MRC/CSO
Social and Public Health
Sciences Unit

Cargo Bike Library
Evaluability Assessment

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Executive Summary

Background

This report presents the evaluability assessment (EA) of Sustrans' Cargo Bike Library (CBL). The CBL is a programme offering small businesses and organisations a no-cost opportunity to borrow an e-cargo bike as part of their logistical operations, and was piloted in Edinburgh, Scotland in 2017 and continued with capital funding provided by Transport Scotland in 2018/19. In March 2020, the COVID-19 pandemic created an unprecedented opportunity for the CBL to meet a new but rapidly changing demand; one that offered scope for supporting future learning, funding, and wider implementation. Sustrans is committed to embed evaluative thinking to optimise the delivery of the programme and evidence its impact; and would like to integrate flexible evaluation approaches to capture and action learning in a rapidly changing and responsive economic, policy, and legislative context.

The evaluability assessment process

Evaluability assessment is a systematic, collaborative approach to the planning of an evaluation that involves engaging stakeholders, clarifying intervention goals, developing a theory of change or a logic model and deciding whether and how a useful evaluation could be carried out at a reasonable cost. The EA was conducted virtually using the Zoom platform between October and November 2020. Sustrans stakeholders from programme delivery, monitoring, and evaluation, attended.

Evaluation options

CBL is a relatively new intervention that is being delivered in a new setting on a comparatively small scale, and on the basis of promising but limited evidence from existing CBL evaluation and studies from elsewhere. Important questions of feasibility need be addressed before the intervention can implemented on a sufficiently large scale to enable testing of effectiveness. Prior to the pandemic, a feasibility study would be the primary suggested evaluation option: several uncertainties around the programme's acceptability, its uptake, implementation, and necessary contextual adaptation were translated into potentially informative feasibility questions. Similarly, it is recommended that some resources are invested into issues around the design of a future effectiveness evaluation, such as identifying and recruiting participants, identifying and measuring potential bias, selecting and piloting measurement options for important outcomes, and identifying the opportunities for an appropriate comparison to demonstrate any effect of the programme. However, the experience of reacting to the ensuing COVID-19 pandemic heightened the necessity to think about alternative approaches of evaluation to match the purpose of CBL with what was, and will continue to be, a complex and dynamic environment.

Recommendations

Developmental evaluation (DE) supports organisations who are innovating to adapt in these types of contexts. Prominent in North America, and emerging in the UK, especially in healthcare, DE is a valuable approach where context-specific information is needed to inform planning or investment decisions in a dynamic landscape, rather than widely generalisable findings about effectiveness. Our analysis, based on the EA process, is that while the primary evaluation purpose of CBL prior to the pandemic was to explore feasibility, this may have changed, and an important requirement of the evaluation presently is to support *ongoing adaptive development*. The specific contribution of DE is to clarify the nature of this developmental process – what is carried forward; what is changed; and how these interact. In this sense, evaluation supports

ongoing learning and context-specific understanding of the programme.

As Scotland begins to scrap most restrictions in August 2021, CBL will find itself operating in a landscape that is different to before COVID-19. Therefore, we recommend Sustrans adopt a combined approach - developmental evaluation that incorporates some elements of a feasibility study. This means prioritising for example what is working (or not) about CBL, and applying this learning to ongoing programme adaptation, rather than rendering definitive judgements of success or failure based on predetermined goals.

1. Introduction

In late 2019, Sustrans approached the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, to support them in the development of a monitoring and evaluation plan for their Cargo Bike Library (CBL), by conducting an evaluability assessment. CBL is a newly formed project to offer small businesses and organisations a no-cost opportunity to borrow an electric cargo (e-cargo) bike as part of their business operations. The programme included free information, advice, and training; free trials, flexible borrowing periods, and an option to temporarily brand bikes with business logos to increase visibility. However, in March 2020 the world was confronted with a pandemic that turned the business and consumer market on its head. The COVID-19 pandemic created an unprecedented opportunity for the CBL to meet a new but rapidly changing demand; one that offered scope for supporting future learning, funding, and wider implementation.

In this report we describe the CBL programme, its original context, and response to the COVID-19 pandemic. We describe how the evaluability assessment process was adapted and conducted using a virtual environment, and how it was contextualised to meet the requirements of Sustrans as they shifted to meet a rapidly developing and changing situation. Finally, this report presents a number of evaluation options and recommendations that can be considered and developed as part of Sustrans' overall monitoring and evaluation plan.

1.1   Evaluability assessment

Evaluability assessment (EA) is a systematic and collaborative approach to prioritising and planning evaluation projects. It involves structured engagement with stakeholders to clarify the goals of a programme/initiative and how they are expected to be achieved; development and evaluation of a logic model or theory of change; provision of advice on whether an evaluation can be carried out at reasonable cost; or if further development work on the programme should be completed first. EA offers value by sharpening the focus of programmes that are put forward as candidates for evaluation and establishing the likelihood of measurable impact before resources are committed to a full-scale evaluation. It can forestall commitments to evaluate programmes where further development is required, or where there is little realistic expectation of benefit, and make the evaluations that are undertaken more useful. It also provides a basis for constructive engagement with stakeholders, whether or not a full-scale evaluation is undertaken. This should encourage the translation of research findings by ensuring that policy-makers and practitioners are involved from the beginning in developing and appraising evaluation options.

In general, EA involves a series of workshops aimed at achieving:

- Structured engagement with stakeholders to clarify the programme or policy goals and how they are expected to be achieved.
- Development and appraisal of a theory of change, which describes how implementation of a programme contributes to change in longer-term outcomes, via change in a series of linked short- and medium-term outcomes.
- Development of evaluation priorities and questions.
- Assessment of existing data sources and data gaps, and consideration of evaluation options.
- Provision of advice on whether an evaluation can be carried out at reasonable cost, or whether further development work on the programme should be completed first.

1.2   Programme context – E-Cargo Bike Library

1.2.1 Background

In 2015, Scotland became one of the first countries in the world to adopt the United Nations Global Goals for Sustainable Development (SDGs). And through their National Performance Framework, the Scottish Government provide a blueprint for how Scotland can contribute to the global ambition of making a fairer and more prosperous world. Deeply rooted within these goals are calls for climate action, sustainable cities and communities, affordable and clean energy, industry, innovation and infrastructure, good health and well-being, and responsible consumption and production. The structural pillars of Sustrans' business model map directly onto these goals through Transport Scotland's Active Travel Framework[1], it's vision, and strategic objectives. Centred on shaping communities around people, and with walking and cycling the most popular choice for shorter everyday journeys - including the small/medium enterprise service industry - the Edinburgh CBL is a prime example of how many of these goals and strategic objectives coalesce in one programme[2].

