + trips	N/A	Pay as you go £0/access fee + trips No access fee Unlock fee – £1.20 Up to 2 hours – £1.40 per 20 minutes Over 2 hours – £3.60 per 20 minutes E-bike and dock bookings – £0.60/each

		Automatic renewal every year First 20 minutes – £0.60 Up to 2 hours – £1.20 per 20 minutes Over 2 hours – £3.60 per 20 minutes E-bike and dock bookings – £0.60/each Special Plans £18/year + Trips First 20 minutes – £0.60 Up to 2 hours – £1.20 per 20 minutes Over 2 hours – £3.60 per 20 minutes E-bike and dock bookings – £0.60/each		
Greater Manchester Bee Network Cycle hire scheme	N/A	N/A	Pedal bikes cost 50p to unlock and 5p per minute to ride	E-bikes cost £1 to unlock and 10p per minute to ride
Santander Cycles - London Cycle hire scheme	24-hour membership £2 for 24-hour access Yearly membership £90 (25p per day) Cycle to work membership	24-hour membership £2 for 24-hour access Yearly membership £90 (25p per day) Cycle to work membership	Hiring a Santander Cycle costs £2 for unlimited journeys up to 30 minutes, within a 24-hour period. For journeys longer than 30 minutes, you pay £2 for each additional 30 minutes.	Hiring a Santander Cycle costs £2 for unlimited journeys up to 30 minutes, within a 24-hour period. For journeys longer than 30 minutes, you pay £2 for each additional 30 minutes.

	£37.80 tax free yearly membership through an employer Free 24-hour access for NHS Workers 25% discount for students	£37.80 tax free yearly membership through an employer Free 24-hour access for NHS Workers 25% discount for students		
Glasgow Cycle Hire - OVO	Monthly £0/first 30 min Monthly price- £10 First 30 min £0, additional 30 m 50p, Maximum charge per day £5(24h) Annual £0/First 30 min Monthly Price - £5(12-month commitment) First 30 minutes - £0, Additional 30 min 50p, Max charge per day £5(24h)		Pay As you Ride £1/30 mins - first 30 min £1, additional 30 min £1. Max charge per day - £10 (24h)	
BTN Bikeshare – Brighton & Hove Bikeshare1	Annual Rider £77/year – 30 mins of ride time per day	Annual Rider £77/year – 30 mins of ride time per day	Easy Rider 3p/minute plus £1 unlock fee	Easy Rider 3p/minute plus £1 unlock fee

[1] BTN Bikeshare Procurement Options: Subject: (brighton-hove.gov.uk)

1.8 Adaptive Bike Provision

Adaptive cycles are bikes that are modified to fit the needs of an individual rider. They are designed to allow people with different mobility issues, access to cycling.

1.8.1 Adaptive Bike Schemes in Detroit

Adaptive MoGo[2] based in Detroit, USA, is an adaptive bikeshare scheme which provides cycling options for riders with varying levels of ability. They have a fleet of 13 different types of bikes including recumbent tricycles, upright cargo tricycles, hand tricycles, tandem bicycles, and tandem tricycles. These are spread across more than 60 stations in the Detroit area.

The scheme allows users to purchase single trips or seasonal passes. All Adaptive MoGo trips have a maximum duration of two hours with overcharge fees for any trip that exceeds this time. Bikes need to be reserved at least twelve hours prior to the start of the trip and returned to the same station that they were hired from. The bikes are fitted to each user by onsite staff.

In addition to bikeshare, Adaptive MoGo provides cycling 'Street Skills' training to assist users and the general public with gaining confidence with on street cycling.

The scheme is delivered in partnership with Henry Ford Health System and Health Alliance Plan (HAP), and the City of Detroit Department of Transportation, which helped secure federal non-motorized transit funding for MoGo. The scheme is operated by Shift Transit and uses equipment provided by PBSC Urban Solutions.

Adaptive MoGo fare structure detailed in Table 8 below:

Table 8 - Adaptive MoGo Fare Structure

Pass Type	Trip Duration	Cost	Overcharge Fee	Payment
Adaptive Mogo Seasonal	Unlimited Two-hour trips	$30	$8 per hour	Cash/card
Single Trip	Single Two-Hour Trip	$12	$8 per hour	Credit/Deb

Adaptive BIKETOWN is a Portland based adaptive bike rental program with a goal to increase access to cycling for people with disabilities[3]. The scheme offers a range of adaptive bikes including:

- Hand powered bikes
- Foot-powered bikes
- Electric Assist bikes

[2] Adaptive Mogo: Let's ride, Detroit - MoGo (mogodetroit.org)
[3] Adaptive Biketown: HOME (adaptivebiketown.com)

- Multi-person bikes
- Tandem bikes

Request for reservations need to be made to the rental agency at least 24 hours before the bike is required. Staff then work with users to determine a mutually agreeable date/time for the rental. Users are also required to review the cycling equipment before finalising the reservation. There is no assistance offered for transfers of users from their mobility device to an adaptive bike, this is to be done by a caregiver. Prices are set in accordance with bike type and rental duration. Discounted rental rates are available to people with disabilities, Medicare recipients, and seniors aged 65 and over.

Adaptive bike provision under this scheme is seasonal, operating primarily in the summer period unless specially requested. Bike usage is limited to three routes including the Tilikum Crossing Route (2.4 miles), the Waterfront Loop (2.6 miles), and the Selwood Bridge Loop (11 miles). Due to these factors, usage is likely to be recreational or for tourism purposes.

The aforementioned projects are linked to the main City cycle hire scheme website[4] but do not utilise the same cycle hire point infrastructure. Both adaptive cycle hire schemes are located in waterfront areas and have adopted the following operational approach:

- locate near appropriate trails, for leisure use
- offer appropriate face to face support for each hire and
- offer places to store equipment which would not be suitable to take cycling

1.8.2 Adaptive Bike Provision in Edinburgh

There are a limited number of locations where adaptive bikes can be borrowed for free in Edinburgh. Edinburgh All-ability Bike Centre[5] launched in 2015 and previously provided access to adaptive bikes, trikes, tandems, and handcycles at Saughton Park and Bangholm but is currently closed. The project was discontinued as a result of not being able to secure a sustainable funding source.
VIE Velo[6] is an Edinburgh-based, adaptive bike tandem club located at Saughton Park and Bangholm. The initiative pairs visually impaired cyclists with sighted pilots for regular, organised rides which take place on the first Saturday and third Sunday of each month. The scheme focuses on social interaction in addition to providing cycling services to the visually impaired community.
The fleet of bikes for the scheme is provided by the RS MacDonald Charitable Trust, Transport Scotland, and individual donations. Training is provided to new/less experienced tandem riders. Reservations are required in advance of rides in order to allow the ride coordinator to make tandem pairings.

[4] MoGo Detroit: https://mogodetroit.org/
[5] Edinburgh All-Ability Bike centre : https://www.cyclinguk.org/edinburgh-all-ability-bike-centre
[6] Vie Velo: https://www.cyclinguk.org/group/vie-velo

Charlotte's Tandems[7] provides long term (two months) hire of tandem and tag-along bikes for those with disabilities. These are provided at zero charge and are collected from Saughton Park and Bangholm.

Cycling UK agreed that any Adaptive Bike scheme should where possible have the same look and feel as any cycle hire scheme but that it should be operated separately and with a different customer journey. This is because adaptive bike hire would require facilities for wheelchair storage, and a place to leave equipment and guide dogs if necessary.

Based on stakeholder engagement and research, it is recommended that adaptive bike hire is not included in the scope of a cycle hire scheme for the reasons below:

- Off street storage requirements;
- Onsite staff required to adjust adaptive bikes to meet specific user requirements;
- Advanced reservations required to understand user requirements and select and make adjustments to the appropriate adaptive bikes;
- In some cases, the need for onsite staff to help transfer users from mobility devices to the adaptive bikes: and
- Need for onsite staff to provide training on how to use the adaptive bikes.

If a separate adaptive bike hire scheme were established, it is recommended that it align as much as possible with the cycle hire scheme. This could potentially be achieved through the use of the same name and branding as well as allowing for bookings (albeit with a different user journey) to be made via the same digital platform.

1.9 Cargo Bikes

1.9.1 Cargo Bike Provision in Edinburgh

A cargo bike is any bike that has been specifically designed to carry a load, and an E-cargo bike is simply a cargo bike with the addition of an electric motor[8]. E-Cargo bikes are an efficient method for the transportation of cargo and are reported to have multiple advantages such as lower upfront costs, reduced congestion, a happier workforce and cleaner, healthier air.

The 2021 CoMoUK Annual Bike Share report[9] attempted to measure public interest in E-Cargo and adapted bikes with 67% of respondents supporting the introduction of E-Cargo bikes for carrying shopping or loads. A further 21% showed interest in their use for carrying children, while 27% would like to hire a 2- or 3-seater electric tricycle. Electric tricycles and electric hand cycles were selected by 22% and 17% of respondents respectively.

[7] Charlotte's Tandems: http://charlottestandems.weebly.com/
[8] Energy Savings Trust: Choosing ecargo bikes to make last mile deliveries - Energy Saving Trust
[9] https://como.org.uk/wp-content/uploads/2022/02/CoMoUK-Bike-Share-Survey-2021_final.pdf

The first publicly available cargo bike sharing scheme in the United Kingdom, Cargo Bike Share[10], launched in Hackney in September 2021. The bikes are publicly available so business, residents, and other members of the public can hire them in order to make deliveries, collect shopping, or conduct other errands. There are currently four docking stations in Hackney:

- Fleetwood Street in Stoke Newington
- Broadway Market
- Calvert Avenue in Shoreditch
- Pitfield Street in Shoreditch

Each docking station houses two electrically assisted cargo bikes which can carry up to 80kg each. It costs £1.50 to unlock a bike and 10p per minute thereafter. Users must return the cargo bike to the same docking station they hired it from. They're available for immediate hire, or reservations through the Beryl app.

The scheme is part of the Zero Emissions Network[11] which is a joint initiative between Hackney, Islington, and Tower Hamlets councils. The scheme is run in collaboration with micro-mobility provider Beryl.

There are currently no Cargo public bike share schemes in Edinburgh. There are, however, organisations which provide access to (E)Cargo bikes through bike libraries which allow users free access to a bike loan.

Sustrans[12] runs the Edinburgh Cargo Bike library which provides the following services:

Information and advice about logistical advantages and types of cargo bikes.
Free training in the use of cargo bikes for the workforce.
Free trials of different types of cargo bikes.
Flexible borrowing periods.
The option to temporarily brand the bikes with business and brand logos.

As a result of Covid-19 restrictions and the high demand for cargo bikes, the service has been closed to new users since December 2020. It will reopen in December 2021.

The Cargo Bike Movement[13] is a Community Interest Company (CIC) established in April 2020 in response to the first UK Covid-19 lockdown. The initial purpose behind this was to coordinate volunteers and cargo bikes in order to combat food insecurity being experienced across Edinburgh.

Beyond this, the Cargo Bike Movement promotes sustainable transport and the uptake of Cargo and E-Cargo bike usage by supporting cargo bike-based businesses, loaning bikes free of charge, and running events and training to promote the use of cargo bikes

[10] Hackney Bikeshare: Bike sharing | Hackney Council
[11] Zero Emissions Network: Zero Emissions Network |
[12] Sustrans: The Edinburgh Cargo Bike Library - Sustrans.org.uk
[13] The Cargo Bike Movement: Cargo Bike Movement

in and around Edinburgh. It is the only organisation currently providing free Cargo and E-Cargo bike loans to the public in Edinburgh.

Zedify[14] is a zero-emission delivery start-up which aims to support and promote the use of sustainable deliveries for businesses. They have operations across the UK including Edinburgh. They do not provide bike share or loan options for public use; instead they focus on providing a service to local businesses. Farr Out deliveries[15] is a Cargo bike courier provides a similar service. They share a location with the Cargo Bike Movement but do not provide cycle hire services to the public.

To better understand the costs of e-Cargo bikes, cost estimates were provided by suppliers and a summary is detailed in Table 9 below.

Table 9 Estimated Implementation Costs

Description	Operating Model	Average Implementation Cost (£k)	Average Total Operating Cost (£k)	Average Operating Cost per annum (£k)	Average E-Cargo Bike Unit Cost (£k)
Supply, Installation & Operation of 8 e-Cargo Bikes including associated docking facilities	Managed Service	£85k	£71k	£18k	£6k
	All Risk and Capital funding on Operator	n/a	£74k	£19k	n/a
	All Risk on Operator, CEC provide Capital funding	£68k	£67k	£17k	n/a

Based on stakeholder engagement and research, it is recommended that Cargo or e-Cargo bike hire is not included in the scope of a cycle hire scheme for the reasons below:

- Off street storage requirements for Cargo or e-Cargo bikes
- The need for training to be provided on how to operate Cargo or e-Cargo bikes

If a separate Cargo or e-Cargo bike hire scheme was established, it is recommended that it align with the cycle hire scheme through shared branding and a shared digital booking platform (albeit with a different user journey) if possible.

It is also recommended that all potential users complete basic training prior to accessing the bikes. The training certificate could be uploaded to the cycle hire app where it can be verified before the bike is hired.

[14] Zedify: https://www.zedify.co.uk/find-us/edinburgh/
[15] Farr Out deliveries: https://www.farrout.delivery/

1.10 E-Scooters

In July 2020, the Department for Transport (DfT) made regulations[16] allowing trials of rental e-scooters to be fast tracked and expanded. This was done to support a 'green' restart of local travel which had slowed due to the Covid-19 pandemic.

The trials went live in 31 regions across England and were accompanied by a monitoring and evaluation programme to assess the safety of e-scooters and their wider impacts. Proposals for trial participation were accepted through local authorities. E-scooter operators were able to take part in the trials through a local authority procurement exercise and with necessary permissions from DfT.

As advised by the client, once DfT announces a plan to legalise E-Scooter usage in England, Transport Scotland (TS) will undertake further work and update its position on local legislation. This plan will be linked to a report that DfT are currently preparing based on the current trials in England.

The following legislative barriers to the legalisation of E-Scooters on public roads in Scotland have been outlined by the client:

- A Scottish Statutory Instrument would need to be introduced to amend the Traffic Signs Regulations and General Directions (TSRGD) here, which would require time and resource. This approach has not been confirmed as viable.
- E-scooters are not currently legally permitted for use on cycle tracks in Scotland. Changing this would need an amendment to the Roads (Scotland) Act 1984. As there was recent a Transport Bill in 2021 and there is limited time left in the current Parliamentary session, an amendment is unlikely.

The overall TS position acknowledges that a decarbonised transport system is a key part of Scotland's journey to becoming a net zero carbon nation. New options for personal transport using zero- emission "micro-mobility" vehicles could complement active travel choices and public transport as more sustainable options than car use.

Transport Scotland welcome the UK Government's public consultation on how to regulate e-scooters and the running of trials hosted local authorities across the country. The outcomes of the trials and other developments will be monitored and used to inform future policy.

[16] Escooters Government Guidance: https://www.gov.uk/government/publications/e-scooter-trials-guidance-for-local-areas-and-rental-operators/e-scooter-trials-guidance-for-local-areas-and-rental-operators

1.10.1 Existing E-Scooter Schemes in the UK

There are e-scooter trials currently live in 31 regions across England. The Birmingham trial[17] launched in September 2020 after the DfT announced that trials could commence nationwide. E-scooter operator Voi was selected as the sole operator in the region. Trial locations include the centres of Birmingham, Coventry, and West Bromwich. Voi e-scooters are also available on the University of Warwick campus and in Dudley.

The e-scooters can be accessed through the Voi mobile app where one is able to register their personal information and bank details. The application requires proof of a valid driving licence and carries out an identity check before usage can commence.

Consultation with Transport for West Midlands confirmed that the e-scooter trial is operated separately to the existing cycle hire scheme. It was reported that the introduction of e-scooters has negatively impacted cycle hire usage as users opt for e-scooter trips instead. The need for behavioural support was an additional factor raised in relation to e-scooter usage. This was due to an increase in pavement clutter as a result of users not storing the scooters correctly at the end of their trips. Dockless storage was not recommended for this type of scheme as it does not support the target user behaviour of safely returning scooters to designated areas.

Bournemouth and Poole Council launched its e-scooter trial on 25 January 2021. It has recently extended the trial until March 2022. The scheme is being delivered by Beryl, which also operates cycle hire across the BCP Council area[18]. The council confirms that thousands of residents have engaged with the scheme which is likely to have a positive impact on the reduction of car usage. By utilising the same provider for both the e-scooter and cycle hire schemes, cannibalisation of cycle hire usage and revenue can be counter balanced.

The London e-scooter trial[19] is being delivered by three providers, Lime, Dott, and TIER which were identified through an open and competitive procurement process. As with Birmingham, these providers are separate to the city cycle hire scheme which is delivered by Serco.
Transport for London (TfL) has stipulated the following safety standards for the trial which go further than those stipulated at a national level:

- A lower maximum speed of 12.5mph
- Lights at the front and the rear of the vehicles that are always on throughout any rental
- Audible warning systems that can be used without adjusting the rider's grip of the handlebar

[17] Birmingham E-Scooter Trials: E-scooter trial in Birmingham and the West Midlands | Voi e-scooters | Birmingham City Council
[18] Bournemouth Echo: https://www.bournemouthecho.co.uk/news/19586022.beryl-e-scooter-trial-scheme-extended-march-2022/
[19] London E-scooter trial: https://tfl.gov.uk/info-for/media/press-releases/2021/may/tfl-and-london-councils-announce-london-s-e-scooter-trial-will-begin-in-june

- The operators will also have other safety mechanisms in place, including 'first ride policies' where riders will need to take an e-learning safety course before they hire for the first time.
- The rental e-scooters will only be allowed to be used on roads and in cycleways - not on footways.

In addition to the aforementioned safety standards. All operators are obliged to ensure that their rental prices account for the needs of people on lower incomes and to offer discounts to certain groups where appropriate.

