

# Public Ebike Share Scheme

## Cascade Training Module



**ACTIVE  
TRAVEL HUB**  
STIRLING

in partnership with



**TRANSPORT  
SCOTLAND**  
COMHDAHL ALBA

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# INTRODUCTION

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## FORTH ENVIRONMENT LINK

### A local organisation with a national impact

Forth Environment Link is a Scottish environmental charity based in the Forth Valley, working across the climate action agenda to deliver outcomes which support and promote healthy people and a healthy planet with equality for all.

As an organisation, rooted in the communities we work with, we are passionate about what we do and about making our places and community spaces better to live, work and play in.

### Our Strategic Objectives

To deliver our ambition, we will focus on four main areas and our charitable activities will support:-

<b>Active Travel</b> More day to day journeys on foot or by bike.	<b>Food &amp; Growing</b> More local food to be grown and eaten in our communities.	<b>Volunteering</b> Provide meaningful volunteering opportunities for all.	<b>Reuse &amp; Repair</b> Helping to increase the lifespan of our everyday items.
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### Our Vision

To enable and support communities to live healthy and sustainable lives in a way that reduces the impact on our planet.

### Our Mission

- We will put healthy people and a healthy planet at the heart of our work.
- We are community led - our projects, partnerships and priorities are shaped by and developed for the communities within which we work.
- We value the planet and each other. This underpins everything we do.
- We are enabling - what we do is practical, easy to understand and accessible to everyone.
- We are collaborative - we like to work in partnership because we believe we are stronger together.
- We love new ideas; innovation is at the heart of our work and is what pushes forward new ideas that inspire change.
- We are passionate about what we do and it shows in our work and in our team's activities.

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# PUBLIC EBIKE SHARE SCHEME



The public ebike share scheme is aimed at individuals who are in the contemplation, preparation and action stage of behaviour change and allows them to move onto the action or maintenance stage. This is possible as the provision of an ebike share scheme removes physical barriers and facilitates access to bikes.



## What Is a Public Ebike Share Scheme?

Bike share is an innovative approach to urban mobility, combining the convenience and mobility of the bicycle with the accessibility of public transport. Bike share systems consist of a fleet of bicycles provided at a network of locations located throughout a defined area. Bicycles are available on demand, providing fast and easy access for short trips, commuting, transit linked trips and tourist trips.

In 2019, Forth Environment Link launched Forth Bike, the first and largest regional electric bike (ebike) share scheme in the UK. The scheme extends across Forth Valley and encompasses three local authority areas.

### Project Partners

- ⚙️ Transport Scotland
- ⚙️ Local Authorities
- ⚙️ Scottish Power Green Economy Fund
- ⚙️ Energy Savings Trust
- ⚙️ SESTRans (Regional Travel Partnership)
- ⚙️ NHS Forth Valley
- ⚙️ Bewegen (Bike providers)
- ⚙️ Recyke-a-bike (bike servicing and maintenance sub contract)



**Clackmannanshire Council**

## Why Develop a Public Ebike Share Scheme?

- ⚙️ Bike share contributes to the following key indicators for improving people's lives:
  - ⚙️ Improves health and well being
  - ⚙️ Creates better places for people
  - ⚙️ Increases access to jobs and services
  - ⚙️ Improves air quality
  - ⚙️ Reduces congestion
- ⚙️ Increase access to bikes across a large area, ebikes allow for longer trips to be taken by users who may not have used a non-electric bike for the trip
- ⚙️ Facilitate access to ebikes, ebikes tend to be expensive to buy so providing an ebike share scheme individuals can access them without buying one.
- ⚙️ The project supports outcomes and objectives of The Active Travel Framework (2019):
  - ⚙️ Increase the number of people choosing walking, cycling and wheeling in Scotland
  - ⚙️ Delivery of walking, cycling and wheeling is promoted and supported by a range of partners
  - ⚙️ Walking, cycling and wheeling is available to all
  - ⚙️ Better health and safer travel
  - ⚙️ Cut carbon emissions