The CBL is a programme offering small businesses and organisations a no-cost opportunity to borrow an e-cargo bike as part of their logistical operations. It began as a pilot in 2017 and continued with capital funding provided by Transport Scotland in 2018/19. It allows small businesses, public sector organisations and community groups in Edinburgh to borrow an e-cargo bike free of charge. The library has a fleet of 15 bikes including two-wheelers, trikes, trailers and large logistic vehicles. The bikes can carry weights ranging from 80 kg to 250 kg and have been specifically chosen to suit Edinburgh's unique topography. For instance, the electric assist can power the bikes up hills while the wide tyres make riding on cobbles and tram tracks safer and smoother. CBL has continued to expand in 2019/20 to include more organisations and a larger number of e-cargo bikes, with the same funding.

1.2.2 CBL pre-COVID-19

1. With the project operating across 2018 and 2020, the original aims of the programme were to:
2. Enable small/public sector organisations in Edinburgh to reduce single occupancy function/ business vehicle journeys.
3. Help small organisations and businesses in Edinburgh improve quality of interactions with customers and reach new customer bases.
4. Increase long-term awareness, appetite, and access to Cargo Bike transport within Edinburgh.
5. Partner with Energy Savings Trust to provide routes for organisations to access loans for e-bikes.

Early monitoring focused on three aims: i) increased use of e-cargo bikes by organisations; ii) improved relationships with customers; and iii) improved physical and mental health of staff. These were measured using baseline and follow up surveys for businesses and the staff (i.e. riders) members involved. Bike use was also monitored using an odometer attached to the bikes. In addition, the project officer recorded the number of riders trained and the future plans of the participating organisations.

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1   https://www.transport.gov.scot/media/47158/sct09190900361.pdf
2   https://www.sustrans.org.uk/policy/life-after-lockdown/2020/briefing-paper/reinventing-transport-planning-for-e-cargo-bikes

Data collected[3] suggested that the project was a feasible one and suitable for expansion. As such, the original aim of a CBL evaluability assessment was to support the evaluation of the sustainability and scalability plan; implementation of the programme in other cities across Scotland was considered to be the natural next step.

1.2.3 CBL during COVID-19

COVID-19 fundamentally shifted the way in which almost every industry and sector operated. The response to the pandemic by CBL was one of reactive reframing and refining their own service to meet the changing user landscape. Several small businesses (e.g., those in the service industry) were required to modify their existing business models (e.g., home delivery) to react to the enforced period of lockdown, social distancing and quarantine measures. Other individuals recognised a unique opportunity to offer supportive services for their communities and created start-up companies to meet a new demand from the market (e.g., business to business, and business to consumer service provision). As such, there was an increased demand and uptake of cargo bikes as a practical solution to the transportation of goods, particularly in the urban context. The extent to which this will continue post-COVID is unclear; however, based on preliminary discussions with Sustrans and information about their existing data collection tools (Business, and Rider surveys), we agreed with Sustrans that it remained desirable and possible to conduct an EA of the CBL for small businesses within (and post) the COVID-19 context. Evidence from a potential evaluation is envisioned to support several important decisions, not least the future funding of the programme. Sustrans have identified the importance of evidencing the effectiveness of CBL for future awareness and uptake by other small businesses, and in turn the programme's scalability and implementation into other areas of the country.

Addressing the changed context of the pandemic response, the proposed EA aims were to:

1. Assess how CBL was adapted to serve its users during the pandemic and what further developments were anticipated as lockdown measures were relaxed.
2. Assess how the evolving CBL scheme can most usefully be evaluated to inform future planning and decision-making.

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3 Melville, M. (2019). 'Cargo Bike Library Monitoring report 2018/19'; internal circulation, Ref ID: SUSR1765, Sustrans; Melville, M. (2021). 'Cargo Bike Library Monitoring report 2019/20'; internal circulation, Ref ID: SUSR1893, Sustrans.

2. The Evaluability Assessment Process

The COVID-19 pandemic impacted our ability to conduct the EA process using our preferred method; usually three face-to-face workshops where collaborative interaction between stakeholders is of considerable value. As the world began to adapt to the national and local restrictions, almost all working environments became virtual. We piloted alternative online video conferencing platforms and managed to translate our face-to-face materials for use on Zoom. The platform offered a virtual environment where we could provide a similar, high-quality, and engaging process. However, it was recognised that these online workshops would have to be condensed in number and time to reflect a more general issue of attention fatigue. As such, we moved from three to two workshops, and from four to two hours.

2.1 Virtual workshop 1 (October 2020)

Workshop 1 convened with general introductions of those in attendance, a description of the modified EA process, and an overview of the CBL as originally conceived and delivered. All attendees were employees of Sustrans and represented differing levels of expertise (programme evaluation, programme delivery, behaviour change, project management) and experience.

Sustrans provided a draft Logic Model in advance of the session and this was used as the foundation for discussion (See Annex). This logic model represented the CBL as recognised pre-COVID-19. The main aim of this workshop was to allow those in attendance to collaboratively discuss how this underlying representation should change in response to the pandemic. To do so, group discussion was split into three main themes: i) confirmation of the pre-COVID-19 theory of change; ii) the changes that occurred across the programme in response to the pandemic; and iii) what was the new goal of the Cargo Bike Library to meet the evolving pandemic/post-pandemic context.

Following productive discussions a few considerations were raised:

- A review by Sustrans of the short, intermediate, and long-term outcomes of CBL was added to the logic model to represent translation to the wider Transport Scotland monitoring framework (See Annex).
- The pandemic created an environment where demand of CBL increased. Business models shifted to supporting communities and each other.
- There was recognition from Sustrans that change was happening very quickly with limited resources.
- Capital cost for bikes around £6k but some businesses had become reliant on the free trial offered by CBL. New businesses found it difficult to gain credit and to be eligible for certain loans or grants.
- The process for purchasing and getting bikes to businesses takes too long and requires a more streamlined process.
- A lack of storage/maintenance hubs within the city was of particular concern for businesses. The issue of bike maintenance and repair was a key problem for businesses as only one member of the Sustrans team was able to assist
- Training couldn't be delivered due to lockdown restrictions and at the point of lockdown, only two people were even qualified to train. Cycling Scotland were looking into developing a training course for their network of trainers.

