

## Leeds Public E-bike Hire Scheme

Date: 9 February 2022

Report of: Director of City Development

Report to: Executive Board

Will the decision be open for call in?  Yes  No

Does the report contain confidential or exempt information?  Yes  No

### What is this report about?

#### Including how it contributes to the City's and Council's ambitions

- A funding bid for circa £2.4 million has been developed for consideration by WYCA to implement a docked, public electric bike hire scheme in Leeds. This report provides information on that scheme.
- The report sets out the benefits that the scheme can bring to Leeds and how it can support the aspiration to address inclusive growth, health and well-being and the climate emergency.
- The report also outlines the key financial risks and how they would be managed.

### Recommendations

- a) That the proposal to introduce a docked, electric bike (e-bike) hire scheme is supported by the Council's Executive Board including the approach to the design, delivery and operation of the scheme.
- b) That, subject to WYCA allocating capital funding for the project, the Council commences procurement to secure a commercial partner to deliver and operate the scheme.
- c) That the proposed approach to mitigating any financial revenue shortfall is endorsed.
- d) Note that the Chief Officer Highways and Transportation will be responsible for the implementation of this scheme.

### Why is the proposal being put forward?

- 1 The Connecting Leeds Transport Strategy sets out the reasons for, and benefits of, increasing cycling in Leeds. This scheme will provide people who travel within Leeds (be they residents, workers or visitors) with an opportunity to access e-bikes and to use those bikes as an alternative to other modes of travel particularly for short distance trips. Public bike hire projects are becoming increasingly popular and well used in UK cities, and a fully electric bike hire scheme will be particularly suited to Leeds because of the hilly terrain. Leeds can benefit from the lessons learnt from other cities where these schemes have been running and ensure the Leeds project is designed to succeed.
- 2 Leeds is expanding its segregated cycle network, particularly in the city centre and along key radial corridors and providing a public shared e-bikes service will complement that

infrastructure. Introducing an e-bike scheme will send a strong message, to the public and businesses, that Leeds is a modern, forward looking city and is serious about tackling the climate emergency.

### What impact will this proposal have?

<b>Wards Affected:</b>	All Leeds Wards, but the scheme would be focused, in the initial phase in the City Centre and the Inner City	
Have ward members been consulted?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

- 3 The scheme will help ‘normalise’ cycling for a more inclusive set of users and will provide an alternative and complementary travel option for trips which currently rely on car, bus or walking. E-bikes provide assisted power which helps the cyclist travel up hill, move off smoothly from a standing start or travel at a consistent speed (which is capped).
- 4 Compared to conventional bikes, e-bikes have been shown to be far more attractive to a wider set of users including older people, women, people with limited physical strength and people who have limited cycling confidence or experience. However, e-bikes are more expensive to purchase than conventional bikes, which can exclude people from purchasing their own.
- 5 This project will provide the opportunity for people to ‘try’ an e-bike and, if that experience is positive, they are likely to use one again or potentially even buy their own e-bike. It will provide a catalyst for an increase in cycling and help ‘normalise’ cycling by dispelling mis-perceptions around cycling.
- 6 The proposed scheme has evolved from two previous proposals in 2019 which would have been operated commercially. Unlike the previous proposal the infrastructure to implement the scheme will be funded through public funds and would therefore enable the Council to specify the quality and density of the cycles and docking stations, user charges and the geographical coverage. A commercial operator would implement and operate the scheme but to the standards and quality set by the Council. This scheme would be 100% e-bikes. Moreover, the Council would set the level of user charges which would not have been the case in the previous scheme. Overall, this project would result in a more inclusive service that would better meet a wider range of policy objectives.