Operators that demonstrate strong performance and compliance could potentially be given the option to increase the number of e-scooters in their fleet over the course of the trial. Those that do not may be required to reduce their numbers.

In discussion with Service Providers, other authorities have seen a drop in demand for cycle hire scheme when introducing e-Scooter trials. It is therefore recommended that the OJEU notice for the scheme should reflect micro-mobility services within the notice in anticipation of any e-Scooter trials in Scotland, should the legislation change.

Furthermore, CEC may want to consider including options for the supply of e-Scooters and the associated operational costs as part of any procurement.

Cycle Hire

Options Identification and Analysis

05 December 2022

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Cycle Hire – Options Identification and Analysis

Client Name: City of Edinburgh Council
Project: Edinburgh Cycle Hire Scheme

Revision: 8
Document Status: Final
Date: 05 December 2022

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1 Executive Summary

The Edinburgh Cycle Hire Scheme (ECHS) closed on 17 September 2021, following the end of the concessionary contract with Serco. The key lessons from ECHS were captured by Transport for Edinburgh (TfE) and are detailed below:

- A cycle hire scheme cannot operate with financial sustainability without some form of subsidy;
- Ensure that all infrastructure specifications take account of the need to minimise the opportunities for vandalism (recognising the previous levels of vandalism experienced);
- Use of CoMoUK cycle hire scheme accreditation for Service Provider, bike and, if possible, infrastructure;
- Develop a scheme which meets the needs of the wider community (e.g., through the inclusion and provision of cargo bikes and other adaptive bikes);
- A future scheme should be delivered as part of an integrated transport offer that includes buses, trams and bicycles;
- Outreach / behavioural change resource needs to be embedded within the scheme;
- Recognise that capital and revenue funding will be required for the duration of the contract.

At the Transport & Environment Committee on 11 November 2021, members approved the recommendations below which were detailed in the "Edinburgh Cycle hire scheme –future delivery and interim community initiatives" report.

That the Transport and Environment Committee:

1. Notes the current position on the Edinburgh Cycle Hire Scheme (ECHS) and the proposed short and medium-term mitigating measures set out in the report;
2. Agrees to the establishment of a project team to take forward a detailed assessment of proposed objectives for a new scheme in the medium to long term. The outcome of this will be reported to Committee as early as possible; and
3. Approves the funding to support the short-term mitigating measures, as detailed in the report.

Turner & Townsend and Anturas Consulting were commissioned in December 2021 to take forward Recommendation 2 detailed above.

Objectives for a new Cycle Hire Scheme were approved by the Transport & Environment Committee on 11 November 2021. As part of this commission, these objectives were reviewed and refined with a range of stakeholders and CEC and are set out below:

Alignment with City Mobility Plan

Improve access to bikes and e-bikes to help facilitate modal shift to cycling and contribute towards the objectives of the City Mobility Plan:

- To improve health, wellbeing, equality and inclusion;
- To support inclusive and sustainable economic growth and respond to climate change; and
- Protect and enhance our environment.

Inclusive

- Improve access to bikes and e-bikes to help facilitate an increase in cycling amongst low participant groups
- Ensure that communities have the opportunity to input before any scheme is implemented and throughout its operation
- Provide access to e-cargo bikes and ensure the scheme is aligned with other adaptive bike schemes
- Ensure scheme data is made available to the public

Integrated with public transport provision in Edinburgh

- Aspire for the scheme to be part of an integrated public transport offering, with a similar aesthetic to the other modes (for the user) and the ability to link into the (future) integrated ticket of Lothian Buses and Edinburgh Trams
- Ensure the scheme is aligned with the Active travel network being developed in the City

Financially Sustainable

- Ensure costs of any scheme are covered by the funding provided by the Council, external funding bodies, sponsorship and trip revenue
- Aspire to reduce any operational subsidy over the life of the Contract

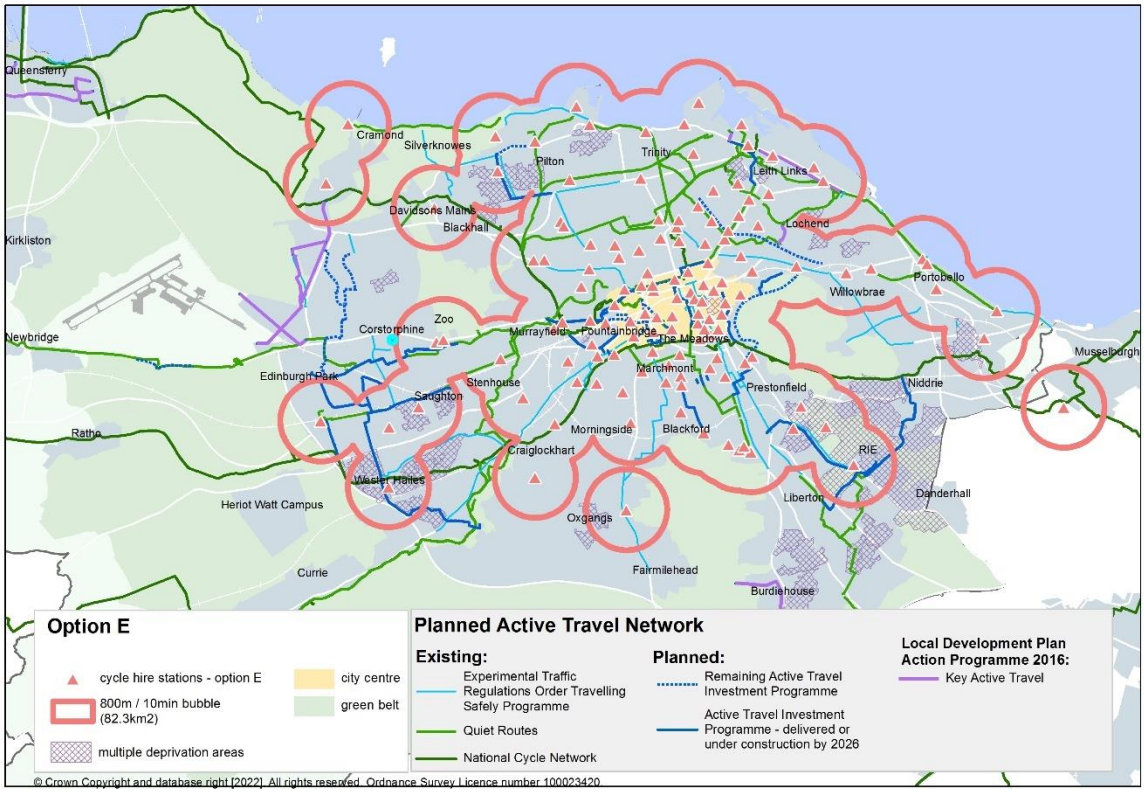
Secure

- Maintain access to bikes by giving due consideration to the impacts of potential vandalism and theft, ensuring all scheme infrastructure designed to mitiagte levels of vandalism and theft experienced in the UK
- Any scheme should be supported with community outreach resources to engage with local communities and instill a sense of community ownership

Based on these Principal Scheme Objectives, several scheme options were identified and agreed with CEC. In parallel, operating model options were also identified. Details of the scheme and operating model options are detailed in Section 6.

The key recommendation of this report is that the project proceeds into Design on the basis of implementing a cycle hire scheme consisting of 140 Docking Stations, 1,120 bikes and 420 e-bikes **(Option E)**. It is recommended that a scheme is procured and operated on the basis of a Managed Service **(Option 1)**. Option E is best aligned with the Principal Scheme Objectives and is the most attractive option for a potential sponsor. It is proposed that Option E has the indicative coverage detailed in Figure 1 below.

Figure 1 – Option E Indicative Coverage



Based on preliminary cost estimates, it is estimated that Option E, on the basis of a managed service, is likely to cost approximately **£8.4m** to implement and **£14.2m** to operate on the basis of a five-year contract.

It is estimated that Option E could generate **£3.2m** in trip revenue and **£2.7m** in sponsorship revenue. This equates to an estimated minimum operational subsidy of **£2.08m** per annum (p.a.).

All cost estimates detailed above are preliminary and further work will be required at the Design stage to verify costs as part of the Recommended Option refinement. It should be noted that the Service Provider costs included in this report have been provided as high-level estimates. All assumptions which support the preliminary cost and revenue estimates are detailed in Appendix 2 – Assumptions Log.

As detailed in Section 7, Service Provider estimates were provided in October 2022 and there is a risk that costs to implement and operate a cycle hire scheme could be higher than estimated (as part of this exercise) when any contract is procured due to risks materialising e.g., increased inflation, commodity price increases, supply chain issues, labour shortages etc.

Risk of 15% has therefore been applied to all preliminary implementation and operational cost estimates. This value is deemed appropriate as the Service Provider will take all risk in

relation to civil engineering works should they be required. However, risks should be identified and quantified as part of Design which will provide greater certainty around risk and contingency.

Note: This report was completed in March 2022 but has been refreshed with revised preliminary cost estimates provided in October 2022.

2 Recommendations

The Recommended Option is for the project to proceed to Design on the basis of implementing a cycle hire scheme consisting of 140 Docking Stations, 1,120 bikes and 420 e-bikes **(Option E)**. Table 1 below details the recommendations which support the delivery of the Recommended Option.

Table 1 - Recommendations

ID	Area	Recommendation
R01	Implementation	The project should proceed into Design to refine the Recommended Option and initiate work on the following: • Confirm project resource requirements and request additional funding for resources; • Update the Project Execution Plan and Project Initiation Document to reflect implementation of the Recommended Option; • Review existing governance arrangements and revise accordingly; • Identify and quantify all known risks in relation to the project; • Identify and engage key stakeholders for the Design phase of the project; • Continue engagement with potential funding bodies to find a source for the capital funding; • Prepare an indicative programme for the end-to-end delivery of the project along with a detailed project plan for the Design phase; • Validate operating model; • Requirements gathering for all required services; • Service Level development; • Procurement Strategy for all required services; • Develop methodology for selecting docking station locations and refine existing proposals; and • Complete modelling to understand the optimum tariff structure. The estimated cost of implementation includes £1.67m for client costs, of which £0.61m is estimated to be expended in financial year 23/24. These estimates include 15% for risk.
R02	Objectives	The Principal Scheme Objectives detailed in Section 5 of this report should be approved and used to guide the Design of the scheme.
R03	Objectives	To help ensure the scheme meets the Principal Scheme Objectives, specific aims for the scheme should be defined from the outset. Specific aims for the scheme should be defined based on annual targets for the following:

		• Number of Trips; • Number of Annual, Monthly and Corporate Memberships; • Revenue generated; • Usage amongst low participant groups; • Customer satisfaction; • Service Provider performance against Service Levels and Key Performance Indicators; • Level of funding generated from developer contributions; • Number of lost and stolen bikes; and • Instances of vandalism. A methodology for how this performance data should be collected and evaluated should also be established.
R04	Operating Model	The scheme should be procured and operated on the basis of a managed service where CEC own all the assets and take all risk in relation to trip and sponsorship revenue. The benefits of a managed service are detailed in Section 6.2 of this report and are summarised below: • Able to present the scheme as part of an integrated public transport offering which helps to instil community ownership for the scheme; • Full control over the scheme in terms of defining the tariff and membership model; • Full control over docking station locations which enables coverage in low demand areas to help increase usage amongst low participant groups; • Full control over who sponsors the scheme; and • With CEC taking the revenue risk and sharing lost and stolen / vandalism risk, bidders for the supply, installation and operations contract have less risks outside their control which need to be provisioned for. This will facilitate bids which are better value for money. If operational funding to support a managed service cannot be secured, CEC should look to implement a scheme on the basis of Option 2b - All Risk on Service Provider, CEC provide Capital funding.
R05	Operating Model	Risk in relation to lost and stolen bikes should be shared with the Service Provider. Provided the Service Provider can demonstrate that all contractual obligations have been met in recovering the Bike, CEC should split the cost of a replacement Bike with the Service Provider if the Bike has been missing for 60 consecutive days. It should be explored with Service Providers whether CEC would get better value for money if this risk to Service Providers is capped. It

		should be noted that CEC have the option to choose whether a lost or stolen bike is replaced depending on available budget.
R06	Operating Model	Provided the Service Provider can demonstrate all contractual obligations have been met in relation to maintenance, CEC should fund the replacement of a Bike when it is deemed to be beyond economic repair. It should be noted that CEC have the option to choose whether a bike beyond economic repair is replaced depending on available budget.
R07	Operating Model	For the scheme to be a success, it is important to incentivise the Service Provider as much as possible. In a managed service where CEC takes the revenue risk, it is important to include contractual mechanisms which incentivise the Service Provider to increase trip numbers. It is unlikely that the scheme will make a profit. If CEC can commit to the operational subsidy of £2.08m p.a. (for Option E) for the contract term, a revenue share mechanism could be introduced. This would be in a case where surplus revenue is generated (e.g., If the monthly operational subsidy is less than forecast). A profit share mechanism could also be built into the contract to enable revenue share should demand significantly exceed forecasts resulting in the scheme becoming profitable.
R08	Operating Model	Service Provider costs on a cycle hire scheme typically increase as customer demand increases. As part of the contractual drafting and procurement exercise it should be explored whether there is a mechanism to mitigate this risk for Service Providers. An option could be to increase the monthly service charge should trip numbers exceed a certain threshold in the previous month.
R09	Operating Model	It is recommended that the contract duration for any new scheme has an initial term of 5 years with the ability to extend for up to an additional 3 years. Based on the review of existing cycle hire schemes in the UK, the typical contract duration is 5 years with extensions. Manufacturers and Service Providers have confirmed that the frame on a cycle hire bike is the most expensive component. It typically has a lifespan of 7-10 years. Over a 7-year period, the bike will likely have had 5 different sets of pedals, 4 different saddles and 3 sets of tyres which makes it challenging to determine the lifespan of a bike as a whole. Docking point infrastructure has a typical asset life of 5 years. Feedback indicated that CEC could get better value for money if the initial term was 7 years with the option to extend up to a further 3

		years. This duration would give long term certainty to a Service Provider, and better align with fleet vehicle replacement which is generally every 3 to 4 years. Whilst an initial contract term of 7 years may offer better value, CEC Legal confirmed that they typically recommend initial contract terms of 4 years (with the exception of IT Service Contracts) to ensure competition and mitigate against any challenges related to Service Provider performance.
R10	Operating Model	The cost estimates provided were based on the minimum acceptable service levels detailed below. Any contract will have additional service levels to cover areas such as, reporting, customer service, and asset handover condition. To get best value for CEC, it is recommended that the Service Level Agreement is kept broadly in line with the minimum acceptable service levels detailed below. It is also suggested that the maximum monthly penalty that could be deducted from a Service Provider be capped at a percentage of the monthly service charge. The analysis in this report assumes a cap of 5%, this is based on seeking to optimise the effectiveness of the measure, without introducing unnecessary pricing of risk at tender stage. **1. Bike Availability** Based on Service Provider feedback, this report assumes that from March - November the minimum acceptable service level would be 85%. From December - February the minimum acceptable service level would be 80% due to reduced demand. The bike is deemed as available when: • In use by a customer; • It's docked with no active fault recorded; • In a virtual station with no active fault recorded; • In transit as part of redistribution activities and • In use for any special events Where the expected bike number accounts for any temporarily unavailable docking stations. **2. Planned Bike Servicing** Minimum acceptable service level is for 100% of bikes available for Hire by a Customer to have been serviced within the last three hundred and sixty-five (365) days.