2.2 Virtual workshop 2 (November 2020)

Workshop 2 started with a recap of workshop 1, including the 'sign off' of the updated Logic Model. The overall goal of the CBL was agreed to be one of modal shift – encouraging small businesses and organisations to move from passive forms of moving goods or services to bikes. The workshop was then broken into three main sections covering the 'evaluation options' component of the EA: i) Evaluability challenges for the CBL; ii) traditional evaluation approaches that would be a natural fit for CBL – Feasibility Study; iii) Alternative options that meet dynamic and rapidly changing situations and context – developmental evaluation.

Discussion was framed around plausibility, do-ability, and testability, where many of the challenges highlighted spoke to the rapidly changing context where almost everything and everyone was playing 'catch up'. Both economic and human capital were scarce, but Sustrans suggested plans were in place to improve this. Similarly, political support was, and still is, present but matching CBL programme goals to those of Transport Scotland was difficult when expectations (i.e., Transport Scotland) often changed to reflect wider political and societal priorities.

We also discussed whether the natural next stage in the evaluation process for a programme like CBL should be one of testing feasibility (see Chapter 3). However, almost universal consensus amongst attendees was that this approach seemed too static and rigid for Sustrans' needs. An evaluation option with more flexibility was considered more appropriate, with the important caveat that any evaluation would need to demonstrate impact of the programme to the main funder, including demonstration of learning and development.

Developmental evaluation was introduced as a viable option to address many of the issues raised (see Chapter 3), however legitimate concern was identified about what this type of evaluation might look like in practice as many of the concepts were considered abstract and less tangible. This included issues around demonstrating impact to a funder who expected 'outcome based' reporting. The remainder of the session was used to describe, define, and place developmental evaluation - in addition to aspects of feasibility studies - as a viable compromise.

3. Evaluation Requirements of CBL

Following on from Chapter 2, we take the approach in this chapter of positioning the CBL within the evaluation process, combining our knowledge of the programme (size, scale, development, strengths, weaknesses, funding, context, and constraints) to present our interpretation and argument for its evaluation requirements. We start by recognising the unique and rapidly changing context and user demands created by the COVID-19 pandemic, and then consider different possible evaluation approaches.

3.1 Evaluation challenges and opportunities under complex and uncertain conditions
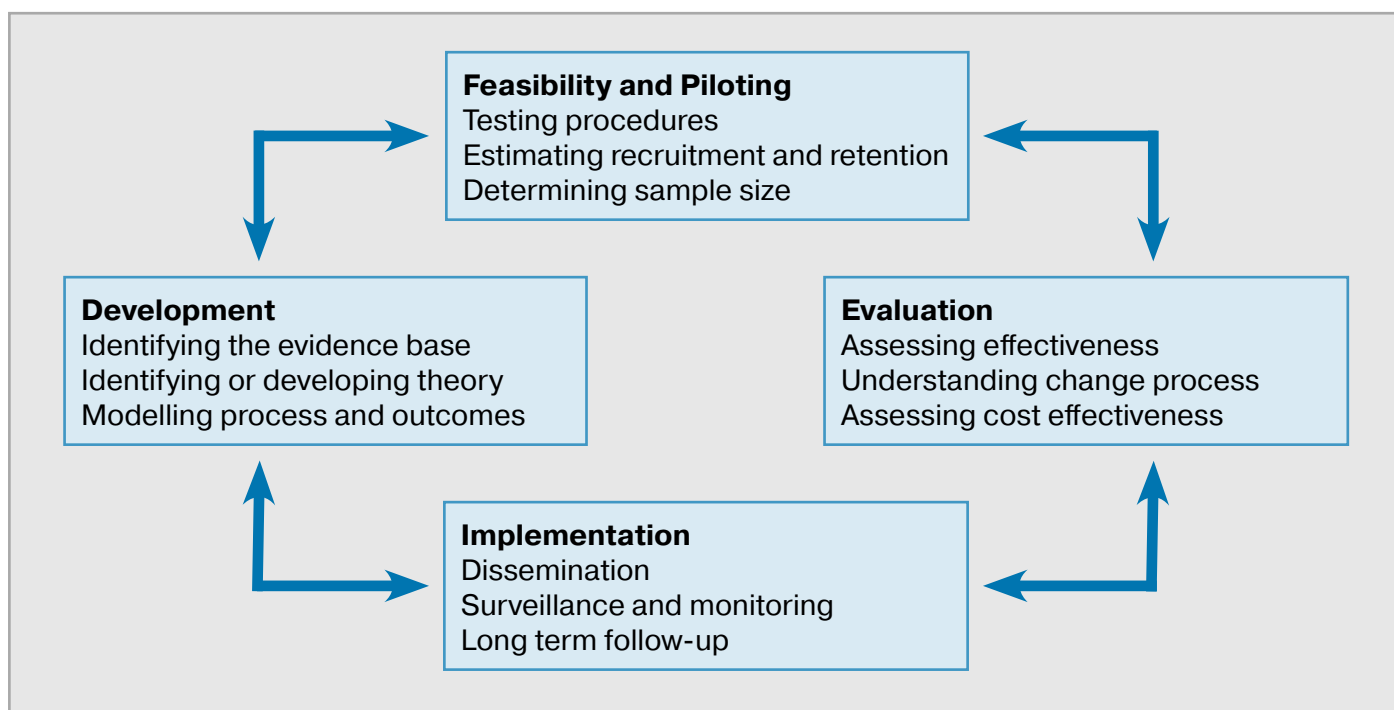
As CBL continued and adapted over the course of the pandemic it became clear that the programme was:

- Operating in a rapidly changing or otherwise complex environment,
- Operating with an undefined or untested theory of change,
- Piloting highly innovative approaches that need further refinement,
- Seeking to achieve complex outcomes that may need to change over time, and/or,
- Likely to require potentially drastic modifications to its approach.

3.2 Key elements of the development and evaluation process

One of the key messages from the current Medical Research Council Guidance on Developing and evaluating complex interventions (1) is that all stages in the process of developing, piloting, evaluating, reporting and implementing a complex intervention are important. Over-emphasising evaluation of effectiveness, to the neglect of adequate development and piloting work, or proper consideration of the practical issues of implementation, will result in weaker interventions, that are harder to evaluate, less likely to be implemented and less likely to be worth implementing.