### What consultation and engagement has taken place?

- 7 Public consultation on the detail of the proposed scheme will follow once the funding for the project has been secured. Consultation on the Connecting Leeds Transport Strategy has revealed that there is suppressed demand for cycling in Leeds. Public feedback revealed that people want to see initiatives to overcome the barriers which discourage cycling. Specifically, they mentioned the provision of a connected and fully segregated cycle network, more cycle parking and a public bike hire scheme.
- 8 Discussions with key stakeholders, including bike hire operators, NHS, Universities and Cycle Groups have shown there is a high level of interest in a bike share service in Leeds. A comprehensive, e-bike share project, aligned to the developing segregated cycle network

would be a valuable addition to the transport network in Leeds by providing an accessible, affordable and convenient means of travel within and to the city centre, to/from transport hubs and across the inner city and between major employment sites such as the hospitals or universities.

- 9 Discussions with commercial operators have shown a high level of interest in the proposal. If the infrastructure is funded through the public sector, the feedback from operators is that levels of demand are likely to be high enough to deliver a financially sustainable project that can expand in time. This is the approach being pursued in other cities such as Manchester and Leicester.
- 10 Discussions with other authorities currently operating public bike hire schemes including Brighton, Leicester, Dundee, Transport for London and Transport for Greater Manchester have highlighted key areas of learning around procurement, accessibility and delivery.
- 11 Internal discussions have taken place on additional funding opportunities to either allow an expansion of the project and/or provide adequate financial cover for potential funding gaps between income from user tariffs and operating costs. These funding opportunities could include commercial sponsorship, advertising, Section 106 funds or grants from other sources. Initial indications are that these are realistic opportunities, and they will be explored in more detail as the project is progressed. More information is set out in paragraphs 22-29 where the management of the key risks is set out.

### **What are the resource implications?**

- 12 An attempt to introduce a public bike share scheme in Leeds in 2019 was unsuccessful because the commercial sector was not prepared to make the capital investment and take the financial risk of delivering and operating a scheme. The feedback at that time was that there would be commercial interest in operating a project if the public sector could provide the capital to fund the infrastructure (namely the bikes and the cycle hubs).

The preferred approach to implementing the scheme is for a partnership with a commercial operator through an operating model whereby:

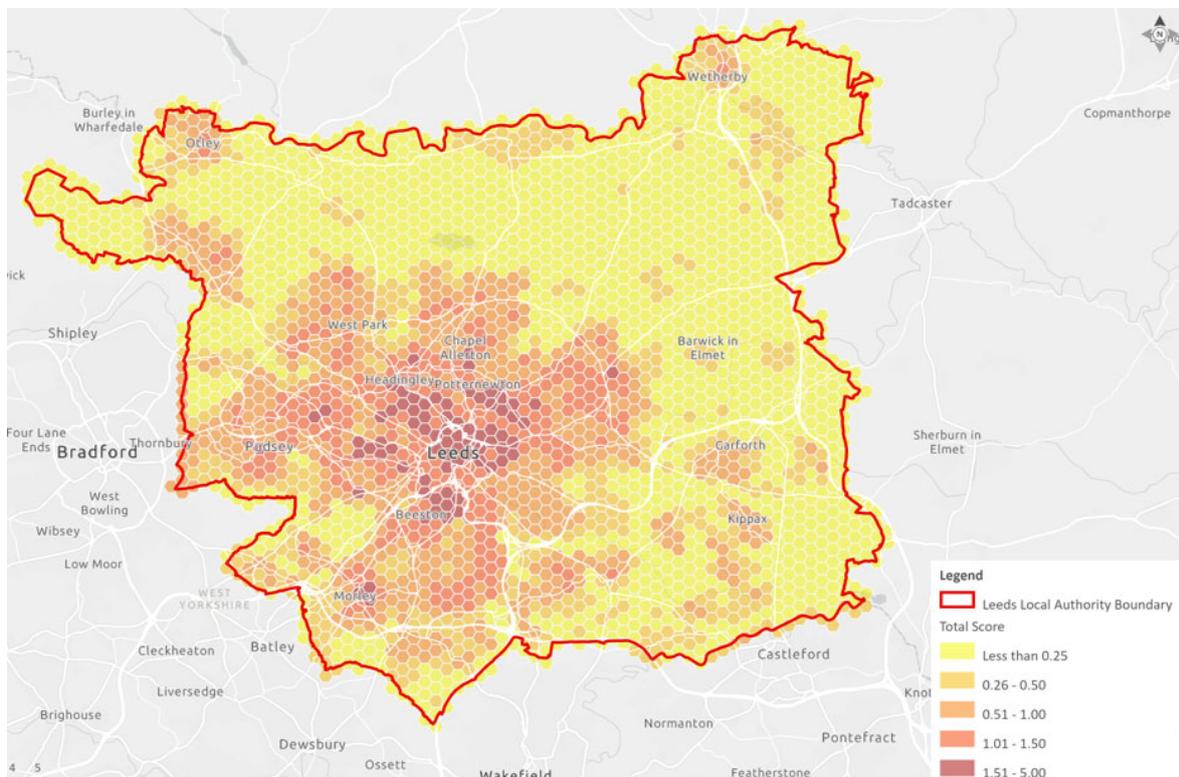
- Leeds would specify the geographical extent and quality of the scheme, the infrastructure to be used, and importantly the user charges. They would own the e-bikes and hubs and receive the user tariffs
- The operator would purchase, deploy and manage the system, including providing membership or pay-as-you-go mechanisms for accessing the bikes. They would be responsible for maintaining and servicing the e-bikes and operating the system
- Leeds would effectively pay the operator to deploy, manage and operate the system on pre-agreed set of conditions. A profit-sharing agreement may be developed to incentivise increases in demand.