		3. Customer Application and Operating Platform Availability Minimum acceptable service level for Customer Application and Operating Platform Availability is assumed to be 99%.
R11	Operating Model	With a managed service the Contracting Authority is responsible for setting the tariff structure and membership model. A detailed analysis of different UK cycle hire scheme tariffs (some of which are detailed in Appendix 1 – Cycle Hire Scheme Research) is recommended. Feedback from Service Providers has been provided that if the new scheme was to have no membership option and a pay as you go tariff only, similar to other schemes in the UK, there could be potential to increase trip revenue by over 50%. For the purposes of this report, the revenue calculations are based on a membership and pay as you go model, which reflects the ECHS. The reason why the pay as you go only option does not form the base case for analysis is due to the fact that such an approach is likely to negatively impact customers using the scheme as part of a regular commute as it would increase costs for regular users, this in turn may discourage modal shift and reduce the inclusivity of the scheme.
R12	Operating Model	Public liability and third-party insurance will be required for the scheme. Feedback has been provided from CEC Insurance via their broker that it is not something that existing insurers could consider, as it is outwith their risk appetite. It is recommended that CEC engage with Insurers who do provide this specialist cover for cycle hire schemes across the UK and assess how these services could be procured.
R13	Operating Model	The Service Provider will require a storage facility and workshop in central Edinburgh to manage the scheme. To reduce operational costs, it is recommended that CEC assess whether there are any suitable properties which are likely to be vacant on Contract Commencement. This property could then be leased to the Service Provider at a peppercorn rate. If a suitable property was identified but was part of the investment portfolio (as opposed to the operational portfolio) a business case would need to be made for its use.
R14	Procurement	Due to the complexities of a cycle hire scheme, Competitive Dialogue should be used as the procurment route to procure the Supply, Installation and Operations Contract. This is the most commonly used route by authorities procuring cycle hire schemes. Some authorities have utilised a negotiated procedure however this is not recommended. Public procurement rules state that this

		procedure should only be used in exceptional circumstances where Competitive Dialogue is not appropriate. Whilst Competitive Dialogue increases the procurement timeline, it provides CEC the flexibility to make changes to the contract and requirements following negotiation with Service Providers prior to bidders submitting their final tenders. This helps to ensure best value for the Authority. This has been discussed with CEC procurement and further discussion is required at the Design stage.
R15	Procurement	In discussion with Service Providers, other authorities have seen a drop in demand for cycle hire scheme when introducing e-Scooter trials. It is therefore recommended that the OJEU notice for the scheme should reflect micro-mobility services within the notice in anticipation of any e-Scooter trials in Scotland, should the legislation change. Furthermore, CEC may want to consider including options for the supply of e-Scooters and the associated operational costs as part of any procurement.
R16	Procurement	To help ensure the financial sustainability of any new scheme, the procurement exercise needs to be weighted more on quality than price. It is recommended that further analysis is carried out to determine the optimal quality price ratio for the procurement of the Supply, Installation and Operations Contract.
R17	Procurement	Due to the complex nature of cycle hire schemes, it is recommended that an external legal firm who have previously completed contractual drafting for cycle hire schemes should be procured.
R18	Sponsorship	To ensure any scheme maximises sponsorship revenue, it is recommended that a specialist organisation is commissioned to procure a sponsor for the scheme. There are organisations which specialise in securing sponsorship for cycle hire schemes and other transport infrastructure. These organisations operate on the basis of a commission model. It is also recommended that the procurement of a sponsor should be planned to ensure sponsorship of the scheme commences on operational go-live of the scheme to maximise revenue.
R19	Scheme Design	The scheme should be station based, where journeys can only be ended at the docking point or at a virtual station adjacent to a docking station. Any design will need to meet the design requirements of a world heritage area. In addition, the locking mechanism in the docking point should be resistant to theft. It should also be noted that

		Service Providers have advised that all intelligence should be included in the bike, not in the docking point or docking station.
R20	Scheme Design	The scheme should have a composite logo between CEC and any sponsor which is visible at all docking stations and on the bikes. This will ensure the scheme has the look and feel of another mode in an integrated public transport network. All marketing materials, mobile application and website should display the composite branding. Having a distinct composite brand helps to instil a feeling of community ownership which is likely to reduce levels of theft and vandalism.
R21	Scheme Design	In addition to customers paying for journeys through the mobile application, it has been proposed that contactless payment should also be a payment option for the scheme. Lothian Buses and Edinburgh Trams are working towards integrated, multi modal, Account Based Ticketing (ABT). This will allow for capped open payments and multi operator revenue share, as well as the addition of other modes, including a cycle hire scheme. This will be possible as long as the contactless payment method is compatible with the ABT system. As such, requirements in relation to ticketing need to be carefully considered to ensure compatibility, impacts on theft and associated costs are understood.
R22	Scheme Design	Based on Service Provider feedback, cycle hire schemes with a mixed fleet of e-bikes and pedal bikes have significantly more demand for e-bikes than pedal bikes. As an example, the Paris Velib scheme reports 10 trips per day per e-bike compared to 4 trips per day per bike. The cost estimates detailed in the report are based on a split of 62% bike and 38% e-bike. More revenue will be generated the higher the percentage of e-bikes however, capital and operational costs will increase. Assuming a hybrid model of in-dock charging and battery swapping, the cost increases will include: • The estimated unit cost of an e-bike is 57% more than a bike which will increase capital costs. • In dock charging will require more docking stations to be connected to utilities. This will increase capital costs and implementation timelines; and • Increased battery swapping will increase operational costs with batteries requiring swapping every 2 days.

		Given the increased demand for e-bikes over pedal bikes and that any scheme would likely go-live in 2024/25, it is recommended that this split is reviewed early in the Design stage to assess the costs and benefits of increasing the number of e-bikes in more detail.
R23	Scheme Design	It is recommended that should the project proceed to Design, each proposed docking station location should be assessed against agreed key criteria below: • Alignment with Scheme Objectives; • Potential demand; • Proximity to Train, Bus and Tram Stops; • Proximity to other docking station locations (the optimum distance is 300m between docking stations) and how it contributes to docking station density; • Alignment with Active Travel Network; • Theft and Vandalism Impact Assessment e.g., is there natural surveillance; • Deliverability e.g., if in dock charging is there a viable connection to utilities; and • Public Safety
R24	Community Engagement	Through the limited stakeholder engagement completed to date, it is clear that there is enthusiasm for a scheme in Edinburgh. Feedback from key community stakeholders indicates that a Community Engagement working group should be initiated from the outset to help shape the design of the scheme. This will also start to build the feeling of community ownership.
R25	Community Engagement	A key recommendation from Service Providers was to initiate a theft and vandalism reduction working group from the outset of the project. Police Community Liaison Officers also indicated they are keen to be engaged as early as possible. They are keen to advise on docking station locations. This working group would agree actions and plans to mitigate theft and vandalism and agree key processes when theft and vandalism occurs. It is also recommended that a detailed analysis of where theft and vandalism occurred on the ECHS is completed.
R26	Adaptive Bikes	Based on stakeholder engagement and research, it is recommended that adaptive bike hire not be included in the scope of a cycle hire scheme for the reasons below: • Off street storage requirements.

		• Onsite staff required to adjust adaptive bikes to meet specific user requirements. • Advanced reservations required to understand user requirements and select and make adjustments to the appropriate adaptive bikes. • In some cases, the need for onsite staff to help transfer users from mobility devices to the adaptive bikes: and • Need for onsite staff to provide training on how to use the adaptive bikes. If a separate adaptive bike hire scheme were established, it is recommended that it align as much as possible with the cycle hire scheme. This could potentially be achieved through the use of the same name and branding, having the same sponsor as well as allowing for bookings (albeit with a different user journey) to be made via the same digital platform.
R27	Cargo Bikes	Based on stakeholder engagement and research, it is recommended that Cargo or e-Cargo bike hire is not included in the scope of a cycle hire scheme for the reasons below: • Off street storage requirements for Cargo or e-Cargo bikes • The need for training to be provided on how to operate Cargo or e-Cargo bikes If a separate Cargo or e-Cargo bike hire scheme was established, it is recommended that it align with the cycle hire scheme through shared branding and a shared digital booking platform (albeit with a different user journey) if possible. It is also recommended that all potential users complete basic training prior to accessing the bikes. The training certificate could be uploaded to the cycle hire app where it can be verified before the bike is hired.
R28	Funding	The project should continue engagement with all external funders in particular Transport Scotland to try and secure the required funding.

3 Background

3.1 Strategic and Policy Context

Any future cycle hire scheme will need to be brought forward in line with national, regional and city strategy and policy as set out below.

3.1.1 National

3.1.1.1 National Transport Strategy 2

To address the global climate emergency, the Scottish Government, through the Climate Change Bill, is committed to a target of net-zero emissions of all greenhouse gases by 2045. This will require significant modal shift to cycling and other sustainable transport options.

The National Transport Strategy 2 (NTS2) sets out a vision to have a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. This vision will be achieved by addressing four key priorities – Reducing inequalities, taking climate action, help deliver inclusive economic growth and improve our health and wellbeing.

NTS2 also sets out the Sustainable Travel Hierarchy for decision making which promotes cycling over public transport, shared transport options and the private car for the movement of people. Only by prioritising sustainable transport will the vision and objectives of NTS2 be met.

3.1.1.2 Strategic Transport Projects Review 2

The Draft Strategic Transport Projects Review (STPR2) published in January 2022 identifies how and where changes to transport networks should be made to encourage the following:

- shorter everyday trips to be made by walking, wheeling and cycling;
- short to medium-length trips to be made by public transport; and
- longer trips to be made by public transport and low emission vehicles.

One of the forty-five STPR2 recommendations includes improving access to bikes, with only one-third of Scottish households having access to one or more bikes and the costs to buy a bike and associated accessories prohibitive for many. There is also a lack of access to training or support that give necessary confidence and skills to cycle. In response, STPR2 recommends providing access to bikes, training, and support to enable more people to cycle.

In addition to health, environmental and accessibility benefits, increased access to bikes, training and support will also help make the most of the investments being made in Active Travel. STPR2 advises that young people, women, older people, disabled people, individuals with health problems and people from more deprived communities could benefit

the most from the opportunities that cycling provides. STPR2 recommends that particular focus should be aimed at people living in deprived communities, many of whom could substantially benefit from the opportunities that cycling (as well as walking and wheeling) provides.

3.1.2 Regional

3.1.2.1 SEStran Regional Transport Strategy

The Draft Regional Transport Strategy (RTS) published in November 2021 sets out the vision for a South-East of Scotland integrated transport system that will be efficient connected and safe, creating inclusive, prosperous, and sustainable places to live, work and visit, affordable and accessible to all, enabling people to be healthier and delivering the region's contribution to net zero emissions targets. This vision is supported by the following strategic objectives:

- Transitioning to a sustainable, post-carbon transport system;
- Facilitating healthier travel options;
- Widening public transport connectivity and access across the region; and
- Supporting safe, sustainable and efficient movement of people and freight across the region.

The RTS identifies that in 2019 two thirds of households in the SEStran region did not have access to a bike. It notes that encouraging uptake of active travel will be reliant on increasing people's ability to access bikes. This can be achieved either through supporting the cost of purchasing a personal bike or by improving access to cycle hire schemes.

As such, the RTS recommends the implementation of initiatives which widen access to bike ownership or hire through cycle hire schemes.

3.1.3 Local

3.1.3.1 City Mobility Plan

The City Mobility Plan (CMP) which supports the City Plan 2030 has a vision for Edinburgh to be connected by a safer and more inclusive net zero carbon transport system, delivering a healthier, thriving, fairer and compact capital city and a higher quality of life for all residents. This vision is supported by the following key objectives:

- People - To improve health, wellbeing, equality and inclusion;
- Movement - To support inclusive and sustainable economic growth and respond to climate change; and
- Place - To protect and enhance our environment.

The CMP sets out a plan to achieve Net Zero Carbon by 2030.

Within the Movement theme the following objectives specifically relate to cycling:

- Increase the proportion of trips people make by active and sustainable travel modes.
- Improve sustainable travel choices for all travelling into, out of and across the city.

The CMP references the ECHS and identified the integration of the scheme with the wider public transport and active travel network as critical, if the growth and expansion of travel by public transport, cycling and walking/wheeling are to offer a more coherent and affordable alternative to the car. Increasing cycling will be key to meeting the vision and objectives of the CMP and the following policy measures are included in the plan:

- **Shared Mobility** - Support the expansion of shared mobility options across the city and maximise their integration to support the broader public transport system.

- **Cycling** - Expand and enhance the citywide network of cycle routes to connect key destinations across the city, including increased segregated cycle infrastructure on main roads.

- **Parking in New Developments** - Limit the level of parking in new developments based on current and planned levels of walking/wheeling, cycling and public transport access and the capacity of surrounding streets, and include requirements for electric vehicle charging, disabled persons parking places, car club and bike hire space.

3.1.3.2 Edinburgh City Centre Transformation

The Edinburgh City Centre Transformation (ECCT) plan aims to enhance public spaces to better support life in the city, by prioritising movement on foot, by bike and by public transport. The changes detailed below which are being made over a ten-year period will create improved conditions for cycling. A cycle hire scheme in the city would help ensure benefits of the investment made through the ECCT plan are realised.

- Walkable city centre with a pedestrian priority zone and a network of connected, high-quality, car-free streets
- A connected network across the city centre of new segregated and safe cycle routes including the provision of a new walking and cycling bridge connecting the Old Town and the New Town

3.1.3.3 Active Travel Investment Programme

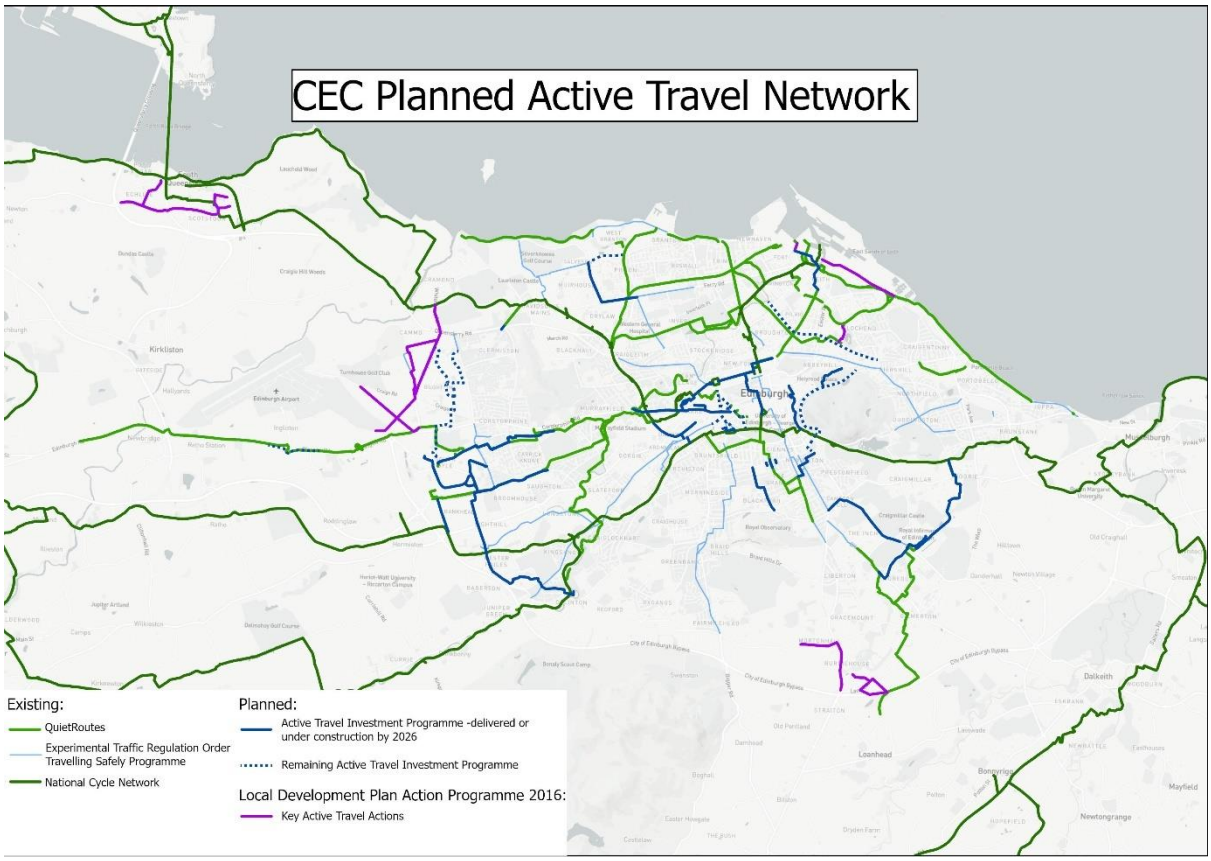
CEC are currently implementing the Active Travel Investment Programme (ATInP) which will deliver an estimated investment of £118m from 2019/20 to 2025/26 into Active Travel infrastructure. The ATInP will deliver the Active Travel Action Plan (ATAP) Objectives and the network as detailed in Figure 2 below.

The ATInP will deliver the following outcomes:

- 85km of new and upgraded cycle route, extending, and improving the existing 211km of national cycle network and QuietRoutes to create, for the first time, a network that joins up to and through the city centre. The network will also connect to key

destinations including Leith, Edinburgh Park/Gyle and the Bioquarter, and will deliver improvements within 250m of 35 primary and secondary schools.
- major improvements for pedestrians and for public realm both in the city centre and around the city;
- An increased programme of investment in low-cost measures such as dropped kerbs, principally aimed at improving access for pedestrians and wheelchair users and cycle parking;

Figure 2 - CEC Planned Active Travel Network



There are several other major programmes of work that are also delivering significant improvements for people walking, wheeling, and cycling, thus contributing to the transformation of Edinburgh into a city that prioritises active, healthy and sustainable transport including:

- The West Edinburgh Transport Improvements Programme (WETIP) which has a remit to progress the delivery of the public transport and active travel measures along the A8/A89 corridor which were identified in the West Edinburgh Transport Appraisal Refresh study in 2016;
- The Granton Waterfront masterplan which includes provision for the phased implementation of high-quality active travel designs and place making proposals in one of Scotland's largest brownfield sites. Other major masterplans in the city include

the BioQuarter to the southeast and the International Business Gateway (IBG) to the west;
- A second phase of the Edinburgh Sustainable Strategic Transport Study (ESTS2) is underway to develop a multi-modal appraisal framework for the assessment of routes and design options for a north-south transit system in the city;
- The highest transport priorities within the Local Development Plan Action Programme (LDPAP) are being progressed to deliver concept designs and plans for implementation;
- The Travelling Safely programme which seeks to keep in place large elements of temporary active travel infrastructure implemented during 2020/21 on an experimental basis; and
- The wider Transport Infrastructure Investment Programme.

3.2 Challenges

Transport is the single biggest contributor to greenhouse gas emissions, including carbon in the city. If Edinburgh is to meet its target of becoming net carbon zero by 2030, widespread modal shift to cycling will be required. Closure of the ECHS has reduced access to bikes for Edinburgh residents and those visiting the city which makes progress on modal shift to cycling in Edinburgh more challenging.

The key challenge in relation to a new cycle hire scheme is how it would be funded. Capital expenditure will be required for the implementation of any new scheme. Any new scheme will need to be subsidised through operational expenditure as the revenue generated (both trip and sponsorship) will not cover operational costs.

This report details preliminary cost estimates for a new cycle hire scheme and the potential funding sources.

3.3 Opportunities

3.3.1 Potential Demand

ECHS showed there is demand for a cycle hire scheme in Edinburgh with the scheme having over 70,000 unique users and nearly half a million trips being made during the life of the scheme.

During 2020, ECHS was the fastest growing scheme in Britain, with 234,500 trips made. Given the various COVID-19 lockdowns, these trips were made almost entirely by Edinburgh residents.

In February 2022, nearly six months after ECHS closure, there were 1,488 respondents to a user survey issued by CEC.

Of the respondents 1,035 (69%) had previously used ECHS – this was a significantly higher response rate than anticipated and helps demonstrate the ongoing interest in a cycle hire scheme. The survey showed that for 40% of the users, the provision of ECHS created a route back into cycling:

- 1% hadn't ridden a bike before
- 21% hadn't ridden a bike in a long time (5 or more years) and
- 18% hadn't ridden a bike in a short time (between 1 and 4 years)

The survey suggests that 11% bought or gained access to a personal bike during the time ECHS was in operation further highlighting this route to cycling, the withdrawal of the scheme caused 41% of respondents to stop cycling.