Figure 1 - Key elements of the development and evaluation process

Feasibility and Piloting
Testing procedures
Estimating recruitment and retention
Determining sample size

Development
Identifying the evidence base
Identifying or developing theory
Modelling process and outcomes

Evaluation
Assessing effectiveness
Understanding change process
Assessing cost effectiveness

Implementation
Dissemination
Surveillance and monitoring
Long term follow-up

3.3 The need for a feasibility study and justification

Evaluations are often undermined by problems of acceptability, compliance, delivery of the intervention, recruitment and retention, smaller-than-expected effect sizes, and so on, that could be anticipated by thorough feasibility testing (1). Research suggests that this vital preparatory work is often skimped. Feasibility refers to the question "whether it is possible to do something" and a feasibility study "asks whether something can be done, should we proceed with it, and if so, how." (2). Feasibility studies are particularly valuable where:

- Community partnerships need to be established, increased, or sustained;
- There are few previously published studies or existing data using a specific intervention technique;
- Prior studies of a specific intervention technique in a specific population were not guided by in-depth research or knowledge of the population's socio-cultural health beliefs; by members of diverse research teams; or by researchers familiar with the target population and in partnership with the targeted communities;
- The population or intervention target has been shown empirically to need unique consideration of the topic, method, or outcome in other research; or
- Previous interventions that employed a similar method have not been successful, but improved versions may be successful; or previous interventions had positive outcomes but in different settings than the one of interest.

CBL is a relatively new intervention that is being delivered in a new setting on a relatively small scale, and on the basis of promising but limited evidence from existing CBL evaluation and studies from elsewhere. Important questions of feasibility need be addressed before the intervention can implemented on a sufficiently large scale to enable testing of effectiveness.

Table 1 presents an overview of some key concepts used in feasibility studies that may be relevant to CBL.

Table 1 - Key concepts in feasibility studies applied to CBL

Concept	Questions	Examples of outcomes
Acceptability (also 'Appropriateness')	To what extent is CBL judged as suitable, satisfying, or attractive to program deliverers and recipients?	• Satisfaction • Intent to continue use • Perceived appropriateness
Adoption (also 'Uptake')	To what extent is CBL likely to be used (i.e., how much capacity/demand is there among stakeholders and potential participants?)	• Fit within organisational culture • Actual use • Perceived demand • Reach (which groups)
Implementation	To what extent can CBL be successfully delivered to intended participants in some defined, but not fully controlled, context?	• Degree of execution • Success or failure of execution • Factors affecting implementation ease or difficulty ('barriers & facilitators')
Practicality	To what extent can CBL be carried out with intended participants using existing means, resources, and circumstances and without outside intervention?	• Quality of implementation • Positive/negative effects on target participants • Ability of participants to carry out intervention activities • Cost analysis

Adaptation	To what extent does CBL need to be adapted to its new context?	• Degree to which similar outcomes are obtained in new format • Process outcomes comparison between intervention use in two populations
Evaluation design	• How participants are identified, approached or recruited • How consent is obtained • What is the number of people in target population eligible for study? • What is the recruitment rate? • What kind of bias is there in recruitment? • What is the participant retention? • What are the data collection methods (mode, timing, etc)? • What is the completeness of data collection? • What is the selection of outcomes (study parameters)? • How study procedures work together • Which features of intervention context should be measured? • What is the willingness of study sites to participate?	

Table adapted from Bowen et al (3) and GUEST Study (forthcoming)

Prior to the pandemic, a feasibility study would be primary evaluation requirement for CBL. This however changed during the course of the pandemic.

3.4 Developmental evaluation (DE) – distinctions, principles, tools and examples

3.4.1 Definition

Developmental evaluation supports organisations who are innovating to adapt in complex environments. It "provides *evaluative* information and feedback to social innovators, and their funders and supporters, to inform adaptive *development* of change initiatives in complex dynamic environments" (4). Developmental evaluation is an emerging and maturing approach to evaluation. Developmental evaluation is prominent in North America (4), and emerging in the UK especially in healthcare quality improvement (5).

3.4.2 Distinctions between traditional and development evaluation

Due to the distinction from other more established forms of evaluation, there remains some uncertainty about how to do developmental evaluations. Table 2 compares the two, emphasising the value of developmental evaluation in situations where context-specific information is needed to inform planning or investment decisions, rather than widely generalisable findings about effectiveness.

Table 2 - Traditional evaluation approaches vs developmental evaluation (6)

Traditional evaluations	Developmental evaluations
Render definitive judgements of success or failure.	Provide feedback, generate learnings, support changes in direction.
Measure success against predetermined goals.	Develop new measures and monitoring mechanisms as goals emerge and evolve.
Position the evaluator outside to assure independence and objectivity.	Position evaluation as internal, team function integrated into action and ongoing interpretive processes.
Design the evaluation based on linear cause-and-effect logic models.	Design the evaluation to capture system dynamics, interdependencies, models and emergent interconnections.
Aim to produce generalisable findings across time and space.	Aim to produce context-specific understandings that inform ongoing innovation.
Accountability focussed on and directed to external authorities, stakeholders and funders.	Accountability centred on the innovators' deep sense of fundamental values and commitment.
Accountability to control and locate responsibility.	Learning to respond to lack of control and stay in touch with what's unfolding and thereby responding strategically.
Evaluator determines the design based on the evaluator's perspective about what is important. The evaluator controls the evaluation.	Evaluator collaborates with those engaged in the change effort to design an evaluation process that matches philosophically with the organisation's principles and objectives.
Evaluation results in opinion of success or failure, which creates anxiety in those evaluated.	Evaluation supports ongoing learning.

CBL is having to adapt rapidly to changing conditions, new knowledge and new clientele. Our analysis, based on the EA process, is that while the evaluation purpose of CBL prior to the pandemic was to explore feasibility, this has changed, and the key requirement of the evaluation presently is to support *ongoing adaptive development*. We recommend that decisions about the future development and adaptation of CBL will be best informed by a developmental evaluation (4). The contribution of DE here is to clarify the nature of the adaptive innovation – what is carried forward; what is changed; how these interact.

We recognise that Transport Scotland (TS) remains an engaged and key external stakeholder and hence the developmental evaluation must also be able to produce learning about feasibility that can be shared with all stakeholders, including TS. Part of the initial tasks in any developmental evaluation will be to establish, with TS, how learning from a DE can meet their strategic objectives, including *which* feasibility questions are important to consider.
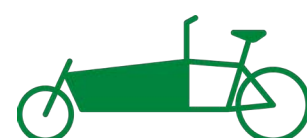
4. Evaluation Options

4.1 Overview of options

Three options are presented in this chapter. Option 0 involves no change in evaluation approach and relies on existing CBL evaluation and Sustrans monitoring & evaluation (M&E). Option 1 suggest a feasibility study while Option 2 describes a developmental evaluation in addition to some feasibility evaluation.