- 13 The capital funds to deliver the project are being sought from WYCA through their Transforming Cities Fund (TCF) allocations from DfT. That proposal was set out in a Business Case which bids for £2.4 million and will be considered by WYCA on 17 March 2022.
- 14 The business case identified a range of potential operating areas from the city centre through to the entire District, at a maximum cost of up to around £13 million. In order to focus on the area of highest potential demand in the first instance, the availability of a segregated cycle network, operational requirements and understanding the scale of potential funding from WYCA, a preferred option was identified. This is shown indicatively in the map below and is

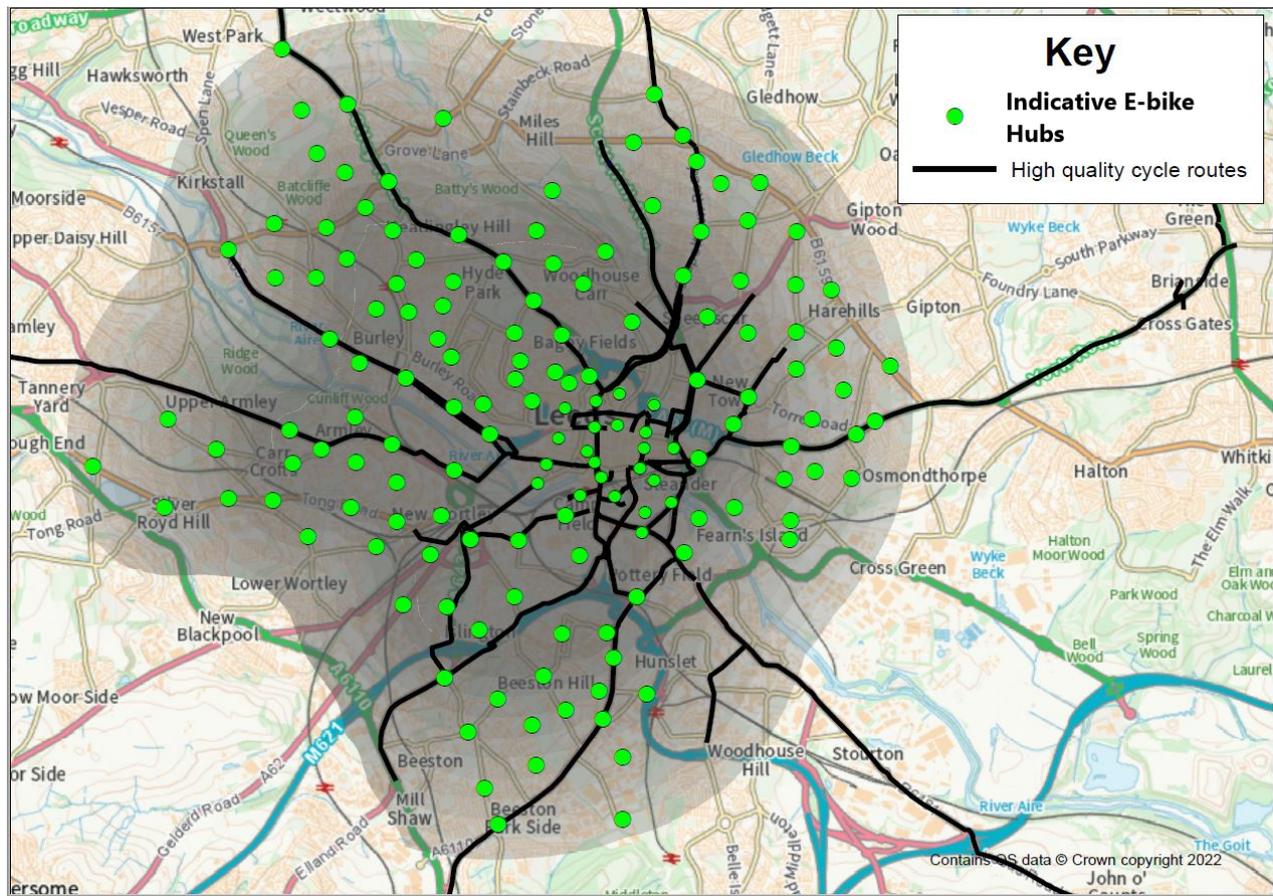
referred to as City Centre and Inner Leeds. It represents the most effective first phase of a project which, if successful, could be expanded in time if more capital funding was secured.

- 15 Other geographies for the operation of the scheme have been considered but this contiguous area, focused on areas of the highest potential demand and with the benefit of a connected network of segregated cycle routes will be the principal focus for the initial phase. It presents the best opportunity to deliver a financially sustainable scheme and would generate high levels of demand. Having said that, the procurement process will allow potential public bike operators to submit a bid that includes other areas; their financial models may facilitate this and in the informal discussions to date with operators, some other areas have already been suggested.

**Figure 1. Relative potential demand for e-bike hire**



**Figure 2. Potential / indicative vicinity of e-bike hub based on demand modelling only**



- 16 The business case sets out the indicative scale of a feasible scheme for the initial phase, and the full detail would be determined through the procurement process. The estimates identified within the business case suggested that a project at that scale of funding would include the following:
- A network of approximately 630 e-bikes located across 140 hubs/ docking stations for public use e.g. residents, students, workers and visitors in Leeds.
  - Initial delivery within Leeds City centre and the area within Inner Leeds area as shown in the map below, based on demand and financial modelling.
  - Requirements for the operator to offer a variety of ways to pay for hire of e-bikes in a variety of ways such as pay-as-you go, memberships (such as monthly, corporate and discounted rates for particular user groups) and there is potential scope for integration into the WYCA MCard (subject to discussions).
  - The potential to operate 24 hours a day, 365 days per year (except for extreme weather conditions which might restrict normal use).
  - An e-bike share scheme that will be fully or funded by LCC (including ownership of assets) and operated by an external bike hire organisation.
  - A tariff for the scheme which will be set once an operator is procured with an aim to keep it comparable to public transport fares.
- 17 The principle to be followed with hubs/docking stations is that all e-bikes would be collected from, and returned to, secure docking hubs. Payments would be charged based on the time the bike is away from the docking hubs. This would avoid ad hoc parking in random locations and ensure users know where to access the e-bikes and servicing by the operator was provided efficiently. The hubs will be located in visible and accessible locations adjacent to the segregated cycle network and where demand is likely to be highest. It is expected that battery

charging would be carried out by battery swap, rather than charging at the hub/docking station which would simplify their installation and provide more flexibility for their location.