## Project Benefits

Ebike share offers access to affordable bikes to anyone over the age of 16:

- ⚙️ Individuals/Residents, particularly those on low income as they provide a low-cost alternative mode of transport, or anyone who does not have access to a safe location to store or maintain their own bike
- ⚙️ Individuals who cannot afford to buy an ebike and will benefit from the use of them.
- ⚙️ Commuters who arrive at work without having had demanding physical exercise
- ⚙️ Job seekers, supporting attendance at job centres and interviews
- ⚙️ Tourists
- ⚙️ Students, offering low cost, convenient transport and setting them up with sustainable travel habits
- ⚙️ NHS patients; access to ebikes offers mental health benefits and subsequent preventative spend

## Participant Access to Ebikes

Forth Bike stations are situated in key locations across Clackmannanshire, Falkirk and Stirling council areas. Several membership options are available to suit individual needs with ride times of 30-45 minutes before the bike needs to be docked. This allows for travel between the different stations in the council areas without needing to dock the bike or be charged for more time.

Membership options include:

- ⚙ Annual Membership - £65 (45 minute ride time)
- ⚙ Monthly Membership - £10 (45 minute ride time)
- ⚙ Daily Membership - £4 (30 minute ride time)
- ⚙ Pay Per Ride Pass - £2 per ride (30 minute ride time)

If an individual fails to dock the bike within the 30 or 45 minute time limit there is a charge of 5p per minute.



## How is the Project Staffed and Facilitated?

### Pre Delivery

- ⚙️ A member of staff with procurement expertise will be required to write and procure the tender for the provision of the bikes. Consider whether you wish to invite contractors directly to quote or tender via Public Contract Scotland.
- ⚙️ Consider any staff resources required for securing grant funding.
- ⚙️ Thereafter, one full time member of staff will be responsible for project management. This includes stakeholder engagement, contract management, obtaining statutory consents such as Minor Road Consents, Planning Permissions and liaising with the local energy supplier.
- ⚙️ Depending on the public bike share model being implemented, a second tender for civil engineering may need to be written; this is to install concrete platforms and electrical cabling to the station locations.
- ⚙️ New skills may have to be developed, or external consultancy required, for management of electrical and civil engineering terminology.

### Post Delivery

- ⚙️ After installation, one full time member of staff is required for promoting, marketing, training and liaising with the contractor/bike provider. Consider including this position within the Public Bike Share Tender document as an output.
- ⚙️ The bike provider should have a dedicated helpline or service centre to handle public enquiries. It is advisable for the contractor to have a subcontract with a local partner to be responsible for bike maintenance and daily re-balancing of bikes across the docking stations.

### A Guide to Costs for Forth Bike

Item	Cost per item	For a 7 dock/5 bikes
Electric assisted bikes	£3,021.83	£15,109.15
Docking stations	£412.07	£2,884.50
Direct to grid connection	£1,569.78	£1,569.78
Installation	£1,617.70	£1,617.70
Urban planner	£455.00	£455.00
Shipping	£5,600.00	£5,600.00
Scottish Power connection/work plan	£4,000.00	£4,000.00
Civil engineering	£6,000.00	£6,000.00
Irrecoverable VAT	£2,120.74	£4,712.90
Duty and customs*	£6,900.00	£6,900.00
Total		£48,848.13

Prices indicative as of September 2020

\* assuming from Canada

## Project Promotion

The project has been promoted through different media channels including newspapers (Scotsman, Stirling Observer, Falkirk Herald) and social media promotions and campaigns. Ebike share scheme is also promoted by both Stirling and Falkirk Active Travel Hubs in the Hubs and at outreach events. Community Councils and Employers near each station were contacted to promote use in that area.