4.2 Option 0: Existing monitoring & evaluation

Option 0 would consist of the monitoring and evaluation activities as currently conducted by the Sustrans team.

4.3 Option 1: Option 0 + feasibility study

Option 1 comprises Option 0 plus the commissioning of additional qualitative data gathering to (1) pilot the use of outcome measures among participants that could be used in a future effectiveness study, and (2) identify and explore factors that promote or hinder delivery of CBL and engagement of participants.

4.4 Option 2: Option 1 + DE

The following are some elements of DE drawn from the most current literature on suggested components of a DE process (4, 7-9). These are not necessarily done on a sequential basis.

4.4.1 Part 1. Assessing DE appropriateness and organisation's DE readiness

4.4.1.1 Assessing DE appropriateness

The EA process over the two workshops had served as the initial steps of planning a DE. To recap:

- We have some understanding of why a DE may be needed, and how this compares to traditional approaches to evaluation (chapters 2 & 3).
- The EA process has also begun the scoping phase of a DE (EA workshop 2), but we recommend that further stakeholder meetings are conducted to assess their interest and readiness for DE. This was partly done in the second EA workshop. It may be desirable to conduct an additional stakeholder consultation with a wider pool of stakeholders (Funder(s), other Sustrans stakeholders, users of cargo bikes, etc.) to specifically address the questions in Table 3 below:

Table 3 - Questions for initial stakeholder consultations (8)

Topic	Other evaluation processes
Interest in DE	How well do stakeholders understand what DE actually is? Why do stakeholders want to conduct a DE? What is it that they actually want to learn from DE? What other evaluation processes have been considered?
Readiness for DE	To what extent does a culture of learning and adaptation exist among stakeholders? Can they describe specific instances in which they've adapted programming to new information? What are stakeholder expectations around DE? What (financial and human) resources are available to support DE?
DE fit	Is the programme working in a complex context? Or is the programme itself complex? What major changes are expected to happen? What innovation(s) or strategic direction(s) would a DE help inform?

4.4.1.2 Assessing an organisation's DE readiness

Doing a DE was deemed appropriate at the conclusion of the second EA workshop. The next step should be to ascertain if DE might be useful to Sustrans and if Sustrans is ready to implement DE for CBL. The checklist may be helpful to guide this process.

Table 4 - Adapted from Spark Policy Institute's DE readiness assessment checklist (8)

1 This is definitely my organisation's culture	2 This is somewhat my organisation's culture	3 My organisation's culture is a mix of the two	4 This is somewhat my organisation's culture	5 This is definitely my organisation's culture
Permission to Fail Evidence of leaders and staff acknowledging that something didn't work and trying another strategy. Modelled by top leadership and actively supported by middle management.			**Negative Consequences for Failure** Evidence of past leaders and staff who have faced negative consequences for trying something that didn't work. Lack of transparency and discussion about the organisation's area for improvement.	
1	2	3	4	5
Planning and Preparation Purposeful planning and thought processes for developing strategies and ensuring everyone has the knowledge and capacity to implement them.			**Acting on Instinct** Work styles among leaders and managers that can be described by phrases like "flying by the seat of your pants", and "acting on instinct".	
1	2	3	4	5
Open to Changing Strategies Balance between implementing as planned and allowing changes. Permission to deviate from the plan, particularly after discussing why the change might make a difference.			**Highly Define, Inflexible Strategies** Rigid adherence to "how things are done" with little room for change. Highly defined operational plans and performance metrics for the organisation, staff and projects.	
1	2	3	4	5
Focus on Effectiveness Encouragement to achieve the best outcomes possible. Expectation that everyone finds ways to improve and do even better next time.			**Focus on Efficiency** Encouragement to get as much work done as quickly as possible. Expectation that everyone is highly productive at all times.	
1	2	3	4	5
Commitment and Consistency Low turnover of staff at all levels. Organisational strategies to help staff view their job as a commitment, something they are passionate about.			**Transition and Turnover** Regular turnover of staff at all levels. Tendency by staff to view their jobs as just a job – not a career, not a passion, and not a commitment.	
1	2	3	4	5

4.4.2 Part 2. Scoping a DE

4.4.2.1 Terms of reference

Assuming there is agreement to proceed with DE, a terms of reference should be drafted. Key elements, some of which have already been covered by the EA, include (7, 8):

- Background/context of program to be evaluated: describe what the program is, noting where it is in its development — e.g., design phase, early implementation, etc. (See Chapter 1);
- Rationale for DE: explain why DE is a good fit for the program and/or context (See Chapter 3);
- Purpose and use of the DE: elaborate what the DE is meant to accomplish, as well as its specific users and uses;
- Potential/illustrative evaluation questions/lines of inquiry: include the draft questions as discussed in preliminary meetings;
- Anticipated time frame: note the expecting timing and duration of the DE;
- Available budget: provide an estimated figure or range of the total DE cost;
- DE team composition, roles, and responsibilities: outline the staffing pattern for the DE — e.g., the Evaluator, DE Administrator, and any other personnel involved in carrying out the DE; to the extent possible, assign roles and responsibilities to these team members, as well as the Funders and DE stakeholders; and
- Risks: list any known risks to DE implementation — e.g., limited resources, timing, stakeholder buy-in — and mitigation strategies for those risks.

The scope of work can also include elements a feasibility study from Option 1, but expectations of stakeholders need to be managed that Option 2 is not a feasibility study.

4.4.2.2 Resourcing DE and recruiting the evaluator

Engaging the right evaluator is key to the DE process. The desirable evaluation capabilities are similar to those described in the UK Evaluation Society's Framework of Evaluation Capabilities (10). Patton suggests that developmental evaluation is a role and not a location – the evaluator becomes part of the developmental process so a good fit with the DE role is more important than whether the evaluator is internal or external (9).