- 18 The details of the hub locations would be developed with the chosen operator but generally they would be within a short walk from any origin within the operating area. The hubs would be expandable and flexible so they could be adjusted to reflect changes in demand or other future developments, such as in introduction of e-scooters. Clearly cycle hubs would be provided at all public transport gateways and mobility hubs. So, for example, people arriving at Leeds rail station or bus station would be able to conveniently pick up an e-bike for onward travel.
- 19 The funding sought would deliver a project with a minimum operating period of 5 years. The procurement would seek operator proposals as to how this could be extended in subsequent extensions up to 10 years. The scheme has been designed to be self-sustaining financially, and it is anticipated it would be operating with a strong financial surplus after 5 years. Depending on the scale of that surplus and levels of user demand, opportunities to renew and/or expand the fleet, hubs and area of operation will be explored as further phases for development. A new contract could be introduced after years 5, or after any pre-agreed extension. This may necessitate further capital funding to purchase new/replacement e-bikes, and the level of operating surplus at that time may be of such a scale to fund those purchases or minimise the scale of further capital funding requests.

### **What are the legal implications?**

- 20 The preferred operating model is a partnership between the Council and a commercial operator. This would be developed through a procurement process on the basis WYCA approve the capital funding at their meeting on 17 March 2022. Procurement documentation is being progressed so that the process can be started immediately following the WYCA decision and on the basis this Executive Board approval is also secured.
- 21 The procurement process would specify the Council's requirements, the funds available, the tariffs to be charged and the expected performance levels. As with other UK bike hire projects it would be for a minimum of 5 years, with likely extension periods. It will also identify that the Council would take the financial risk of meeting any operating deficit should that arise, but it would also set out a possible profit-sharing mechanism if high demand levels lead to an operating surplus.

### **What are the key risks and how are they being managed?**

- 22 Many other UK cities are operating or developing public bike hire projects, and generally these are effective and financially sustainable. There have been examples where schemes have failed but these tend to be ones that are fully commercial or operate on very limited geographies.
- 23 The key risk, as was the case with the Leeds bus-based park and ride services, is reaching high enough demand to ensure there is a financial operating surplus.
- 24 The project has been developed and assessed in such a way as to maximise demand:
  - 100% e-bike and good quality infrastructure
  - Aligned with the developing segregated cycle network
  - High density of bikes and hubs
  - Low user tariffs set at level to be comparable with public transport (around 10p per minute).

25 The financial model sets out a range of assumptions which would affect the operating surplus/deficit, and the sensitivity if tariffs are varied. The following table shows the range of operating surplus/revenue for two user tariff rates, at three levels of demand. The three levels are chosen as illustrations. The high demand level is a realistic target. The low levels of demand are based on older/smaller schemes in the UK which do not provide the same scale or quality as the proposed Leeds project.

Operating surplus/deficit per year	High Demand (UK average levels pre-pandemic)	Medium Demand	Low Demand
Tariff of 10p per minute	+£600,000	-£126,000	-£260,000
Tariff of 20p per minute	+£1,100,000	+£81,000	-£103,000

26 While we are expecting high levels of demand, and therefore an operating surplus, it is necessary to consider how an operating deficit could be managed if that occurred. Different options have been considered and will be refined/formalised during the next stage:

- Set up a revenue contingency fund to provide subsidy, if required. This could include:
  - Commercial sponsorship (of the whole systems or of individual hubs)
  - Advertising
  - Allocating S106 Travel Plan Funds where appropriate
  - Seeking revenue support from non-Council funders
- Reducing operating costs for the commercial operator, such as offering Council premises for servicing depots etc
- Altering the tariff, potentially starting higher and reducing as demand increases
- More intensive promotions and marketing to increase demand, including incentivising operators to increase demand