## Key Stages (See Resources for flow chart)

- ⚙ Research and decide which ebike public bike share model is required; electric charging stations in situ or dockless bikes with removable batteries. If the former, ground preparation will need to be included in any planning. If the latter, fire proof cabinets and storage units will need to be considered.
- ⚙ Identify locations for ebike charging stations. These should have high visibility, be adjacent to principal travel routes and where users are starting their journey from. Integrated transport and tourist destinations are key areas.
- ⚙ Docking stations should ideally be sited on concrete or tarmac. Consideration should be given to any site identified on grass as this will require additional civil engineering to create a hard standing. Monoblocking will also require to be lifted and concrete laid to secure the electric connection box.
- ⚙ Liaise with all landowners and seek their permission; agree final site and measure space available. A width of approximately 2m is required to allow the bikes to be wheeled backwards away from the dock.
- ⚙ Ask the local authority for any utility maps associated with the site.
- ⚙ If the docking station is on private land, enquire as to using any private power supply as this will negate establishing new accounts with the energy supplier.
- ⚙ Undertake any community consultation necessary or requested by the local authority (residents, businesses, community councils).
- ⚙ Write a tender document for the supply, delivery and installation of an ebike public bike share scheme. Consideration should be given to:
  - ⚙ Whether this should be one contractor responsible for supply and full installation (all ground work associated with trenching and laying electric cables) or whether to divide the tender into ebike supplier and specialised civil engineering contractor. This would involve two contracts to be written and potentially additional contract management. Note that some ebike contractors will not be able to deliver the civil work and this should be established prior to the contract being awarded.
  - ⚙ VAT inclusion
  - ⚙ The duration of contract, taking into consideration ageing bikes and new technology
  - ⚙ The maintenance and daily rebalancing of bikes. It is advisable this is done by a locally based partner or business
  - ⚙ The duration of journey time users will be able to access per ride and if this is sufficient to allow users to journey between stations
  - ⚙ The winning tender becoming the preferred supplier for any future orders, should funding become available. This ensures connectivity of bike share within a region.
  - ⚙ The purchase or agreement to provide reduced membership to support inequalities
  - ⚙ An embedded project officer to support facilitation or future promotion and marketing of the scheme
  - ⚙ Insurance and ownership



- ⚙ An exit strategy
- ⚙ Whether the ebike provider is based in the UK; if not, identify any costs associated with customs, duty and administration fees as additional funding may be required. Costs will depend on origin of country.
- ⚙ Once the bike provider has been selected, if ground preparation is not being undertaken by the same contractor, confirmation of minimum ground specifications required will need to be established in readiness of a civil contract being prepared.
- ⚙ Send a 'Getting Connected' request to the local energy supplier (Scottish Power, SSE), including utility and location maps, asking details for the electricity connection point to the local supply network. Establish from the bike provider voltage/kVA requirements as this will need to be forwarded to the energy provider. The response from the energy provider will establish the extent of trench work required to lay the electricity cables and will define division of responsibilities between the energy provider and the civils contractor. Be careful to establish who is responsible for earthing the electrics.
  - ⚙ Be prepared to consider moving the location of the charging stations if an alternative site is available closer to the connection point; this will reduce trenching and civil costs
- ⚙ Once the energy provider has confirmed the work plan, the client should be issued with a Meter Point Administration Numbers (MPAN). This should be forwarded to the bike provider who will need this number to open an energy account with an energy provider so that they are billed for all electricity used.
- ⚙ When writing the tender or methodology for the civil engineering, particularly for any work on publicly owned land, confirm:
  - ⚙ Any local authority specifications such as depth of ducting
  - ⚙ Dimensions of any concrete platforms that are required to level the surface or firm the electrical connection point
  - ⚙ Length of trenching and cabling required.
  - ⚙ Responsibility for earthing the cables (the civil contractor or the energy provider)
  - ⚙ Purchase and installation of a metal cabinet to house the cables
  - ⚙ Purchase and installation of an electric metre; this is necessary when joining with a public energy supply (not a private source) so that energy use can be invoiced to the bike provider.
  - ⚙ Clear responsibility for who is obtaining planning permissions, minor road consents and traffic management permits
  - ⚙ If VAT is included
- ⚙ Apply for planning applications and minor road consents, should this responsibility rest with the client
- ⚙ Seek risk assessments from the civil engineer contractor. It is unlikely the work will require to be notified under HSE's Construction Design Management guidance but this should be verified
- ⚙ The energy provider and civil contractor will need to co-ordinate scheduling of ground work
- ⚙ Conduct site visits once work has started to ensure compliance with risk assessments
- ⚙ If the ebike provider is not based in the UK, ensure there is a Letter of Origin and detailed breakdown of contents of the shipment so VAT and Duty can be calculated by UK Customs
- ⚙ Consider sufficient storage space is available for receiving the bike equipment in readiness for being installed
- ⚙ Install bikes and associated infrastructure
- ⚙ Official launch of the ebike public bike share scheme