80% of respondents said they were likely to use any future scheme. This is reflected in the positive feedback provided by users.

The ebikes were great for making cycling more accessible for a less than fit person in such a hilly city.

- Resident, Female, 35-44 (stopped riding when scheme was removed).

PLEASE BRING IT BACK!!! It was a great way for me to get back into cycling in a new city without having to buy a bike and also not have to worry about finding somewhere to park your bike. It was a huge asset to the city, for residents and tourists. An absolutely fantastic scheme

- Resident, Female, 25-35

I am very sorry the bike docs got vandalised so much and that certain groups felt the need to destroy something that brought joy and necessary means of transport to others.

- Resident, Female, 25-34

Please reinstate this scheme - my boyfriend taught me to ride a bike with it and we had the best time!

- Resident, Female, 25-34(stopped riding when scheme was removed).

I think the Just Eat scheme worked just perfectly. The bikes were great, easy to use and the app was very straight forward. More bikes needed in popular locations. I'd be very willing to pay a much higher price to compensate for the idiots who damage the bikes/infrastructure. Please bring them back! I'm now using the car a lot more!

- Resident, Male, 35-44

Demographic information was collected about users, 90% of users were residents of Edinburgh with 11% using bikes to access a place of study. The survey also identified a 32% / 64% female / male split, which is consistent with observations and in-line with expectations.

The Bike Life Survey[1] completed by Sustrans in 2019 demonstrated there is significant appetite in Edinburgh for cycling with 24% of residents cycling at least once a week. A further 26% don't cycle but would like to.

The Bike Life Survey also highlighted only 55% of residents have access to a bike in Edinburgh and a cycle hire scheme would significantly improve accessibility. 51% of residents identified "Improvements to your local town or city's public cycle sharing scheme" as an enabler to cycling more.

3.3.2 Alignment with Current Policy

As set out above, implementation of a new cycle hire scheme in the city is well aligned to National, Regional and Local strategies and polices, and in particular supporting modal shift to cycling to help Edinburgh achieve its Net Zero carbon target by 2030.

3.3.3 Active Travel Investment Programme

The implementation of an Active Travel Network in Edinburgh will mitigate barriers for those who don't cycle currently. The Edinburgh Bike Life Survey 2019 identified that 82% of respondents think that more cycle infrastructure along roads physically separated from traffic and pedestrians would be useful to help them cycle more. It also noted that in response to why respondents do not cycle, or why they cycle less often, 51% were concerned about safety with only 34% of respondents stating that cycling safety in Edinburgh is good.

A cycle hire scheme will mitigate barriers in terms of being able to access bikes. This coupled with safe spaces to cycle through the active travel network, should increase customer demand compared with the ECHS. It should also help ensure benefits of the investment in active travel infrastructure are realised. It is recommended that when considering docking station locations intersections between the active travel network and the bus and tram network are prioritised.

3.3.4 Reform of Transport Arm's Length External Organisations

Cycle hire schemes work best when they are part of an integrated public transport network. It was recognised in the report on reform of the Council's Transport Arm's Length Organisations (ALEO) that any future cycle hire provision should be delivered as part of an integrated public transport network. Having one corporate entity responsible for all modes of transport including any cycle hire scheme creates a strong foundation for any cycle hire scheme to be successful.

[1] https://www.sustrans.org.uk/bike-life/bike-life-edinburgh

3.4 Benefits of Cycling and Cycle Hire Schemes

While this report does not seek to quantify and/or monetise scheme benefits, there are a range of key benefits of cycling and cycle hire schemes, which are summarised below.

Environmental Benefits

Modal shift from car to more sustainable modes of transport (including walking, wheeling, and cycling) reduce levels of air pollution and greenhouse gases. Reduced air pollution leads to improvements in air quality. Improved health outcomes from better air quality are of particular benefit to those who are more vulnerable to air pollution, including children, older and disabled people.

Economic Benefits

People that travel actively tend to spend more in local businesses than people arriving by motorised modes. People that arrive by car are likely to spend more per visit, but pedestrians, cyclists and bus passengers are likely to visit their local centres much more often (up to twice as often as car drivers), so spend more in total[2].

In terms of business productivity, employees who cycle regularly take 1.3 fewer sick days per year than those that don't, improving productivity[3].

Health Benefits

Active travel is beneficial to both physical health and mental wellbeing. 29% of adult men, 39% of adult women and 31% of children in Scotland do not meet minimum physical activity guidelines.[4] [5] Keeping physically active can reduce the risk of heart and circulatory disease by as much as 35%, reduce risk of early death by as much as 30% and has also been shown to greatly reduce the chances of asthma, diabetes, lower blood pressure and cancer[6]. Adults who cycle regularly can have the fitness levels of someone up to 10 years younger[7].

[2] Transport for London http://content.tfl.gov.uk/town-centres-report-13.pdf
[3] The British Cycling Economy, British Cycling https://www.britishcycling.org.uk/zuvvi/media/bc_files/corporate/The_British_Cycling_Economy_18Aug.pdf
[4] Scottish Public Health Observatory https://www.scotpho.org.uk/behaviour/physical-activity/data/adults#:~:text=Between%202012%20and%202019%2C%20the,for%20women%20(Chart%204)
[5] Scottish Health Survey. 2019. https://www.gov.scot/publications/scottish-health-survey-2019-volume-1-main-report/pages/10/
[6,7] Sustrans, Health benefits of cycling and walking, https://www.sustrans.org.uk/our-blog/get-active/2019/everyday-walking-and-cycling/health-benefits-of-cycling-and-walking#:~:text=Getting%20out%20walking%20or%20cycling,your%20general%20health%20and%20wellbeing

Data from a series of long-running studies shows that active travel improves mental wellbeing in a number of areas such as concentration, the ability to make decisions and enjoy normal daily activities, and that it reduced the feeling of being constantly under strain[8].

Cycle Hire Scheme Benefits – A Gateway to Cycling

Cycle hire schemes are a vehicle for increasing cycling helping to realise the benefits which are summarised above. Specific benefits attributed to cycle hire schemes identified from the CoMoUK Bike Share Survey 2021[9] (unless otherwise stated) are summarised below.

- The normalisation of cycling by increasing the visibility of people cycling in everyday clothing and carrying out day to day tasks. This normalises the image of cycling and moves people away from the idea that cycling is dangerous or reserved for active and sporty people[10].
- Act as a catalyst for people to re-engage with cycling, 49% of respondents (55% in 2020 and 44% in 2019) said that joining a cycle hire scheme was a catalyst to them cycling for the first time in at least a year. This included 24% of people who hadn't ridden for 5 years or more, and 6% (2% in 2020) who were new to cycling.
- Encourage modal shift with 53% of respondents would have made their last trip by car (driver or passenger) or taxi, if cycle hire had not been available with 31% of those surveyed using cycle hire for commuting at least once a week.
- Removes barriers to cycling, by removing cost barrier to owning a bike and requiring somewhere to store the bike.
- Attracts a diverse group of users, the percentage of respondents who identified as 'White British' was 76%, whilst 9% identified as 'Asian / Asian British'; 4% as 'Black (African, British, Caribbean)'; 4% as 'mixed multiple ethnicity'; and 3% as other ethnic groups. This shows that cycle hire schemes are attracting a relatively diverse group of users, given the ethnic profile of Britain.

[8] Research reported by the National Institute for Health and Care Excellence: https://www.nice.org.uk/news/article/commuting-by-walking-or-cycling-can-boost-mental-wellbeing#:~:text=Data%20from%20a%20series%20of,of%20being%20constantly%20under%20strain.

[9] https://como.org.uk/wp-content/uploads/2022/02/CoMoUK-Bike-Share-Survey-2021_final.pdf

[10] https://www.sciencedirect.com/science/article/pii/S2214140513000030

4 Review Approach

4.1 Scope

The scope of the commission was agreed with the Head of Placemaking & Mobility and is detailed below:

- **Project Initiation** – Develop the Project Execution Plan setting out the strategy for the project and procedures to be followed by all parties, covering safety, risk, change, systems and processes, procurement, quality, communications and reporting;
- **Stakeholder Identification & Engagement** – Develop a robust stakeholder management plan making sure all stakeholders are identified, analysed (their interest and influence), their requirements understood, engaged, integrated with project governance, and receive the right communications at the right time;
- **Scheme Objective Setting** – Identify and recommend objectives for the scheme through stakeholder engagement;
- **Existing Schemes and Supply Market Analysis** – Assess existing schemes to understand lessons identifying what can be applied from successful schemes and Service Provider engagement to better understand operating models and costs;
- **Options Identification & Analysis** – Identify scheme options making an assessment on costs; and
- **Recommendations** – Complete a report and paper for the Transport & Environment Committee making recommendations on how the project should proceed to meet objectives and provide CEC with best value for money.

The following items were out of scope of the commission:

- Implementation of short-term interim measures;
- Detailed revenue modelling;
- Detailed costing of options; and
- Business Case

As set out earlier in the report all costs are preliminary estimates and will require further verification at Design stage.

4.2 Approach

A Project Execution Plan and Project Information Document were produced at the outset of the project to define the strategy for the management of the Options Identification and Analysis Study and the procedures for its successful completion.

A project working group and project board were initiated to ensure key stakeholders were engaged in the project and the client requirements were understood. A common data environment for the management and sharing of project data (SharePoint) was also established.

It acted as a singular strategy for the delivery of the scope of services, between CEC, Turner & Townsend and Anturas. The strategy included the setup of an agreed Project Board and

the use of a common data environment for the management and sharing of project data (SharePoint).

A programme was agreed with the client for a final report and Transport & Environment Committee paper to be completed by 18th March 2022.

A stakeholder identification and mapping exercise was completed to identify key stakeholders within CEC, Transport for Edinburgh, other Local Authorities, Transport Authorities, Local Community Groups and Service Providers. A stakeholder list of those engaged is detailed below in Table 2.

To identify options and agree objectives, separate workshops were held with key CEC stakeholders, Local Community Groups and Further/Higher Education Institutions. Transport Scotland, SEStran, Lothian Buses and Edinburgh Trams were also engaged.

To better understand operating models and how other cycle hire schemes are structured in the UK, the project engaged with several different local authorities / transport authorities who currently manage cycle hire schemes.

To identify potential funding sources for a new scheme Transport Scotland, SUStrans and Energy Savings Trust were engaged. Sponsorship specialists were also engaged to understand the potential sponsorship revenue a scheme could generate.

Table 2 - Stakeholder Engagement List

Organisation	Stakeholder / Role
City of Edinburgh Council	Daisy Narayanan (Head of Placemaking & Mobility)
	Katherine Soane (Senior Project Officer – Cycle Hire Scheme)
	Ronnie Swain (Commercial Partner)
	Robin Goodwin (Public Transport Officer)
	Peter Watton (Service Director - Sustainable Development)
	Judith Cowie (Active Travel Officer)
	Naomi Sandiland (Contributions and Infrastructure Lead)
	Graeme McGartland (Investments Senior Manager)
	Gavin Brown (Parking Operations Manager)
	Judith Cowie (Transport Officer – Smarter Choices, Smarter Places)
	Ruth Kydd (Insurance)
	Keith Irwin (Principal Solicitor)
Transport for Edinburgh	George Lowder (Chief Executive Officer)
Transport Scotland	Fraser Reid (Sustainable & Active Travel)
SUStrans	Simon Wasser (Interim Infrastructure Manager)
	Katherine Henebry (Infrastructure Officer)
SEStrans	Anna Herriman (Senior Partnership Manager)
	Peter Jackson (Active Travel Officer)
Lothian Buses	Ben Ritchie (Transport Manager)
Edinburgh Trams	Colin Kerr (Head of Safety)
CoMoUK	Rachael Murphy (Director for Scotland)
Edinburgh University	Emma Crowther (Travel & Transport Manager)
Napier University	Jamie Pearson (Environmental Sustainability Manager)

Organisation	Stakeholder / Role
Herriot Watt University	Christopher Larkins (Environment & Energy Manager)
Edinburgh University	Alex Luetchford (Travel & Transport Officer)
Edinburgh College	Martin Webb (Sustainability Officer)
Herriot Watt University	Evan Oliphant (Cycling Manager)
Queen Margaret University	Sarah Whelan (Transport Planner, Sweco)
Edinburgh College	Izi Robe (Sustainability Officer)
Police Scotland	Samantha Campbell (Community Liaison)
	Heather Clarke (Community Liaison)
	Jane Harman (Community Liaison)
Spokes	Alexander Robb (Planner)
Cycling Scotland	Beth Harley-Jepson (Regional Cycle Training and Development Officer)
Living Streets	Andrew White (Living Streets Representative)
	Stuart Hay (Director)
Edinburgh Access Panel	Robin Wickes (Access & Accessibility Officer)
Forth Environment Link	Shirley Paterson (Development Manager)
Energy Saving Trust	Rachel Goulding (Programme Manager)
Cargo Bike Movement	Ross Forbes (Edinburgh Napier University Campus Cycling Officer)
Transport for West Midlands	Emma Beswick (Project Manager – West Midlands Cycle Hire)
West Midlands Combined Authority	Stephen Bermingham (West Midlands Combined Authority) Emma Beswick (Project Manager – West Midlands Cycle Hire)
Dundee City Council	Brian Bellman (Scheme Manager)
	John Berry (Sustainable Transport Lead)
Brighton & Hove Council	Matthew Thompson (Bikeshare Contract Manager)
Transport for Greater Manchester	Iain Baxter (Bee Network Cycle Hire Manager)
PHAR	Alastair Macdonald (Head of Insight)

As well as the stakeholders above, the consultancy team also engaged directly with potential Service Providers to inform the analysis.

5 Principal Scheme Objectives

5.1 Principal Scheme Objectives

It is critical to clearly define objectives and aims of any cycle hire scheme from the outset to ensure the scheme is designed and set up to deliver the desired outcomes. An initial set of scheme objectives were approved at the Transport and Environment Committee on 11 November 2021 and are detailed below.

- **Alignment with the City Mobility Plan:** to improve health, wellbeing, equality, and inclusion; to support inclusive and sustainable economic growth and respond to climate change; and to protect and enhance our environment
- **Be inclusive:** by providing access to adaptive and non-standard bikes
- **Community Involvement:** ensuring that communities have the opportunity to input before any medium or longer-term proposal is implemented
- **Integrated with the wider public transport provision in Edinburgh:** it was recognised in the report on reform of the Council's Transport Arm's Length Organisations (ALEO) that any future cycle hire provision should be delivered as part of an integrated transport network for the city. The corporate structure approved by Committee envisaged that the ALEO will become the entity responsible for delivery of all Council owned transport modes to ensure integrated transport in the city
- **Seek to increase cycling amongst low participant groups:** particularly economically /socially disadvantaged groups and individuals throughout the city; and
- **Funding:** any proposal must be delivered within the funding made available by the Council.

The initial set of objectives have been reviewed with a range of Stakeholders (detailed in Table 2) and have been refined based on the feedback received.

Table *3* below details the recommended Principal Scheme Objectives. There is no priority assigned to each of the objectives.

Table 3 - Principal Scheme Objectives

Alignment with City Mobility Plan

Improve access to bikes and e-bikes to help facilitate modal shift to cycling and contribute towards the objectives of the City Mobility Plan:

- To improve health, wellbeing, equality and inclusion;
- To support inclusive and sustainable economic growth and respond to climate change; and
- Protect and enhance our environment.

Inclusive

- Improve access to bikes and e-bikes to help facilitate an increase in cycling amongst low participant groups
- Ensure that communities have the opportunity to input before any scheme is implemented and throughout its operation
- Provide access to e-cargo bikes and ensure the scheme is aligned with other adaptive bike schemes
- Ensure scheme data is made available to the public

Integrated with public transport provision in Edinburgh

- Aspire for the scheme to be part of an integrated public transport offering, with a similar aesthetic to the other modes (for the user) and the ability to link into the (future) integrated ticket of Lothian Buses and Edinburgh Trams
- Ensure the scheme is aligned with the Active travel network being developed in the City

Financially Sustainable

- Ensure costs of any scheme are covered by the funding provided by the Council, external funding bodies, sponsorship and trip revenue
- Aspire to reduce any operational subsidy over the life of the Contract

Secure

- Maintain access to bikes by giving due consideration to the impacts of potential vandalism and theft, ensuring all scheme infrastructure designed to mitiagte levels of vandalism and theft experienced in the UK
- Any scheme should be supported with community outreach resources to engage with local communities and instill a sense of community ownership

It is recommended that the Principal Scheme Objectives detailed in this section should be approved and used to guide the Design of the scheme. The rationale supporting each of the objectives is detailed below.

5.1.1 Alignment with City Mobility Plan

To meet the vision and objectives of the City Mobility Plan significant modal shift to sustainable forms of transport is required. Based on this the key objective of the scheme is to facilitate modal shift to bikes and e-bikes by improving accessibility.

It was discussed with stakeholders whether specific reference to other key policy documents such as City Plan 2030 or the 2030 Climate Strategy should be reflected in the objectives. It was agreed that the City Mobility Plan is aligned with these policy documents and as such, do not need be referenced in the objectives.

5.1.2 Inclusive

A general criticism of cycle hire schemes in the UK is that docking stations are often located in affluent urban areas. This limits accessibility to low participant groups who have the biggest barriers to cycling. It is important that a cycle hire scheme targets low participant groups and is reflected in the objectives.

Examples of low participant groups include those in socio-economic groups D-E and ethnic minority groups. Socio-economic group is a classification based on occupation maintained by the Market Research Society. Groups D and E are semi-skilled and unskilled manual occupations and people not in employment.

The Edinburgh Bike Life Survey 2019[11] found that 76% of residents from socio-economic groups D and E never cycle, but 30% would like to start. The reasons for not cycling include:

- Concerned about safety (41%)
- Not confident cycling (39%)
- Lack of storage or facilities at home or work (23%)
- Cost of a suitable cycle (23%)

A cycle hire scheme improves access to bikes by mitigating the “Cost of a Suitable cycle” and “Lack of storage or facilities at home or work” barriers which prevent low participant groups from cycling.