27 There is an expectation for the project to operate at a financial surplus which would create an income stream and free up the revenue contingency fund. This would then enable some, or all, of the following:

- An expansion on the project geographically with more bikes and hubs
- Targeted reductions in Membership fees or tariffs
- Match funding to lever in additional funding for other aligned projects
- Measures to encourage more e-bike purchase or fleet replacement

28 At the point of entering a contract with the operator, the Council Leeds would need to be prepared to meet any operating deficit if demand is not high enough to provide the level of revenue incomes to meet operating costs. This is more likely in years 1 and year 2 as demand builds up. The Joint Management Board will oversee the mechanisms to meet this gap but ultimately if those options fail, the Council would be responsible.

29 A further risk is the potential for e-bike damage or theft. The system will require users to register (as Members or pay-as-you-go) and the hubs will be secured/locking parking docks in well used, very visible locations. The e-bikes will have GPS locators which provides information to the operator on battery charge levels and a range of useful monitoring data. Other UK projects have experienced some issues with theft or vandalism but improvements in

technology and operational arrangements are reducing those risks. A degree of contingency will be included in the contractual arrangements.

### Does this proposal support the council's 3 Key Pillars?

Inclusive Growth

Health and Wellbeing

Climate Emergency

- 30 The proposed scheme will support the Council's objective to increase the use of Active Travel in the City. It will present the opportunity for people who do not own a bike to cycle at affordable fees. It will act as a catalyst for an increase in cycling as people will try the service and be encouraged to consider cycling more regularly. The scheme will be one of a number of policy interventions to encourage an increase in cycling including more segregated cycle routes and other measures to reduce conflicts with motorised vehicles.
- 31 The increase in cycling use will have positive health benefits. While e-bikes do provide some powered assistance, they also encourage and stimulate physical activity and evidence shows they can improve mental and physical health. Because they are inclusive to a wider range of users, they will have specific health benefits to groups that can benefit most from increased levels of physical activity, older people, less physically active people and those who cannot afford to purchase bikes.
- 32 The scheme will be particularly suited to encouraging mode transfer from cars which are making short distance trips particularly within the city centre and inner city. These short distance car trips are the most polluting and are contributing to poor air quality, and carbon emissions, in areas where people are focused in the city centre and in dense residential inner-city areas.
- 33 Evidence show that people who experience e-bikes in hire scheme are more likely to purchase their own e-bike. If this project is planned and operated effectively, in parallel with other activities to enable cycling, users will have a positive experience and will be more likely to use the service more frequently or even purchase their own bikes. Hopefully a successful scheme will lead to a roll out and expansion of the service across other parts of Leeds.
- 34 E-bikes are by their very nature more inclusive than self-powered bikes. They are more popular than self-powered bikes across a much wider set of user groups particularly women, the elderly and those with limited physical strength or confidence/experience in cycling. Because they require less physical effort users would be comfortable using them in 'normal' footwear and clothing. They are well suited to short to medium length journeys and will provide improved connectivity across, to and within the expanding City Centre. Assumed tariffs of 10p per minute are comparable with public transport fares. Access will also be inclusive so regular and casual users can use the service easily, and this will attract both ad hoc visitors and regular business/commuter users.
- 35 Users will need to provide some form of Identification to hire the e-bike and that could be in the form of a passport, driving licence or NI number. Methods of registering to use the system will be sought from potential operators during procurement, with a view to simplifying this process and ensuring options which do not rely on a mobile phone-based App are available. Moreover, payment mechanisms will need to be flexible enough to enable people without bank-accounts to use the system and there will be a mechanism for payment to be made without a bank-card. The procurement process will ask operators how they will provide these options.
- 36 Setting user tariffs at an affordable rate is fundamental to making the system financially affordable. A tariff of 10p per minute would provide a 10-minute ride for £1 which could easily cover a trip distance of 2 miles. These tariffs are comparable to bus travel costs and would help to deter short distance trips often being made by car.

