



Helen Ball
Shrewsbury Town Council
Riggs Hall
Castle Gates
The Library
Shrewsbury
SY1 2AS

7 February 2023

Dear Helen

Shropshire Cycle Hub eCargo bike library for Shrewsbury and proposals for tracking of carbon emission reductions

Startup finance for the scheme

Thank you for your email of 16 December 2022 and discussion by phone the other day. We are delighted that Shrewsbury Town Council will invest £13,000 in support of our proposed eCargo bike library scheme.

We note that your support is conditional on us obtaining the remaining funds we need for commencing the scheme from other sources, and that you would like your contribution to be focused on residents of Shrewsbury and their domestic transport needs. We are seeking other sources of funding focused particularly on business users (although we expect crossover between these categories) and will update you shortly.

The ratio of equipment to staffing costs in our scheme is about 3:1. We hope to secure two suitable eCargo bikes for domestic uses for £10,000 and hope that the remaining £3,000 from STC can be applied towards our staffing costs. We are seeking contributions in similar proportions from each funding partner. We hope you will find this satisfactory, given that the scheme development, management and communications with the residents of Shrewsbury and garaging and maintenance of the vehicles are all as vital as the equipment.

Tracking the effect of the scheme in achieving carbon reductions for Shrewsbury

Background

Registered Charity Number 1188746. Address 40, Riverside Centre, Shrewsbury SY1 1PH. Telephone 07485 212320 email ShropshireCycleHub@gmail.com

We understand that your funding comes from a budget intended for the decarbonisation of STC operations, although you also recognise the importance of decarbonising Shrewsbury overall and the leadership role that STC could play towards the goal of net zero carbon across Shropshire by 31 December 2030.

We are concerned that currently STC does not have a net zero carbon Shrewsbury goal and by your suggestion that success of your investment may be considered by reference to its impact on STC's footprint alone. We would like to highlight the powerful effect that your Members could have as a catalyst for change through a commitment to net zero carbon Shrewsbury by 2030. A brief search online suggests that Cheltenham, Forest of Dean, Stroud and Frome may all provide good examples of a broader approach. We recognise that your Council has different responsibilities than those examples, but I suggest that you have just as much an opportunity to provide influential leadership and hope that STC may also set a similar ambition.

In summary, the potential role of STC in helping the whole town to decarbonise cannot be overstated. Whilst you ask that we demonstrate the effect of this scheme on the carbon footprint of STC, and we will be delighted to support your operations with the use of eCargo bikes as alternative to your current use of fossil fuel vehicles, making plans for such uses will require further dialogue. At the moment, we are not privy to your thinking on how these eCargo bikes could help STC directly (we will be pleased to discuss with STC how such vehicles could be used in your operations if that is of interest).

Decarbonising transport in Shrewsbury, and the role of eCargo bikes

In order to predict the decarbonising effect of the eCargo bike library, it is necessary to set out relevant assumptions. Please note that there are uncertainties and data deficiencies so the values presented should be regarded as preliminary estimates. Please let us know if STC has better data available that can be shared with us.

Carbon Assumptions

The available evidence including that summarised in the Zero Carbon Shropshire Plan a couple of years ago suggests that the total carbon footprint of Shrewsbury is currently about 1MtCO₂e/a (12tCO₂e per person, 77,000 population), 46% of which relates to transport (there is currently no systematic tracking, and Government data relate only to territorial emissions, which is a little over half the total, with most of the rest relating to imports (and of this portion perhaps 15tCO₂e typically relates to the manufacture of each new electric car or van). With about 40,000 cars in Shrewsbury, it is clear that swapping these to new BEVs would be disastrous and unaffordable in terms of carbon budget, and a rapid shift away from private ownership towards car share schemes and eCargo bike share schemes along with other measures should be a high priority for all except essential car users (and financially attractive too, given the cost of living crisis and over £3000/a cost per household for private motoring, destined to increase further with the large capital cost of BEVs and cost of energy). (Note that about 3000 on-street chargers with car share vehicles by 2030 are envisaged for Shrewsbury if we are to make the necessary shift away from private car ownership to encourage the active travel we need, with perhaps 5,000 eCargo bikes on the streets for business or residential use by that time, if we assume similar adoption levels that best-in-class countries like Denmark have achieved already).

The example of current use in Denmark indicates that eCargo bikes are destined to become more than merely an eccentricity on the streets of Shrewsbury if adoption can be fostered appropriately, and suggests that utilisation of our eCargo bike library could potentially be very good (5,000 would

be pro rata for our population based on current usage in Copenhagen). The potential for this technology to become a vanguard of real change towards a sustainable future for Shrewsbury is significant.