## Project Monitoring and Evaluation

- ⚙ The tender document seeking a bike share provider should include specification for monitoring. This information should be generated from the bike share provider's software. Monthly statistics are useful to monitor trends. The type of data that could be generated include:
  - ⚙ Number of users/members
  - ⚙ Numbers of hires
  - ⚙ Hires per location
  - ⚙ Distance travelled
  - ⚙ CO2 emissions saved
  - ⚙ Time/minutes ridden
- ⚙ Regular meetings with the bike share provider are vital to monitor usage and any delivery issues
- ⚙ Monitor any vandalism, specifically identifying recurring locations experiencing problems. Ensure there is a clear process for reporting and managing vandalism between the client, provider and any maintenance sub contractor.
- ⚙ Seek testimonials from users
- ⚙ Issue a user survey one year after launch to gauge public opinion and improvements that could be made.
- ⚙ Monitor social media feeds
- ⚙ Evaluate the scheme within one year of contract termination; involve landowners and stakeholders within this evaluation. Recommendations should be made regarding extension or removal of scheme, upgrading equipment, re-locating charging stations or the need for additional stations.



## Lessons Learned and Project Reflections

### Timescales

- ⚙️ FEL's initial time scales for the project were overly ambitious, especially when working as a third party on behalf of other landowners. From the initial concept to installation of the first bike took two years.
- ⚙️ Allow 28 days to obtain planning permission or minor road consents from the local authority.
- ⚙️ Scope sites and seek permission from landowners before issuing a procurement contract.
- ⚙️ Third sector delivery is extremely difficult as there is a reliance on landowners to respond and support the project. Additional costs are often experienced as contractors are required rather than being able to utilise existing staff resources from the landowner.

### Design

- ⚙️ Identify the ideal location for the charging station (visibility, ease of access, journey starting points) and purchase the number of bikes to suit this space. It is inadvisable to purchase large docking stations, based on the assumption the station is located at a key journey generator, which cannot then be retrofitted into the space available.
- ⚙️ Where charging stations are situated on public realm, 2m access behind the bike must be retained to allow continued disability access.

### Contract Management

- ⚙️ Consider annual calendar events when planning the installation; excavation and construction work at tourist destinations will be difficult during key holidays times, whilst academic staff may not be available to facilitate delivery during holidays for stations associated with education establishments.
- ⚙️ Ensure the tender award contract allows for extension of the contract should additional funding become available; this reduces the risk of having two competing operators, with incompatible schemes, operating in the same town.
- ⚙️ Negotiate with the bike provider longer journey times if the scheme connects rural or semi urban environments, as longer distances for commuting will need to be accommodated.
- ⚙️ Forward the MPAN numbers to the provider as soon as available, as this can take 1-2 months for an account to be opened which can delay the launch date.