- 37 E-bikes can be less physically demanding than conventional bikes because they do provide power assistance, but they do need some physical input. Cycling is inherently healthy, and by normalising cycling increased numbers of people will benefit from cycling more, be it on e-bikes or self-powered bikes. E-bike users have been shown to 'enjoy' their journeys more and offering that opportunity on a traffic free cycle track, a far wider set of users can start to enjoy cycling with all the health and well-being benefits that brings.
- 38 Although e-bikes require less physical 'effort' than self-powered bikes they do need and encourage increased levels of physical activity compared to walking, and especially driving. More regular use of e-bikes will build up stamina and activity levels as users become more confident and start to enjoy the activity.
- 39 This e-bike scheme will make cycling inherently more inclusive to many more people in the population. However, there could be some potential users who are still not fully provided for fully within the system. For example, providing bike-trailers, recumbent bikes or trikes as part of the system would not be economically viable. However, the procurement process will seek proposals from operators as to how these services could be provided, potentially through integration with and signposting to booking services for more bespoke vehicle types. An EDCI assessment will be undertaken to explore how the system can support demand for all users not just those people who are physically able to use the standard e-bike.
- 40 An increase in cycling and a mode transfer from car, particularly for shorter trips, will help reduce carbon emissions by reducing car mileage. This project will switch some trips from car, particularly into and within the city centre with reduced emissions of carbon and other pollutants. Moreover, exposure to e-bikes (through share schemes like this) has been shown to lead to an acceleration of private purchases of e-bikes. If individuals get a positive experience of e-bikes from this project they will be more likely to buy their own e-bikes and they would be used more regularly with significantly increased carbon reductions.
- 41 This project has the potential to transform cycling in Leeds. A healthy, cheap and environmentally sustainable mode of travel could be made accessible to a wider set of users and 'normalised' as a major mode of travel and help make cycling far more than just a travel option for a minority of users.

## **Options, timescales and measuring success**

### **a) What other options were considered?**

- 42 A non-electric cycle fleet and a mixed fleet were also considered. Using experience gained from other projects, the objective of it being an inclusive system and reflecting the hilly terrain of Leeds, a 100% electric fleet is being proposed.
- 43 Options for the preferred operating model were also considered. Commercial operators are running effective and efficient projects across the UK so their expertise would be essential in providing the operational and technical skills and experience which the Council does not possess. However, the Council's objectives for inclusive growth, health and well-being and the climate emergency are best served if the Council provides the strategic direction and definition of the project. A fully commercial project would almost certainly focus on higher operator profits with higher user tariffs and focusing on areas with the highest levels of demand. As such the wider social aims of the project could be overlooked.

**b) How will success be measured?**

- 44 The operator will be contracted to provide regular and timely information of usage levels, user profiles, performance and revenues. Through a Joint Management Board, the Council and the operator would explore options to ensure demand projections and performance standards are being met and importantly that any operating deficit is fully understood.
- 45 The Management Board would have the responsibility to allocate any revenue subsidy and manage the use of any revenue profits. Operational improvements, such as relocating cycle hubs if they are not being fully utilised would also be considered by the Board.
- 46 The Board would also oversee regular monitoring and evaluation with user satisfaction surveys to ensure users are having positive experiences and that continued improvements can be introduced.

**c) What is the timetable for implementation?**

- 47 On the basis WYCA give their endorsement to proceed and make a funding allocation on 17 March 2022, a procurement process would start immediately and be concluded in summer 2022. Following a Full Business Case and a final funding allocation in October 2022, the project is expected to commence in November 2022, with full roll out complete during March 2023.
- 48 On the basis the project is successful, and becomes financially sustainable, the proposal outlined in this report is seen as a first phase. An expansion beyond Inner Leeds would follow based on capital funds being secured and alignment with any programmes for expanding the segregated cycle networks.

**Appendices**

- 49 Equality, Diversity, Cohesion and Integration (EDCI) Screening.

**Background papers**

- 50 None.