Stakeholder feedback received in relation to inclusivity included the need to have docking stations in areas of high deprivation based on the Scottish Index of Multiple Deprivations (SIMD) data. This is to help ensure the scheme can be accessed by low participant groups. It was acknowledged that this is only possible with a scheme with the coverage of Option E. Based on the experience of the ECHS, theft and vandalism were higher in areas of high deprivation. Mitigations will be required if a new cycle hire scheme includes docking stations in areas of high deprivation.

[11] https://www.sustrans.org.uk/bike-life/bike-life-edinburgh

The provision of e-Cargo bikes and adaptive bikes as part of a cycle hire scheme have been considered. Recommendations in relation to both are detailed in Appendix 1 – Cycle Hire Scheme Research.

Feedback was also received from Living Streets to ensure that data form any scheme is made available to the public, which was a key success of the ECHS.

5.1.3 Integrated with public transport provision in Edinburgh

Cycle hire schemes are most successful when they are part of an integrated public transport network. A cycle hire scheme can be integrated with the wider public transport network by ensuring the following:

- Docking stations are located in close proximity to train, tram and bus stations and stops to support integrated journeys;
- Docking stations are located in close proximity to the active travel network, in particular at interchanges between the active travel network and train, tram and bus stations;
- Have composite logo and branding between any sponsor and the local/transport authority so it looks part of the network. This also helps to instil a sense of community ownership;
- Customer channels and scheme website are local/transport authority branded; and
- Where possible, ticketing is consistent with other modes of transport.

This is an aspirational objective in Edinburgh as work is ongoing to integrate both buses and trams in the city through the ALEO reform. Both Lothian Buses and Edinburgh Trams have been engaged and have indicated their support for the integration of any cycle hire scheme and would be interested in supporting with the identification of docking station locations and exploring the potential for a cycle hire scheme to utilise a new Bus and Tram ticketing system.

To maximise the return on investment for the Active Travel Network being implemented in the city, any cycle hire scheme should be integrated with the Active Travel Network. As a minimum number of docking stations should be located at key points of intersection between the active travel network and the train, bus and tram networks.

5.1.4 Financially Sustainable

As per the lessons of ECHS, it must be acknowledged that a cycle hire scheme is not financially sustainable without financial subsidy. There is significantly more risk (for the Service Provider) attached to each journey completed using a cycle hire scheme compared to other modes of public transport. In addition, as demand increases on a cycle hire scheme operational costs increase more so than other modes of public transport. Both these factors contribute to high operating costs and the need for financial subsidy.

An aspiration to reduce any financial subsidy for any scheme has been included. Feedback was provided by CoMoUK on whether Financially Sustainable is the correct terminology for this objective as it is highly likely that any successful scheme in Edinburgh will always have to been subsidised by the Local Authority.

5.1.5 Secure

Following the challenges with ECHS, Police Community Liaison Officers and Service Providers have been engaged to understand how best to mitigate vandalism and theft in any future scheme.

A key recommendation from Service Providers was to initiate a theft and vandalism reduction working group from the outset of the project. Police Community Liaison Officers have also indicated they are keen to be engaged as early as possible and are keen to advise on docking station locations. This working group would agree actions and plans to mitigate theft and vandalism and agree key processes when theft and vandalism occurs.

It is also recommended that a detailed analysis of where theft and vandalism occurred on the ECHS is completed.

Police Community Liaison Officers also provided feedback to ensure docking stations are installed in areas with good natural surveillance e.g., good lighting and visible to the passing public.

5.1.6 Scheme Aims

To help ensure the scheme meets the Principal Scheme Objectives, specific aims for the scheme should be defined from the outset.

Specific aims for the scheme should be defined based on annual targets for the following:

- Number of Trips;
- Number of Annual, Monthly and Corporate Memberships;
- Revenue generated;
- Usage amongst low participant groups;
- Customer satisfaction;
- Service Provider performance against Service Levels and Key Performance Indicators;
- Level of funding generated from developer contributions;
- Number of lost and stolen bikes; and
- Instances of vandalism.

A methodology for how this performance data should be collected and evaluated should also be established.

5.2 Key Scheme Requirements

In addition to the Principal Scheme Objectives, key requirements in relation to the scheme were also identified during the stakeholder engagement and are detailed below.

5.2.1 Design

In a manged service model CEC will be responsible for identifying suitable docking station locations.

The scheme should be station based where journeys can only be ended at the docking point or at a virtual station adjacent to a docking station.

Any design will need to meet the design requirements of a world heritage area and the locking mechanism in the docking point should be resistant to theft. It should also be noted that Service Providers have advised that all intelligence should be included in the bike not in the docking point or docking station.

The scheme should have a composite logo between CEC and any sponsor which is visible at all docking stations and on the bikes to ensure the scheme has the look and feel of another mode in an integrated public transport network.

All marketing materials, mobile application and website should display composite branding. Having a distinct composite brand helps to instil a feeling of community ownership which is likely to reduce levels of theft and vandalism.

5.2.2 Customer Channels

In addition to customers paying for journeys through the mobile application it has been proposed that contactless payment should also be a payment option for the scheme.

Lothian Buses and Edinburgh Trams are working towards integrated, multi modal, Account Based Ticketing (ABT). This will allow for capped open payments and multi-operator revenue share, as well as the addition of other modes, including a cycle hire scheme, provided the contactless payment method is compatible with the ABT system.

As such, requirements in relation to ticketing need to be carefully considered to ensure compatibility, impacts on theft and associated costs are understood.

5.2.3 E-bikes

Based on Service Provider feedback, cycle hire schemes with a mixed fleet of e-bikes and bikes have significantly more demand for e-bikes than bikes. As an example, for the Paris Velib scheme there are 10 trips per day per e-bike compared to 4 trips per day per bike.

The cost estimates detailed in the report are based on a split of 62% bike and 38% e-bike. More revenue will be generated the higher the percentage of e-bikes however capital and operational costs will increase. Assuming a hybrid model of in dock charging and battery swapping the cost increases will include:

- Based on this exercise, the estimated unit cost of an e-bike is 57% more than a bike which will increase capital costs;
- In dock charging will require more docking stations to be connected to utilities which will increase capital costs and implementation timelines; and
- Increased battery swapping will increase operational costs with batteries requiring swapping every 2 days.

Given the increased demand for e-bikes over bikes and that any scheme would likely go-live in 24/25 it is recommended that this split is reviewed early in the Design stage to assess in more detail the costs and benefits of increasing the number of e-bikes.

5.2.4 Community Engagement

Through the limited stakeholder engagement completed to date, it is clear there is enthusiasm for a scheme in Edinburgh. Feedback has been provided from key community stakeholders that a Community Engagement working group should be initiated from the outset to help shape the design of the scheme and start to build the feeling of community ownership.

6 Options Identification and Analysis

6.1 Options

The following options detailed in Table 4 have been identified and assessed as part of this exercise. It should be noted that Options C-E are indicative to understand funding requirements and will need to be refined further should the project proceed into Design.

Table 4 - Identified Options

Option	Description	Docking Stations	Docking Points	Bikes	E-Bikes
A	Do Nothing	n/a			
B	Continue to support existing short-term interim measures on a long-term basis as detailed below. No specific cycle hire scheme implemented. Existing short-term interim measures include: **1. City Bike Club** Investigate a city bike club for businesses, working in partnership with retailers and other relevant organisations. **2. All-Ability Cycling** Funding to Thistle to deliver 240 sessions on the adaptive bikes with 160 new people started into the programme. **3. Break the Cycle (BTC)** Support offenders with skills and knowledge on bikes and bike repair. Funding has been used to undertake workshop improvements, pay for equipment, parts and increase staff training. **4. FEHE Cycle Training Programme and access to bikes** In partnership with the University of Edinburgh, the Council and the Energy Savings Trust, support a project which expands the current	n/a			

Option	Description	Docking Stations	Docking Points	Bikes	E-Bikes
	programme of cycle confidence training to be offered to all higher education institutions in the city. **5. University of Edinburgh – e-bike Project** Reusing the 60 e-bikes owned by ECHS to create access to e-bikes across three of their student accommodation sites. **6. Cargo Bike Movement** Increase capacity by funding additional staff and building space to be able to increase capacity in their work to normalise the use of cargo bikes.				
C	Implement and operate a cycle hire scheme in "Central" Edinburgh and parks.	35	700	280	105
D	Implement and operate a cycle hire scheme based on medium and high demand locations of the ECHS.	70	1,400	560	210
E	Implement and operate a more inclusive cycle hire scheme with wide coverage across Edinburgh.	140	2,800	1,120	420

The asset volumes associated with options C-E are based on a bike / e-bike spilt of 62%/ 38%. Based on Service Provider feedback the docking point to bike ratio used in these scenarios is 1.8:1. However, some Service Providers have suggested it could be lower and a ratio of 1.5:1 would be sufficient.

6.1.1 Geography and Docking Station Locations

Options C-E include docking station locations from ECHS for illustrative purposes. It is recommended that should the project proceed to Design; each proposed docking station location is assessed against agreed key criteria such as those listed below:

- Alignment with Scheme Objectives.
- Potential demand.
- Proximity to Train, Bus and Tram Stops.

- Proximity to other docking station locations (the optimum distance is 300m between docking stations[12]) and how it contributes to docking station density.
- Alignment with Active Travel Network.
- Theft and Vandalism Impact Assessment e.g., is there natural surveillance.
- Deliverability e.g., if in dock charging is there a viable connection to utilities; and
- Public Safety

6.1.1.1 Options A & B

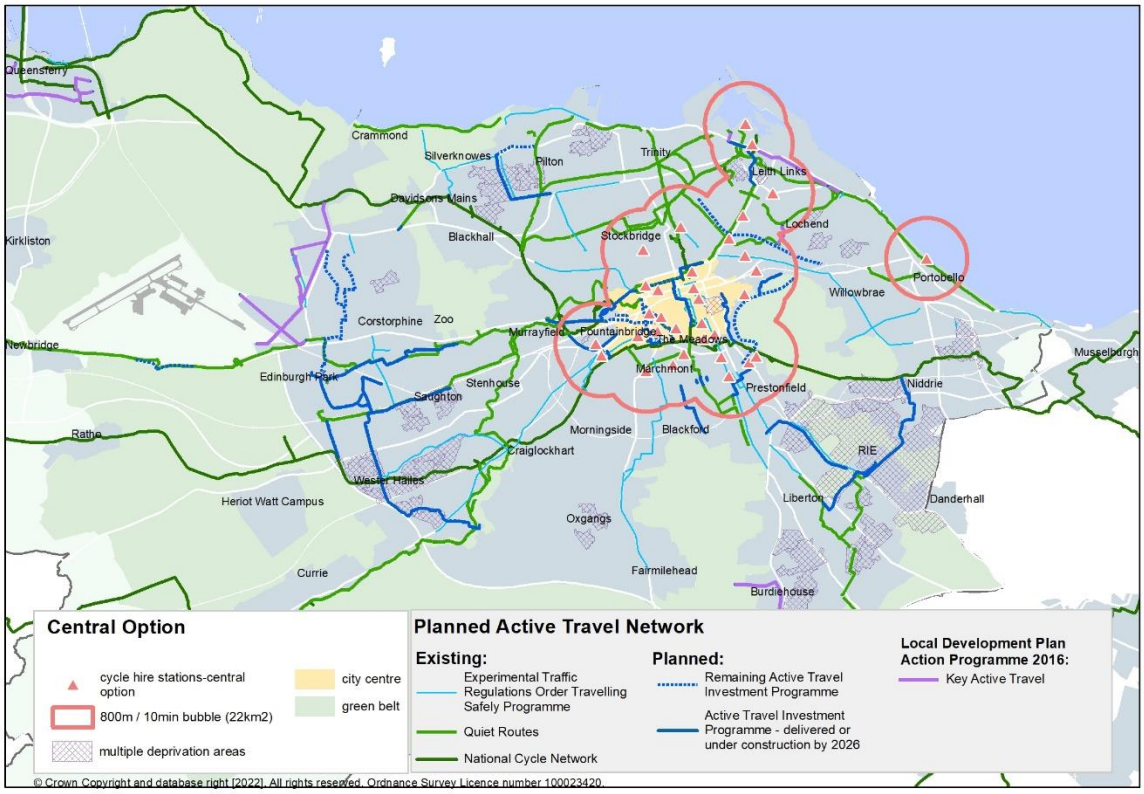
Options A & B do not require docking stations.

6.1.1.2 Option C

Option C has an approximate geographic spread of 22km^2.

Figure *3* 3 below provides an indicative view of docking station locations and how they align with the future Active Travel Network and areas of high deprivation.

Figure 3 – Option C indicative Docking Station Locations and Geographic spread



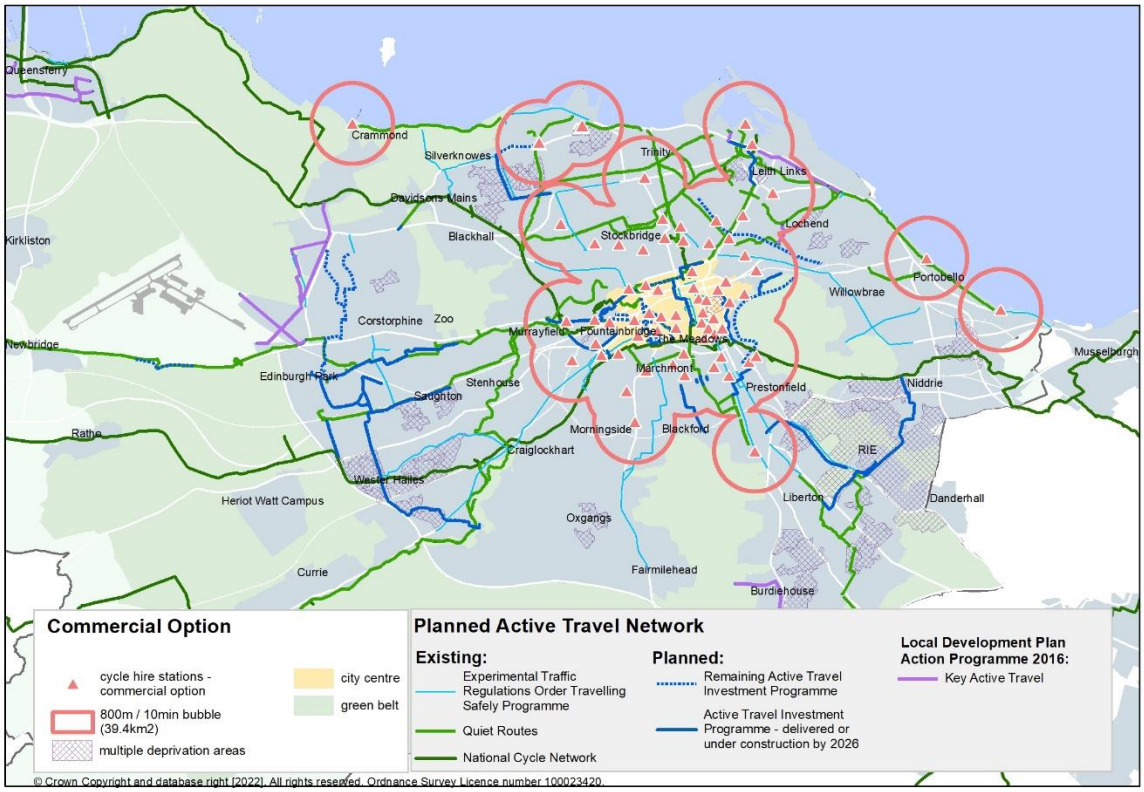
[12] https://itdpdotorg.wpengine.com/wp-content/uploads/2014/07/ITDP-Bike-Share-Planning-Guide-1.pdf

6.1.1.3 Option D

Option D has an approximate geographic spread of 30km^2.

Figure 4 below provides an indicative view of docking station locations and how they align with the future Active Travel Network and areas of high deprivation. Medium and high demand docking station locations from ECHS have been used for illustrative purposes but also to represent what would likely be the most financially sustainable option.

Figure 4 - Option D Indicative Docking Station Locations and Geographic spread

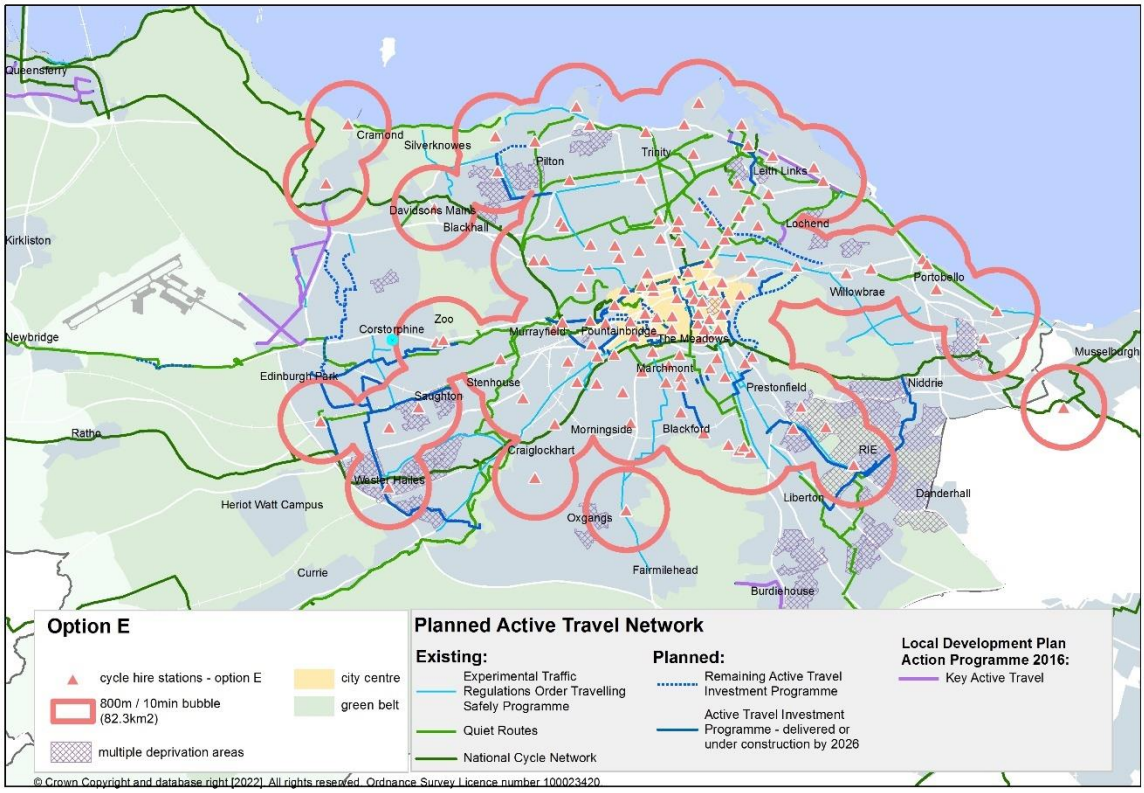


6.1.1.4 Option E

Option E has an approximate geographic spread of 82km^2.