Budgeting for DEs is challenging due to their flexible and adaptive design. Costs that may be incurred include:

- Management support
- Workshop (face-to-face or online) expenses
- Data collection
- Data analysis
- Travel

4.4.2.3 Acculturation

To increase the likelihood of a successful DE, those participating with the DE should be oriented into the process to encourage 'buy-in' (7). Acculturation is the process whereby stakeholders gain understanding about what DE is, their expected interactions and participation, and the role of the Evaluator. Although the two EA workshops assessing the evaluability of CBL have already started some of this process, an additional 'Acculturation Workshop' may be considered

to formally mark the start of the DE of CBL. Of considerable importance for this workshop will be the identification and integration of key stakeholders such as the programme funder (i.e. Transport Scotland). This will give an opportunity to map the DE objectives alongside the CBL programme and demonstrate how these can actively contribute to the wider priorities of the funder.

The workshop can cover:

- Discussing how the recommendations of this EA report can be followed up on
- DE basics
- Refining DE evaluation questions
- Discussing DE evaluation options
- Defining & clarifying role and expectations of the DE evaluator
- Establishing communication norms and DE boundaries

4.4.3 Part 3. Designing the DE

A DE is meant to be collaborative, participatory and utilisation-focused. The DE design should ideally emerge from the acculturation workshop or with close consultation with stakeholders. A recommended DE design is proposed here but it should be refined and adapted by Sustrans and CBL stakeholders at the beginning of the DE. We also recommend that questions in relation to feasibility (Table 1) be explored during this phase of the evaluation. Based on our understanding (elaborated above) that CBL requires a DE for ongoing adaptive development, the evaluation questions and corresponding data collection methods and sources are suggested in the DE design in Table 5 below. We also indicate some potentially relevant feasibility questions below.

Table 5 - Developmental evaluation design

Suggested Evaluation Questions (These are our suggested questions. They should be developed jointly with stakeholders)	Data collection methods	Data sources
• What is the baseline understanding of the situation? 　◊ What is CBL achieving now? 　◊ What has CBL learnt?	Literature review, key informant interviews	Programme documents, CBL staff, CBL users
• What are the vision and values that will guide innovation? 　◊ How will Sustrans values guide how CBL innovates?		
• What do initial results reveal about progress in desired directions		
• What is considered 'working' and 'not working'?		
• What criteria emerge to tell the difference between 'working' and 'not working'?		
• What's happening at the interface between what the social innovators are doing and what's going on in the larger world around it?		
• What processes and outcomes generate enthusiasm? Why?		
• How is the programme as an intervention system connected to and affected by larger systems in its environment?		
• What are the trends in those larger systems?		
• What can be controlled/predicted/measured and not controlled/predicted/ measured? How does Sustrans and CBL respond and adapt to what cannot be controlled/predicted/measured?		
• How do DE evaluators and CBL service provider work together to distinguish signal from noise to determine what to attend to?		
• What innovations emerge that merit more formal implementation?		
• What is the feasibility of CBL now, and in a COVID-19 post-lockdown 'normal' context? 　◊ To what extent is CBL judged as suitable, satisfying, or attractive to program deliverers and recipients? 　◊ To what extent is CBL likely to be used (i.e., how much capacity/demand is there among stakeholders and potential participants)? 　◊ To what extent can CBL be successfully delivered to intended participants in some defined, but not fully controlled, context? 　◊ To what extent can CBL be carried out with intended participants using existing means, resources, and circumstances and without outside intervention? • To what extent does CBL need to be adapted to a post-COVID-19 context?		

4.4.4 Part 4. 'Doing' DE

There are several aspects to doing developmental evaluation. One is securing and maintaining stakeholder buy-in throughout the DE process. This is very important for DE success. This is true for all evaluation approaches but perhaps even more so in the case of DE which may be novel to some participants. Table 6 below describes some DE buy-in threats and opportunities (7).

Table 6 - DE buy-in threats & opportunities

Threats to generating DE buy-in	Opportunities for generating DE buy-in
• Concern that significant expense of DE may detract too many resources from programme • Negative perceptions of evaluating and/or fear that Evaluator will serve as an auditor or spy • Misunderstanding of DE • Lack of transparency in organisation and resistance to sharing information or access with Evaluator • Lack of organisational learning culture*	• Leveraging Evaluator's intimate knowledge of context gained through being embedded • Working through negative findings to generate positive actions • Maintaining utilisation focus for all deliverables • Developing iterative feedback loops • Building capacity for learning and adaptive management • Matching the evaluation approach to the programming and intervention approach
*A learning culture exists when both leadership and staff are willing to accept (and learn from) both favourable and unfavourable performance data or programme outcomes and when stakeholders can share uncomfortable information transparently without fear of repercussion from leadership.	

'Buy-in' is considered present if there is regular verbal support, commitment of resources – funding, time and data access – and actions (e.g., participation in interviews).

Developing and cultivating key relationships are good ways to build and sustain buy-in. Some helpful actions include:

- Assess and deliver what stakeholders require
- Provide routine updates
- Be an active listener
- Be an adaptation cheerleader
- Find 'quick wins' early in the DE

Other main DE activities besides securing stakeholder buy-in include:

- Conducting evaluative activities (e.g., interviews and focus groups)
- Conducting adaptive activities (e.g., workshops/meetings with stakeholders on learning debriefs and work-planning; facilitate organisational change processes; revising and updating theory of change)
- Managing relationships and scope (e.g., active listening in meetings, asking probing questions, setting boundaries)
- Building trust at the individual level (e.g., inviting to meetings; being open at sharing information)"
- Understanding the context (e.g., familiarising with work dynamics, constraints and the programme)
- Providing guided support to stakeholders (e.g., proactively help stakeholders to implement recommendations based on learning)
- Maintaining objectivity

4.4.5 Part 5. Engaging stakeholders with results

DE can generate a large volume of data. It is important that the developmental evaluator presents information in ways that stakeholders can understand and use. Lengthy reports may therefore not be the best way to encourage engagement. Some other formats might include:

- Memos – These are short documents (a few pages) summarising findings, possible paths forward and recommendations, and the implications of and resources required for each of the options
- Spotlights/Flash reports – These are visually appealing one-page documents designed using bullets, infographics, icons and other visual tools to deliver the key messages as well as to entice stakeholders to engage with the DE
- Theories of Change – Programme theory will be updated over time as evidence emerges
- Maps – Another visually appealing way of conveying information like networks and timelines
- Case studies – These provide more in-depth analysis based on data. Case studies can also be presented in a variety of ways beyond paper (e.g., short videos like the Sustrans YouTube video on the Edible Gardening Project)
- Dashboards – Using indicators, dashboards can provide real-time snapshot of progress for communicating degree of success in implementation of adaptations (e.g., Sustrans 'Space to move' dashboard)
- Workshops – Workshops can take a variety of formats and can be used to engage with multiple stakeholders at the same time

4.4.6 Part 6. Expected DE outcomes

DE outcomes can take a variety of forms. Outcomes can be categorised in terms of:

- Size of change – These could range from small (e.g., individual's priority tasks); medium (e.g., team of individual's workplans); or large (e.g., strategic direction of programme or organisation)
- Level of change – These could be at the operational level (e.g., project procedures like how long bikes are loaned for/rented, and maintained); programme level (e.g., new geographical areas/customer groups); sector level (e.g., programme guidance or best practices within the cargo bike library sector); government/funder level (e.g., TS policy)
- Type of change – Areas where outcomes can occur include knowledge and capabilities of stakeholders, stakeholder engagement and relationships, or improved development results or policy changes.