The eCargo bike library should be seen in the context of a transition away from private car ownership. The adoption of alternative passenger and goods transport such as that offered by this eCargo bike library scheme is therefore a key enabling step that will help Shrewsbury residents transition away from private car ownership.

The [Zero Carbon Shropshire Plan](#) summarised the position on 31 December 2020 regarding carbon budget, based on [the work of the Tyndall Institute](#) and the IPCC, showing that unless immediate action was taken at scale across the county, the remaining carbon budget for Shropshire required consistent with other regions to keep global temperatures within 1.5C increase beyond pre-industrial levels would be exhausted by 2023. Clearly urgent immediate action on transport modal shift is vital.

To further understand the patterns of behaviour, ownership and use of vehicles in Shrewsbury, it is useful to highlight the passenger and goods transport which eCargo bikes are designed to deliver. Given that the average car is [parked for 95% of the time](#), and that transport of passengers and goods are major reasons for car ownership, providing an accessible and convenient low-cost alternative offers real potential. Furthermore, most journeys are less than five miles (ideal journeys for modal shift), and government research has shown that [‘Allowing people to trial the use of electric assisted bicycles \(e-bikes\) also results in lower car mileage and an increase in cycling’](#). Such experience highlights the role of [‘try before you buy- type schemes](#) similar to our eCargo bike library plan.

Some of the main purposes of the eCargo bike library are as follows:

- 1 To showcase the use of these innovative vehicles and educate the local community on their potential to become part of the transport mix to meet some of their own needs.
- 2 To offer a ‘try before you buy’ service which enables residents to investigate whether eCargo bikes could be suitable for them, and to de-risk their investment decision by enabling them to use library vehicles before committing to the large expenditure required for them purchasing one of their own. Also to allow exploration of which designs of vehicle may be most suitable.
- 3 To act as a trailblazer creating awareness and demonstrating the effective use of eCargo bikes for local journeys.
- 4 To provide a reliable and low cost local transport service, encouraging local residents and businesses to consider not purchasing and potentially selling their main or second car.
- 5 To help local transport planners make choices to encourage active travel.
- 6 To help other road users recognise the need to share the highway with eCargo bikes and other active travel modes, and to contribute towards a reduction in road hazard and acceptance of such vehicles on the streets.

These considerations suggest the following conclusions in terms of transport carbon:

- 1 The number of journeys that can be achieved by the two STC eCargo bikes in the library, even if well utilised, is tiny compared to the total number of journeys in Shrewsbury (less than 0.01%, with carbon emissions reductions of the order of 50tCO₂e/a). Nonetheless, it will be useful to track this, and we propose to keep records to enable the [relevant Energy Saving Trust methodology](#) to be followed and regular reports to be provided.

- 2 The number of vehicle purchases avoided that could be directly due to the scheme will also be small, but could add up to several cars and vans over the coming years.
- 3 The combination of wider eCargo bike adoption in the community alongside increased cycling that can occur partly through the catalyst effect of the scheme will represent significant progress towards the Government target that over half of journeys in English towns are walking or cycling by 2030. The outcome from this and other measures (particularly cycling lanes on some of our main routes) could comprise an increase from 3% of journeys cycling to 20% of journeys cycling and 21% to 30% walking, with a [corresponding reduction in car use from about 71% to 45%](#) . The potential carbon reduction overall is a significant 25% or so of the transport footprint, equivalent to about 12% of Shrewsbury's carbon footprint (120,000tCO₂e/a or 1.4tCO₂e per person per annum saved).

In conclusion, the package of measures needed to achieve the goal of net zero carbon Shrewsbury by 31 December 2030 will be dominated by the introduction of active travel infrastructure including segregated cycle lanes on the main 5 or 6 strategic routes in Shrewsbury, as set out for example in the Shrewsbury Movement Strategy developed for STC and SC. This eCargo bike library scheme represents one of the package of measures which together represent an essential enabling step change for Shrewsbury. Whilst this scheme alone will not achieve the necessary change, without schemes of this kind and other enabling steps, the goal will not likely be achieved. We therefore suggest that the decarbonisation effect of this scheme will exceed the small amount of carbon saved directly, and play a role in achieving the bigger prize of potential active travel carbon saving of 120,000tCO₂e by 2030.

This scheme will encourage changes of behaviour that will help the local community adopt these technologies and increase readiness for the active travel future that will enable Shrewsbury to achieve its potential as a sustainable town, with reduced congestion, improved public health and better life chances for its residents.

We would welcome a further discussion on carbon and regarding which metrics STC would like us to track in our eCargo bike library scheme, and next steps for STC involvement, procurement and funding arrangements, and look forward to hearing from you.

Yours sincerely



Mark Fermor
Chair of Trustees
Shropshire Cycle Hub