Figure 5 below provides an indicative view of docking stations that align with the future Active Travel Network and areas of high deprivation. All docking station locations from ECHS have been used for illustrative purposes with additional docking station locations included in areas of high deprivation.

Figure 5 - Option E Indicative Docking Station Locations and Geographic spread



6.1.2 Alignment with Objectives

Each option has been assessed against the proposed Principal Scheme Objectives and findings are detailed in Table 5 below. Options B-E have also been assessed against cost and the findings are detailed in Section 6.3 of this report.

Each option has been scored based on alignment with each of the objectives. The scoring mechanism is detailed in Table 5 below.

Table 5 - Option Alignment Scoring

Alignment with Objective	Scoring
Not aligned and does not meet the objective	×
Limited alignment with the objective	✓
Partially meets the objective	✓✓
Fully meets the objective	✓✓✓

The results and comments related to the scoring exercise are detailed in Table *6* below.

Table 6 - Option Alignment with Principal Scheme

	Objectives				
Option	**Alignment with CMP**	**Inclusive**	**Integrated with public transport provision**	**Financially Sustainable**	**Secure**
A	×	×	×	✓✓✓	n/a
B	✓	✓	×	✓✓✓	✓✓✓
C	✓	✓	✓	✓✓	✓✓✓
D	✓✓	✓✓	✓✓	✓✓	✓✓✓
E	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓

Option A does not meet the first three objectives of alignment with the CMP, inclusivity, and integration. It is however the most financially stable option given it is the do-nothing option. Security is not applicable to this option.

Option B has very limited alignment with the CMP and inclusivity objectives when compared to the do-nothing option. Option B does not meet the integration objective. It does, however, score better than options C, D and E on financial sustainability given the limited services provided under the option. Similarly, it scores well on security given the very limited amount of infrastructure and bikes that would be deployed.

Option C has very limited alignment with CMP and inclusivity objectives, this is similar to Option B. Option C partially meets the financial sustainability objective. However, it is anticipated that the revenue generated per bike is likely to be lower than both Options D & E. The limited docking station coverage means Option C is not integrated with wider public transport provision and not a viable option for commuters as part of an integrated journey, this will ultimately reduce demand and revenue. Option C is deemed to fully meet the security objective[13] as the docking stations will be in central locations with good natural surveillance.

Option D partially meets all objectives and meets the security objective. The increased geographic spread of Option D compared to Option C means there would likely be some docking stations in areas of high deprivation. There could also be increased customer demand as the scheme would be more integrated with the public transport network providing a viable commuting option as part of an integrated journey. It is likely Option D would be

[13] This assumes a solution with a robust locking mechanism.

more financially sustainable than Option E[14] . This is because the operating area is smaller, and all docking stations would be based in medium and high demand locations of the ECHS. However, an operational subsidy would still be required.

Option E meets Alignment with CMP, Inclusivity, and Integration objectives. The wider spread of the scheme to low demand (High Deprivation) areas coupled with increased operating costs could impact the financial sustainability of Option E. However, this could be offset by being the most attractive proposition from a sponsorship perspective. Levels of theft and vandalism could be higher compared to Option D due to better coverage into areas of high deprivation, Option E though is still deemed as partially meeting the security objective.

Based on the alignment with Principal Scheme Objectives, Option E is recommended.

6.2 Operating Model

There are a number of different operating models utilised for cycle hire schemes in the UK. The operating model options considered for the purposes of this exercise include a managed service model that shares risk between the authority and the Service Provider; a model that transfers all risk to the Service Provider including capital funding; a sub-set of the 'all risk' model with the authority providing capital funding; and a concessionary model where all risk is transferred to the Service Provider and there is no payment of a service charge. The risk apportionment under each of the above models is provided in Table 7.

Table 7 - Operating Models - Risk Apportionment

Operating Model	Capital Funding	Asset Ownership	Payment of Service Charge to Service Provider	Trip & Sponsorship Revenue Risk	Vandalism / Lost & Stolen Risk	Third Party Damage Risk	Customer Public Liability Risk	Marketing / Comms / Community Outreach
1. Managed Service – Shared Risk	CEC	CEC	Yes	CEC	Shared	CEC	Shared	CEC
2.a) All Risk and Capital funding on Service Provider	Service Provider	Service Provider	Yes	Service Provider	Service Provider	Service Provider	Service Provider	Service Provider
2. b) All Risk on Service Provider, CEC provide Capital funding	CEC	CEC	Yes	Service Provider	Service Provider	Service Provider	Service Provider	Service Provider
3. Concession	Service Provider	Service Provider	No	Service Provider	Service Provider	Service Provider	Service Provider	Service Provider

Table 8 below details the Benefits and Risks associated with each of the operating model options considered as part of this exercise.

[14] For the purpose of the evaluation in Table 6, financial sustainability has been scored the same for Option D & E. This is based on the assumption that both options are affordable to CEC.

Table 8 - Operating Model Benefits and Risks

Operating Model	Benefits	Risks
1. Managed Service – Shared Risk	• Able to present the scheme as part of an integrated public transport offering which helps to instil community ownership for the scheme; • Full control over the scheme in terms of defining the tariff and membership model; • Full control over docking station locations which enables coverage in low demand areas to help increase usage amongst low participant groups; • Full control over who sponsors the scheme; and • With CEC taking the revenue risk and sharing lost and stolen / vandalism risk, bidders for the supply, installation and operations contract have less risks outside their control which need to be provisioned for. This will facilitate bids which are better value for money.	• CEC responsible for replacement of assets when beyond economic repair and bikes are lost or stolen • CEC take on revenue risk and are responsible for securing a sponsor, increasing membership and trip numbers • Service Provider not fully incentivised to increase trip numbers and revenue albeit mechanisms can be built into the contract to drive behaviours and encourage increased trips
2.a) All Risk and Capital funding on Service Provider	• Very limited risks for CEC to manage • CEC don't have to source capital funds • Service Provider fully incentivised to increase trip numbers and revenue • CEC have limited risk with revenue and operational risk with the Service Provider	• Likely to be prohibitively expensive as Service Provider will price in significant risk • CEC would need to find additional revenue budget compared to Option 1 which could be a challenge as generally it is more difficult for Local Authorities to access Revenue budgets compared to Capital budgets • Not attractive proposition to the market, limited interest in the opportunity • Service Provider is unlikely to be supportive of expansion into areas of high deprivation and low demand • CEC have limited control of the scheme and more challenge to present as a part of an integrated public transport offering • Not financially sustainable if underestimate level of vandalism and lost/stolen and demand is below forecasts
2. b) All Risk on Service Provider, CEC provide Capital funding	• Reduced operational budget required as capital costs are not amortised over the contract term which they are in Option 2 a.) • CEC have limited risk with revenue and operational risk with the Service Provider	• Could be prohibitively expensive as Service Provider will price in significant risk • Service Provider is unlikely to be supportive of expansion into areas of high deprivation and low demand • Not financially sustainable if underestimate level of vandalism and lost/stolen and demand is below forecasts
3. Concession	• Service Provider fully incentivised to increase trips and make the scheme a success	• Not attractive proposition to the market, limited or no interest in the opportunity • Not a financially sustainable model as per the ECHS and other schemes in the UK • CEC have almost no control over the scheme and unable to present the scheme as part of an integrated public transport offering

Service Providers have provided feedback that their preferred operating model is either Option 1 or Option 2.b). All confirmed that Option 3, a Concession, is not an attractive proposition and is not something they would bid for, this option has therefore not been carried forward into the analysis below. The majority of Service Providers also stated that Option 2.a) is not a particularly attractive proposition. If operational funding to support a managed service cannot be secured CEC should look to implement a scheme on the basis of Option 2.b) - All Risk on Service Provider, CEC provide Capital funding.

Based on Service Provider feedback and considering the risks and benefits in the table above, it is recommended that the scheme should be procured and operated on the basis of a managed service (Option 1) where CEC own all the assets and take all risk in relation to trip and sponsorship revenue.

6.2.1 Incentivisation

For the scheme to be a success it is important to incentivise the Service Provider as much as possible. In a managed service where CEC takes the revenue risk it is important to include contractual mechanisms which incentivise the Service Provider to increase trip numbers.

It is unlikely that the scheme will make a profit. If CEC is able to commit to the operational subsidy of £2.08m p.a. (for Option E) for the contract term, a revenue share mechanism could be introduced if surplus revenue is generated (e.g., If the monthly operational subsidy is less than forecast).

A profit share mechanism could also be built into the contract to enable revenue share, should demand significantly exceed forecasts and the scheme become profitable.

Service Provider costs on a cycle hire scheme typically increase as customer demand increases. As part of the contractual drafting and procurement exercise, it should be explored whether there is a mechanism to mitigate this risk for the Service Provider. An option could be increasing the monthly service charge should trip numbers exceed a certain threshold in the previous month.

6.2.2 Lost and Stolen

Risk in relation to lost and stolen bikes should be shared with the Service Provider. Provided the Service Provider can demonstrate that all contractual obligations have been met in recovering the bike, CEC should split the cost of a replacement bike with the Service Provider if the bike has been missing for 60 consecutive days.

It should be explored with Service Providers whether CEC would get better value for money if this risk to Service Providers is capped. It should be noted that CEC have the option to choose whether a lost or stolen bike is replaced depending on available budget.

6.2.3 Vandalism

Provided the Service Provider can demonstrate all contractual obligations have been met in relation to maintenance, CEC should fund the replacement of a bike when it is deemed to be beyond economic repair. It should be noted that CEC have the option to choose whether a bike beyond economic repair is replaced depending on available budget.

6.2.4 Contract Duration

It is recommended that the contract duration for any new scheme has an initial term of 5 years with the ability to extend up to an additional 3 years.

Based on the review of existing cycle hire schemes in the UK the typical contract duration is 5 years with extensions. Manufacturers and Service Providers have confirmed the frame on a cycle hire bike is the most expensive component which typically has a lifespan of 7-10 years. However, over a 7 year period, the bike will likely have had 5 different sets of pedals, 4 different saddles and 3 sets of tyres which makes it challenging to determine the life of a bike as a whole. Docking point infrastructure has a typical asset life of 5 years.

Feedback was provided that CEC could get better value for money if the initial term was 7 years with the ability to extend up to a further 3 years. This duration would give long term certainty to a Service Provider and better align with fleet vehicle replacement which is generally every 3 to 4 years.

Whilst an initial contract term of 7 years may offer better value, CEC Legal confirmed that they typically recommend initial contract terms of 4 years (with the exception of IT Service Contracts) to ensure competition and mitigate against any challenges in relation to Service Provider performance.

6.2.5 Service Levels

The cost estimates provided were on the basis of the minimum acceptable service levels detailed below. Any contract will have additional service levels to cover areas including reporting, customer service and asset handover condition. It is recommended to get best value for CEC the Service Level Agreement is kept broadly in line with the minimum acceptable service levels below and that the maximum monthly penalty that could be deducted from a Service Provider could be capped at a percentage of the monthly service charge. The analysis in this report assumes a cap of 5%, this is based on seeking to optimise the effectiveness of the measure, without introducing unnecessary pricing of risk at tender stage.

1. Bike Availability

Based on Service Provider feedback this report assumes that from March - November the minimum acceptable service level would be 85%. From December - February the minimum acceptable service level would be 80% due to a reduction in demand.

Where the bike is deemed as available when:

- In use by a customer;
- It's docked with no active fault recorded;
- In a virtual station with no active fault recorded;

- In transit as part of redistribution activities and
- In use for any special events

Where the expected bike number takes into account any temporarily unavailable docking stations

2. Planned Bike Servicing

Minimum acceptable service level is for 100% of bikes available for Hire by a Customer to have been serviced within the last three hundred and sixty-five (365) days

3. Customer Application and Operating Platform Availability

Minimum acceptable service level for Customer Application and Operating Platform Availability is assumed to be 99%

6.2.6 Insurance

Public liability and third-party damage insurance will be required for the scheme. Feedback has been provided from CEC Insurance via their broker that it is not something that existing insurers could consider, as it is outwith their risk appetite.

It is recommended that CEC engage with Insurers who do provide this specialist cover for cycle hire schemes across the UK and assess how these services could be procured.

6.2.7 Property

The Service Provider will require a storage facility and workshop in central Edinburgh to manage the scheme. To reduce operational costs, it is recommended that CEC assess whether there are any suitable properties which are likely to be vacant on Contract Commencement. This property could then be leased to the Service Provider at a peppercorn rate.

If a suitable property was identified but was part of the investment portfolio (as opposed to the operational portfolio) a business case would need to be made for its use.

6.3 Preliminary Cost Estimates

6.3.1 Introduction

Service Providers were requested to provide estimates for Options C-E giving consideration to the different operating models. All assumptions related to each scenario are included in Appendix 2 – Assumptions Log.

The Service Provider Implementation and Operating cost estimates are based on the following number of responses for each of the operating models detailed in Table 9 below.

Table 9 – Service Provider Responses per Operating Model

Operating Model	Number of Service Provider Responses
1. Manged Service	6
2. a) All Risk and Capital funding on Service Provider	4
2. b) All Risk on Service Provider, CEC provide Capital funding	4

While Option B does not meet the Principal Scheme Objectives, a rough cost estimate has been provided by CEC of £0.32m p.a.

6.3.2 Preliminary Implementation Cost Estimates

A summary of the Service Provider and internal implementation costs against each option are detailed in Table 10 below. All assumptions related to the Internal Implementation costs are detailed in Appendix 2 – Assumptions Log.

A description of each of the columns in Table 10 is detailed below:

Estimated Implementation Timescales – details the assumed time from Contract Commencement to Operational Commencement for the Service Provider to complete all implementation activities. Costs will include, but not be limited to sourcing the bikes / e-bikes and associated infrastructure, installing the infrastructure, configuring the operating platform & mobile application and mobilising an operations team

Average Estimated Service Provider Implementation Cost – details the average Service Provider costs for the implementation activities

Estimated Internal implementation Costs – details the costs for the assumed internal resource required to deliver the project

Estimated Capital Renewal Costs – based on 5% of bikes and e-bikes requiring replacement p.a. due to being beyond economic repair or lost or stolen**.** No provision has been made for replacement of docking station or docking points during the term of the contract.

Table 10 – Preliminary Implementation Cost Estimates

Option	Description	Operating Model	Estimated Implementation Timescales	Average Estimated Service Provider Implementation Cost (£m)	Estimated Internal implementation Costs (£m)	Estimated Capital Renewal Costs (£m)	Total (£m)
C	Implement and operate a cycle hire scheme in "Central" Edinburgh and Parks Docking Stations – 35 Docking Points – 700 Bikes – 280 e-Bikes – 105	1.Managed Service – Traditional model	1 year	1.76	0.51	0.19	2.46
		2.a) All Risk and Capital funding on Service Provider		n/a	0.28	n/a	0.28
		2. b) All Risk on Service Provider, CEC provide Capital funding		1.58	0.32	n/a	1.91
D	Implement and operate a cycle hire scheme based on medium and high demand locations of previous scheme Docking Stations – 70 Docking Points – 1,400 Bikes – 560 e-Bikes – 210	1. Managed Service – Shared Risk	1 year	3.1	0.87	0.38	4.35
		2.a) All Risk and Capital funding on Service Provider		n/a	0.28	n/a	0.28
		2. b) All Risk on Service Provider, CEC provide Capital funding		2.84	0.37	n/a	3.21
E	Implement and operate a more inclusive cycle hire scheme with wide coverage across Edinburgh Docking Stations – 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes – 420	1. Managed Service – Shared Risk	2 years 1 year to implement 70 Docking Stations + 1 year to implement remaining 70 Docking Stations	5.94	1.67	0.75	8.36
		2.a) All Risk and Capital funding on Service Provider		n/a	0.28	n/a	0.28
		2. b) All Risk on Service Provider, CEC provide Capital funding		5.28	0.59	n/a	5.87

For the Recommended Option, the estimated Implementation cost is £8.4m.

6.3.3 Preliminary Operating Cost Estimates

A summary of the Service Provider and internal operating costs against each option are detailed in Table 11 below.

A description of each of the columns in Table 11 is detailed below:

Operating Period – Period from Operational Commencement (following the implementation period) to the end of the contract term

Average Estimated Service Provider Operating Costs – Covers all related operating costs to provide the services. Costs will include, but not be limited to staff, redistribution, spares, vehicles and operating platform licencing.

Estimated Internal Operating Costs – Internal Operating Costs to support the operation of the scheme

Estimated Sponsorship Commission – Commission of 15% p.a. paid to sponsorship specialist who secured the sponsorship deal

In the managed service operating model CEC would retain all the trip and sponsorship revenue. For operating models 2.a) and 2.b) the Service Provider would retain all the trip and sponsorship revenue. This should be considered when reviewing costs in Table 11.

For each of the options the managed service operating model has the highest operating costs as revenue is not reflected. However, for operating models 2. a) and 2. b) revenue is reflected in the operating costs. The Estimated Operational Subsidy for each option is detailed in Section 6.5 of this report.