5   Recommendations

While a roadmap out of lockdown has now been published by the Scottish Government, CBL will find itself operating in a landscape that is different to before COVID-19. Meanwhile, CBL has adapted in ways that continue to serve the community. Therefore, we recommend Sustrans adopt Option 2 – a developmental evaluation that incorporates some elements (questions) of a feasibility study (See Annex for a summary of the options).

The overriding principle that underpins the elaboration of Option 2 recommended above is that these are suggestions only. Remember that the developmental evaluation is supposed to be flexible and adaptive. Nothing is fixed. Things can and should change and when that happens, the DE evaluator should update the work plan in consultation with key stakeholders, document the change and data, as well as the rationale behind it, and carry on.

5.1   Implications of our recommendations on CBL and Sustrans' alignment with Transport Scotland's Active Travel Framework

Transport Scotland's Active Travel Framework is the Scottish Government's long-term shared vision and strategic objectives for active travel with the ambition that by 2030, Scotland's communities are shaped around people and place, enabling walking and cycling to be the most popular mode of travel for short, everyday journeys. Transport Scotland is a key stakeholder for CBL and hence it is crucial that any evaluation design is aligned with the Active Travel Framework.

The DE design recommendation described in Option 2 addresses this strategic need as well as challenges identified during the EA process. For example, initial stakeholder 'acculturation' workshops (described in section 4.4.2.3) can identify priority outcomes from the Active Travel Framework that is best aligned with CBL's own logic model (figure 2). Meanwhile, the emphasis on programme learning to support ongoing adaptive development of CBL will be able to support adaptation of CBL as the context in relation to the pandemic and other expected and unforeseen factors emerge or change.

5.2   Indicative costs

The flexible and adaptive nature of DE makes it difficult to estimate the costs and time required precisely. Available resources and circumstances will determine the scope of work that can be undertaken. To provide useful information, we would recommend that one (at least part-time) evaluator (preferably educated to a masters-level and certainly with evaluation experience, comparable to University of Glasgow Research Associate at Grade 6 or 7) will be required for at least one year in the first instance. Using CBL as a case study, the table below provides an indicative budget to undertake a DE on CBL for 12 months.

Table 7 - Indicative budget for 12 months

Item	£
Administrative staff (1 day/week)	10,000
Evaluation staff (0.5 FTE)	27,500
Start-up expense (e.g., laptop)	3,500
Workshop (online) expense (e.g., subscription to Zoom; Miro; internet)	1,200
Data collection (e.g., in-person interviews)	2,000
Contingencies	800
Total	45,000

It is worth bearing in mind however that it is not the sole responsibility of the DE evaluator to carry out the evaluation as programme and wider organisational support will also be essential to a successful evaluation. It is also challenging for a single developmental evaluator to work on a shoestring budget so we recommend that the evaluator has access to administrative support.

6 References

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7 Annex

Figure 2 - Draft logic model representing the E-Cargo Bike Library programme pre-COVID. Used as foundation for workshop 1

Situation/Need	Inputs/ Resources	Activities	Outputs/Targets	Short Term Outcome	Medium Term Outcome	Long Term Outcome
Prepare businesses for the new normal (LEZ, City Centre Transformation, positioned in pedestrianised location). Reduce congestion in the City Centre' (e.g. service/delivery vehicles) and improve air quality. Support business improvement areas to use cargo bikes in different ways. To see examples of city logistics at work. Move more services within local authorities to cargo bikes. Encourage the use of mini consolidation centres. Businesses delivering to customers who cannot come. Businesses reliant on footfall into premises going bust. Supporting communities to look after each other. Early-adopters (trial) becoming dependent on bikes (not sustainable). Bike-to-business (b2b) to bike-to-customer (b2c) during lockdown. Businesses face barriers to accessing credit (to get bike). Supply chain (process too long for parts and bikes) and storage issues. Social distancing around cargo bike usage & provision itself and transportation to enable social distancing. New costs (e.g. use of volunteers - b2b going to b2c). - Brexit induced (e.g. lots of bikes from cont. EU). See-sense trackers (from odometers). More global interest in (e.g. Tel Aviv) in project (opportunity).	1 X FTE Cargo Logistics Project Officer Sustrans team support (comms, etc.) Bikes	Train users in cargo bike handling skills. Maintain machines. Continued support for logistical cargo bikes use with trams project. Test at bike heat mapping/ shared bike systems and roll out to all machines. Consultation and information sharing for users, EST grant panels and CCF users. Large logistic for local authority service delivery. Keeping close relationships with organisations like the European Cycle Logistics Federation and City Changer Cargo Bike, Cycle Industries Europe. Outreach to business development districts to trial cargo bike delivery/ mini consolidation hubs, cargo bike with services. Outreach for external trials with commercial partners (and how to make that low risk for businesses to change who they work with). Develop relationships/ partnerships/engagement with governing bodies. Outreach and networking more global (due to global context of pandemic).	Train "XXX" users to use cargo bikes. Engage with "XX" Festival providers to continue to decarbonisation of Edinburgh Festivals. Engage with "XXX" business/ organisations to trial cargo bike use. Engage with 1 local authority to trial cargo bike use for services. Engage with "XXX" community groups to trial cargo bikes. Pilot Bike Library model in 1 other town or city. Engage with 1 business improvement district to trial delivery, services, and consolidation hubs. Data collected in Edinburgh by GPS systems to show where cargo bikes are going.	See cargo bikes on the streets of cities and towns. See different types of cargo bikes in cities and towns. LEZ zone to trial services to prepare for zone initiation. See an increase in cargo bike purchases for business. See an increase of commercial partners workload for business. Appetite for consolidation hubs. Collect road and user data from GPS movements in Edinburgh to influence infrastructure. Successful replication of CBL model in 1 town.	20% of LA services done by cargo bike and/or more LA's trialling cargo bikes for services. 30% of short journey goods/services done by cargo bike. Exemplar consolidation hub permanently in place for pedestrianised zone in Edinburgh. Uptake of temporary mini hubs or nests in conjunction with road works. 100,000 cargo bikes sold in Scotland. Collect user data from cargo bike use in other LA's. See path networks developed based on data collected from all cargo bikes used in Edinburgh. Expansion of infrastructure for cargo bikes (mechanical support, training, parking, storage, sales). Successful replication of CBL model in all LEZ cities.	60% of delivery done by cargo bikes in all LEZ zones. 50% of LA's switching some services to cargo bikes. 200,000 cargo bikes sold in Scotland. Permanent consolidation hubs in LEZ zones. LEZ zone cities collecting data to influence roadworks.