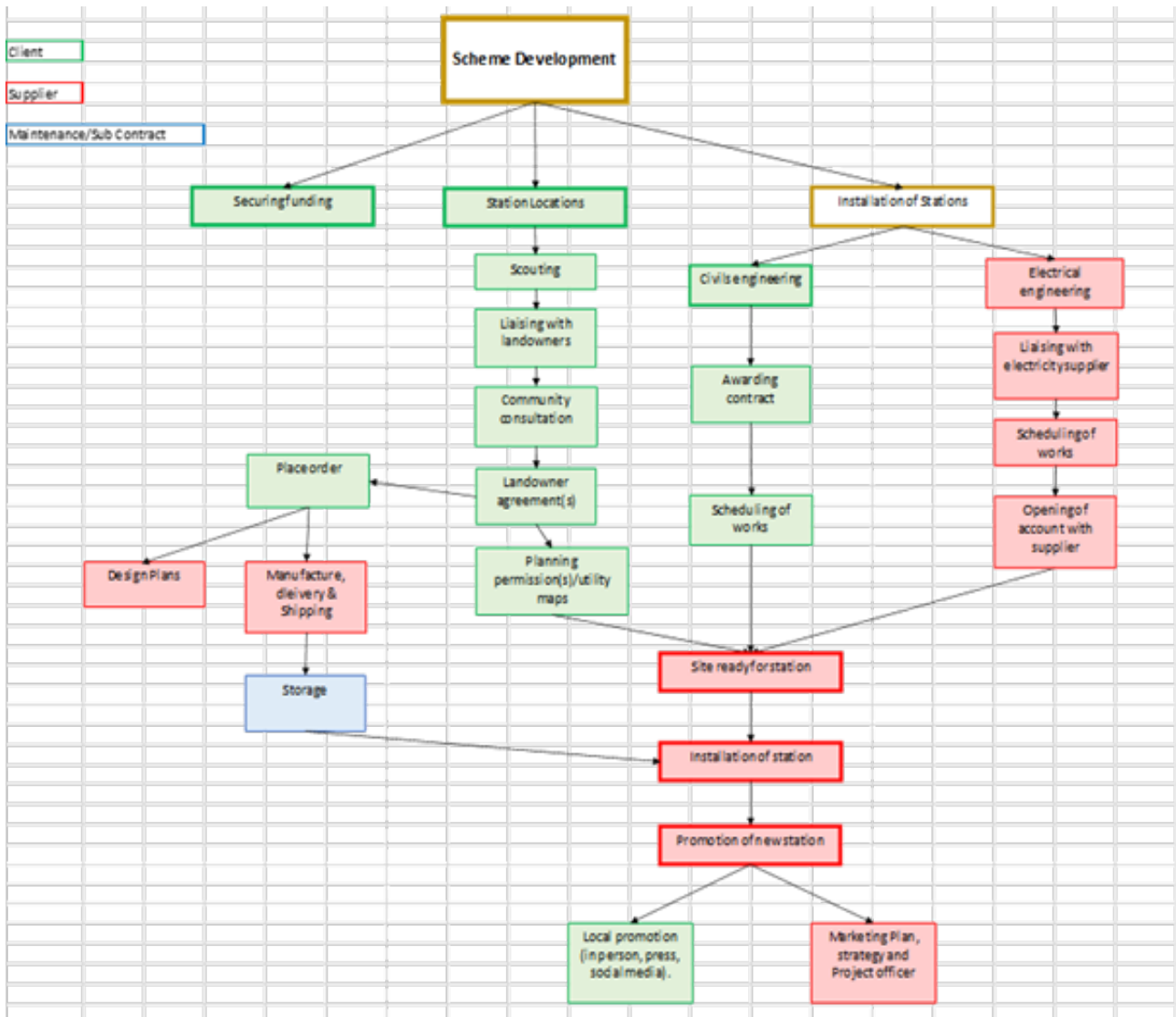
### Communication

- ⚙️ Keep all landowners informed of developments and delays to delivery as this manages expectations.
- ⚙️ Seek community consultation in residential areas and allow the community and local council to comment; they will become champions for the project at a local level.
- ⚙️ Local champions can promote use of the bikes and monitor local damage.
- ⚙️ Promotional campaigns and challenges can generate new interest and use of the bikes.

## Resources

### See Resources tab for details

- ⚙️ [Link to Forth Bike Website](#)
- ⚙️ Example Tender Documents and Assessment Criteria
- ⚙️ Promotional Material (marketing and branded clothing)
- ⚙️ Customer Survey
- ⚙️ Key Stages Flow Chart





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