Table 11 – Preliminary Operating Cost Estimates

Option	Description	Operating Model	Operating period	Average Estimated Service Provider Operating Costs (£m)	Estimated Internal Operating Costs (£m)	Estimated Sponsorship Commission (£m)	Total (£m)	Estimated Cost p.a. (£m)
C	Implement and operate a cycle hire scheme in "Central" Edinburgh and Parks Docking Stations - 35 Docking Points - 700 Bikes - 280 e-Bikes – 105	1.Managed Service - Traditional model	4 years	4.22	0.87	0.13	5.23	1.31
		2.a) All Risk and Capital funding on Service Provider		5.78	0.31	n/a	6.09	1.52
		2. b) All Risk on Service Provider, CEC provide		2.59	0.46	n/a	3.05	0.76

Option	Description	Operating Model	Operating period	Average Estimated Service Provider Operating Costs (£m)	Estimated Internal Operating Costs (£m)	Estimated Sponsorship Commission (£m)	Total (£m)	Estimated Cost p.a. (£m)
		Capital funding						
D	Implement and operate a cycle hire scheme based on medium and high demand locations of previous scheme Docking Stations - 70 Docking Points – 1,400 Bikes - 560 e-Bikes - 210	1. Managed Service – Shared Risk	4 years	6.78	1.36	0.27	8.41	2.10
		2.a) All Risk and Capital funding on Service Provider		9.36	0.31	n/a	9.66	2.42
		2. b) All Risk on Service Provider, CEC provide Capital funding		4.71	0.46	n/a	5.17	1.29
E	Implement and operate a more inclusive cycle hire scheme with wide coverage across Edinburgh Docking Stations - 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes - 420	1. Managed Service – Shared Risk	4 years Year 1 - 70 Docking Stations Year 2 – further 70 Docking Stations go-live	11.64	2.08	0.46	14.19	3.55
		2.a) All Risk and Capital funding on Service Provider		17.76	0.31	n/a	18.07	4.52
		2. b) All Risk on Service Provider, CEC provide Capital funding		7.75	0.61	n/a	8.4	2.09

For the Recommended Option, the total estimated Operating cost is £14.2m.

6.4 Preliminary Revenue Estimates

6.4.1 Tariff Structure

With a managed service the Authority is responsible for setting the tariff structure and membership model.

A detailed analysis of different UK cycle hire scheme tariffs (some of which are detailed in Appendix 1 – Cycle Hire Scheme Research) is recommended. Feedback from Service Providers has been provided that if the new scheme was to have no membership option and a pay as you go tariff only, similar to other schemes in the UK, there could be potential to increase trip revenue by over 50%. For the purposes of this report, the revenue calculations are based on a membership and pay as you go model, which reflects the ECHS and is detailed in Appendix 2 – Assumptions Log.

The reason why the pay as you go only option does not form the base case for analysis is due to the fact that such an approach is likely to negatively impact customers using the scheme as part of a regular commute as it would increase costs for regular users, this in turn may discourage modal shift and reduce the inclusivity of the scheme.

6.4.2 Preliminary Trip Revenue Estimates

The estimated trip revenue, including the estimated number of trips, for each of the scheme options is detail in Table 12 below. The trip and revenue estimates were provided as part of the Service Provider engagement and the key assumptions which support these estimates are detailed in Appendix 2 – Assumptions Log.

Based on Service Provider feedback, it has been assumed that trip numbers are based on 1.5 trips per bike per day and 3 trips per e-bike per day for all options included in this analysis. To ensure sufficient funding is requested to cover operational subsidy, trip numbers have been reduced by 30% for all years.

Table 12 – Preliminary Trip Revenue Estimates

Option	Description	Estimated Number of Trips p.a.	Estimated Total Number of Trips	Estimated Trip Revenue p.a. (£m)	Estimated Total Trip Revenue (£m)
C	Docking Stations - 35 Docking Points - 700 Bikes - 280 e-Bikes - 105	187,793	751,170	0.22	0.9
D	Docking Stations - 70 Docking Points – 1,400 Bikes - 560 e-Bikes - 210	375,585	1,502,340	0.46	1.82
E	Docking Stations - 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes - 420	751,170	3,004,680	0.79	3.17

For the Recommended Option, the Total estimated Trip Revenue is £3.17m.

6.4.3 Preliminary Sponsorship Revenue Estimates

As detailed in Section 6.7 – Funding Options an upper estimate for sponsorship of £500/ bike/annum has been assumed. The estimated revenue of a potential sponsorship deal are detailed in Table 13 below. This assumes an initial contract term of five years and commission of 15% being paid to the Sponsorship specialist.

Table 13 – Preliminary Sponsorship Revenue Estimates

Option	Asset Volumes	Estimated Sponsorship Revenue p.a. (£m)	Estimated Total Sponsorship Revenue (£m)	Total Estimated Commission (£m)	Net Revenue to CEC (£m)
C	Docking Stations - 35 Docking Points - 700 Bikes - 280 e-Bikes - 105	0.19	0.77	0.13	0.64
D	Docking Stations - 70 Docking Points – 1,400 Bikes - 560 e-Bikes - 210	0.38	1.54	0.27	1.27
E	Docking Stations - 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes - 420	0.67	2.69	0.46	2.23

For the Recommended Option, the estimated Sponsorship Revenue is £2.70m.

6.5 Preliminary Operational Subsidy Estimates

Assessing the preliminary estimated costs and preliminary estimated revenue the preliminary estimated operational subsidy for each option is detailed in Table 14 below.

Table 14 - Preliminary Operational Subsidy Estimates

Option	Description	Operating Model	Total Operational Subsidy (£m)	Subsidy per Annum (£m)
C	Implement and operate a cycle hire scheme in "Central" Edinburgh and Parks Docking Stations - 35 Docking Points - 700 Bikes - 280 e-Bikes – 105	1.Managed Service - Traditional model	3.56	0.89
		2.a) All Risk and Capital funding on Service Provider	6.09	1.52
		2. b) All Risk on Service Provider, CEC provide Capital funding	3.05	0.76
D	Implement and operate a cycle hire scheme based on medium and high demand locations of previous scheme Docking Stations - 70 Docking Points – 1,400 Bikes - 560 e-Bikes - 210	1. Managed Service – Shared Risk	5.05	1.26
		2.a) All Risk and Capital funding on Service Provider	9.66	2.42
		2. b) All Risk on Service Provider, CEC provide Capital funding	5.17	1.29
E	Implement and operate a more inclusive cycle hire scheme with wide coverage across Edinburgh Docking Stations - 140 Docking Points – 2,800 Bikes – 1,120 e-Bikes - 420	1. Managed Service – Shared Risk	8.32	2.08
		2.a) All Risk and Capital funding on Service Provider	18.07	4.52
		2. b) All Risk on Service Provider, CEC provide Capital funding	8.37	2.09

For the Recommended Option, the estimated minimum operational subsidy is £2.08m p.a.

Based on preliminary cost estimates, it is estimated that Option E, on the basis of a managed service, is likely to cost approximately **£8.4m** to implement and **£14.2m** to operate on the basis of a five-year contract.

It is estimated that Option E could generate **£3.2m** in trip revenue and **£2.7m** in sponsorship revenue. This equates to an estimated minimum operational subsidy of **£2.08m** per annum (p.a.).

All cost estimates detailed above are preliminary and further work will be required at the Design stage to verify costs as part of the Recommended Option refinement. It should be noted that the Service Provider costs included in this report have been provided as high-level estimates. All assumptions which support the preliminary cost and revenue estimates are detailed in Appendix 2 – Assumptions Log.

As detailed in Section 7, Service Provider estimates were provided in October 2022 and there is a risk that costs to implement and operate a cycle hire scheme could be higher than estimated (as part of this exercise) when any contract is procured due to risks materialising e.g., increased inflation, commodity price increases, supply chain issues, labour shortages etc.

Risk of 15% has therefore been applied to all preliminary implementation and operational cost estimates. This value is deemed appropriate as the Service Provider will take all risk in relation to civil engineering works should they be required. However, risks should be identified and quantified as part of Design which will provide greater certainty around risk and contingency.

6.6 Funding Options

6.6.1 Transport Scotland

An initial discussion has been held between CEC and Transport Scotland to investigate the potential for capital funding to be provided. Further discussions are required to understand whether this is a potential funding route.

Following engagement with SUStrans it's been confirmed they are not currently in a position to fund cycle hire schemes in Scotland.

6.6.2 Energy Savings Trust

Energy Savings Trust (EST) are expecting confirmation shortly from Transport Scotland that the eBike Grant Fund will be opened for applications in 22/23. Based on the 20/21 criteria the funding is available to assist local authorities, public sector agencies, further and higher education institutions, active travel hubs and community groups to adopt e-bikes as a sustainable alternative to car journeys. The fund can be used to cover the cost of e-bikes, e-trikes, e-cargo bikes, cargo bikes and trailers, tandems, adapted cycles, and trikes.

Category B funding offers up to £200,000 per application towards large-scale fleets of pool bikes or public bikeshare/hire schemes and promoting large scale uptake of e-bikes. The

Local Authority must provide match funding of 50%, however the match funding can be allocated to operational expenditure.

The funding provided by EST can be put towards either the purchase of the e-bikes and/or procurement of equipment and works (limited to on-street docking stations, excluding grid connection costs) is eligible.

EST confirmed they are supportive of high value bids and that whilst funds should ideally be spent in the funding year they could be carried forward to the following financial year if required. The likely application deadlines would be August 2022 with a final deadline of October 2022.

6.6.3 Developer Contributions

The City Plan 2030 sets out policies and proposals to guide development in Edinburgh. The plan details specific policies for Developers to deliver (or provide contributions towards) appropriate transport infrastructure to support housing or other development sites which would generate a significant number of trips. The plan also states that residential development will be supported where provision is made for cycle parking and recommends that major housing and mixed-use developments should consider the integration of cycle hire docking stations into the layout.

The plan also states that Development will be supported where private car use is not needed. The plan encourages private car parking free or low car parking developments with availability of shared mobility services to make it more convenient for residents not to own a car, for example the city's car club and cycle hire schemes.

The plan also states for major new developments, and where identified in a Place Policy or Development Principles, shared mobility services should be provided and be conveniently located close together and near to public transport stops, potentially in a 'mobility hub' with additional services, located with good natural surveillance.

Based on the polices and proposals detailed in the City Plan 2030, developer contributions would be a viable funding source to support any future scheme.

6.6.4 Sponsorship

Sponsorship is critical in ensuring the financial sustainability of any cycle hire scheme. As an example, the London Cycle Hire Scheme is sponsored by Santander with Transport for London extending their sponsorship deal with Santander to 2025 last year. In the previous sponsorship deal Santander contributed £43.75m to the London Cycle Hire Scheme with an additional £1m p.a. provided to promote Santander Cycles and reach new customers through rewards, offers and incentives.

Edinburgh as a city is an attractive proposition for potential sponsors as it has international standing as a key cultural centre and has many iconic sites. There are also a number of major businesses that are headquartered in Edinburgh who could be interested in sponsorship.

The past experience with the ECHS may impact demand and the amount of revenue generated by any sponsorship deal. This can however be mitigated by providing assurances on how any scheme plans to mitigate theft and vandalism.

Based on discussion with Sponsorship specialists a top end estimate for a sponsorship deal would be approximately £500 per bike p.a. To ensure any scheme maximises sponsorship revenue it is recommended that a specialist organisation is commissioned to procure a sponsor for the scheme.

There are organisations which specialise in securing sponsorship for cycle hire schemes and other transport infrastructure. These organisations operate on the basis of a commission model.

It is also recommended that the procurement of a sponsor should be planned to ensure sponsorship of the scheme commences on operational go-live of the scheme to maximise revenue.

6.6.5 Paths for All – Smarter Choices Smarter Places

The Smarter Choices, Smarter Places programme supports local authorities in Scotland to encourage more active and sustainable travel choices.

The funding supports projects which encourage and promote active and sustainable transport. This could be a potential funding source for promoting the scheme.

6.6.6 Low Emission Zone

It is anticipated that that the Low Emission Zone will act as a deterrent and that any revenue generated from the scheme's enforcement regime will be used primarily to support its operational running costs.

Any revenue surplus to covering operational costs will be re-invested to support the scheme's objectives to reduce harmful emissions. Revenue will be allocated to appropriate transport initiatives identified in the CMP and 2030 Climate Strategy. However, it is forecast that any net revenue generated from the scheme will be minimal.

Other potential future schemes such as the Workplace Parking Levy (if they are progressed and approved) could be a potential funding source for a scheme.

The project should continue engagement with all external funders in particular Transport Scotland to try and secure the required funding.

7 Implementation

7.1 Procurement Options

In a managed service operating model the following services will need to be procured:

- Supply, Installation and Operations Contract
- Sponsorship
- Insurance

Due to the complexities of a cycle hire scheme, Competitive Dialogue should be used as the procurment route to procure the Supply, Installation and Operations Contract. This is the most commonly used route by Authorities procuring cycle hire schemes. Some Authorities have utilised a negotiated procedure however this is not recommended. Public procurement rules state that this procedure should only be used in exceptional circumstances where Competitive Dialogue is not appropriate.

Whilst Competitive Dialogue increases the procurement timeline it provides CEC the flexibility to make changes to the contract and requirements following negotiation with bidders prior to them submitting their final tenders. This will help to ensure best value for CEC. This has been discussed with CEC procurement and further discussion is required at the Design stage.

To help ensure the financial sustainability of the scheme the procurement exercise needs to be weighted more on quality than price. It is recommended that further analysis is carried out to determine the optimal quality price ratio for the procurement of the Supply, Installation and Operations Contract.

Due to the complex nature of cycle hire schemes, it is recommended that an external legal firm who have previously completed contractual drafting for cycle hire schemes should be procured.

In discussion with Service Providers, other Authorities have seen a drop in demand for their cycle hire scheme when introducing e-Scooter trials. It is therefore recommended that the OJEU notice for the scheme should reflect micro-mobility services within the notice in anticipation of any e-Scooter trials in Scotland, should the legislation change.

Furthermore, CEC may want to consider including options for the supply of e-Scooters and the associated operational costs as part of any procurement.

7.2 Timescales

Provided the project proceeds into Design immediately there is still an opportunity for a scheme to go-live in Summer 2024.

The implementation of a cycle hire scheme is complex with a multiple workstreams to be delivered and significant risks to be managed. It is recommended that an indicative

programme for the end-to-end delivery of the project is prepared along with a detailed project plan for the Design phase.

7.3 Risks

Risk of 15% has been applied to all preliminary implementation and operational cost estimates. This value is deemed appropriate as the Service Provider will take all risk in relation to civil engineering works should they be required. However, risks should be further refined and quantified as part of Design which will provide greater certainty around risk and contingency.

Multiple risks need to be carefully managed in implementing and operating a cycle hire scheme. Table 16 below details the key strategic risks which will need to be considered.

Table 16 - Risks

Risk	Description	Likelihood	Impact
Costs	Costs to implement and operate a cycle hire scheme could be higher than estimated (as part of this exercise) when the contract is procured due to other risks materialising e.g., increased inflation, commodity price increases, supply chain issues, labour shortages etc.	High	High
Funding	Capital and operational expenditure will be required to fund the delivery of the project and the subsequent operation. It may not be possible to secure the required funding to support delivery and operation of a scheme.	Medium	High
Demand	Demand for a cycle hire scheme in Edinburgh could be lower than forecast, reducing revenue and increasing the operational subsidy required to support the scheme.	Low	Medium
Theft & Vandalism	The scheme could be subject to the same levels of vandalism and theft experienced by the ECHS.	Low	High
Interoperability / Continuity	Bikes and e-bikes are likely to communicate and operate using a particular operating platform. When the initial contract term ends and a new service is procured there is a risk that existing bikes and e-bikes cannot be used should another Service Provider with a different operating platform be successful in the tender.	High	Medium

Risk	Description	Likelihood	Impact
Hand back	Assets handed over at the end of the initial term may not be in the agreed condition.	Medium	Medium

8 Next Steps

The project should proceed into Design to refine the preferred option and initiate work on the following:

- Confirm project resource requirements and request additional funding for resources;
- Update the Project Execution Plan and Project Initiation Document to reflect implementation of the Recommended Option;
- Review existing governance arrangements and revise accordingly;
- Identify and quantify all known risks in relation to the project;
- Identify and engage key stakeholders for the Design phase of the project;
- Continue engagement with potential funding bodies to find a source for the capital expenditure;
- Prepare an indicative programme for the end-to-end delivery of the project along with a detailed project plan for the Design phase;
- Validate operating model;
- Requirements gathering for all required services;
- Service Level development;
- Procurement Strategy for all required services;
- Develop methodology for selecting docking station locations and refine existing proposals; and
- Complete modelling to understand the optimum tariff structure.

The estimated cost of implementation includes £1.67m for client costs, of which £0.61m is estimated to be expended in financial year 23/24. These estimates include 15% for risk.