Figure 3 - Updated short, intermediate, and long-term outcomes of CBL added to the logic model to represent translation to the wider Transport Scotland monitoring framework
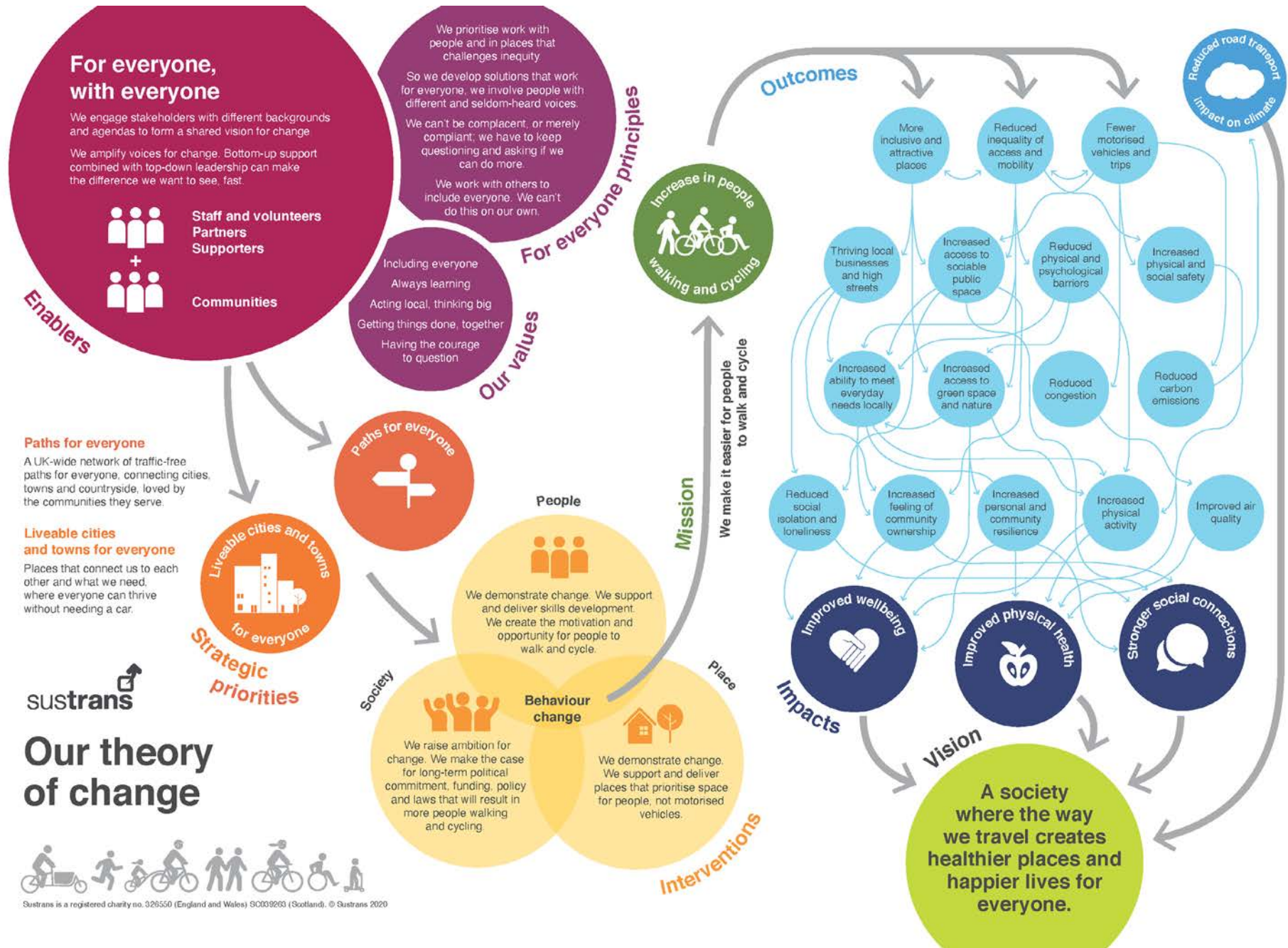
Table 8 - Options summary, including illustrative data collection tools, and pros & cons of each approach

Evaluation Questions	Evaluation Design	Elaboration	Data collection tools	Pros	Cons
• What is CBL achieving now? • What has CBL learnt • What can CBL learn?	**Option 0** Existing monitoring & evaluation (M&E)	Relies on existing M&E framework (linked to TfS framework). No additional evaluation	Existing Sustrans M&E tools (surveys & odometer/seesense)	• Consistency with funder requirements and accountability	• Will not be able to assess feasibility and how CBL has adapted, nor extract learning.
	Option 1 Option 0 + feasibility study	Existing M&E framework + implementation questions addressing acceptability, feasibility, adoption, fidelity, etc.	Existing Sustrans M&E tools + participant observation & interviews with delivery staff & users	• Consistency with funder requirements and accountability • Can address feasibility of CBL (pre-COVID-19)	• Some additional cost. • Will not be able to assess how CBL has adapted and extract learning. • Feasibility of pre-COVID-19 CBL programme theory may no longer be relevant or useful
	Option 2 Option 0 + developmental evaluation	Existing M&E tools + developmental evaluation only for ongoing adaptive development		• Can clarify nature of adaptive innovation during lockdown, what is carried forward/ changed; how these interact; and the consequences of ongoing innovation adaptation as a way of engaging in change through trial-and-error. • Can also address some feasibility questions	• More expensive than option 1. • Requires high commitment and openness from funder, evaluation and delivery staff. • Unfamiliarity with process • Uncertainty of outcomes