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Appendix 2 - CEC Cycle Hire Options Identification & Analysis

Assumptions Log

05/12/2022

Project Manager	Callum Henderson
Project Sponsor	Daisy Narayanan

ID	Option	Operating Model	Area	DESCRIPTION OF ASSUMPTION	COMMENTS	ASSUMPTION SOURCE
A01	ALL	ALL	Bike/Docking Point Ratio	A bike to docking point ratio of 1.8:1 has been used to calculate docking point volumes for each option	Based on other cycle hire schemes	Service Providers and CEC
A02	ALL	ALL	Contract Duration	A contract duration of 5 years has been used for pricing purposes	Based on other cycle hire schemes	Service Providers / CEC
A03	ALL	ALL	Trip Revenue	Revenue estimates provided by ECHS Service Provider based on a trip assumption of 1.5 trips per day per bike and 3 trips per day per e-bike. To ensure sufficient funding is requested to cover operational subsidy, trip numbers have been reduced by 30% for all years.	Based on other cycle hire schemes	Service Providers
A04	ALL	ALL	Sponsorship Revenue	Sponsorship revenue is estimated at £500 per bike per annum	Based on other cycle hire schemes. This is an upper estimate	Sponsorship Specialist
A05	ALL	ALL	Bike/e-Bike Split	The bike / e-bike split is 62% / 38%	As detailed in report may want a higher % of e-bikes	CEC & Service Providers
A06	ALL	ALL	Operational Commencement	Operational Commencement Date of 6 April 2025	Based on assumed implementation timescales	CEC & Service Providers
A07	ALL	ALL	Tariff	**Years 1-2** Pedal Bike £1.70 for a single trip of up to 1 hour £3.50 for a day subscription, allowing unlimited hires of up to 1 hour each in a 24 hour period £90 per user for an annual membership, allowing hires of up to 1 hour each for 365 days £15 per user for a monthly membership, allowing hires of up to 1 hour each for each month of membership For each of the charging options, hirers can enable 'extended rentals' to enable trips of more than 1 hour. Trips of over 1 hour will incur an additional £1 charge for each extra 30 minutes. E-Bike Unlock fee of £1.70 plus £0.10 per minute (after the first 2 minutes) Annual and Monthly membership options detailed for Pedal Bikes would cover E-Bikes as well. **Years 3-4** Pedal Bike £1.80 for a single trip of up to 1 hour £3.70 for a day subscription, allowing unlimited hires of up to 1 hour each in a 24 hour period £90 per user for an annual membership, allowing hires of up to 1 hour each for 365 days £15 per user for a monthly membership, allowing hires of up to 1 hour each for each month of membership For each of the charging options, hirers can enable 'extended rentals' to enable trips of more than 1 hour. Trips of over 1 hour will incur an additional £1 charge for each extra 30 minutes. E-Bike Unlock fee of £1.80 plus £0.11 per minute (after the first 2 minutes) Annual and Monthly membership options detailed for Pedal Bikes would cover E-Bikes as well.	Based on ECHS	CEC
A08	ALL	ALL	Inflation	Inflation values used from BCIS on 14th September 2022 detailed below. For 27/28 and 28/29 3% was used 23/24 - 9% 24/25 - 5% 25/26 - 4% 26/27 - 4% 27/28 - 3% 28/29 - 3% Inflation applied to Operating Cost as these were provided in 22/23 prices. No inflation applied to implementation costs as these were supplied in nominal terms		T&T
A09	ALL	ALL	Inflation	For Internal Staff cost 3% inflation has been applied for all years		
A10	ALL	Managed Service	Revenue	CEC retain all trip and sponsorship revenue	Based on other cycle hire schemes	
A11	ALL	Managed Service	Vandalism / Lost & Stolen	Vandalism risk is shared - Provided Operator can demonstrate all obligations and necessary steps have been taken CEC would fund a replacement bike when it's deemed to be beyond economic repair. Lost and Stolen risk is shared - Provided Operator can demonstrate all obligations and necessary steps have been taken to recover the bike CEC would fund a replacement bike once it had been missing for 60 consecutive days.	Based on other cycle hire schemes	Service Providers

A12	ALL	Managed Service	Service Levels	**Key Service Levels** For each month the maximum penalty that could be deducted would be capped at 5% of the monthly service charge. 1. Bike Availability From March - November the minimum acceptable service level would be 85% From December - February the minimum acceptable service level would be 80% Bike Availability = minimum number of bikes available during the day / expected bike number Where the bike is deemed as available when: 1. In use by a customer; 2. It's docked with no active fault recorded; 3. In a virtual station with no active fault recorded; 4. In transit as part of redistribution activities and 5. In use for any special events Where the expected bike number takes into account any temporarily unavailable docking stations 2. Planned Bike Servicing Minimum acceptable service level is for 100% of bikes available for Hire by a Customer to have been serviced within the last three hundred and sixty five (365) days 3. Customer Application and Operating Platform Availability Minimum acceptable service level for Customer Application and Operating Platform Availability is 99%	Based on other cycle hire schemes	Service Providers / CEC
A13	ALL	Managed Service	Service Provider Responsibilities	1. Supply of a station based solution with ability for virtual docking. Freeflow models will not be considered 2. Supply of a bike locking mechanism which is theft resistant 3. Supply and installation of all assets 4. Maintenance of all assets including supply of spares 5. Operation of the scheme to meet the required Service Levels including re-distribution 6. Sourcing workshop / storage facilities 7. Supply and manage the operating platform and customer application 8. Customers should be able to pay through the application but also through contactless payment at the Bike / Docking Station 9. Provide customer support through a dedicated phone number 7 days week (8am-8pm), app chat function, website and email 10. Cleaning of all assets 11. Asset disposal 12. Data collection and reporting	Based on other cycle hire schemes	Service Providers
A14	ALL	Managed Service	Internal Responsibilities	CEC Responsible for All scheme marketing, communications and customer management activities All outreach and community engagement activities	Based on other cycle hire schemes	CEC
A15	ALL	2a) All Risk and Capital funding on Service Provider 2b) All Risk on Operator, CEC provide Capital funding	Revenue / Lost & Stolen / Vandalism	Service Provider retains all trip and sponsorship revenue Service Provider for replacement of all lost/stolen and vandalised bikes	Based on other cycle hire schemes	Service Providers
A16	ALL	2a) All Risk and Capital funding on Service Provider 2b) All Risk on Operator, CEC provide Capital funding	Service Provider Responsibilities	1. Supply of a station based solution with ability for virtual docking. Freeflow models will not be considered 2. Supply of a bike locking mechanism which is theft resistant 3. Supply and installation of all assets 4. Maintenance of all assets including supply of spares 5. Operation of the scheme to meet the required Service Levels including re-distribution 6. Sourcing workshop / storage facilities 7. Supply and manage the operating platform and customer application 8. Customers should be able to pay through the application but also through contactless payment at the Bike / Docking Station 9. Provide customer support through a dedicated phone number 7 days week (8am-8pm), app chat function, website and email 10. Cleaning of all assets 11. Asset disposal 12. Data collection and reporting 13. All scheme marketing, communications and customer management activities 14. All outreach and community engagement activities	Based on other cycle hire schemes	Service Providers / CEC
A17	C	ALL	Scheme Volumes	Scheme size based on roughly half size of previous ECHS - 35 Docking Stations		CEC
A18	D	ALL	Scheme Volumes	Scheme size based on medium and high demand locations of ECHS - 70 Docking Stations		CEC
A19	E	ALL	Scheme Volumes	Scheme size based on roughly double size of ECHS - 140 Docking Stations		CEC
A20	C	ALL	Implementation Timescales	1 year to implement and assume big bang go-live 1st June 2024	Based on previous cycle hire schemes and engagement with Service Providers	CEC
A21	D	ALL	Implementation Timescales	1 year to implement and assume big bang go-live 6th April 2025	Based on previous cycle hire schemes and engagement with Service Providers	CEC
A22	E	ALL	Implementation Timescales	1 year to implement and first 70 Docking Stations for go-live 6th April 2025 A further year to implement second 70 Docking Stations for go-live 6th April 2026	Based on previous cycle hire schemes and engagement with Service Providers	CEC
A23	ALL	ALL	Service Provider Estimates	Service Provider estimates were provided October 2022		
A24	ALL	Managed Service	Capital Renewal	Capital Renewal cost only includes forecast for Lost / Stolen and Vandalised Bikes at 5% of the fleet p.a. and does not include any costs related to docking stations and docking points as any significant damage which requires replacement would covered under insurance	Based on other cycle hire schemes	Service Providers

A25	ALL	2a) All Risk and Capital funding on Service Provider 2b) All Risk on Operator, CEC provide Capital funding	Service Levels	For each month the maximum penalty that could be deducted would be capped at 5% of the monthly service charge. 1. Bike Availability Minimum acceptable service level would be 80% Bike Availability = minimum number of bikes available during the day / expected bike number Where the bike is deemed as available when: 1. In use by a customer; 2. It's docked with no active fault recorded; 3. In a virtual station with no active fault recorded; 4. In transit as part of redistribution activities and 5. In use for any special events Where the expected bike number takes into account any temporarily unavailable docking stations 2. Planned Bike Servicing Minimum acceptable service level is for 100% of bikes available for Hire by a Customer to have been serviced within the last three hundred and sixty five (365) days 3. Customer Application and Operating Platform Availability Minimum acceptable service level for Customer Application and Operating Platform Availability is 99%	Based on other cycle hire schemes	Service Providers / CEC
A26	C	Managed Service	Internal Implementation Resource Estimates	Programme Manager - 1 FTE Marketing Officer - 0.25 FTE Comms & Outreach Officer - 0.25 FTE Scheme Manager - 0.5 FTE Asset Manager - 0.25 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A27	D	Managed Service	Internal Implementation Resource Estimates	Programme Manager - 2 FTE Marketing Officer - 0.5 FTE Comms & Outreach Officer - 0.5 FTE Scheme Manager - 1 FTE Asset Manager - 0.5 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A28	E	Managed Service	Internal Implementation Resource Estimates	Programme Manager - 2 FTE Marketing Officer - 0.5 FTE Comms & Outreach Officer - 0.5 FTE Scheme Manager - 1 FTE Asset Manager - 1 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A29	C	2a) All Risk and Capital funding on Service Provider	Internal Implementation Resource Estimates	Scheme Manager - 1 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A30	D	2a) All Risk and Capital funding on Service Provider	Internal Implementation Resource Estimates	Scheme Manager - 1 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A31	E	2a) All Risk and Capital funding on Service Provider	Internal Implementation Resource Estimates	Scheme Manager - 1 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A32	C	2b) All Risk on Operator, CEC provide Capital funding	Internal Implementation Resource Estimates	Scheme Manager - 1 FTE Asset Manager - 0.25 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A33	D	2b) All Risk on Operator, CEC provide Capital funding	Internal Implementation Resource Estimates	Scheme Manager - 1 FTE Asset Manager - 0.5 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A34	E	2b) All Risk on Operator, CEC provide Capital funding	Internal Implementation Resource Estimates	Scheme Manager - 1 FTE Asset Manager - 1 FTE External Legal Support - One off estimated cost of £100k based on experience of other Schemes in the UK	Reviewed and developed based on CEC initial estimates	
A35	C	Managed Service	Internal Operations Resource Estimates	Marketing Officer - 0.5 FTE Comms & Outreach Officer - 0.5 FTE Scheme Manager - 1 FTE Asset Manager - 0.5 FTE	Reviewed and developed based on CEC initial estimates	
A36	D	Managed Service	Internal Operations Resource Estimates	Marketing Officer - 1 FTE Comms & Outreach Officer - 1 FTE Scheme Manager - 1 FTE Asset Manager - 1 FTE	Reviewed and developed based on CEC initial estimates	
A37	E	Managed Service	Internal Operations Resource Estimates	Marketing Officer - 1 FTE Comms & Outreach Officer - 2 FTE Scheme Manager - 1 FTE Asset Manager - 2 FTE	Reviewed and developed based on CEC initial estimates	
A38	C	2a) All Risk and Capital funding on Service Provider	Internal Operations Resource Estimates	Scheme Manager - 1 FTE	Reviewed and developed based on CEC initial estimates	
A39	D	2a) All Risk and Capital funding on Service Provider	Internal Operations Resource Estimates	Scheme Manager - 1 FTE	Reviewed and developed based on CEC initial estimates	
A40	E	2a) All Risk and Capital funding on Service Provider	Internal Operations Resource Estimates	Scheme Manager - 1 FTE	Reviewed and developed based on CEC initial estimates	
A41	C	2b) All Risk on Operator, CEC provide Capital funding	Internal Operations Resource Estimates	Scheme Manager - 1 FTE Asset Manager - 0.5 FTE	Reviewed and developed based on CEC initial estimates	
A42	D	2b) All Risk on Operator, CEC provide Capital funding	Internal Operations Resource Estimates	Scheme Manager - 1 FTE Asset Manager - 0.5 FTE	Reviewed and developed based on CEC initial estimates	

A43	E	2b) All Risk on Operator, CEC provide Capital funding	Internal Operations Resource Estimates	Scheme Manager - 1 FTE Asset Manager - 1 FTE	Reviewed and developed based on CEC initial estimates	
A44	ALL	ALL	Internal Staff Costs	Programme Manager - £60k Marketing Officer - £50k Comms & Outreach Officer - £50k Scheme Manager - £60k Asset Manager - £60k	Reviewed and developed based on CEC initial estimates	
A45	ALL	ALL	Optimism Bias	No provision for optimism bias has been made		
A46	ALL	ALL	Insurance	No provision for public liability and third-party damage insurance, which will be required;		
A47	ALL	ALL	Ticketing	No provision for resources to complete work related to integration of cycle hire scheme ticketing with any new integrated ticketing system adopted by Lothian Buses and Edinburgh Tram		
A48	ALL	ALL	Internal Resource	No provision for internal Procurement, Contract Management, Legal and Finance resource. It is assumed that the required activities are completed by existing staff at no cost to the Project or the scheme.		
A49	ALL	ALL	Risk	15% has been applied to all Implmentation and Operational Costs		
A50	ALL	ALL	Traffic Management	No provision has been made for internal traffic management costs		
A51	ALL	ALL	Utilities	It is assumed utitlities work would be limited and no provsion has been made for these costs		
A52	C	Managed Service	Marketing Materials	An estimate of £40k for marketing materials as part of implmentation and £160k during operation of the scheme has been included		
A53	D	Managed Service	Marketing Materials	An estimate of £60k for marketing materials as part of implmentation and £240k during operation of the scheme has been included		
A54	E	Managed Service	Marketing Materials	An estimate of £100k for marketing materials as part of implmentation and £400k during operation of the scheme has been included		

Appendix 2 - Edinburgh Cycle Hire Scheme – Interim Schemes

Interim Scheme	**Lead partner organisation**	**Funding provided(£) 2021- 2023**	**Funding required for 2023-24**
Higher education • 'Unicycles' - ebike loans for three months • Cycle training – maintenance; Essential Cycling Skills; cycle ride leader	University of Edinburgh	£153,104.25	£75,000
Adaptive cycles: • Delivery of sessions, including engaging specifically with children and young adults • Co-ordination with Active Schools to help deliver bikeability training to people with additional support needs • Peer volunteer development	Thistle Foundation	£95,000.00	£75,000
Cargo bikes: • Provision of cargo bikes on short and longer term loans • Delivery of awareness raising events • Provision of cargo bike training, which is necessary to use a cargo bike • Volunteer recruitment and training	Cargo Bike Movement	£74,976.64	£100,000
Community payback/ justice programme • Taking in referrals where people have requested a bicycle • Taking in donations of bicycles from members of the public • Distribution of refurbished bicycles • Workshop upgrades to make a suitable learning area for service users	Brake the Cycle – run internally by CEC	£95,000	£50,000

Summary of achievements:

Interim Scheme	**Achievements**
Higher education	From FHE cycle training report covering July to October 2022: • 47 people trained

	• 40 hours of cycle training taking place plus maintenance skills training currently being scheduled to take place before March 2023 From Unicycles report covering September to December 2022: • E-bike scheme provided 49 students with three month hires • All available e-bikes were hired out within five days of scheme launch • Available at Pollock Halls and Pentland House • 91% of hirers were students from outside the UK • 59% of hirers were female • Of the 60 available e-bikes, 49 were made available to hire and 11 retained as back-up • £50 refundable deposit; no hire fee • Waiting list of 40+ students • 73% of hirers reported using their e-bike once or more per week, most commonly for commuting; leisure; and running errands • GPS trackers planned for future • Average daily cycling distance on weekdays was 17.29km/3 trips • Average daily cycling distance on weekends was 15.15km/3 trips

Adaptive cycles	From Nov and Dec & August 2022:
	• 14 PVG checked volunteers over two sites, most individuals are fully outdoor first aid and cycle leader trained
	• Group adapted bike sessions delivered for:
	  ○ Positive Paths
	  ○ Leonard Cheshire
	  ○ Threshold
	  ○ Inclusion Alliance
	  ○ Sight Scotland
	  ○ Crossreach
	  ○ Scottish Autism
	  ○ Garvald Edinburgh
	  ○ Capability Scotland
	  ○ YCATs
	• Developing partnerships with a further 17 organisations
	• Enquiries received from a further 29 organisations
	• 3-4 adapted bike sessions delivered on average per week, equating to 13 hours delivery per week
	• Over a given month, 500 people estimated to be engaged; 457 pedal bike journeys; 376 miles estimated; 17 sessions (based on August 2022)
	• Side-by-side tandems and semi-recumbent trikes are the most heavily used, with the wheelchair deck bikes also very popular
	• Delivery of drop in sessions, including engaging with older adults and young people to regain or find new confidence in cycling on roads and local cycle paths.
	• Cycle development groups building on cycle journey lengths, health and fitness. This is also an opportunity to develop social interaction, peer support and confidence in using cycling as a day to day way of commuting.

	• Co-ordination with Active Schools to use bikability training with people with additional support needs and encourage their support staff to join in. Our volunteers are included in the offer of support. • Peer volunteer development. Volunteers trained to lead planned bike rides and support young participants to develop leadership skills. • Promoting outdoor activities for positive mental health.
Cargo bikes	From 2022 report – January to October 2022: • 22 Long term loans including businesses and community groups • 167 Short term loans to individuals and families • 79 people trained in Cycling Scotland cargo bike orientation • Attended 16 events across Edinburgh • Engaged with 6825 people at these events, giving practical demonstrations; advice; information • Volunteers have collected & redistributed 11.5 tonnes of food which would otherwise have been thrown away, saving circa 91 tonnes of CO_{2e} compared with equivalent travel by car/van • 7825 miles travelled!
Community payback/justice programme	• Six members of staff trained in bronze and silver Velotech • 103 referrals/requests for bikes between Feb 2022 until Dec 2022 • 59 bikes distributed to requesters • 38 bikes repaired and ready to be rehomed • 229 bikes received as donations from members of the public • Work began in Dec 2022 on creating a training room for BTC, expected to be completed by Feb 2023 • Repair, safety and security equipment being given as part of a pack with bikes being rehomed